

**Underlying supplement no. 11a-I**  
*To the prospectus dated November 7, 2014 and  
the prospectus supplement dated November 7, 2014*

**Registration Statement No. 333-199966**  
**Dated May 11, 2015**  
**Rule 424(b)(2)**

# JPMORGAN CHASE & CO.

## **Notes Linked to the J.P. Morgan Efficiente® Plus Price Return Index Series**

JPMorgan Chase & Co. may, from time to time, offer and sell notes linked in whole or in part to the J.P. Morgan Efficiente® Plus 5 Index (Net Excess Price Return), the J.P. Morgan Efficiente® Plus DS 5 Index (Net Excess Price Return), the J.P. Morgan Efficiente® Plus 5 Index (Net Price Return), the J.P. Morgan Efficiente® Plus 8 Index (Net Excess Price Return), the J.P. Morgan Efficiente® Plus DS 8 Index (Net Excess Price Return), the J.P. Morgan Efficiente® Plus 8 Index (Net Price Return), the J.P. Morgan Efficiente® Plus 10 Index (Net Excess Price Return), and the J.P. Morgan Efficiente® Plus DS 10 Index (Net Excess Price Return) or the J.P. Morgan Efficiente® Plus 10 Index (Net Price Return) (each, an “Index” and collectively, the “Indices”).

This underlying supplement no. 11a-I describes each Index, the relationship between JPMorgan Chase & Co. and the sponsor of each Index and terms that will apply generally to notes linked in whole or in part to an Index and other relevant information. This underlying supplement no. 11a-I supplements the terms described in the accompanying product supplement, the prospectus supplement and the prospectus. A separate term sheet or pricing supplement, as the case may be, will describe terms that apply to specific issuances of the notes, including any changes to the terms specified below. We refer to these term sheets and pricing supplements generally as terms supplements. The accompanying product supplement, the relevant terms supplement or another accompanying underlying supplement will describe any other index or reference asset to which the notes are linked. If the terms described in the relevant terms supplement are inconsistent with those described in this underlying supplement, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement or the prospectus, the terms described in the relevant terms supplement will control. In addition, if this underlying supplement no. 11a-I and the accompanying product supplement or another accompanying underlying supplement contain information relating to the same Index to which the notes are linked, the information contained in the document with the most recent date will control.

Each Index is subject to the deduction of a fee of 0.85% per annum deducted daily.

**Investing in the notes involves a number of risks. See “Risk Factors” in the accompanying product supplement and “Risk Factors” beginning on page US-6.**

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the notes or passed upon the accuracy or the adequacy of the relevant terms supplement, this underlying supplement no. 11a-I, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement or the prospectus. Any representation to the contrary is a criminal offense.

**The notes are not bank deposits, are not insured by the Federal Deposit Insurance Corporation or any other governmental agency and are not obligations of, or guaranteed by, a bank.**

J.P.Morgan

May 11, 2015

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We have not authorized anyone to provide any information other than that contained or incorporated by reference in the relevant terms supplement, this underlying supplement no. 11a-I, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement or the prospectus with respect to the notes offered by the relevant terms supplement and with respect to JPMorgan Chase & Co. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. The relevant terms supplement, together with this underlying supplement no. 11a-I, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement and the prospectus, will contain the terms of the notes and will supersede all other prior or contemporaneous oral statements as well as any other written materials including preliminary or indicative pricing terms, correspondence, trade ideas, structures for implementation, sample structures, fact sheets, brochures or other educational materials of ours. The information in each of the relevant terms supplement, this underlying supplement no. 11a-I, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement and the prospectus may only be accurate as of the date of that document.

The notes are not appropriate for all investors and involve important legal and tax consequences and investment risks that should be discussed with your professional advisers. You should be aware that the regulations of Financial Industry Regulatory Authority, Inc., or FINRA, and the laws of certain jurisdictions (including regulations and laws that require brokers to ensure that investments are suitable for their customers) may limit the availability of the notes. The relevant terms supplement, this underlying supplement no. 11a-I, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement and the prospectus do not constitute an offer to sell or a solicitation of an offer to buy the notes in any circumstances in which that offer or solicitation is unlawful.

In the relevant terms supplement, this underlying supplement no. 11a-I, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement and the prospectus, "we," "us," and "our" refer to JPMorgan Chase & Co., unless the context requires otherwise. To the extent applicable, an index described in this underlying supplement no. 11a-I is deemed to be one of the "Indices" referred to in the accompanying product supplement.

## SUPPLEMENTAL TERMS OF THE NOTES

*The following supplemental terms of the notes supplement, and to the extent they are inconsistent, supersede, the description of the general terms of the debt securities set forth in the accompanying product supplement and under the headings “Description of Notes” in the prospectus supplement and “Description of Debt Securities” in the prospectus. Capitalized terms used but not defined in this underlying supplement no. 11a-I have the meanings assigned in the relevant terms supplement, this underlying supplement no. 11a-I, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement and the prospectus.*

### General

The notes are unsecured and unsubordinated obligations of JPMorgan Chase & Co. linked in whole or in part to an index in the J.P. Morgan Efficiente® Plus Price Return Index Series set forth in the table below (each, an “**Index**” and collectively, the “**Indices**”). Each Index for which the “Index Name” in the table below includes “DS” is a “**Daily Series Index**.” In addition, each Index for which the “Index Name” in the table below includes “(Net Excess Price Return)” is an “**Excess Price Return Index**,” and each Index for which the “Index Name” in the table below includes “(Net Price Return)” is a “**Price Return Index**.”

Index Name	Bloomberg Ticker
J.P. Morgan Efficiente Plus 5 Index (Net Excess Price Return)	EFPLS5PE
J.P. Morgan Efficiente Plus DS 5 Index (Net Excess Price Return)	EFPLS5PD
J.P. Morgan Efficiente Plus 5 Index (Net Price Return)	EFPLS5PN
J.P. Morgan Efficiente Plus 8 Index (Net Excess Price Return)	EFPLS8PE
J.P. Morgan Efficiente Plus DS 8 Index (Net Excess Price Return)	EFPLS8PD
J.P. Morgan Efficiente Plus 8 Index (Net Price Return)	EFPLS8PN
J.P. Morgan Efficiente Plus 10 Index (Net Excess Price Return)	EFPLSTPE
J.P. Morgan Efficiente Plus DS 10 Index (Net Excess Price Return)	EFPLSTPD
J.P. Morgan Efficiente Plus 10 Index (Net Price Return)	EFPLSTPN

This underlying supplement no. 11a-I describes each Index, the relationship between JPMorgan Chase & Co. and the sponsor of each Index and terms that will apply generally to notes linked in whole or in part to an Index and other relevant information. This underlying supplement no. 11a-I supplements the terms described in the accompanying product supplement, the prospectus supplement and the prospectus. A separate term sheet or pricing supplement, as the case may be, will describe terms that apply to specific issuances of the notes, including any changes to the terms specified below. We refer to these term sheets and pricing supplements generally as terms supplements. The accompanying product supplement, the relevant terms supplement or another accompanying underlying supplement will describe any other index or reference asset to which the notes are linked. If the terms described in the relevant terms supplement are inconsistent with those described in this underlying supplement, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement or the prospectus, the terms described in the relevant terms supplement will control. In addition, if this underlying supplement no. 11a-I and the accompanying product supplement or another accompanying underlying supplement contain information relating to the same Index to which the notes are linked, the information contained in the document with the most recent date will control.

The **"Exchange-Traded Constituents"** means the exchange-traded funds (each, an **"ETF Constituent"** and collectively, the **"ETF Constituents"**) and the exchange-traded note (the **"Note Constituent"**) as specified under "The J.P. Morgan Efficiente® Plus Price Return Index Series" below (or any successor or substitute exchange-traded fund (**"ETF"**), exchange-traded note (**"ETN"**) or index included in the Index). The **"Cash Constituent"** means the JPMorgan Cash Index USD 3 Month (or any successor or substitute cash index included in the Index). We refer to the ETF Constituents and the Cash Constituent together as the **"Basket Constituents."**

**"Reference Index"** means, with respect to an Exchange-Traded Constituent, the index, if applicable, whose performance that Exchange-Traded Constituent attempts to track. **"Reference Commodity"** means, with respect to an ETF Constituent, each commodity, if applicable, underlying that ETF Constituent.

The **"index calculation agent"** means J.P. Morgan Securities plc (**"JPMS plc"**) or any affiliate or subsidiary designated by JPMS plc to calculate and publish the official closing level of the Index. The index calculation agent is currently JPMS plc. See "The J.P. Morgan Efficiente® Plus Price Return Index Series" below. JPMS plc is our affiliate and may have interests adverse to you. Please see "Risk Factors — Risks Relating to the Index — JPMS plc, the index calculation agent, may adjust an Index in a way that affects its level, and JPMS plc has no obligation to consider your interests."

## **Postponement of a Determination Date**

### **Notes linked solely to an Index**

Notwithstanding any contrary provision in the accompanying product supplement, for notes linked solely to an Index, the following provisions will apply. If a Determination Date is a Disrupted Day (as defined in the accompanying product supplement), the applicable Determination Date will be postponed to the immediately succeeding scheduled trading day that is not a Disrupted Day.

In no event, however, will any Determination Date be postponed to a date that is after the applicable Final Disrupted Determination Date (as defined in the accompanying product supplement). If a Determination Date is or has been postponed to the applicable Final Disrupted Determination Date and that day is a Disrupted Day, the calculation agent will determine the closing level of the Index for that Determination Date on that Final Disrupted Determination Date in accordance with the formula for and method of calculating the closing level of the Index last in effect prior to the commencement of the market disruption event (or prior to the non-trading day), using:

- (a) the closing price (or, if trading in the relevant Basket Constituent has been materially suspended or materially limited, the calculation agent's good faith estimate of the closing price that would have prevailed but for that suspension or limitation or non-trading day) on the scheduled trading day immediately preceding that Final Disrupted Determination Date of the securities of each Basket Constituent that is an ETF or ETN (including any relevant successor or substitute Basket Constituent that is an ETF or ETN);
- (b) the official closing price, fixing level, settlement price or any other relevant published trading price or level (or, if trading in the relevant securities, commodities, futures contracts, loans or other assets has been materially suspended or materially limited, the calculation agent's good faith estimate of the closing price, fixing level, settlement price or other trading price or level that would have prevailed but for that suspension or limitation or non-trading day) on the scheduled trading day immediately preceding that Final Disrupted Determination Date of each security, commodity, futures contract, loan or other asset most recently composing each Basket Constituent that is an index (including any relevant successor or substitute Basket Constituent that is an index) (other than the Cash Constituent) and, with respect to any Basket Constituent that is an index (including any relevant successor or substitute Basket Constituent that is an index) (other than the Cash Constituent) that tracks futures contracts, any futures contract

required to roll any expiring futures contract in accordance with the method of calculating that Basket Constituent; and

- (c) the deposit rates underlying the Cash Constituent (or, if such deposit rates are not published on that day, the calculation agent's good faith estimate of such deposit rates) on the scheduled trading day immediately preceding that Final Disrupted Determination Date.

Notwithstanding any contrary definition in the accompanying product supplement, with respect to an Index, a **"scheduled trading day"** is, unless otherwise specified in the relevant terms supplement, a day, as determined by the calculation agent, on which (a) each of the following exchanges is scheduled to be open for trading for their respective regular trading sessions: the relevant exchange for each Basket Constituent composing the Index (other than the Cash Constituent) and the principal options and futures exchanges relating to that Basket Constituent and (b) banking institutions in the City of New York are not scheduled to be authorized or required by law, regulation or executive order to close.

Notwithstanding any contrary definition in the accompanying product supplement, with respect to an Index, a **"trading day"** is, unless otherwise specified in the relevant terms supplement, a day, as determined by the calculation agent, on which (a) trading is generally conducted on the relevant exchange for each Basket Constituent composing the Index (other than the Cash Constituent) and the principal options and futures exchanges relating to that Basket Constituent and (b) banking institutions in the City of New York are not otherwise authorized or required by law, regulation or executive order to close.

#### **Notes linked to an Index and other reference assets**

If the notes are linked to an Index and other reference assets, the provisions relating to postponement of a Determination Date as set forth in the accompanying product supplement will apply, except that if a Determination Date is or has been postponed to the applicable Final Disrupted Determination Date and, on that day, the closing level of the Index has not been established in accordance with the postponement provisions of the accompanying product supplement that apply prior to the applicable Final Disrupted Determination Date, the closing level of the Index for that Determination Date will be determined by the calculation agent on the applicable Final Disrupted Determination Date in accordance with the formula for and method of calculating the closing level of the Index last in effect prior to the commencement of the market disruption event (or prior to the non-trading day), using:

- (a) the closing price (or, if trading in the relevant Basket Constituent has been materially suspended or materially limited, the calculation agent's good faith estimate of the closing price that would have prevailed but for that suspension or limitation or non-trading day) on the scheduled trading day immediately preceding that Final Disrupted Determination Date of the securities of each Basket Constituent that is an ETF or ETN (including any relevant successor or substitute Basket Constituent that is an ETF or ETN);
- (b) the official closing price, fixing level, settlement price or any other relevant published trading price or level (or, if trading in the relevant securities, commodities, futures contracts, loans or other assets has been materially suspended or materially limited, the calculation agent's good faith estimate of the closing price, fixing level, settlement price or other trading price or level that would have prevailed but for that suspension or limitation or non-trading day) on the scheduled trading day immediately preceding that Final Disrupted Determination Date of each security, commodity, futures contract, loan or other asset most recently composing each Basket Constituent that is an index (including any relevant successor or substitute Basket Constituent that is an index) (other than the Cash Constituent) and, with respect to any Basket Constituent that is an index (including any relevant successor or substitute Basket Constituent that is an index) (other than the Cash Constituent) that tracks futures contracts, any futures contract

required to roll any expiring futures contract in accordance with the method of calculating that Basket Constituent; and

- (c) the deposit rates underlying the Cash Constituent (or, if such deposit rates are not published on that day, the calculation agent's good faith estimate of such deposit rates) on the scheduled trading day immediately preceding that Final Disrupted Determination Date.

### Market Disruption Events

Notwithstanding any contrary provision in the accompanying product supplement, the following provisions will apply to notes linked in whole or in part to an Index. With respect to an Index or any relevant successor index, a **"market disruption event,"** unless otherwise specified in the relevant terms supplement, means:

- (1) any suspension of, or limitation on, trading imposed by the relevant exchange for any Basket Constituent (other than the Cash Constituent);
- (2) any event has occurred that disrupts or impairs the ability of market participants to effect transactions in or related to, or obtain levels or market values for, (a) an Index or any relevant successor index, (b) any Basket Constituent, (c) any Reference Index of any Basket Constituent, (d) any Reference Commodity of any Basket Constituent, (e) any securities or components that in the aggregate comprise 20 percent or more of the level or value of any of the foregoing, or (f) any futures or options contracts or other financial contracts relating to the any of the foregoing;
- (3) the closure of any relevant exchange for any Basket Constituent (other than the Cash Constituent) prior to its scheduled closing time unless that earlier closing time is announced at least one hour prior to the actual closing time;
- (4) the failure of any relevant exchange with respect to any Basket Constituent (other than the Cash Constituent) to open;
- (5) the closure of a material number of leading commercial banks in the City of New York prior to their scheduled weekday closing time;
- (6) the failure of the LIBOR administrator (or any other relevant entity) to report the LIBOR rates used to calculate the Cash Constituent; or
- (7) the failure of the index calculation agent to calculate and publish the official closing level of the Index,

in each case as determined by the calculation agent in its sole discretion; and

- in the case of an event described in clause (1), (2) or (3) above, a determination by the calculation agent in its sole discretion that the applicable event described above materially interfered with our ability or the ability of any of our affiliates to adjust or unwind all or a material portion of any hedge with respect to the notes.

A limitation on the hours or number of days of trading will not constitute a market disruption event with respect to the Index or any relevant successor index if the limitation results from an announced change in the regular business hours of the relevant exchange or market.

Notwithstanding any contrary definition in the accompanying product supplement, **"relevant exchange"** means, (i) with respect to each Basket Constituent that is an ETF or ETN, (1) the primary exchange or market of trading for that Basket Constituent, (2) the primary exchange or market of trading for any security, commodity, futures contract, loan or other asset (or, in each case, any

combination thereof) included in the Reference Index for that Basket Constituent or (3) if that Basket Constituent does not have a Reference Index, the primary exchange or market of trading for any security, commodity, futures contract, loan or other asset (or, in each case, any combination thereof) included in that Basket Constituent, and (ii) with respect to each Basket Constituent that is an index (other than the Cash Constituent), the primary exchange or market of trading for any security, commodity, futures contract, loan or other asset (or, in each case, any combination thereof) included in that Basket Constituent.

### **Consequences of a Commodity Hedging Disruption Event**

The concept of a commodity hedging disruption event will apply to notes linked in whole or in part to an Index. Please see the accompanying product supplement for more information about commodity hedging disruption events and their consequences.

### **Discontinuation of the Index; Alteration of Method of Calculation**

The provisions relating to the discontinuation of an index as set forth in the accompanying product supplement will apply, except that if the calculation agent is to determine the closing level of the Index or any successor index for any Determination Date because no successor index for the Index is available at that time, or the calculation agent has previously selected a successor index for that Index and publication of that successor index is discontinued prior to, and that discontinuation is continuing on, that Determination Date or other relevant date, then the closing level of the Index will be computed by the calculation agent in accordance with the formula for and method of calculating the Index or successor index, as applicable, last in effect prior to that discontinuation, using:

- (a) the closing price (or, if trading in the relevant Basket Constituent has been materially suspended or materially limited, the calculation agent's good faith estimate of the closing price that would have prevailed but for that suspension or limitation) on that Determination Date of the securities of each Basket Constituent that is an ETF or ETN (including any relevant successor or substitute Basket Constituent that is an ETF or ETN);
- (b) the official closing price, fixing level, settlement price or any other relevant published trading price or level (or, if trading in the relevant securities, commodities, futures contracts, loans or other assets has been materially suspended or materially limited, the calculation agent's good faith estimate of the closing price, fixing level, settlement price or other trading price or level that would have prevailed but for that suspension or limitation) on that Determination Date of each security, commodity, futures contract, loan or other asset composing each Basket Constituent that is an index (including any relevant successor or substitute Basket Constituent that is an index) (other than the Cash Constituent) and, with respect to any Basket Constituent that is an index (including any relevant successor or substitute Basket Constituent that is an index) (other than the Cash Constituent) that tracks futures contracts, any futures contract required to roll any expiring futures contract in accordance with the method of calculating that Basket Constituent; and
- (c) the deposit rates underlying the Cash Constituent (or, if such deposit rates are not published on that Determination Date, the calculation agent's good faith estimate of such deposit rates) on that Determination Date.



## RISK FACTORS

*Your investment in the notes will involve certain risks. Investing in the notes is not equivalent to investing directly in any Index, any of the Basket Constituents or any of the securities, commodities, commodity futures contracts, loans or other assets underlying the Basket Constituents or any futures contracts or exchange-traded or over-the-counter instruments based on, or other instruments linked to, any of the foregoing. You should consider carefully the following discussion of risks, as well as the discussion of risks included in the relevant terms supplement, the accompanying product supplement and any other accompanying underlying supplement, before you decide that an investment in the notes is suitable for you.*

### Risks Relating to the Indices

**JPMS plc, the index calculation agent, may adjust an Index in a way that affects its level, and JPMS plc has no obligation to consider your interests.**

JPMS plc, one of our affiliates, currently acts as the index calculation agent and is responsible for calculating and maintaining the Indices and developing the guidelines and policies governing their composition and calculation. It is entitled to exercise discretion in relation to each Index, including but not limited to the calculation of the level of that Index in the event of an Index Market Disruption Event (as defined in “The J.P. Morgan Efficient<sup>®</sup> Plus Price Return Index Series”). Although JPMS plc acting as the index calculation agent will make all determinations and take all action in relation to the Indices acting in good faith, it should be noted that the policies and judgments for which JPMS plc is responsible could have an impact, positive or negative, on the level of an Index and the value of your notes. JPMS plc may also amend the rules governing an Index in certain circumstances.

Although judgments, policies and determinations concerning the Indices are made by JPMS plc, JPMorgan Chase & Co., as the ultimate parent company of JPMS plc, ultimately controls JPMS plc. JPMS plc has no obligation to consider your interests in taking any actions that might affect the value of your notes. Furthermore, the inclusion of the Basket Constituents in an Index is not an investment recommendation by us or JPMS plc of the Basket Constituents or any of the securities, commodities, commodity futures contracts, loans or other assets underlying the Basket Constituents. See “The J.P. Morgan Efficient<sup>®</sup> Plus Price Return Index Series.”

**We are affiliated with the sponsor of one of the Basket Constituent and with the sponsor of the Reference Index of one of the Exchange-Traded Constituents.**

Our Global Index Research Group (“GIRG”) developed, maintains and calculates the JPMorgan Cash Index USD 3 Month, which is one of the Basket Constituents, and the J.P. Morgan Emerging Markets Bond Index Global CORE, which is the Reference Index of the iShares<sup>®</sup> J.P. Morgan USD Emerging Markets Bond ETF, one of the Basket Constituents. GIRG is part of our Global Research division and resides within JPMS. Accordingly, conflicts of interest exist between GIRG and you. GIRG will have no obligation to consider your interests as a holder of the notes in taking any actions that might affect the value of your notes.

In addition, the J.P. Morgan Emerging Markets Bond Index Global CORE makes use of certain weights, prices, values, levels or dates that are determined by PricingDirect Inc. (“PricingDirect”). PricingDirect is our wholly owned subsidiary and provides valuation and other metrics data for fixed-income securities and derivatives. PricingDirect determines these prices through a proprietary evaluation process that takes into account market-based evaluations (such as market intelligence for traded, quoted securities). In addition, under some circumstances, the pricing information provided by PricingDirect on the bonds underlying the J.P. Morgan Emerging Markets Bond Index Global CORE may be derived solely from price quotations or internal valuations made by one or more of our affiliates. Accordingly, conflicts of interest exist between PricingDirect and you. PricingDirect will have no any

obligation to consider your interests as a holder of the notes in taking any actions that might affect the value of your notes.

**We are currently one of the companies that makes up the Vanguard S&P 500 ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF and the iShares® U.S. Preferred Stock ETF, but, to our knowledge, our securities are not currently included in or held by any other Basket Constituent.**

As a general matter, none of the other issuers of the securities held by the Basket Constituents will be involved in the offering of the notes in any way. As a result, we will have no ability to control the actions of the issuers of those securities, including actions that could affect the value of the securities held by the Basket Constituents or your notes. None of those issuers will have any obligation to consider your interests as a holder of the notes in taking any actions that might affect the value of your notes. None of the money you pay for the notes will go to any of the other issuers of the securities held by any Basket Constituent.

In the event that our securities are included in or held by any Basket Constituent, we will have no obligation to consider your interests as a holder of the notes in taking any action that might affect the value of your notes.

**The level of each Index will include the deduction of a fee.**

One way in which each Index may differ from a typical index is that its level will include a deduction from the performance of the Basket Constituents (over the performance of the Cash Constituent, in the case of an Excess Price Return Index) of a fee of 0.85% per annum. This fee will be deducted daily. As a result of the deduction of this fee, the level of each Index will trail the value of a hypothetical identically constituted notional portfolio from which no such fee is deducted.

**Any Index may not be successful or outperform any alternative strategy that might be employed in respect of the Basket Constituents.**

Each Index follows a notional rules-based proprietary strategy that operates on the basis of pre-determined rules. No assurance can be given that the investment strategy on which any Index is based will be successful or that any Index will outperform any alternative strategy that might be employed in respect of the Basket Constituents.

**Each Index should not be compared to any other index or strategy sponsored by any of our affiliates (each, a "J.P. Morgan Index") and cannot necessarily be considered a revised, enhanced or modified version of any other J.P. Morgan Index.**

Each Index follows a notional rules-based proprietary strategy that may have objectives, features and/or constituents that are similar to those of another J.P. Morgan Index. No assurance can be given that these similarities will form a basis for comparison between any Index and any other J.P. Morgan Index, and no assurance can be given that any Index would be more successful or outperform any other J.P. Morgan Index. Each Index operates independently and does not necessarily revise, enhance, modify or seek to outperform any other J.P. Morgan Index.

**An Index may not approximate its target volatility.**

No assurance can be given that any Index will approximate its target volatility. The actual realized volatility of an Index may be greater or less than its target volatility. The monthly weights of the notional portfolio(s) tracked by the Index are based on the historical volatility of the relevant notional portfolio (calculated on a total return basis, as described below) over a specified measurement period and are subject to maximum aggregate and individual weighting constraints. In addition, the exposure of a Daily Series Index to the relevant notional portfolio(s) is dynamically adjusted on a daily basis, subject to minimum and maximum exposure limits, based on the historical volatility of the

relevant notional portfolio(s) (calculated without taking into account distributions on the Exchange-Traded Constituents) over a specified measurement period, with the intention of achieving the target volatility on a daily basis. However, there is no guarantee that trends existing in the relevant measurement periods will continue in the future. Furthermore, for an Index that is not a Daily Series Index, the monthly rebalancing may not be sufficient to reduce exposure to the notional portfolio(s) tracked by that Index if there is sudden increase in volatility. The volatility of the notional portfolio on any day may change quickly and unexpectedly. Accordingly, the actual realized annualized volatility of an Index (including a Daily Series Index) on a daily basis may be greater than or less than the target volatility, which may adversely affect the level of the Index and the value of the notes.

**The daily adjustment of the exposure of a Daily Series Index to the monthly reference portfolio of Basket Constituents may cause that Daily Series Index not to reflect fully any price appreciation or to magnify any price depreciation of the notional portfolio.**

In an effort to approximate its target volatility on a daily basis, each Daily Series Index adjusts its exposure to the notional portfolio of Basket Constituents daily based on the historical volatility of the notional portfolio (calculated without taking into account distributions on the Exchange-Traded Constituents) over a specified measurement period, subject to maximum and minimum exposure limits. When the historical volatility is greater than the target volatility, a Daily Series Index will reduce its exposure to the notional portfolio. When the historical volatility is less than the target volatility, a Daily Series Index will increase its exposure to the notional portfolio. The exposure may vary between 0% and a variable maximum exposure, subject to a daily maximum exposure change of 50%. The maximum exposure to the notional portfolio of a Daily Series Index will not be greater than 200% and will vary so as to limit the aggregate weight of the Exchange-Traded Constituents included in the monthly reference portfolio, as adjusted by the exposure, to 100%.

Due to the daily exposure adjustments, a Daily Series Index may fail to realize gains due to price appreciation of the notional portfolio at a time when the exposure is less than 100% or may suffer increased losses due to price depreciation of the notional portfolio when the exposure is above 100%. As a result, a Daily Series Index may underperform a similar index that does not include a daily exposure adjustment feature.

**Notes linked in whole or in part to a Daily Series Index may provide exposure to any Basket Constituent in excess of the weighting constraint specified for that Basket Constituent.**

As explained above, the maximum exposure to the monthly reference portfolio of a Daily Series Index will not be greater than 200% and will vary so as to limit the aggregate weight of the Exchange-Traded Constituents included in the monthly reference portfolio, as adjusted by the exposure, to 100%. Accordingly, a Daily Series Index may provide exposure to an Exchange-Traded Constituent equal to up to twice the weighting constraint that applies to that Exchange-Traded Constituent in the monthly portfolio selection process. Any movements in value of an Exchange-Traded Constituent may result in greater changes in the value of that Exchange-Traded Constituent than if its exposure were limited to its weighting constraint. In particular, exposure to an Exchange-Traded Constituent in excess of 100% of its weighting constraint will magnify any negative performance of that Exchange-Traded Constituent, which, in turn, could cause you to receive a lower return on the notes than you would have received if the weight of each Exchange-Traded Constituent were limited to its weighting constraint.

**If the values of the Basket Constituents included in an Index change, the level of that Index and the market value of your notes may not change in the same manner.**

Owning the notes is not the same as owning the Basket Constituents. Accordingly, changes in the values of the Basket Constituents included in an Index may not result in a comparable change in the level of that Index or the market value of your notes.

**Each Index comprises notional assets and liabilities.**

The exposures to the Basket Constituents are purely notional and will exist solely in the records maintained by or on behalf of the index calculation agent. There is no actual portfolio of assets to which any person is entitled or in which any person has any ownership interest. Consequently, you will not have any claim against any of the reference assets that comprise any Index. Each Excess Price Return Index tracks the excess return of a notional dynamic basket of assets over the Cash Constituent and, as such, any allocation to the Cash Constituent in an Excess Price Return Index will result in this portion of the notional portfolio not being invested. Unless an extraordinary event occurs, the Cash Constituent will be subject to a maximum weight of 50% in each Index. See “The J.P. Morgan Efficiente® Plus Price Return Index Series — Extraordinary Events” for information about the consequences of an extraordinary event.

**Each Index has a limited operating history and may perform in unanticipated ways.**

Each Index was established on March 31, 2015 and therefore has a limited operating history. Past performance should not be considered indicative of future performance.

**Each Index is subject to market risks.**

The performance of each Index is dependent on the performance of the 21 Basket Constituents. As a consequence, your investment in the notes is exposed to the price performance and credit performance of the Basket Constituents.

**The performance of an Index will not reflect distributions on the Exchange-Traded Constituents included in that Index.**

A majority of the Exchange-Traded Constituents provide exposure to instruments that generate yield as a substantial component of their return, such as bonds, real estate investment trusts or master limited partnerships, and the distributions are paid to beneficial owners of these instruments. However, the levels of each Index will reflect the prices of the Exchange-Traded Constituents included in that Index without taking into consideration the value of distributions made on those Exchange-Traded Constituents. The return of an Index will not reflect the return you would realize if you actually owned the Exchange-Traded Constituents included in that Index and received the distributions made on those Exchange-Traded Constituents.

**The level of each Excess Price Return Index reflects the deduction of the performance of the Cash Constituent.**

The level of each Excess Price Return Index is calculated by deducting the performance of the Cash Constituent from the performance of the notional portfolio of Basket Constituents and applying a fee of 0.85% per annum. Accordingly, an Excess Price Return Index will yield a positive return only if the performance of the notional portfolio (minus the fee) exceeds the performance of the Cash Constituent.

**Any future downgrades of the U.S. government’s credit rating by credit rating agencies may adversely affect the performance of an Index and the notes.**

In 2011, Standard & Poor’s Ratings Services (“Standard & Poor’s”), downgraded the U.S. government’s credit rating from AAA to AA+. The downgrade increased volatility in the global equity and credit markets, which might have adversely affected the values of the Basket Constituents. Future downgrades by credit ratings agencies may also increase this volatility and may also increase short-term borrowing costs, including the 3-month LIBOR rate underlying the Cash Constituent, which would adversely affect the level of an Index. All of the above may adversely affect the performance of an Index and the notes.

**An investment in the notes carries the risks associated with the Indices' momentum investment strategy, which utilizes the total returns, not the price returns, of the Exchange-Traded Constituents.**

Each Index is constructed using what is generally known as a momentum investment strategy. Momentum investing generally seeks to capitalize on positive trends in the price of assets. As such, the weights of the Basket Constituents in each Index are based on the total return performance of the Basket Constituents from the immediately preceding six months. However, there is no guarantee that trends existing in the preceding six months will continue in the future. A momentum strategy is different from a strategy that seeks long-term exposure to a notional portfolio consisting of constant components with fixed weights. Each Index may fail to realize gains that could occur as a result of holding assets that have experienced price declines, but after which experience a sudden price spike. In addition, an Index may decline as a result of holding assets that have performed well in the past, but then experience price declines. As a result, if market conditions do not represent a continuation of prior observed trends, the level of an Index, which is rebalanced based on prior trends, may decline. Additionally, even when the values of the Basket Constituents are trending downwards, each Index will continue to be composed of the 21 Basket Constituents. Due to the "long-only" construction of the Indices, the weight of each Basket Constituent will not fall below zero at any time even if the relevant Basket Constituent displayed a negative performance over the relevant six-month period.

Furthermore, the weights assigned to the Basket Constituents of each Index are based on the total returns (*i.e.*, returns that reflect the notional reinvestment of distributions on the Exchange-Traded Constituents) and volatilities (calculated using total returns) of multiple hypothetical portfolios composed of the Basket Constituents. While this strategy uses total returns to assign weights to the notional portfolio of Basket Constituents, the levels of each Index are calculated based on the price returns (*i.e.*, returns that do not reflect distributions on the Exchange-Traded Constituents) of the Exchange-Traded Constituents. Any trends exhibited by the total return performance may not be indicative of any trends in the price return performance of that portfolio. In addition, the Exchange-Traded Constituents with the highest total returns may have lower price returns than Exchange-Traded Constituents with lower total returns. Accordingly, the performance of each Index may trail the performance of a hypothetical index that used a selection methodology based on price returns rather than total returns.

No assurance can be given that the investment strategy used to construct any Index will outperform any alternative index that might be constructed from the Basket Constituents.

**Each Index may perform poorly during periods characterized by short-term volatility.**

Each Index's strategy is based on momentum investing. Momentum investing strategies are effective at identifying the current market direction in trending markets. However, in non-trending, sideways markets, momentum investment strategies are subject to "whipsaws." A whipsaw occurs when the market reverses and does the opposite of what is indicated by the trend indicator, resulting in a trading loss during the particular period. Consequently, each Index may perform poorly in non-trending, "choppy" markets characterized by short-term volatility.

**The investment strategy used to construct the Indices involves monthly rebalancing and weighting constraints that are applied to the Basket Constituents and, for each Daily Series Index, daily adjustments to the exposure to the notional portfolio consisting of the Basket Constituents.**

The Basket Constituents are subject to monthly rebalancing and weighting constraints by asset type and on subsets of assets based on historical volatility and, for each Daily Series Index, daily adjustments to the exposure to the notional portfolio consisting of the Basket Constituents. By contrast, a notional portfolio that does not rebalance monthly and is not subject to any weighting constraints or daily exposure adjustments in this manner could see greater compounded gains over time through exposure to a consistently and rapidly appreciating portfolio consisting of the Basket

Constituents. The monthly rebalancing may also adversely affect potential returns by reducing exposure to the notional portfolio(s) tracked by an Index in times of high volatility when the notional portfolio(s) are experiencing price increases. Therefore, your return on the notes may be less than the return you could realize on an alternative investment in the Basket Constituents that is not subject to monthly rebalancing, weighting constraints or daily exposure adjustments. No assurance can be given that the investment strategy used to construct the Indices will outperform any alternative investment in the Basket Constituents.

**Each Excess Price Return Index may be partially uninvested.**

In the case of an Excess Price Return Index, the aggregate weight of the Cash Constituent at any given time represents the portion of the notional portfolio that is uninvested at that time. Each Excess Price Return Index will reflect no return for any uninvested portion (including any portion represented by the Cash Constituent). While the weight of the Cash Constituent is normally limited by a weighting constraint of 50%, if, as a result of an extraordinary event, any Basket Constituent is replaced with the Cash Constituent, the aggregate weight of the Cash Constituent would be allowed to exceed 50% because a portion of that aggregate weight would be subject to the weighting constraints specific to the replaced Basket Constituent and not the weighting constraints specific to the Cash Constituent. See "The Basket Constituents composing each Index may be replaced by a substitute upon the occurrence of certain extraordinary events" below.

In addition, because each Daily Series Index is also an Excess Price Return Index, when the exposure of a Daily Series Index to the notional portfolio of Basket Constituents is less than 100% on any day, a portion of the notional portfolio will be uninvested. For example, if the daily exposure of a Daily Series Index is set at 70%, and assuming the weight of the Cash Constituent is 0%, 30% of the notional portfolio would be uninvested. Each Daily Series Index will reflect no return for any uninvested portion.

**The Basket Constituents composing each Index may be replaced by a substitute upon the occurrence of certain extraordinary events.**

As described under "The J.P. Morgan Efficiente® Plus Price Return Index Series — Extraordinary Events" below, following the occurrence of certain extraordinary events with respect to a Basket Constituent, the affected Basket Constituent may be replaced by a substitute ETF, ETN or index, *provided* that only the Note Constituent can be replaced by a substitute ETN and that the Cash Constituent can be replaced only with a substitute index.

These extraordinary events generally include events that could materially interfere with the ability of market participants to transact in, or events that could materially change the underlying economic exposure of, positions with respect to the relevant Index, any Basket Constituent or the Reference Index or Reference Commodities of any Exchange-Traded Constituent, where that material interference or change is not acceptable to the index calculation agent. In particular, an extraordinary event might be triggered if the Note Constituent is called by its issuer or if an Exchange-Traded Constituent begins to trade at a material premium to, or discount from, its intrinsic value. In the case of the Note Constituent, such a premium might develop if the issuer of the Note Constituent suspends or discontinues sales at any time for any reason. See "The J.P. Morgan Efficiente® Plus Price Return Index Series — Extraordinary Events" below for a list of numerous other events that could trigger an extraordinary event and cause a Basket Constituent to be replaced by a substitute.

If the index calculation agent determines in its discretion that no suitable substitute is available for an affected Basket Constituent (other than the Cash Constituent), then the index calculation agent will replace that Basket Constituent with the Cash Constituent. Under such circumstances, the aggregate weight of the Cash Constituent in the relevant Index may be greater than the maximum 50% weight limit allocated for the Cash Constituent because a portion of such aggregate weight would be subject to the separate maximum weight limit specific to the affected Basket Constituent.

You should realize that the changing of a Basket Constituent may affect the performance of an Index, and therefore, the return on the notes, as the replacement Basket Constituent may perform significantly better or worse than the affected Basket Constituent.

**Any of the Exchange-Traded Constituents may be replaced by an index under extraordinary circumstances, in which case the risks relating to indices will affect the level of the relevant Index and therefore the value of the notes.**

Under certain extraordinary circumstances, any Exchange-Traded Constituent may be replaced by a substitute index that possesses substantially similar characteristics or provides a substantially similar exposure as the Exchange-Traded Constituent being replaced, as determined by the index calculation agent in its discretion. As a holder of the notes, you will not have rights that holders of the assets underlying a substitute index would have such as, if applicable, voting rights or rights to dividends or other distributions. If the substitute index is an equity index that is not a total return index, the value of the substitute index will not reflect dividends on the equity securities included in such equity index.

Moreover, the policies of the sponsor of the substitute index concerning the methodology and calculation of the substitute index, including decisions regarding additions, deletions or substitutions of the assets underlying the substitute index could affect the level of the substitute index and therefore the value of the notes. The amount payable on the notes and their market value could also be affected if the sponsor of the substitute index discontinues or suspends calculation or dissemination of the substitute index, in which case it may become difficult to determine the market value of the notes. The index sponsor of the substitute index will have no obligation to consider your interests in calculating or revising such substitute index.

If the assets included in the substitute index are denominated in currencies other than U.S. dollars, then the notes will be subject to currency exchange risk. If the assets underlying a substitute index have been issued by non-U.S. companies or non-U.S. governments, the level of the substitute index and therefore the value of the notes will be affected by political, economic, financial and social factors in the relevant countries, including changes in a relevant country's government, economic and fiscal policies, currency exchange laws and other foreign laws or restrictions. See the relevant terms supplement for additional information regarding the risks associated with any substitute index.

**Correlation of performances among the Basket Constituents may reduce the performance of the notes.**

Performances of the Basket Constituents may become highly correlated from time to time during the term of the notes, including, but not limited to, a period in which there is a substantial decline in a particular sector or asset type represented by the Basket Constituents and which has a higher weighting in an Index relative to any of the other sectors or asset types, as determined by that Index's strategy. High correlation during periods of negative returns among Basket Constituents representing any one sector or asset type and which Basket Constituents have a substantial percentage weighting in an Index could have an adverse effect on any payments on, and the value of, your notes.

**Changes in the value of the Basket Constituents may offset each other.**

Because the notes are linked to an Index that is linked to the performance of the Basket Constituents, which collectively represent a diverse range of asset classes and geographic regions, price movements between the Basket Constituents representing different asset classes or geographic regions may not correlate with each other. At a time when the value of a Basket Constituent representing a particular asset class or geographic region increases, the value of other Basket Constituents representing a different asset class or geographic region may not increase as much or may decline. Therefore, in calculating the level of an Index, increases in the values of some of the Basket Constituents may be moderated, or more than offset, by lesser increases or declines in the values of other Basket Constituents.

**The notes may be subject to the credit risk of two issuers.**

The Note Constituent is a series of debt securities of its issuer and is subject to the credit risk of its issuer. Accordingly, any return on the notes that reflects the performance of an Index may be subject to the credit risk of both us and the issuer of the Note Constituent. See the accompanying product supplement for additional information about our credit risk and see “— Risks Relating to the Note Constituent — There are risks associated with the Note Constituent” below for additional information about the credit risk of the issuer of the Note Constituent. Any actual or perceived deterioration in the credit quality of the Note Constituent issuer may increase the volatility of and adversely affect the price performance of the Note Constituent, which may affect the exposure of an Index to the Note Constituent, if any, and adversely affect the level of that Index and the value of the notes.

**Risks Relating to the ETF Constituents Generally**

**There are risks associated with the ETF Constituents.**

An ETF Constituent may have a limited operating history. Although the shares of an ETF Constituent may be listed for trading on a securities exchange and a number of similar products have been traded on securities exchanges for varying periods of time, there is no assurance that an active trading market will continue for the shares of any ETF Constituent or that there will be liquidity in the trading market.

In addition, the ETF Constituents are subject to management risk, which is the risk that the investment strategy of the relevant investment adviser or commodity pool operator, as applicable, the implementation of which is subject to a number of constraints, may not produce the intended results. These constraints could affect the market prices of the shares of an ETF Constituent and, consequently, could adversely affect the value of the notes. See the relevant ETF Constituent description below for additional information.

**The policies of the investment adviser or commodity pool operator, as applicable, for an ETF Constituent, and the sponsor of its Reference Index, if applicable, could affect the value of, and any amount payable on, the notes.**

The policies of the investment adviser or commodity pool operator, as applicable, for an ETF Constituent concerning the calculation of that ETF Constituent’s net asset value; additions, deletions or substitutions of securities, commodities, commodity futures contracts, loans or other assets underlying that ETF Constituent; substitutions of its Reference Index, if applicable; and the manner in which changes affecting its Reference Index, if applicable, are reflected in that ETF Constituent, could affect the market price of the shares of that ETF Constituent and, therefore, affect any payment on the notes and the value of the notes before maturity. Any amount payable on the notes and their value could also be affected if the investment adviser or commodity pool operator, as applicable, changes these policies, for example, by changing the manner in which it calculates that ETF Constituent’s net asset value, or if the investment adviser or commodity pool operator, as applicable, discontinues or suspends calculation or publication of that ETF Constituent’s net asset value, in which case it may become difficult to determine the value of the notes.

In addition, the sponsor of a Reference Index, if applicable, is responsible for the design and maintenance of that Reference Index. The policies of the sponsor concerning the calculation of a Reference Index, including decisions regarding the addition, deletion or substitution of the securities, commodities, commodity futures contracts, loans or other assets included in that Reference Index, if applicable, could affect the value of that Reference Index and, consequently, the market prices of the shares of the ETF Constituent and, therefore, any payment on the notes and the value of the notes.



**The performance of an ETF Constituent may not correlate with the performance of its Reference Index, if applicable.**

An ETF Constituent that is designed to track a Reference Index uses a representative sampling strategy or a replication or indexing strategy to attempt to track the performance of its Reference Index. Pursuant to a representative sampling strategy, an ETF Constituent invests in a representative sample of securities that collectively has an investment profile similar to its Reference Index; however, an ETF Constituent may not hold all or substantially all of the securities, commodities, commodity futures contracts, loans or other assets included in its Reference Index. Even if an ETF Constituent uses a replication or indexing strategy, the ETF Constituent may not hold all of the securities, commodities, commodity futures contracts, loans or other assets included in its Reference Index. In certain cases, an ETF Constituent may invest a significant portion of its portfolio in cash or money market instruments. While the performance of an ETF Constituent is linked principally to the securities, commodities, commodity futures contracts, loans or other assets included in its Reference Index, unless otherwise specified in the relevant ETF Constituent description below, its investment adviser or commodity pool operator, as applicable, generally may invest a portion of an ETF Constituent's assets in securities, commodities, commodity futures contracts, loans or other assets not included in its Reference Index and in other assets, including potentially shares of money market funds affiliated with or advised by its investment adviser or commodity pool operator, as applicable.

In addition, the performance of an ETF Constituent will reflect additional transaction costs and fees that are not included in the calculation of its Reference Index. Also, the component securities, commodities, commodity futures contracts, loans or other assets of an ETF Constituent may be unavailable in the secondary market due to other extraordinary circumstances. Corporate actions with respect to any securities or loans (such as mergers and spin-offs) also may impact the variance between an ETF Constituent and its Reference Index. Finally, because the shares of an ETF Constituent may be traded on a securities exchange and may be subject to market supply and investor demand, the market value of one share of that ETF Constituent may differ from the net asset value per share of that ETF Constituent.

For all of the foregoing reasons, the performance of an ETF Constituent that is designed to track a Reference Index may not correlate with the performance of its Reference Index. Consequently, the return on the notes will not be the same as investing directly in any ETF Constituent or any relevant Reference Index or in the securities, commodities, commodity futures contracts, loans or other assets held by any ETF Constituent or included in any relevant Reference Index, and will not be the same as investing in a financial product linked to the performance of any relevant Reference Index.

**We cannot assure you that publicly available information provided about any ETF Constituent is accurate or complete.**

All disclosures contained in this underlying supplement regarding any ETF Constituent have been derived from publicly available documents and other publicly available information, without independent verification. We have not participated, and will not participate, in the preparation of those documents, and we have not made, and will not make, any due diligence inquiry with respect to any ETF Constituent in connection with the offering of the notes. We do not make any representation that those publicly available documents or any other publicly available information regarding any ETF Constituent is accurate or complete, and we are not responsible for public disclosure of information by any ETF Constituent, whether contained in filings with the SEC or otherwise. We also cannot give any assurance that all events occurring prior to the date of the relevant terms supplement (including events that would affect the accuracy or completeness of the publicly available documents of any ETF Constituent) that would affect the value of any ETF Constituent will have been publicly disclosed. Subsequent disclosure of any of these events or the disclosure of, or failure to disclose, material future events concerning any ETF Constituent could affect the market value of the notes or any payment on the notes. Any prospective purchaser of the notes should undertake an independent investigation of

any ETF Constituent as in its judgment is appropriate to make an informed decision with respect to an investment in the notes.

### **Risks Relating to the ETF Constituents That Provide Exposure to Securities or Loans**

**An investment in the notes will be subject to risks associated with small capitalization stocks.**

The securities held by the Vanguard Small-Cap ETF and the iShares® MSCI EAFE Small-Cap ETF are issued by companies with relatively small market capitalization. The stock prices of smaller companies may be more volatile than stock prices of large capitalization companies. Small capitalization companies may be less able to withstand adverse economic, market, trade and competitive conditions relative to larger companies. These companies tend to be less well-established than large market capitalization companies. Small capitalization companies are less likely to pay dividends on their stocks, and the presence of a dividend payment could be a factor that limits downward stock price pressure under adverse market conditions.

**The notes will be subject to currency exchange risk.**

Because the prices of the non-U.S. securities held by several of the ETF Constituents are converted into U.S. dollars for the purposes of calculating the values of those ETF Constituents, the holders of the notes will be exposed to currency exchange rate risk with respect to each of the currencies in which the non-U.S. securities held by those ETF Constituents trade. An investor's net exposure will depend on the extent to which those currencies strengthen or weaken against the U.S. dollar and the relative weight of the non-U.S. securities underlying those ETF Constituents denominated in each applicable currency. If, taking into account the weighting, the U.S. dollar changes in value relative to those currencies, the value of the relevant ETF Constituents and any payment on the notes may be adversely affected.

Of particular importance to potential currency exchange risk are:

- existing and expected rates of inflation;
- existing and expected interest rate levels;
- the balance of payments in the countries issuing those currencies and in the United States and between each country and its major trading partners;
- political, civil or military unrest in the countries issuing those currencies and in the United States; and
- the extent of governmental surpluses or deficits in the component countries and the United States.

All of these factors are, in turn, sensitive to the monetary, fiscal and trade policies pursued by the governments of various component countries, the United States and other countries important to international trade and finance.

**Changes in the volatility of exchange rates and the correlation between those rates and the values of some of the ETF Constituents are likely to affect the market value of the notes.**

The exchange rate between the U.S. dollar and each of the currencies in which the non-U.S. securities held by some of the ETF Constituents are denominated refers to a foreign exchange spot rate that measures the relative values of two currencies — the particular currency in which one of those securities is denominated and the U.S. dollar. This exchange rate reflects the amount of the particular currency in which one of those securities is denominated that can be purchased for one U.S. dollar and thus increases when the U.S. dollar appreciates relative to the particular currency in which that security is denominated. The volatility of the exchange rate between the U.S. dollar and each of the currencies in which the non-U.S. securities held by those ETF Constituents are denominated refers to the size and frequency of changes in that exchange rate.

Because the net asset values of the ETF Constituents are calculated, in part, by converting the closing prices of the non-U.S. securities they hold into U.S. dollars, and because the market value of an ETF Constituent is closely linked to its net asset value, the volatility of the exchange rate between the U.S. dollar and each of the currencies in which those non-U.S. securities are denominated could affect the market value of the notes.

The correlation of the exchange rate between the U.S. dollar and each of the currencies in which the non-U.S. securities held by those ETF Constituents are denominated and the value of those ETF Constituents refers to the relationship between the percentage changes in that exchange rate and the percentage changes in the value of those ETF Constituents. The direction of the correlation (whether positive or negative) and the extent of the correlation between the percentage changes in the exchange rate between the U.S. dollar and each of the currencies in which the non-U.S. securities held by those ETF Constituents are denominated and the percentage changes in the value of those ETF Constituents could affect the value of the notes.

**We have no control over exchange rates.**

Foreign exchange rates can either float or be fixed by sovereign governments. Exchange rates of the currencies used by most economically developed nations are permitted to fluctuate in value relative to the U.S. dollar and to each other. However, from time to time governments and, in the case of countries using the euro, the European Central Bank, may use a variety of techniques, such as intervention by a central bank, the imposition of regulatory controls or taxes or changes in interest rates to influence the exchange rates of their currencies. Governments may also issue a new currency to replace an existing currency or alter the exchange rate or relative exchange characteristics by a devaluation or revaluation of a currency. These governmental actions could change or interfere with currency valuations and currency fluctuations that would otherwise occur in response to economic forces, as well as in response to the movement of currencies across borders. As a consequence, these governmental actions could adversely affect an investment in the notes.

We will not make any adjustment or change in the terms of the notes in the event that exchange rates should become fixed, or in the event of any devaluation or revaluation or imposition of exchange or other regulatory controls or taxes, or in the event of other developments affecting the U.S. dollar or any relevant foreign currency. You will bear those risks.

**An investment in the notes is subject to risks associated with non-U.S. securities markets, including emerging markets, and loans of non-U.S. borrowers.**

Some or all of the securities held by several of the ETF Constituents have been issued by non-U.S. companies and the loans held by the PowerShares Senior Loan Portfolio may be to non-U.S. borrowers. An investment in the notes therefore involves risks associated with the securities markets in those countries where the relevant non-U.S. securities are traded, including risks of volatility in those markets, governmental intervention in those markets and cross shareholdings in companies in certain countries, and risks associated with loans originated in those countries. Also, there is generally less publicly available information about companies in some of these jurisdictions than about U.S. companies that are subject to the reporting requirements of the SEC, and generally non-U.S. companies are subject to accounting, auditing and financial reporting standards and requirements and securities trading rules different from those applicable to U.S. reporting companies. Moreover, the bonds held by the iShares® JPMorgan USD Emerging Markets Bond Fund have been issued by emerging-markets countries. Investments in the notes, which are linked in part to the economic stability and development of such countries, involve risks associated with investments in, or the securities markets in, those countries.

The prices of securities in non-U.S. markets and the value of loans to non-U.S. borrowers may be affected by political, economic, financial and social factors in those markets and the home countries of those borrowers, including changes in a country's government, economic and fiscal policies, difficulties

enforcing loan obligations, currency exchange laws or other laws or restrictions. Moreover, the economies of these countries may differ favorably or unfavorably from the economy of the United States in such respects as growth of gross national product, rate of inflation, capital reinvestment, resources and self-sufficiency. These countries may be subjected to different and, in some cases, more adverse economic environments.

The economies of emerging market countries in particular face several concerns, including relatively unstable governments that may present the risks of nationalization of businesses, restrictions on foreign ownership and prohibitions on the repatriation of assets, and which may have less protection of property rights than more developed countries. These economies may also be based on only a few industries, be highly vulnerable to changes in local and global trade conditions and may suffer from extreme and volatile debt burdens or inflation rates. In addition, local securities or loan markets may trade a small number of securities or loans and may be unable to respond effectively to increases in trading volume, potentially making prompt liquidation of holdings difficult or impossible at times.

Some or all of these factors may influence the value of the relevant Basket Constituents, and therefore, the Index. The impact of any of the factors set forth above may enhance or offset some or all of any change resulting from another factor or factors. You cannot predict the future performance of any Basket Constituent based on its historical performance. The value of any Basket Constituent may, decrease, which may adversely affect any payment on the notes.

**The notes are subject to significant risks associated with fixed-income securities and leveraged loans, including interest rate-related risks.**

Several of the ETF Constituents attempt to track the performance of indices composed of fixed-income securities, and the PowerShares Senior Loan Portfolio attempts to track the performance of an index composed of leveraged loans and fixed-income securities. Investing in the notes that provide exposure to those ETF Constituents differs significantly from investing directly in bonds or loans to be held to maturity, as the values of those ETF Constituents change, at times significantly, during each trading day based upon the current market prices of their underlying bonds or the values of their underlying loans. The market prices of these bonds and loans are volatile and significantly influenced by a number of factors, particularly the duration of the underlying bonds or loans, the yields on these bonds or loans as compared to current market interest rates and the actual or perceived credit quality of the issuer of these bonds or the borrowers of these loans.

The market prices of the bonds underlying each of the iShares® iBoxx \$ Investment Grade Corporate Bond ETF are determined, in part, by reference to the bid and ask quotations provided by contributing banks, including us. In addition, GIRG developed, maintains and calculates the J.P. Morgan Emerging Markets Bond Index Global CORE, which is the index underlying the iShares® J.P. Morgan USD Emerging Markets Bond ETF, one of the ETF Constituents. The J.P. Morgan Emerging Markets Bond Index Global CORE makes use of certain weights, prices, values, levels or dates that are determined by PricingDirect. GIRG is part of our Global Research division and resides within JPMS. PricingDirect is our wholly owned subsidiary and provides valuation and other metrics data for fixed income securities and derivatives. PricingDirect determines these prices through a proprietary evaluation process that takes into account market-based evaluations (such as market intelligence for traded, quoted securities). In addition, under some circumstances, the pricing information provided by PricingDirect on the bonds underlying the J.P. Morgan Emerging Markets Bond Index Global CORE may be derived solely from price quotations or internal valuations made by one or more of our affiliates.

In general, fixed-income instruments are significantly affected by changes in current market interest rates. As interest rates rise, the prices of fixed-income instruments are likely to decrease. Instruments with longer durations tend to be more sensitive to interest rate changes, usually making them more volatile than securities with shorter durations. As a result, rising interest rates may cause

the value of the long-dated bonds underlying the relevant ETF Constituents to decline, possibly significantly, which would adversely affect the value of the notes. In addition, longer interest rate reset periods and interest rate floors with respect to leveraged loans generally increase fluctuations in value as a result of changes in market interest rates. Moreover, during periods of declining interest rates, the borrower of a leveraged loan may exercise its option to prepay principal earlier than scheduled, potentially causing the PowerShares Senior Loan Portfolio to reinvest the unanticipated proceeds at lower interest rates, resulting in a decline in the price of the notes.

Interest rates are subject to volatility due to a variety of factors, including:

- sentiment regarding underlying strength or weakness in the local economies of the issuers of the securities or borrowers of the loans underlying the relevant ETF Constituents and global economies;
- expectations regarding the level of price inflation;
- sentiment regarding credit quality in the markets of the issuers of the securities or borrowers of the loans underlying the relevant ETF Constituents and global credit markets;
- central bank policies regarding interest rates; and
- the performance of capital markets that include the issuers of the securities or borrowers of the loans underlying the relevant ETF Constituents and foreign capital markets.

Prices of U.S. treasury notes have recently fallen after trading near historic high prices for an extended period of time. If the price of the U.S. treasury notes reverts to its historic mean or otherwise continues to fall as a result of a general increase in interest rates, Federal Reserve policies or actions, or perceptions of reduced credit quality of the U.S. government or otherwise, the value of the bonds underlying ETF Constituents that include U.S. treasury notes will decline, which could have a negative impact on the performance of the notes.

In addition, inflation-protected bonds typically have lower yields than conventional fixed-rate bonds because of their inflation adjustment feature. For the iShares® TIPS Bond ETF, which tracks inflation-protected bonds, if inflation is low, the benefit received from the inflation-protected feature of the underlying bonds may not sufficiently compensate you for their reduced yield.

**The notes are subject to significant risks associated with fixed-income securities and leveraged loans, including credit risk.**

Several of the ETF Constituents attempt to track the performance of indices composed of fixed-income securities. The prices of the bonds underlying those ETF Constituents are significantly influenced by the creditworthiness of the issuers of those bonds. The bonds underlying those ETF Constituents may have their credit ratings downgraded, including, in the case of the investment-grade bonds, a downgrade from investment grade to non-investment grade status, or their credit spreads may widen significantly. Following a ratings downgrade or the widening of credit spreads, some or all of the bonds underlying those ETF Constituents may suffer significant and rapid price declines. These events may affect only a few or a large number of the bonds underlying those ETF Constituents. For example, during the most recent credit crisis in the United States, credit spreads widened significantly as the market demanded very high yields on corporate bonds, and as a result, the prices of the bonds in the United States dropped significantly. There can be no assurance that some or all of the factors that contributed to that credit crisis will not depress the price, perhaps significantly, of the bonds underlying those ETF Constituents, which would adversely affect the value of the notes.

Further, the ETF Constituents that provide exposure to the high yield corporate market are subject to high-yield securities risk. Securities that are rated below investment grade (commonly known as “junk bonds,” including those bonds rated at BB+ or lower by S&P or Fitch or Ba1 or lower by Moody’s) may be more volatile than higher-rated securities of similar maturity. High-yield securities may also be

subject to greater levels of credit or default risk than higher-rated securities. The value of high-yield securities can be adversely affected by overall economic conditions, such as an economic downturn or a period of rising interest rates, and high-yield securities may be less liquid and more difficult to sell at an advantageous time or price or to value than higher-rated securities. In particular, high-yield securities are often issued by smaller, less creditworthy companies or by highly leveraged (indebted) firms, which are generally less able than more financially stable firms to make scheduled payments of interest and principal.

Moreover, investments in leveraged loans are subject to credit risk. A leveraged loan is rated below investment grade quality or is unrated but deemed to be of comparable quality. Non-investment grade loans, and unrated loans of comparable credit quality, are subject to the increased risk of a borrower's inability to meet principal and interest payment obligations. Default in the payment of interest or principal on a loan held by the PowerShares Senior Loan Portfolio will result in a reduction in the value of that loan and a potential decrease in the value of the PowerShares Senior Loan Portfolio. Although the loans held by the PowerShares Senior Loan Portfolio generally will be secured by specific collateral, there can be no assurance that such collateral would satisfy the borrower's obligation in the event of non-payment of scheduled interest or principal or that such collateral could be readily liquidated. In addition, if a borrower defaults on its payment obligations, the PowerShares Senior Loan Portfolio may incur additional expenses to seek recovery. In the event of the bankruptcy of a borrower, the PowerShares Senior Loan Portfolio's access to the collateral may be limited by bankruptcy or other insolvency bonds and, therefore, the PowerShares Senior Loan Portfolio could experience costs, delays and limitations with respect to its ability to realize the benefits of the collateral securing a loan. Although a leveraged loan may be senior to equity and other debt securities in a borrower's capital structure, those obligations may be structurally subordinated to obligations of the borrower's subsidiaries, meaning that those obligations would be junior to the obligations of the borrower's subsidiaries. Any of the foregoing may adversely affect the price of the PowerShares Senior Loan Portfolio and, accordingly, the value of the notes.

**The value of the notes may be influenced by unpredictable changes in the markets and economies of the local governments of the issuers of the bonds underlying some of the ETF Constituents.**

The values of the ETF Constituents that attempt to track the performance of indices composed of fixed-income securities may be influenced by unpredictable changes, or expectations of changes, in the local markets for the bonds underlying those ETF Constituents. Changes in the local governments of the issuers of the bonds underlying those ETF Constituents that may influence the value of the notes include:

- economic performance, including any financial or economic crises and changes in the gross domestic product, the principal sectors, inflation, employment and labor, and prevailing prices and wages;
- the monetary system, including the monetary policy, the exchange rate policy, the economic and tax policies, banking regulation, credit allocation and exchange controls;
- the external sector, including the amount and types of foreign trade, the geographic distribution of trade, the balance of payments, and reserves and exchange rates;
- public finance, including the budget process, any entry into or termination of any economic or monetary agreement or union, the prevailing accounting methodology, the measures of fiscal balance, revenues and expenditures, and any government enterprise or privatization program; and
- public debt, including external debt, debt service and the debt record.

These factors interrelate in complex ways, and the effect of one factor on the market value of the bonds underlying the relevant ETF Constituents may offset or enhance the effect of another factor. Changes in the values of the ETF Constituents may adversely affect any payment on the notes.

**The notes are subject to significant risks associated with preferred stock.**

The iShares® U.S. Preferred Stock ETF holds primarily preferred stock, and other ETF Constituents may hold preferred stock. Unlike interest payments on debt securities, dividend payments on a preferred stock typically must be declared by the issuer's board of directors. An issuer's board of directors is generally not under any obligation to pay a dividend (even if such dividends have accrued) and may suspend payment of dividends on a preferred stock at any time. In the event an issuer of preferred stock experiences economic difficulties, the issuer's preferred stock may lose substantial value due to the reduced likelihood that the issuer's board of directors will declare a dividend and the fact that the preferred stock may be subordinated to other securities of the same issuer. Certain additional risks associated with preferred stock could adversely affect the value of an ETF Constituent that holds preferred stock.

Because many preferred stocks pay dividends at a fixed rate, their market price can be sensitive to changes in interest rates in a manner similar to bonds — that is, as interest rates rise, the value of any preferred stocks held by an ETF Constituent are likely to decline. To the extent that an ETF Constituent invests in fixed-rate preferred stocks, rising interest rates may cause the value of that ETF Constituent's investments to decline. In addition, because many preferred stocks allow holders to convert the preferred stock into common stock of the issuer, their market price can be sensitive to changes in the value of the issuer's common stock. To the extent that an ETF Constituent invests in convertible preferred stocks, declining common stock values may also cause the value of that ETF Constituent's investments to decline.

There is a chance that the issuer of any preferred stock held by an ETF Constituent will have its ability to pay dividends deteriorate or will default (*i.e.* fail to make scheduled dividend payments on the preferred stock or scheduled interest payments on other obligations of the issuer not held by an ETF Constituent), which would negatively affect the value of any such holding.

Preferred stocks are subject to market volatility and the prices of preferred stocks will fluctuate based on market demand. Preferred stocks often have call features which allow the issuer to redeem the security at its discretion. If a preferred stock is redeemed by the issuer, it will be removed from the relevant Reference Index. The redemption of preferred stocks having a higher than average yield may cause a decrease in the yield of the relevant ETF Constituent and its Reference Index.

**The notes are subject to significant risks associated with mortgage-backed securities.**

Several of the ETF Constituents may invest in mortgage-backed securities. Mortgage-backed securities are subject to prepayment risk, which is the risk that during periods of falling interest rates, an issuer of mortgages and other securities may be able to repay principal prior to the security's maturity causing the ETF Constituent holding that mortgage-backed security to have to reinvest in securities with a lower yield. Mortgage-backed securities are also subject to extension risk, which is the risk that when interest rates rise, certain mortgage-backed securities will be paid off substantially more slowly than originally anticipated and the value of those securities may fall sharply. Because of prepayment and extension risk, mortgage-backed securities react differently to changes in interest rates than other bonds. Small movements in interest rates (both increases and decreases) may quickly and significantly reduce the value of certain mortgage-backed securities. In recent years, the market for mortgage-backed securities experienced substantially lower valuations and reduced liquidity. Ongoing economic and market uncertainty suggests that mortgage-backed securities may continue to be more difficult to value and to dispose of than previously.

**The leveraged loans held by the PowerShares Senior Loan Portfolio may be illiquid and may not have reliable market quotations, which may adversely affect the value of the PowerShares Senior Loan Portfolio.**

A majority of the PowerShares Senior Loan Portfolio's assets are likely to be invested in loans that are less liquid than securities traded on national exchanges, and reliable market quotations may not be readily available. Therefore, elements of judgment may play a greater role in valuation of the loans held by the PowerShares Senior Loan Portfolio than for securities with a more developed secondary market, and the PowerShares Senior Loan Portfolio may not realize full value in the event of the need to sell a loan. To the extent that a secondary market does exist for certain underlying loans, the market may be subject to volatility, irregular trading activity, wide bid/ask spreads, decreased liquidity and extended trade settlement periods. In addition, adverse market conditions may impair the liquidity of some actively traded loans held by the PowerShares Senior Loan Portfolio. In the event that the PowerShares Senior Loan Portfolio voluntarily or involuntarily liquidates portfolio assets during periods of infrequent trading, it may not receive full value for those assets.

**The notes are subject to risks associated with assignments of and participations in loans held by the PowerShares Senior Loan Portfolio.**

The PowerShares Senior Loan Portfolio may acquire leveraged loans for its portfolio through assignments or participations. As the assignee, the PowerShares Senior Loan Portfolio typically succeeds to all the rights and obligations of the assigning institution and becomes a lender under the credit agreement with respect to the debt obligation; however, the PowerShares Senior Loan Portfolio may not be able to unilaterally enforce all rights and remedies under the loan and with regard to any associated collateral. Because assignments may be arranged through private negotiations between potential assignees and potential assignors, the rights and obligations acquired by the PowerShares Senior Loan Portfolio as the assignee may differ from, and be more limited than, those held by the assigning lender. In addition, if the loan is foreclosed, the PowerShares Senior Loan Portfolio could become part owner of any collateral and could bear the costs and liabilities of owning and disposing of the collateral. In connection with purchasing participations, the PowerShares Senior Loan Portfolio generally will have no right to enforce compliance by the borrower with the terms of the loan agreement relating to the loan, nor any rights of set-off against the borrower, and the PowerShares Senior Loan Portfolio may not directly benefit from any collateral supporting the loan in which it has purchased the participation. As a result, the PowerShares Senior Loan Portfolio will be subject to the credit risk of both the borrower and the lender that is selling the participation. In the event of the insolvency of the lender selling a participation, the PowerShares Senior Loan Portfolio may be treated as a general creditor of the lender and may not benefit from any set-off between the lender and the borrower. In addition, the PowerShares Senior Loan Portfolio may be required to pass along to a purchaser that buys a loan from the PowerShares Senior Loan Portfolio by way of assignment, a portion of any fees to which the PowerShares Senior Loan Portfolio is entitled under the loan.

**Risks associated with the real estate industry will affect the value of the notes.**

The real estate industry is cyclical and has from time to time experienced significant difficulties. The prices of the securities held by the Vanguard REIT ETF and, in turn, the value of the Vanguard REIT ETF will be affected by a number of factors that may either offset or magnify each other, including:

- employment levels and job growth;
- the availability of financing for real estate;
- interest rates;
- consumer confidence;
- the availability of suitable undeveloped land;



- federal, state and local laws and regulations concerning the development of land, construction, home and commercial real estate sales, financing and environmental protection; and
- competition among companies that engage in the real estate business.

The difficulties described above could cause a downturn in the real estate industry generally or regionally and could cause the value of the securities held by the Vanguard REIT ETF and the value of the Vanguard REIT ETF to decline or remain flat during the term of the notes. In addition, other ETF Constituents that hold securities related to the real estate industry may be subject to these risks.

**Risks associated with Real Estate Investment Trusts will affect the value of the notes.**

The Vanguard REIT ETF is composed of a variety of real-estate-related stocks including real estate investment trusts (“REITs”). REITs invest primarily in income-producing real estate or real-estate-related loans or interests. Investments in REITs, though not direct investments in real estate, are still subject to the risks associated with investing in real estate. The following are some of the conditions that might impact the structure of and cash flow generated by REITs and, consequently, the value of REITs and, in turn, the value of the Vanguard REIT ETF:

- a decline in the value of real estate properties;
- extended vacancies of properties;
- increases in property and operating taxes;
- increased competition or overbuilding;
- a lack of available mortgage funds or other limits on accessing capital;
- tenant bankruptcies and other credit problems;
- limitation on rents, including decreases in market rates for rents;
- changes in zoning laws and governmental regulations;
- costs resulting from the clean-up of, and legal liability to third parties for, damages resulting from environmental problems;
- investments in developments that are not completed or that are subject to delays in completion;
- risks associated with borrowing;
- changes in interest rates;
- casualty and condemnation losses; and
- uninsured damages from floods, earthquakes or other natural disasters.

The factors above may either offset or magnify each other. To the extent that any of these conditions occur, they may negatively impact a REIT’s cash flow and cause a decline in the share price of a REIT, and, consequently, the value of the Vanguard REIT ETF. In addition, some REITs have relatively small market capitalizations, which can increase the volatility of the market price of securities issued by those REITs. Furthermore, REITs are dependent upon specialized management skills, have limited diversification and are, as a result, subject to risks inherent in operating and financing a limited number of projects. To the extent that such risks increase the volatility of the market price of securities issued by REITs, they may also, consequently, increase the volatility of the Vanguard REIT ETF.

**There will be no direct correlation between the value of the notes or the price of the Vanguard REIT ETF and residential housing prices.**

There is no direct linkage between the value of the Vanguard REIT ETF and residential housing prices in specific regions or residential housing prices in general. While residential housing prices may be one factor that could affect the prices of the securities held by the Vanguard REIT ETF and consequently the value of the Vanguard REIT ETF, the value of the Vanguard REIT ETF and therefore the value of the notes are not directly linked to movements of residential housing prices and may be affected by factors unrelated to such movements.

**Risks associated with the gold and silver mining industries will affect the value of the notes.**

The securities held by the Market Vectors® Gold Miners ETF have been issued by companies primarily engaged in mining for gold and silver. The shares of the Market Vectors® Gold Miners ETF may be subject to increased price volatility as they are linked to a single industry and may be more susceptible to adverse economic, market, political or regulatory occurrences affecting that industry.

Because the Market Vectors® Gold Miners ETF invests primarily in securities of companies that are involved in the gold mining industries, the shares of the Market Vectors® Gold Miners ETF are subject to certain risks associated with such companies. Competitive pressures may have a significant effect on the financial condition of such companies in the gold mining industry. Also, gold mining companies are highly dependent on the price of gold. Gold prices are subject to volatile price movements over short periods of time and are affected by numerous factors, including macroeconomic factors, such as the structure of and confidence in the global monetary system, expectations regarding the future rate of inflation, the relative strength of, and confidence in, the U.S. dollar (the currency in which the price of gold is usually quoted), interest rates, gold borrowing and lending rates and global or regional economic, financial, political, regulatory, judicial or other events. Gold prices may be affected by industry factors, such as industrial and jewelry demand as well as lending, sales and purchases of gold by the official sector, including central banks and other governmental agencies and multilateral institutions that hold gold. Additionally, gold prices may be affected by levels of gold production, production costs and short-term changes in supply and demand due to trading activities in the gold market. From time to time, above-ground inventories of gold may also influence the market. It is not possible to predict the aggregate effect of all or any combination of these factors. The price of gold has recently been, and may continue to be, extremely volatile.

The Market Vectors® Gold Miners ETF invests to a lesser extent in securities of companies involved in the silver mining industry. Silver mining companies are highly dependent on the price of silver. Silver prices can fluctuate widely and may be affected by numerous factors. These include general economic trends, technical developments, substitution issues and regulation, as well as specific factors including industrial and jewelry demand, expectations with respect to the rate of inflation, the relative strength of the U.S. dollar (the currency in which the price of silver is generally quoted) and other currencies, interest rates, central bank sales, forward sales by producers, global or regional political or economic events and production costs and disruptions in major silver-producing countries, such as Mexico, China and the Peru. The demand for and supply of silver affect silver prices, but not necessarily in the same manner as supply and demand affect the prices of other commodities. The supply of silver consists of a combination of new mine production and existing stocks of bullion and fabricated silver held by governments, public and private financial institutions, industrial organizations and private individuals. In addition, the price of silver has on occasion been subject to very rapid short-term changes due to speculative activities. From time to time, above-ground inventories of silver may also influence the market. The major end uses for silver include industrial applications, jewelry and silverware. It is not possible to predict the aggregate effect of all or any combination of these factors.

## **Risks Relating to the ETF Constituents That Provide Exposure to Commodities or Commodity Futures Contracts**

**The notes are not regulated by the Commodity Futures Trading Commission (the “CFTC”).**

The net proceeds to be received by us from the sale of the notes will not be used to purchase or sell any futures contracts or options on futures contracts for your benefit. An investment in the notes thus does not constitute either an investment in futures contracts or options on futures contracts or an investment in a collective investment vehicle that trades in these futures contracts (*i.e.*, the notes will not constitute a direct or indirect investment by you in the futures contracts), and you will not benefit from the regulatory protections of the CFTC. Among other things, this means that we are not registered with the CFTC as a futures commission merchant and you will not benefit from the CFTC’s or any other non-U.S. regulatory authority’s regulatory protections afforded to persons who trade in futures contracts on a regulated futures exchange through a registered futures commission merchant. For example, the price you pay to purchase notes will be used by us for our own purposes and will not be subject to customer funds segregation requirements provided to customers that trade futures on an exchange regulated by the CFTC.

Unlike an investment in the notes, an investment in a collective investment vehicle that invests in futures contracts on behalf of its participants may be subject to regulation as a commodity pool and its operator may be required to register with and be regulated by the CFTC as a commodity pool operator, or qualify for an exemption from the registration requirement. Because the notes will not be interests in a commodity pool, the notes will not be regulated by the CFTC as a commodity pool, we will not be registered with the CFTC as a commodity pool operator and you will not benefit from the CFTC’s or any non-U.S. regulatory authority’s protections afforded to persons who invest in regulated commodity pools.

**The commodity futures contracts underlying the PowerShares DB Commodity Index Tracking Fund or related to gold underlying the iShares® Gold Trust are subject to legal and regulatory regimes that may change in ways that could affect our ability to hedge our obligations under the notes, may have an adverse effect on the level of the Index and/or could lead to a commodity hedging disruption event and its attendant consequences.**

Futures contracts and options on futures contracts markets, including the futures contracts underlying the PowerShares DB Commodity Index Tracking Fund or related to gold underlying the iShares® Gold Trust, are subject to extensive regulation and margin requirements. The CFTC and the exchanges on which those futures contracts trade are authorized to take extraordinary actions in the event of a market emergency, including, for example, the retroactive implementation of speculative position limits or higher margin requirements, the establishment of daily limits and the suspension of trading. Furthermore, certain exchanges have regulations that limit the amount of fluctuation in futures contract prices that may occur. These limits could adversely affect the market prices of relevant futures contracts and forward contracts. The regulation of commodity transactions in the United States is subject to ongoing modification by governmental and judicial action. In addition, various non-U.S. governments have expressed concern regarding the disruptive effects of speculative trading in the commodity markets and the need to regulate the derivative markets in general. The effect on the value of the notes of any future regulatory change is impossible to predict but could be substantial and adverse to the interests of noteholders.

Notably, with respect to agricultural and exempt commodities as defined in the Commodity Exchange Act (generally, physical commodities such as agricultural commodities, energy commodities and metals), the Dodd-Frank Wall Street Reform and Consumer Protection Act, which was enacted on July 21, 2010, amended the Commodity Exchange Act to provide the CFTC with additional authority to establish limits on the number of positions, other than bona fide hedge positions, that may be held by any person in a commodity through futures contracts, options on futures contracts and other related

derivatives, such as swaps, that are economically equivalent to those contracts. In addition, designated contract markets and swap execution facilities, as defined in the Commodity Exchange Act, are authorized to establish and enforce position limits or position accountability requirements on their own markets or facilities, which must be at least as stringent as the CFTC's where CFTC limits also apply.

On November 5, 2013, the CFTC proposed rules to establish position limits that will apply to 28 agricultural, metals and energy futures contracts and futures, options and swaps that are economically equivalent to those futures contracts. The limits would apply to a number of commodity futures contracts that may be included in the PowerShares DB Commodity Index Tracking Fund, such as CBOT Soybeans, Soybean Meal and Wheat futures; ICE Futures US Cotton No. 2, Sugar No. 11 and Sugar No. 16 futures; NYMEX Light Sweet Crude Oil, NY Harbor No. 2 Heating Oil, NY Harbor Gasoline Blendstock and Henry Hub Natural Gas futures; and COMEX Gold, Silver and Copper futures and NYMEX Palladium and Platinum futures. The limits will apply to a person's combined position in futures, options and swaps on the same underlying commodity. The rules also would set new aggregation standards for purposes of these position limits and would specify the requirements for designated contract markets and swap execution facilities to impose position limits on contracts traded on those markets. The rules, if enacted in their proposed form, may reduce liquidity in the exchange-traded market for those commodity-based futures contracts, which may, in turn, have an adverse effect on any payment on the notes.

Upon the occurrence of legal or regulatory changes that the calculation agent determines have interfered with our or our affiliates' ability to hedge our obligations under the notes, including the CFTC's adoption of the position limit rules mentioned above, or if for any other reason we or our affiliates are unable to enter into or maintain hedge positions the calculation agent deems necessary to hedge our obligations under the notes, a commodity hedging disruption event may occur. Please see the accompanying product supplement for more information about commodity hedging disruption events and their attendant consequences.

**Commodity futures prices may change unpredictably, affecting the price of shares of the PowerShares DB Commodity Index Tracking Fund and the value of the notes in unforeseeable ways.**

Trading in commodity futures contracts underlying the PowerShares DB Commodity Index Tracking Fund is speculative and can be extremely volatile. A decrease in the price of any of the commodities upon which the futures contracts that compose the PowerShares DB Commodity Index Tracking Fund are based may have a material adverse effect on the value of the notes and your return on an investment in the notes. Market prices of the commodities on which the futures contracts that compose the PowerShares DB Commodity Index Tracking Fund are based may fluctuate rapidly based on numerous factors, including: changes in supply and demand relationships, governmental programs and policies, national and international monetary, trade, political and economic events, wars and acts of terror, changes in interest and exchange rates, speculation and trading activities in commodities and related contracts, weather, and agricultural, trade, fiscal and exchange control policies. The price volatility of each commodity also affects the value of the futures and forward contracts related to that commodity and therefore its price at any such time. The price of any one commodity may be correlated to a greater or lesser degree with any other commodity and factors affecting the general supply and demand as well as the prices of other commodities may affect the particular commodity in question. The commodities markets are subject to temporary distortions or other disruptions due to various factors, including the lack of liquidity in the markets, the participation of speculators and government regulation and intervention. Many commodities are also highly cyclical. These factors, some of which are specific to the nature of each such commodity, may affect the value of the different commodities upon which the futures contracts that compose the PowerShares DB Commodity Index Tracking Fund are based, and may cause the values of the futures contracts themselves, to move in inconsistent directions at inconsistent rates. This, in turn, will affect the value of shares of the PowerShares DB Commodity Index Tracking Fund and the value of the notes. It is not possible to predict the aggregate effect of all or any combination of these factors.

**The PowerShares DB Commodity Index Tracking Fund does not offer direct exposure to commodity spot prices.**

The value of the PowerShares DB Commodity Index Tracking Fund is intended to track generally the performance of commodity-futures contracts on physical commodities included in its Reference Index, not physical commodities (or their spot prices). The price of a futures contract reflects the expected value of the commodity upon delivery in the future, whereas the spot price of a commodity reflects the immediate delivery value of the commodity. A variety of factors can lead to a disparity between the expected future price of a commodity and the spot price at a given point in time, such as the cost of storing the commodity for the term of the futures contract, interest charges incurred to finance the purchase of the commodity and expectations concerning supply and demand for the commodity. The price movements of a futures contract are typically correlated with the movements of the spot price of the reference commodity, but the correlation is generally imperfect and price movements in the spot market may not be reflected in the futures market (and vice versa). Accordingly, the notes may underperform a similar investment that reflects the return on physical commodities.

**Suspension or disruptions of market trading in relevant commodity and related futures markets may adversely affect the value of the notes.**

The commodity markets are subject to temporary distortions or other disruptions due to various factors, including the lack of liquidity in the markets, the participation of speculators and government regulation and intervention. In addition, U.S. futures exchanges and some foreign exchanges have regulations that limit the amount of fluctuation in futures contract prices that may occur during a single day. These limits are generally referred to as “daily price fluctuation limits,” and the maximum or minimum price of a contract on any given day as a result of these limits is referred to as a “limit price.” Once the limit price has been reached for a particular contract, no trades may be made at a different price. Limit prices have the effect of precluding trading in a particular contract or forcing the liquidation of contracts at disadvantageous times or prices. These circumstances could affect the price of shares of the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust and therefore, the level of the Index and the value of the notes.

**An increase in the margin requirements for commodity futures contracts included in the PowerShares DB Commodity Index Tracking Fund may adversely affect the level of the Index.**

Futures exchanges require market participants to post collateral in order to open and keep open positions in futures contracts. If an exchange increases the amount of collateral required to be posted to hold positions in commodity futures contracts underlying the PowerShares DB Commodity Index Tracking Fund, market participants who are unwilling or unable to post additional collateral may liquidate their positions, which may cause the price of the relevant commodity futures contracts to decline significantly. As a result, the level of the Index and the value of the notes may be adversely affected.

**Some of the commodities underlying the PowerShares DB Commodity Index Tracking Fund will be subject to pronounced risks of pricing volatility.**

As a general matter, the risk of low liquidity or volatile pricing around the maturity date of a commodity futures contract is greater than in the case of other futures contracts because (among other factors) a number of market participants take physical delivery of the underlying commodities. Many commodities, like those in the energy and industrial metals sectors, have liquid futures contracts that expire every month. Therefore, in the calculation of the PowerShares DB Commodity Index Tracking Fund, these contracts are rolled forward every month. Contracts based on certain other commodities, most notably agricultural and livestock products, tend to have only a few contract months each year that trade with substantial liquidity. Thus, these commodities, with related futures contracts that expire infrequently, roll forward less frequently than every month in the calculation of the

PowerShares DB Commodity Index Tracking Fund, and can have further pronounced pricing volatility during extended periods of low liquidity. The risk of irregular liquidity or pricing around the maturity date of a commodity futures contract is greater than in the case of other futures contracts because (among other factors) a number of market participants take delivery of the underlying commodities. Due to the significant level of continuous consumption, limited reserves and oil cartel controls, energy commodities are subject to rapid price increases in the event of perceived or actual shortages. These factors (when combined or in isolation) may affect the price of futures contracts and, as a consequence, the level of the Index and any payment on the notes.

**Higher future prices of the commodity futures contracts constituting the PowerShares DB Commodity Index Tracking Fund relative to their current prices may lead to a decrease in any payment on the notes.**

The PowerShares DB Commodity Index Tracking Fund is composed of futures contracts on physical commodities. Unlike equities, which typically entitle the holder to a continuing stake in a corporation, commodity futures contracts normally specify a certain date for delivery of the underlying physical commodity. As the exchange-traded futures contracts that compose the PowerShares DB Commodity Index Tracking Fund approach expiration, they are replaced by contracts that have a later expiration. For example, a contract purchased and held in August may specify an October expiration. As time passes, the contract expiring in October is replaced by a contract for delivery in November. This is accomplished by selling the October contract and purchasing the November contract. This process is referred to as "rolling." Excluding other considerations, if the market for the underlying futures contracts is in "contango," where the prices are higher in the distant delivery months than in the nearer delivery months, the purchase of the November contract would take place at a price that is higher than the price of the October contract, thereby creating a *negative* "roll yield." Moreover, many commodities have historically exhibited contango markets. The presence of contango in the commodity markets could adversely affect the price of shares of the PowerShares DB Commodity Index Tracking Fund and, therefore, the level of the Index and any payment on the notes.

**The prices of commodities are volatile and are affected by numerous factors, some of which are specific to the commodity sector for each commodity futures contracts held by the PowerShares DB Commodity Index Tracking Fund.**

A change in the price of any of the commodity futures contracts underlying the PowerShares DB Commodity Index Tracking Fund may have a material adverse effect on the value of the notes and your return on your investment in the notes. Commodities futures contracts are subject to the effect of numerous factors, certain of which are specific to the commodity sector for each commodity futures contract underlying the PowerShares DB Commodity Index Tracking Fund, as discussed below.

#### *Agricultural Sector*

Global prices of agricultural commodities, including corn, soybeans, sugar and wheat, are primarily affected by the global demand for and supply of those commodities but are also significantly influenced by speculative actions and by currency exchange rates. In addition, prices for agricultural commodities are affected by governmental programs and policies regarding agriculture, as well as general trade, fiscal and exchange control policies. Extrinsic factors, such as drought, floods, general weather conditions, disease and natural disasters may also affect agricultural commodity prices. Demand for agricultural commodities, such as wheat, corn and soybeans, both for human consumption and as cattle feed, has generally increased with worldwide growth and prosperity.

#### *Energy Sector*

Global prices of energy commodities, including WTI crude oil, Brent crude oil, RBOB gasoline, heating oil and natural gas, are primarily affected by the global demand for and supply of these commodities, but they are also significantly influenced by speculative actions and by currency exchange

rates. In addition, prices for energy commodities are affected by governmental programs and policies, national and international political and economic events, changes in interest and exchange rates, trading activities in commodities and related contracts, trade, fiscal, monetary and exchange control policies, and with respect to oil, drought, floods, weather, government intervention, environmental policies, embargoes and tariffs. Demand for refined petroleum products by consumers, as well as by the agricultural, manufacturing and transportation industries, affects the price of energy commodities. Sudden disruptions in the supplies of energy commodities, such as those caused by war, natural events, accidents or acts of terrorism, may cause prices of energy commodity futures contracts to become extremely volatile and unpredictable. Also, sudden and dramatic changes in the futures market may occur, for example, upon a cessation of hostilities that may exist in countries producing energy commodities, the introduction of new or previously withheld supplies into the market or the introduction of substitute products or commodities. In particular, supplies of crude oil may increase or decrease depending on, among other factors, production decisions by the Organization of the Oil and Petroleum Exporting Countries ("OPEC") and other crude oil producers. Crude oil prices are determined with significant influence by OPEC, which has the capacity to influence oil prices worldwide because its members possess a significant portion of the world's oil supply. Crude oil prices are generally more volatile and more subject to dislocation than are prices of other commodities. Demand for energy commodities such as oil and gasoline is generally linked to economic activity and will tend to reflect general economic conditions.

#### *Industrial Metals Sector*

Global prices of industrial metals commodities, including aluminum, copper and zinc, are primarily affected by the global demand for and supply of these commodities, but they are also significantly influenced by speculative actions and by currency exchange rates. Demand for industrial metals is significantly influenced by the level of global industrial economic activity. Prices for industrial metals commodities are affected by governmental programs and policies, national and international political and economic events, changes in interest and exchange rates, trading activities in commodities and related contracts, trade, fiscal, monetary and exchange control policies, government intervention, embargoes and tariffs. An additional, but highly volatile, component of demand for industrial metals is adjustments to inventory in response to changes in economic activity and/or pricing levels, which will influence investment decisions in new mines and smelters. Sudden disruptions in the supplies of industrial metals, such as those caused by war, natural events, accidents, acts of terrorism, transportation problems, labor strikes and shortages of power, may cause prices of industrial metals futures contracts to become extremely volatile and unpredictable. The introduction of new or previously withheld supplies into the market or the introduction of substitute products or commodities will also affect the prices of industrial metals commodities.

#### *Precious Metals Sector*

Global prices of precious metals commodities, including gold and silver, are primarily affected by the global demand for and supply of those commodities, but they are also significantly influenced by speculative actions and by currency exchange rates. Demand for precious metals is significantly influenced by the level of global industrial economic activity. Prices for precious metals are affected by governmental programs and policies, national and international political and economic events, expectations with respect to the rate of inflation, changes in interest and exchange rates, trading activities in commodities and related contracts, trade, fiscal, monetary and exchange control policies, government intervention, embargoes and tariffs. Sudden disruptions in the supplies of precious metals, such as those caused by war, natural events, accidents, acts of terrorism, transportation problems, labor strikes and shortages of power, may cause prices of precious metals futures contracts to become extremely volatile and unpredictable. In addition, prices for precious metals can be affected by numerous other factors, including jewelry demand and production levels.

**The price of gold is volatile and is affected by numerous factors.**

The value of the iShares® Gold Trust is closely related to the price of gold. A decrease in the price of gold may have a material adverse effect on the value of the notes and any payment on the notes. Gold is subject to the effect of numerous factors. The following describes some of the factors affecting gold.

The price of gold is primarily affected by the global demand for and supply of gold. The market for gold bullion is global, and gold prices are subject to volatile price movements over short periods of time and are affected by numerous factors, including macroeconomic factors, such as the structure of and confidence in the global monetary system, expectations regarding the future rate of inflation, the relative strength of, and confidence in, the U.S. dollar (the currency in which the price of gold is usually quoted), interest rates, gold borrowing and lending rates and global or regional economic, financial, political, regulatory, judicial or other events. Gold prices may be affected by industry factors, such as industrial and jewelry demand as well as lending, sales and purchases of gold by the official sector, including central banks and other governmental agencies and multilateral institutions that hold gold. Additionally, gold prices may be affected by levels of gold production, production costs and short-term changes in supply and demand due to trading activities in the gold market. From time to time, above-ground inventories of gold may also influence the market. It is not possible to predict the aggregate effect of all or any combination of these factors. The price of gold has recently been, and may continue to be, extremely volatile.

**Economic or political events or crises could result in large-scale purchases or sales of gold, which could affect the price of gold and may adversely affect the value of the notes.**

Many investors, institutions, governments and others purchase and sell gold as a hedge against inflation, market turmoil or uncertainty or political events. Under such circumstances, significant large-scale purchases or sales of gold by market participants may affect the price of gold, which could adversely affect the value of the notes. Crises in the future may impair gold's price performance which would, in turn, adversely affect the shares of the iShares® Gold Trust and any payment on the notes.

**Substantial sales of gold by governments or public sector entities could result in price decreases, which would adversely affect the value of the notes.**

Governments and other public sector entities, such as agencies of governments and multi-national institutions, regularly buy, sell and hold gold as part of the management of their reserves. In the event that economic, political or social conditions or pressures require or motivate public sector entities to sell gold, in a coordinated or uncoordinated manner, the resulting purchases could cause the price of gold to decrease substantially, which could adversely affect any payment on the notes.

**The price of gold is administered by ICE Benchmark Administration, so an investment in the notes may be subject to risks associated with ICE Benchmark Administration.**

One of the ETF Constituents, the iShares® Gold Trust, is closely related to its underlying commodity, which is gold. Since March 20, 2015, the net asset value of the iShares® Gold Trust has been determined by reference to the fixing prices reported by ICE Benchmark Administration ("IBA"). Prior to that date, the gold fixing was administered by the London Bullion Market Association (the "LBMA"). If bullion trading should become subject to a value added tax or other tax or any other form of regulation currently not in place, the role of price fixings of the relevant gold price administrator as a global benchmark for the value of gold may be adversely affected. The gold fixing reflects a principals' market that operates in a manner more closely analogous to an over-the-counter physical commodity market than regulated futures markets, and certain features of U.S. futures contracts are not present in the context of the gold fixing. For example, there are no daily price limits on the gold fixing that would otherwise restrict fluctuations in the gold fixing. In a declining market,



it is possible that prices would continue to decline without limitation within a trading day or over a period of trading days.

**The relevant exchange for gold has no obligation to consider your interests.**

The price of the iShares® Gold Trust is closely related to the price of gold. The relevant exchange may alter, discontinue or suspend calculation or dissemination of the fixing level for gold. Any of these actions could adversely affect the value of the notes. The relevant exchange has no obligation to consider your interests in calculating or revising the fixing level for gold.

**Termination of the iShares® Gold Trust could affect adversely the value of the notes.**

The iShares® Gold Trust may be required to terminate and liquidate at a time that is disadvantageous to you. If the iShares® Gold Trust is required to terminate and liquidate, such termination and liquidation could occur at a time that is disadvantageous to you, such as when the price of gold is higher than the price of gold at the time when you purchased your notes.

**The performance of the iShares® Gold Trust may not correlate with the price of gold.**

The performance of iShares® Gold Trust may not fully replicate the performance of the price of gold due to the fees and expenses charged by the iShares® Gold Trust or by restrictions on access to gold due to other circumstances. The iShares® Gold Trust does not generate any income and as the iShares® Gold Trust regularly sells gold to pay for its ongoing expenses, the amount of gold represented by each share gradually declines over time. The iShares® Gold Trust sells gold to pay expenses on an ongoing basis irrespective of whether the trading price of the shares rises or falls in response to changes in the price of gold. The sale of iShares® Gold Trust's gold to pay expenses at a time of low gold prices could adversely affect the level of the Index and the value of the notes. Additionally, there is a risk that part or all of the iShares® Gold Trust's gold could be lost, damaged or stolen due to war, terrorism, theft, natural disaster or otherwise.

The net asset value of the iShares® Gold Trust will reflect the performance of gold. However, because the shares of the iShares® Gold Trust are traded on NYSE Arca, Inc. and are subject to market supply and investor demand, the market value of one share of the iShares® Gold Trust may differ from the net asset value per share of the iShares® Gold Trust.

For all of the foregoing reasons, the performance of the iShares® Gold Trust over the term of the notes may not correlate with the performance of the return on gold over the same period. Consequently, the return on the notes will not be the same as investing directly in the iShares® Gold Trust, gold or other exchange-traded or over-the-counter instruments based on gold, and will not be the same as investing in a note or another financial product with payments linked in part to the performance of the iShares® Gold Trust.

**Risks Relating to the Note Constituent**

**There are risks associated with the Note Constituent.**

The Note Constituent is a series of debt securities of its issuer. The Note Constituent is subject to the credit risk of its issuer, and the credit ratings and credit spreads of its issuer may adversely affect its market value. If the issuer of the Note Constituent were to default on its payment obligations, the Note Constituent may lose some or all of its value.

In addition, the Note Constituent differs from conventional debt securities. Unlike conventional debt securities, the Note Constituent does not guarantee interest payments or a return of its principal amount at its maturity. Instead, the amount of any payment on the Note Constituent will be determined pursuant to its terms by reference to the performance of its Reference Index. See "Basket

Constituents of the Index — Background on the ETRACS Alerian MLP Infrastructure Index ETN” below for additional information.

The exposures of the Note Constituent to the securities included in its Reference Index are purely notional and will exist solely in the records maintained by or on behalf of the calculation agent of the Note Constituent. There is no actual portfolio of assets to which any person is entitled or in which any person has any ownership interest in connection with an investment in the Note Constituent.

The Note Constituent has a limited operating history. Although the Note Constituent is listed for trading on a securities exchange and a number of similar products have been traded on securities exchanges for varying periods of time, there is no assurance that an active trading market will continue for the Note Constituent or that there will be liquidity in the trading market.

**The performance of the Note Constituent may not correlate with the performance of its Reference Index.**

The Note Constituent is designed to track the performance of its Reference Index, but the market value of the Note Constituent may reflect a substantial premium to or discount from the intrinsic value of the Note Constituent derived from the performance of its Reference Index. In addition, the performance of the Note Constituent will reflect fees that are not included in the calculation of its Reference Index.

The market price of the Note Constituent will be affected by a number of factors that may either offset or magnify each other, including, but not limited to, the expected volatility in the Reference Index of the Note Constituent; the time to maturity of the Note Constituent; the market price and expected distributions on the securities included in the Reference Index of the Note Constituent; supply and demand for the Note Constituent; interest and yield rates in the market generally; and the creditworthiness of the issuer of the Note Constituent. In addition, the market value of the Note Constituent will be affected by its liquidity, which may vary materially over time. The issuer of the Note Constituent might suspend or discontinue sales at any time for any reason, and the number of notes outstanding or held by persons other than affiliates of the issuer of the Note Constituent could be reduced at any time due to early repurchases of the notes or due to purchases of notes by their issuer or its affiliates in the secondary market.

Furthermore, payments on the Note Constituent are linked to the performance of the VWAP level of its Reference Index rather than to the closing level of its Reference Index. See “Payments on the Note Constituent are linked to the VWAP level of its Reference Index” below.

For all of the foregoing reasons, the performance of the Note Constituent may not correlate with the performance of its Reference Index. Consequently, the return on the notes will not be the same as investing directly in the Reference Index of the Note Constituent or in the securities included in its Reference Index, and will not be the same as investing in a financial product linked to the performance of the Reference Index of the Note Constituent.

**Determinations made by the calculation agent of the Note Constituent and policies of the sponsor of the Reference Index of the Note Constituent could affect the value of, and any amount payable on, the notes.**

The calculation agent of the Note Constituent makes all necessary calculations and determinations in connection with the Note Constituent. In performing these duties, the calculation agent may have interests adverse to the interests of the holders of financial products linked to the Note Constituent, including the notes, particularly where the calculation agent is entitled to exercise discretion.

In addition, the sponsor of the Reference Index of the Note Constituent is responsible for the design and maintenance of that Reference Index. The policies of the sponsor concerning the

calculation of that Reference Index, including decisions regarding the addition, deletion or substitution of the securities included in that Reference Index could affect the value of that Reference Index and, consequently, the market prices of the Note Constituent and, therefore, any payment on the notes and the value of the notes.

**We cannot assure you that publicly available information provided about the Note Constituent is accurate or complete.**

All disclosures contained in this underlying supplement regarding the Note Constituent have been derived from publicly available documents and other publicly available information, without independent verification. We have not participated, and will not participate, in the preparation of those documents, and we have not made, and will not make, any due diligence inquiry with respect to the Note Constituent in connection with the offering of the notes. We do not make any representation that those publicly available documents or any other publicly available information regarding the Note Constituent is accurate or complete, and we are not responsible for public disclosure of information by the Note Constituent, whether contained in filings with the SEC or otherwise. We also cannot give any assurance that all events occurring prior to the date of the relevant terms supplement (including events that would affect the accuracy or completeness of the publicly available documents of the Note Constituent) that would affect the value of the Note Constituent will have been publicly disclosed. Subsequent disclosure of any of these events or the disclosure of, or failure to disclose, material future events concerning the Note Constituent could affect the market value of the notes or any payment on the notes. Any prospective purchaser of the notes should undertake an independent investigation of the Note Constituent as in its judgment is appropriate to make an informed decision with respect to an investment in the notes.

**The securities included in the Reference Index of the Note Constituent are concentrated in the energy industry.**

Most of the securities included in the Reference Index of the Note Constituent represent master limited partnerships (“MLPs”) that have been issued by companies whose primary lines of business are directly associated with the energy industry, including the oil and gas sector. In addition, many of those MLPs are smaller, non-diversified businesses that are exposed to the risks associated with such businesses, including the lack of capital funding to sustain or grow businesses and potential competition from larger, better financed and more diversified businesses. In addition, MLPs in the energy industry are significantly affected by a number of factors, including:

- worldwide and domestic supplies of, and demand for, crude oil, natural gas, natural gas liquids, hydrocarbon products and refined products;
- changes in tax or other laws affecting MLPs generally;
- regulatory changes affecting pipeline fees and other regulatory fees in the energy sector;
- changes in the relative prices of competing energy products;
- the impact of environmental laws and regulations and technological changes affecting the cost of producing and processing, and the demand for, energy products;
- decreased supply of hydrocarbon products available to be processed due to fewer discoveries of new hydrocarbon reserves, short- or long-term supply disruptions or otherwise;
- risks of regulatory actions and/or litigation, including as a result of leaks, explosions or other accidents relating to energy products;
- uncertainty or instability resulting from an escalation or additional outbreak of armed hostilities or further acts of terrorism in the United States, or elsewhere; and
- general economic and geopolitical conditions in the United States and worldwide.

These or other factors or the absence of such factors could cause a downturn in the energy industry generally or regionally and could cause the value of some or all of the securities included in the Reference Index of the Note Constituent to decline.

**Energy MLP market risks may affect the trading value of the Note Constituent.**

The financial condition of the securities included in the Reference Index of the Note Constituent may become impaired or the general condition of the energy MLP market may deteriorate, either of which may cause a decrease in the level of that Reference Index and in the value of the Note Constituent. The Note Constituent is susceptible to general market fluctuations and to volatile increases and decreases in value, as market confidence in and perceptions regarding the securities included in its Reference Index change. Investor perceptions of the securities included in the Reference Index of the Note Constituent are based on various and unpredictable factors, including expectations regarding government, economic, monetary, tax and fiscal policies, inflation and interest rates, economic expansion or contraction, and global or regional political, economic and banking crises. The level of the Reference Index of the Note Constituent is expected to fluctuate.

**Payments on the Note Constituent are linked to the VWAP level of its Reference Index.**

Payments on the Note Constituent are linked to the performance of the VWAP level of its Reference Index rather than to the closing level of its Reference Index. The VWAP level of the Reference Index of the Note Constituent on each day reflects the volume-weighted average price of each security included in that Reference Index on that day. Although the VWAP level of the Reference Index of the Note Constituent is intended to track the performance of that Reference Index, the calculation of that VWAP level is different from the calculation of the official closing level of that Reference Index. The actual closing level of the Reference Index of the Note Constituent may vary significantly, on a cumulative basis, from its VWAP level.

**Risks Relating to the Cash Constituent**

**The JPMorgan Cash Index USD 3 Month will be affected by a number of factors.**

The performance of the JPMorgan Cash Index USD 3 Month will depend on a number of factors that can affect the levels of 3-month LIBOR, including, but not limited to:

- *changes in, or perceptions about, future rates:* increased interest rate volatility is historically associated with an increased spread between long- and short-term interest rates and, conversely, decreased volatility is historically associated with tighter spreads;
- *general economic conditions:* the economic, financial, political, regulatory and judicial events that affect financial markets generally will affect 3-month LIBOR;
- *prevailing interest rates:* 3-month LIBOR is subject to daily fluctuations depending on the levels of prevailing interest rates in the market generally; in addition, lower overall interest rates are historically associated with an increased spread between long and short-term interest rates and, conversely, higher overall interest rates are historically associated with tighter spreads; and
- *policy of the Federal Reserve Board regarding interest rates:* an easing of monetary policy is historically associated with an increased spread between long and short-term interest rates and, conversely, a tightening of monetary policy is historically associated with tighter spreads.

These and other factors may affect the performance of the JPMorgan Cash Index USD 3 Month. The performance of the JPMorgan Cash Index USD 3 Month may be positive or negative depending on these factors.

**Three-month LIBOR and the manner in which it is calculated may change in the future.**

There can be no assurance that the method by which 3-month LIBOR is calculated will not change. Such changes in the method of calculation could reduce the level of 3-month LIBOR. Accordingly, the return of the JPMorgan Cash Index USD 3 Month may be significantly reduced.

**Three-month LIBOR may be volatile.**

Three-month LIBOR is subject to volatility due to a variety of factors affecting interest rates generally, including:

- sentiment regarding underlying strength in the U.S., European and global economies;
- expectation regarding the level of price inflation;
- sentiment regarding credit quality in U.S., European and global credit markets;
- central bank policy regarding interest rates; and
- performance of capital markets.

Decreases in 3-month LIBOR will have a negative effect on the performance of the JPMorgan Cash Index USD 3 Month.

**The relevant terms supplement or a separate underlying supplement will provide additional risk factors relating to any other index or reference assets to which the notes are linked.**

## THE J.P. MORGAN EFFICIENTE® PLUS PRICE RETURN INDEX SERIES

### General

Each index in the J.P. Morgan Efficiente® Plus Price Return Index Series set forth under Table 1 below (each, an **"Index"** and collectively, the **"Indices"**) was developed and is maintained and calculated by J.P. Morgan Securities plc (**"JPMS plc"**). The description of the Indices and methodology included in this underlying supplement is based on rules formulated by JPMS plc (the **"Rules"**). The Rules, and not this description, will govern the calculation and constitution of the Indices and other decisions and actions related to their maintenance. The Rules in effect as of the date of this underlying supplement are attached as Annex A to this underlying supplement. Each Index is the intellectual property of JPMS plc, and JPMS plc reserves all rights with respect to its ownership of each Index. Each Index is reported by the Bloomberg Professional® service (**"Bloomberg"**) under the applicable ticker symbol set forth under Table 1 below.

Each Index is a notional dynamic basket that tracks the return of a portfolio of 19 exchange-traded funds (each, an **"ETF Constituent"** and collectively, the **"ETF Constituents"**) and one exchange-traded note (the **"Note Constituent"**), in each case without taking into account any distributions on them, and the JPMorgan Cash Index USD 3 Month (including any successor or substitute cash index included in the Index, the **"Cash Constituent"**). We refer to the ETF Constituents and the Note Constituent together as the **"Exchange-Traded Constituents"** and to the Exchange-Traded Constituents and the Cash Constituent together as the **"Basket Constituents."** The Exchange-Traded Constituents represent a diverse range of asset classes and geographic regions.

Each Index may be an Excess Price Return Index (as defined below) or a Price Return Index (as defined below). More specifically, (a) each Excess Price Return Index tracks the month-over-month excess return of a portfolio of the Basket Constituents over the return of the Cash Constituent, less a fee of 0.85% per annum that accrues daily, and without the return that accrues from any distributions of the Basket Constituents, and (b) each Price Return Index tracks the month-over-month excess return of a portfolio of the Basket Constituents over the return of the Cash Constituent, plus the return of the Cash Constituent, less a fee of 0.85% per annum that accrues daily. The return of each Price Return Index approximates the return of a portfolio of the Basket Constituents, less a fee of 0.85% per annum that accrues daily, without deducting the return of the Cash Constituent and without including the return that accrues from any distributions of the Basket Constituents.

Each Index identifies monthly a notional portfolio composed of the Basket Constituents based on the "modern portfolio theory" approach to asset allocation, which suggests how a rational investor should allocate capital across the available universe of assets to maximize return for a given risk appetite. Each Index uses the concept of an "efficient frontier" to define its asset allocation. An efficient frontier for a portfolio of assets defines the optimum return of the portfolio for a given amount of risk. Each Index uses the volatility of returns of hypothetical portfolios as the measure of risk. This strategy is based on the assumption that the most efficient allocation of assets is one that maximizes returns per unit of risk.

The strategy assigns the weights to the Basket Constituents of each Index after determining the total returns (*i.e.*, returns that reflect the notional reinvestment of distributions on the Exchange-Traded Constituents) and volatilities (calculated using total returns) of multiple hypothetical portfolios composed of the Basket Constituents measured over the previous six months. The re-weighting methodology seeks to identify the weights for the Basket Constituents that would have resulted in the hypothetical portfolio with the highest total return over the relevant measurement period, subject to an annualized volatility over the same period equal to or less than the Target Volatility (as defined below) of the relevant Index. Thus, with respect to each Index, the portfolio exhibiting the highest total return with an annualized volatility equal to or less than the Target Volatility is then selected, with the weighting for that portfolio applied to the Basket Constituents. In the event that none of the

portfolios has an annualized volatility equal to or less than the Target Volatility of the relevant Index, this volatility threshold is increased by 1% until a portfolio is selected. While this strategy uses total returns to assign weights to the notional portfolio of Basket Constituents, the levels of each Index are calculated without taking into account distributions on the Exchange-Traded Constituents.

In addition, each Daily Series Index (as defined below), which is also an Excess Price Return Index, targets its Target Volatility on a daily basis by dynamically adjusting its exposure to the notional portfolio of Basket Constituents. The exposure of a Daily Series Index to the notional portfolio is equal to its Target Volatility *divided* by the annualized volatility of the same portfolio over the prior month (calculated without taking into account distributions on the Exchange-Traded Constituents), subject to certain constraints described below, including a minimum exposure of 0%, a variable maximum exposure and a maximum daily exposure change of 50%. Accordingly, as the volatility of the portfolio increases, the exposure provided by a Daily Series Index to the portfolio decreases, and as the volatility of the portfolio decreases, the exposure provided by a Daily Series Index to the portfolio increases. The maximum exposure will vary so as to limit the aggregate weight of the Exchange-Traded Constituents included in the monthly reference portfolio, as adjusted by the exposure, to 100%. The maximum exposure applied to the monthly reference portfolio as a whole will not be greater than 200%. Conversely, each Index that is not a Daily Series Index will provide 100% exposure to its monthly reference portfolio of Basket Constituents throughout each monthly period, regardless of the annualized volatility of that portfolio over the prior month.

In the case of an Excess Price Return Index, the aggregate weight of the Cash Constituent at any given time represents the portion of the notional portfolio of Basket Constituents that is uninvested at that time. Each Excess Price Return Index will reflect no return for any uninvested portion (including any portion represented by the Cash Constituent). While the weight of the Cash Constituent is normally limited by a Weighting Constraint (as defined below) of 50%, if any Basket Constituent is replaced with the Cash Constituent due to the occurrence of an Extraordinary Event (as defined below), as described below, the aggregate weight of the Cash Constituent would be allowed to exceed 50% because a portion of that aggregate weight would be subject to the Weighting Constraints specific to the replaced Basket Constituent and not the Weighting Constraints specific to the Cash Constituent. In addition, because each Daily Series Index is an Excess Price Return Index, when the exposure of a Daily Series Index to the notional portfolio of Basket Constituents is less than 100% on any day, a portion of the notional portfolio will be uninvested.

Each Index is described as a notional portfolio or basket of assets because there is no actual portfolio of assets to which any person is entitled or in which any person has any ownership interest. Each Index merely references certain assets, the performance of which will be used as a reference point for calculating the Index Level (as defined below).

No assurance can be given that the investment strategy used to construct any Index will be successful or that any Index will outperform any alternative basket or strategy that might be constructed from the Basket Constituents. Furthermore, no assurance can be given that any Index will approximate its Target Volatility. The actual realized volatility of an Index may be greater or less than its Target Volatility.

#### **The J.P. Morgan Efficient<sup>®</sup> Plus Price Return Index Series**

Table 1 below sets forth the name of each Index, as well as the Bloomberg ticker, Index Level (rounded to two decimal places) on March 31, 2015 (the “**Start Date**”) and Exposure (as defined below) (rounded to two decimal places) on the Start Date for each Index. The Start Date is the date from which each Index is calculated on a live basis. Each Index for which the “Index Name” in Table 1 below includes “DS” is a “**Daily Series Index**.” In addition, each Index for which the “Index Name” in Table 1 below includes “(Net Excess Price Return)” is an “**Excess Price Return Index**,” and each Index for which the “Index Name” in Table 1 below includes “(Net Price Return)” is a “**Price Return Index**.”

**Table 1**

Index Name	Bloomber g Ticker	Target Volatility	Index Level on Start Date	Exposure on Start Date
J.P. Morgan Efficiente Plus 5 Index (Net Excess Price Return)	EFPLS5PE	5%	111.25	100.00%
J.P. Morgan Efficiente Plus DS 5 Index (Net Excess Price Return)	EFPLS5PD	5%	107.46	48.85%
J.P. Morgan Efficiente Plus 5 Index (Net Price Return)	EFPLS5PN	5%	112.11	100.00%
J.P. Morgan Efficiente Plus 8 Index (Net Excess Price Return)	EFPLS8PE	8%	118.64	100.00%
J.P. Morgan Efficiente Plus DS 8 Index (Net Excess Price Return)	EFPLS8PD	8%	114.54	76.13%
J.P. Morgan Efficiente Plus 8 Index (Net Price Return)	EFPLS8PN	8%	119.56	100.00%
J.P. Morgan Efficiente Plus 10 Index (Net Excess Price Return)	EFPLSTPE	10%	118.59	100.00%
J.P. Morgan Efficiente Plus DS 10 Index (Net Excess Price Return)	EFPLSTPD	10%	117.31	95.17%
J.P. Morgan Efficiente Plus 10 Index (Net Price Return)	EFPLSTPN	10%	119.51	100.00%

### **The Index Calculation Agent; Amendment of Rules**

JPMS plc or any affiliate or subsidiary designated by it will act as calculation agent for each Index (the “**index calculation agent**”). The index calculation agent will act in good faith and in a commercially reasonable manner in respect of determinations, interpretations and calculations made by it pursuant to the Rules. All determinations, interpretations and calculations of the index calculation agent in respect of each Index will be final, conclusive and binding. Once a determination, interpretation or calculation is made or action is taken by the index calculation agent in respect of an Index, the index calculation agent will not be under any obligation to revise any determination, interpretation or calculation made or action taken for any reason.

The Rules may be supplemented, amended or restated from time to time in the sole discretion of JPMS plc in its capacity as index calculation agent. Although the Rules are intended to be comprehensive and accurate, ambiguities may arise and errors or omissions may have been made. In those circumstances, the index calculation agent will resolve those ambiguities and, if necessary, amend the Rules to reflect that resolution. In the case of any inaccuracy, the index calculation agent may amend the Rules to address errors or omissions.

### **The Basket Constituents of the Index**

Subject to the occurrence of an Extraordinary Event, Table 2 below sets out the Basket Constituents of each Index, as well as the Bloomberg ticker for each Basket Constituent. Table 2 also contains the maximum Monthly Basket Constituent Weight (as defined below) for each Basket Constituent and the maximum aggregate Monthly Basket Constituent Weight for each Exchange-Traded Constituent sector. The current primary exchange of each Exchange-Traded Constituent other than the Vanguard Short-Term Corporate Bond ETF is NYSE Arca, Inc. The current primary exchange of the Vanguard Short-Term Corporate Bond ETF is The NASDAQ Stock Market.



Table 2

	Basket Constituent	Bloomberg Ticker	Maximum Monthly Basket Constituent Weight*	Maximum Sector Aggregate of Monthly Basket Constituent Weights*
1	Vanguard S&P 500 ETF	VOO	20%	Equities Sector: 50%
2	Vanguard Small-Cap ETF	VB	10%	
3	Vanguard FTSE Developed Markets ETF	VEA	20%	
4	iShares® MSCI EAFE Small-Cap ETF	SCZ	10%	
5	Vanguard FTSE Emerging Markets ETF	VWO	20%	
6	iShares® 20+ Year Treasury Bond ETF	TLT	20%	Investment Grade Fixed-Income Sector: 50%**
7	iShares® 7-10 Year Treasury Bond ETF	IEF	20%	
8	iShares® iBoxx \$ Investment Grade Corporate Bond ETF	LQD	20%	
9	iShares® TIPS Bond ETF	TIP	10%	
10	Vanguard Short-Term Corporate Bond ETF	VCSH	10%	
11	SPDR® Barclays High Yield Bond ETF	JNK	20%	Other Fixed-Income Sector: 50%
12	PIMCO 0-5 Year High Yield Corporate Bond Index ETF	HYS	10%	
13	PowerShares Senior Loan Portfolio	BKLN	10%	
14	iShares® U.S. Preferred Stock ETF	PFF	10%	
15	iShares® J.P. Morgan USD Emerging Markets Bond ETF	EMB	10%	
16	Vanguard REIT ETF	VNQ	10%	Alternatives Sector: 50%
17	Market Vectors® Gold Miners ETF	GDV	20%	
18	ETRACS Alerian MLP Infrastructure Index ETN	MLPI	10%	
19	PowerShares DB Commodity Index Tracking Fund	DBC	10%	
20	iShares® Gold Trust	IAU	10%	
21	JPMorgan Cash Index USD 3 Month	JPCAUS3M	50%***	N/A**

\* The maximum Monthly Basket Constituent Weights and maximum sector aggregate of Monthly Basket Constituent Weights apply only to the initial composition of each monthly notional portfolio. For each Daily Series Index, the weight of each Basket Constituent may exceed the relevant maximum weight due to the daily exposure adjustments.

\*\* In addition, the sum of the Monthly Basket Constituent Weights of the Basket Constituents in the investment grade fixed-income sector and the Monthly Basket Constituent Weight of the Cash Constituent may not exceed

75%. See “— Identifying the Monthly Reference Portfolio — Step 1: Identify All Possible Eligible Portfolios” below.

\*\*\* For the avoidance of doubt, as a result of the replacement of any Basket Constituent with the Cash Constituent due to the occurrence of an Extraordinary Event, the aggregate weight of the Cash Constituent would be allowed to exceed 50% because a portion of that aggregate weight would be subject to the maximum Monthly Basket Constituent Weight of the replaced Basket Constituent and not the maximum Monthly Basket Constituent Weight of the Cash Constituent.

## Identifying the Monthly Reference Portfolio

With respect to each Index, on each Monthly Re-weighting Selection Date, the index calculation agent identifies a single portfolio composed of the Basket Constituents that meets the Weighting Constraints set forth below, based on the total returns (i.e., returns that reflect the notional reinvestment of distributions on the Exchange-Traded Constituents) and volatilities (calculated using total returns) over the relevant Performance Observation Period of multiple hypothetical portfolios composed of the Basket Constituents. We refer to the weights of the Basket Constituents in the portfolio identified on a Monthly Re-weighting Selection Date as the “**Monthly Basket Constituent Weights**” and to the portfolio composed of the Basket Constituents with weights equal to the Monthly Basket Constituent Weights as the “**Monthly Reference Portfolio**.” While the Monthly Basket Constituent Weights are determined using total returns, the Index Levels are calculated without taking into account distributions on the Exchange-Traded Constituents.

In each calendar month, the “**Monthly Re-weighting Selection Date**” is the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date (as defined under “— Monthly Re-weighting of the Index” below) in that month.

With respect to a Monthly Re-weighting Selection Date, the “**Performance Observation Period**” is the period of 126 Weekdays composed of (a) the 125 Weekdays immediately prior to that Monthly Re-weighting Selection Date and (b) the Weekday that is that Monthly Re-weighting Selection Date.

An “**Index Business Day**” means a day (i) on which NYSE Arca is scheduled to open for trading for its regular trading session and (ii) that is a Dealing Day for all of the Basket Constituents.

A “**Dealing Day**” means (a) in respect of any Basket Constituent that is an index, including the Cash Constituent, a day on which the Closing Level (as defined below) for that Basket Constituent is (or, but for the occurrence of an Index Market Disruption Event, would have been) scheduled to be calculated and published by the relevant sponsor of that Basket Constituent and (b) in respect of an Exchange-Traded Constituent, a day on which the primary exchange in the United States on which that Exchange-Traded Constituent is listed is scheduled to be open for trading for its regular trading session.

A “**Weekday**” is any day other than a Saturday or a Sunday.

### *Step 1: Identify All Possible Eligible Portfolios*

With respect to each Index, on each Monthly Re-weighting Selection Date, the index calculation agent identifies all possible Eligible Portfolios. An “**Eligible Portfolio**” is any hypothetical portfolio composed of all 21 Basket Constituents that satisfies the following weighting constraints (the “**Weighting Constraints**”):

- (i) the Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of 5% (e.g., 0%, 5%, 10%, 15%, etc.);
- (ii) the Monthly Basket Constituent Weight of each Basket Constituent is greater than or equal to 0% and less than or equal to the maximum Monthly Basket Constituent Weight for that Basket Constituent set forth in Table 2 above;

- (iii) the sum of the Monthly Basket Constituent Weights of the Basket Constituents in each sector as set forth in Table 2 above (*i.e.*, Constituents 1-5, 6-10, 11-15 and 16-20) is less than or equal to the maximum sector aggregate of Monthly Basket Constituent Weights for that sector set forth in Table 2 above;
- (iii) the sum of the Monthly Basket Constituent Weights of the Basket Constituents in the investment grade fixed-income sector set forth in Table 2 above (*i.e.*, Constituents 6-10) and the Monthly Basket Constituent Weight of the Cash Constituent is less than or equal to 75%; and
- (iv) the sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents is equal to 100%.

*Step 2: Calculate the Performance and Volatility of Each Eligible Portfolio Over the Relevant Performance Observation Period*

On each Monthly Re-weighting Selection Date, the index calculation agent calculates the total return performance and annualized realized volatility of each Eligible Portfolio identified in Step 1 over the relevant Performance Observation Period. See the Rules for additional information about how the total return performance and annualized realized volatility of each Eligible Portfolio are calculated.

*Step 3: Select the Eligible Portfolio with the Highest Performance, Subject to the Target Volatility*

With respect to each Index, on each Monthly Re-weighting Selection Date, the index calculation agent selects the Eligible Portfolio with the highest total return performance over the relevant Performance Observation Period that has an annualized realized volatility equal to or less than the Target Volatility, which is subject to adjustment as described below; *provided* that, if there is more than one Eligible Portfolio with the same highest total return performance over the relevant Performance Observation Period, the Eligible Portfolio that has the lowest annualized realized volatility will be selected.

If none of the Eligible Portfolios has an annualized realized volatility equal to or less than the Target Volatility, the index calculation agent will increase the Target Volatility by 1% and repeat the procedure described in this Step 3, including the increase to the Target Volatility, until a portfolio has been selected.

The weight of each Basket Constituent in the Eligible Portfolio selected above will be the Monthly Basket Constituent Weight for that Basket Constituent determined on the relevant Monthly Re-weighting Selection Date, and that Eligible Portfolio will be the Monthly Reference Portfolio determined on the relevant Monthly Re-weighting Selection Date.

**Monthly Re-weighting of the Index**

Each calendar month, each Index progressively rolls out of the Monthly Reference Portfolio associated with the previous Monthly Re-weighting Selection Date and rolls into the Monthly Reference Portfolio associated with the current Monthly Re-weighting Selection Date over the five consecutive Index Business Days from and including the fifth Index Business Day of that calendar month (each such day, a **"Monthly Re-weighting Date"**), subject to adjustment if an Index Market Disruption Event has occurred and is continuing. For a given calendar month, we refer to the period of Index Business Days from and including the first scheduled Monthly Re-weighting Date for that calendar month to and including the final Effective Monthly Re-weighting Date for that calendar month as a **"Monthly Re-weighting Period."**

See “Calculation of the Index Level — Calculating the Index Level When the Index Is Exposed to Two Monthly Reference Portfolios” below for additional information about how the roll is effected over a Monthly Re-weighting Period. After the close on the final Effective Monthly Re-weighting Date in a Monthly Re-weighting Period, each Index will be exposed only to the Monthly Reference Portfolio associated with the most recent Monthly Re-weighting Selection Date and will continue to remain exposed only to that portfolio until after the close of the first Effective Monthly Re-weighting Date in the immediately following Re-weighting Period.

An “**Effective Monthly Re-weighting Date**” means (i) a scheduled Monthly Re-weighting Date that occurs as originally scheduled (and is not postponed pursuant to “— Index Market Disruption Events — Disruption Affecting a Monthly Re-weighting Date”) or (ii) a Postponed Monthly Re-weighting Date as described under “— Index Market Disruption Events — Disruption Affecting a Monthly Re-weighting Date.”

### **Calculation of the Index Level**

Unless an Index Market Disruption Event has occurred and is continuing, the level of each Index (the “**Index Level**”) will be calculated by the index calculation agent with respect to each Index Trading Day. The Index Level for each Index was set at 100 on November 1, 2007 (the “**Base Date**”). The Index Level for each Index on the Start Date is set forth under Table 1 above. The index calculation agent will publish the Index Level on each Index Trading Day to an accuracy of two decimal places.

“**Index Trading Day**” means, for each Index, (i) an Index Business Day that (x) occurs during the period from but excluding the final Effective Monthly Re-weighting Date in a given Monthly Re-weighting Period to but excluding the first Effective Monthly Re-weighting Date in the immediately following Monthly Re-weighting Period and (y) is not a Portfolio Disruption Day (as defined under “— Index Market Disruption Events — Disruptions Affecting Exposure Determination and Calculation of Index Levels in Connection with Index Market Disruption Events”), (ii) an Index Business Day that is an Effective Monthly Re-weighting Date, or (iii) an Index Business Day that is a Portfolio Disruption Determination Date (as defined under “— Index Market Disruption Events — Disruptions Affecting Exposure Determination and Calculation of Index Levels in Connection with Index Market Disruption Events”).

The formula used to calculate the Index Level on any given Index Trading Day depends on whether the applicable Index is an Excess Price Return Index or a Price Return Index and on whether the applicable Index is in the process of rolling from one Monthly Reference Portfolio to the next Monthly Reference Portfolio in connection with a Monthly Re-weighting Period. Due to this rolling process, each Index is exposed to two Monthly Reference Portfolios on any Index Trading Day from the close on the first Effective Monthly Re-weighting Date in a Monthly Re-weighting Period to the close on the final Effective Monthly Re-weighting Date in that Monthly Re-weighting Period. Otherwise, each Index is exposed to only one Monthly Reference Portfolio.

#### *Calculating the Index Level When the Index Is Exposed to Only One Monthly Reference Portfolio*

Subject to the provisions of “— Index Market Disruption Events” below, on each Index Trading Day with respect to which an Index provides exposure to a single Monthly Reference Portfolio (because that Index is not in the process of rolling from one Monthly Reference Portfolio to the next Monthly Reference Portfolio), the Index Level is calculated by adjusting the Index Level as of the immediately preceding Index Trading Day to reflect the excess return performance of the Monthly Reference Portfolio over the Cash Constituent since that Index Trading Day, taking into account the Exposure of that Index to the Monthly Reference Portfolio as of the close on of the immediately preceding Index Trading Day, *minus* the portion of the per annum Fee that has accrued since that Index Trading Day, *plus*, in the case of a Price Return Index, the performance of the Cash Constituent since that Index Trading Day. The Exposure for any Index that is not a Daily Series Index is fixed at 100% on each Index Trading Day.

Under these circumstances, the Index Level for the applicable Index is calculated with respect to each relevant Index Trading Day in accordance with the relevant formula below, where each such Index Trading Day is referred to as the “current Index Trading Day.”

With respect to an Index that is an Excess Price Return Index:

$$\text{Index}_t = \text{Index}_{t-1} \times \left[ 1 + \text{Exp}_{t-1} \times \left( \frac{\text{RP}_{k,t}}{\text{RP}_{k,t-1}} - 1 \right) - \text{Fee} \times \frac{\text{Days}_{t-1,t}}{360} \right]; \text{ and,}$$

with respect to an Index that is a Price Return Index:

$$\text{Index}_t = \text{Index}_{t-1} \times \left[ \frac{S_t^{21}}{S_{t-1}^{21}} + \text{Exp}_{t-1} \times \left( \frac{\text{RP}_{k,t}}{\text{RP}_{k,t-1}} - 1 \right) - \text{Fee} \times \frac{\text{Days}_{t-1,t}}{360} \right],$$

where:

$\text{Index}_t$	means the Index Level of that Index on the current Index Trading Day;
$\text{Index}_{t-1}$	means the Index Level of that Index on the immediately preceding Index Trading Day;
$\text{RP}_{k,t}$	means the excess return level of the relevant Monthly Reference Portfolio on the current Index Trading Day, calculated as described below;
$\text{RP}_{k,t-1}$	means the excess return level of the relevant Monthly Reference Portfolio on the immediately preceding Index Trading Day, calculated as described below;
$S_t^{21}$	means the Closing Level (as defined under “— Calculating the Excess Return Level of a Monthly Reference Portfolio” below) of the Cash Constituent on the current Index Trading Day;
$S_{t-1}^{21}$	means the Closing Level of the Cash Constituent on the immediately preceding Index Trading Day;
Fee	means 0.85%;
$\text{Days}_{t-1,t}$	means the number of calendar days from but excluding the immediately preceding Index Trading Day to and including the current Index Trading Day; and
$\text{Exp}_{t-1}$	means (a) with respect to a Daily Series Index, the Exposure of that Index to the Monthly Reference Portfolio as of the immediately preceding Index Trading Day, which is effective as of the close on that immediately preceding Index Trading Day, as determined pursuant to “— Calculating the Exposure to the Monthly Reference Portfolio(s)” below and (b) with respect to an Index that is not a Daily Series Index, 100%.

#### *Calculating the Index Level When the Index Is Exposed to Two Monthly Reference Portfolios*

On each Index Trading Day with respect to which an Index provides exposure to two Monthly Reference Portfolios (because that Index is in the process of rolling from one Monthly Reference Portfolio (the “**Outgoing Monthly Reference Portfolio**” to the next Monthly Reference Portfolio (the “**Incoming Monthly Reference Portfolio**”), the Index Level is calculated on the same basis as when the Index provides exposure to a single Monthly Reference Portfolio, except that the Index Level when the Index provides exposure to two Monthly Reference Portfolio reflects the weighted returns of both

Monthly Reference Portfolios. Each Index provides exposure to two Monthly Reference Portfolios on each Monthly Re-weighting Date from the close on the first Effective Monthly Re-weighting Date in a Monthly Re-weighting Period to the close on the final Effective Monthly Re-weighting Date in that Monthly Re-weighting Period. The weights applied to the Monthly Reference Portfolios on each Effective Monthly Re-weighting Date in a Monthly Re-weighting Period are set forth below:

Effective Monthly Re-weighting Date in the relevant Monthly Re-weighting Period	Weight of the Outgoing Monthly Reference Portfolio	Weight of the Incoming Monthly Reference Portfolio
First	100%	0%
Second	80%	20%
Third	60%	40%
Fourth	40%	60%
Final	20%	80%

Accordingly, subject to the provisions of “— Index Market Disruption Events” below, on each Index Trading Day with respect to which an Index provides exposure to two Monthly Reference Portfolios, the Index Level is calculated by adjusting the Index Level as of the immediately preceding Index Trading Day to reflect the excess return performance of the weighted returns of the Monthly Reference Portfolios over the Cash Constituent since that Index Trading Day, taking into account the Exposure of that Index to the Monthly Reference Portfolios as of the close on the immediately preceding Index Trading Day, *minus* the portion of the per annum Fee that has accrued since that Index Trading Day, *plus*, in the case of a Price Return Index, the performance of the Cash Constituent since that Index Trading Day. The Exposure for any Index that is not a Daily Series Index is fixed at 100% on each Index Trading Day.

Under these circumstances, the Index Level for the applicable Index is calculated with respect to each relevant Index Trading Day in accordance with the relevant formula below, where each such Index Trading Day is referred to as the “current Index Trading Day.”

With respect to an Index that is an Excess Price Return Index:

$$\text{Index}_t = \text{Index}_{t-1} \times \left[ 1 + \text{Exp}_{t-1} \times \left( W_{k-1,t} \times \frac{\text{RP}_{k-1,t}}{\text{RP}_{k-1,t-1}} + W_{k,t} \times \frac{\text{RP}_{k,t}}{\text{RP}_{k,t-1}} - 1 \right) - \text{Fee} \times \frac{\text{Days}_{t-1,t}}{360} \right]; \text{ and,}$$

with respect to an Index that is a Price Return Index:

$$\text{Index}_t = \text{Index}_{t-1} \times \left[ \frac{S_t^{21}}{S_{t-1}^{21}} + \text{Exp}_{t-1} \times \left( W_{k-1,t} \times \frac{\text{RP}_{k-1,t}}{\text{RP}_{k-1,t-1}} + W_{k,t} \times \frac{\text{RP}_{k,t}}{\text{RP}_{k,t-1}} - 1 \right) - \text{Fee} \times \frac{\text{Days}_{t-1,t}}{360} \right],$$

where:

- $\text{Index}_t$  means the Index Level of that Index on the current Index Trading Day;
- $\text{Index}_{t-1}$  means the Index Level of that Index on the immediately preceding Index Trading Day;
- $\text{RP}_{k-1,t}$  means the excess return level of the Outgoing Monthly Reference Portfolio on the current Index Trading Day, calculated as described below;
- $\text{RP}_{k-1,t-1}$  means the excess return level of the Outgoing Monthly Reference Portfolio on the

	immediately preceding Index Trading Day, calculated as described below;
$RP_{k,t}$	means the excess return level of the Incoming Monthly Reference Portfolio on the current Index Trading Day, calculated as described below;
$RP_{k,t-1}$	means the excess return level of the Incoming Monthly Reference Portfolio on the immediately preceding Index Trading Day, calculated as described below;
$S_t^{21}$	means the Closing Level of the Cash Constituent on the current Index Trading Day;
$S_{t-1}^{21}$	means the Closing Level of the Cash Constituent on the immediately preceding Index Trading Day;
$W_{k-1,t}$	means the weight applied to the Outgoing Monthly Reference Portfolio on the current Index Trading Day as set forth in the table above;
$W_{k,t}$	means the weight applied to the Incoming Monthly Reference Portfolio on the current Index Trading Day as set forth in the table above;
Fee	means 0.85%;
$Days_{t-1,t}$	means the number of calendar days from but excluding the immediately preceding Index Trading Day to and including the current Index Trading Day; and
$Exp_{t-1}$	means (a) with respect to a Daily Series Index, the Exposure of that Index to the Monthly Reference Portfolio as of the immediately preceding Index Trading Day, which is effective as of the close on that immediately preceding Index Trading Day, as determined pursuant to “— Calculating the Exposure to the Monthly Reference Portfolio(s)” below and (b) with respect to an Index that is not a Daily Series Index, 100%.

#### *Calculating the Excess Return Level of a Monthly Reference Portfolio*

On the first Effective Monthly Re-weighting Date of a Monthly Re-weighting Period, the excess return level of the Monthly Reference Portfolio determined as of the Monthly Re-weighting Selection Date for the current Monthly Re-weighting Period is equal to 1.0. On each subsequent Index Business Day, the excess return level of that Monthly Reference Portfolio is calculated by adjusting the level of that Monthly Reference Portfolio as of that first Effective Monthly Re-weighting Date to reflect the weighted returns of the Basket Constituents since that first Effective Monthly Re-weighting Date, *minus* the return of the Cash Constituent over the same period.

On each Index Business Day following the first Effective Monthly Re-weighting Date in a Monthly Re-weighting Period, the excess return level of the Monthly Reference Portfolio determined as of the Monthly Re-weighting Selection Date for that Monthly Re-weighting Period is determined as follows, where each such Index Business Day is referred to as the “current Index Business Day”:

$$RP_{k,t} = RP_k \times \left[ 100\% + \left( \sum_{i=1}^{21} \frac{S_t^i}{S_k^i} \times \lambda_k^i \right) - \frac{S_t^{21}}{S_k^{21}} \right]$$

where:

$RP_{k,t}$	means the excess return level of the relevant Monthly Reference Portfolio on the current Index Business Day;
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$RP_k$	means the excess return level of the relevant Monthly Reference Portfolio on the first Effective Monthly Re-weighting Date of the Monthly Re-weighting Period immediately following the Monthly Re-weighting Selection Date on which the relevant Monthly Reference Portfolio was determined, which equals 1.0;
$S_t^i$	means, for $i=1$ through 21, the Closing Level of Basket Constituent $i$ for the current Index Business Day;
$S_k^i$	means, for $i=1$ through 21, the Closing Level of Basket Constituent $i$ on the first Effective Monthly Re-weighting Date of the Monthly Re-weighting Period immediately following the Monthly Re-weighting Selection Date on which the relevant Monthly Reference Portfolio was determined;
$\lambda_k^i$	means the Monthly Basket Constituent Weight for Basket Constituent $i$ in the relevant Monthly Reference Portfolio; and
$i$	means, for each Basket Constituent, the number (1 through 21) assigned to that Basket Constituent in Table 2 above. The Exchange-Traded Constituents are assigned numbers 1 through 20, and the Cash Constituent is assigned number 21.

**“Closing Level”** means, subject to the provisions of “— Index Market Disruption Events” and “— Extraordinary Events” below, (a) in respect of a Basket Constituent that is an index, including the Cash Constituent, and a Dealing Day, (i) the official closing level of that Basket Constituent published by the relevant sponsor of that Basket Constituent for that Dealing Day; *provided, however*, that if the index calculation agent determines that the official closing level reflects manifest error on the part of the relevant sponsor of that Basket Constituent, the index calculation agent will determine the closing level of that Basket Constituent in good faith and in a commercially reasonable manner or (ii) in such circumstances as set out in the definition of Commodity Index Non-Publication Event relating to the calculation of a Proxy Calculated Level, the Proxy Calculated Level, and (b) in respect of an Exchange-Traded Constituent and a Dealing Day, the official closing price of the regular trading session on that Dealing Day on the primary exchange in the United States on which that Exchange-Traded Constituent is listed.

### Calculating the Exposure to the Monthly Reference Portfolio(s)

Each Daily Series Index aims to approximate its Target Volatility on a daily basis by dynamically adjusting its exposure to the relevant Monthly Reference Portfolio(s) on each Index Trading Day, based on the Underlying Portfolio Volatility. Conversely, each Index that is not a Daily Series Index will provide 100% exposure to the relevant Monthly Reference Portfolios on each Index Trading Day, regardless of the annualized volatility of the relevant Monthly Reference Portfolio(s) over the prior month. We refer to the exposure of an Index to the Monthly Reference Portfolio(s) as the **“Exposure.”**

With respect to each Index Trading Day, the **“Underlying Portfolio Volatility”** is the annualized realized volatility of the relevant Monthly Reference Portfolio(s) underlying the Index over the period of 21 Index Trading Days prior to and ending with the Index Trading Day that is two Index Trading Days immediately preceding the current Index Trading Day (calculated without taking into account distributions on the Exchange-Traded Constituents). On each Effective Monthly Re-weighting Date with respect to which a Daily Series Index provides exposure to two Monthly Reference Portfolios, the Underlying Portfolio Volatility is calculated by reference to the weighted average of the Monthly Basket Constituent Weights of each Basket Constituent, which weighted averages reflect the relative weights of the two Monthly Reference Portfolios after the close on the relevant Effective Monthly Re-weighting Date. See the Rules for additional information about how the Underlying Portfolio Volatility is calculated.



Subject to “— Index Market Disruption Events — Disruptions Affecting Exposure Determination and Calculation of Index Levels in Connection with Index Market Disruption Events” below, the Exposure of a Daily Series Index as of any Index Trading Day, which is effective as of the close on that Index Trading Day, will be a non-negative number equal to (a) with respect to any Index that is not a Daily Series Index, 100% or (b) with respect to a Daily Series Index, (i) the Target Volatility *divided by* (ii) the Underlying Portfolio Volatility with respect to that Index Trading Day, *provided* that the exposure of that Daily Series Index as of the close of that Index Trading Day will not be:

- greater than the variable Maximum Exposure;
- greater than the Exposure of that Daily Series Index at the close on the immediately preceding Index Trading Day by more than 50%;
- less than the Exposure of that Daily Series Index at the close on the immediately preceding Index Trading Day by more than 50%; or
- less than 0%.

With respect to each Index Trading Day, the “**Maximum Exposure**” is equal to one divided by the aggregate weight of the Exchange-Traded Constituents associated with the relevant Monthly Re-weighting Selection Date(s). The resulting percentage is a percentage that, if multiplied by the aggregate weight of the Exchange-Traded Constituents associated with the relevant Monthly Re-weighting Selection Date(s), will result in 100%. For example, if the aggregate weight of the Exchange-Traded Constituents associated with the relevant Monthly Re-weighting Selection Date(s) were 80%, the Maximum Exposure would be 125% (because 80% multiplied by 125% equals 100%). The Maximum Exposure will not be greater than 200%. See the Rules for additional information about how the Maximum Exposure is calculated.

## **Index Market Disruption Events**

### *General*

An “**Index Market Disruption Event**” occurs if the index calculation agent determines in its sole discretion that on any Dealing Day there has been:

- in respect of any Basket Constituent that is an index or any Reference Index of any Exchange-Traded Constituent, a failure by the relevant sponsor or its agent to calculate and publish the Closing Level for that index on that Dealing Day, or any event that, in the determination of the index calculation agent, disrupts or impairs the ability of market participants to effect transactions in or obtain levels or market values for (a) the relevant index, (b) any securities or components that in the aggregate compose 20% or more of the level of the relevant index, (c) any futures or options contracts or other financial contracts relating to the relevant index, or (d) any futures or options contracts or other financial contracts relating to securities or components that in the aggregate compose 20% or more of the level of the relevant index; or
- in respect of a Basket Constituent that is an equity index (including, for the avoidance of doubt, an index composed of one or more of the following types of securities: equities, preferred stocks, master limited partnerships (“MLPs”) and real estate investment trusts (“REITs”)) or any Reference Index of any Exchange-Traded Constituent that is an equity index (including, for the avoidance of doubt, an index composed of one or more of the following types of securities: equities, preferred stocks, MLPs and REITs), an Equity Index Disruption Event; or

- in respect of a Basket Constituent that is a commodity index, any Reference Index of any ETF Constituent that is a commodity index or any Reference Commodities of any ETF Constituent, a Commodity Disruption Event; or
- in respect of an Exchange-Traded Constituent, an Exchange-Traded Product Disruption Event; and

the index calculation agent determines in its sole discretion that the applicable event described above could materially interfere with the ability of market participants to transact in positions with respect to the Index (including, without limitation, positions with respect to any Basket Constituent or the Reference Index or any Reference Commodity of any Exchange-Traded Constituent).

For the purpose of determining whether an Index Market Disruption Event with respect to an index and a Dealing Day exists at any time, if trading in a security or component included in the applicable index is materially suspended or materially limited at that time, then the relevant percentage contribution of that security or component to the level of the applicable index will be based on a comparison of (x) the portion of the level of the applicable index attributable to that security or component relative to (y) the overall level of the applicable index, in each case immediately before that suspension or limitation.

An **“Equity Index Disruption Event”** means, in each case as determined by the index calculation agent in its sole discretion:

- the occurrence or existence of a suspension, absence or material limitation of trading of securities then constituting 20% or more of the level of the equity index (including, for the avoidance of doubt, an index composed of one or more of the following types of securities: equities, preferred stocks, MLPs and REITs) on the relevant primary exchanges for those securities for more than two hours of trading during, or during the last one-half hour period preceding the close of, the principal trading session on those relevant primary exchanges; or
- if applicable, the occurrence or existence of a suspension, absence or material limitation of trading on the primary exchange or market for trading in futures or options contracts related to the equity index (including, for the avoidance of doubt, an index composed of one or more of the following types of securities: equities, preferred stocks, MLPs and REITs) for more than two hours of trading during, or during the last one-half hour period preceding the close of, the principal trading session on that applicable exchange or market.

A **“Commodity Disruption Event”** means, in each case as determined by the index calculation agent in its sole discretion:

- a material limitation, suspension, discontinuation or disruption of trading in one or more of the relevant Reference Commodities;
- a material limitation, suspension, discontinuation or disruption of trading in one or more options or futures contracts on (x) a relevant commodity or commodities related to the relevant commodity index or (y) any of the relevant Reference Commodities, which results in failure by the relevant exchange on which any such option(s) and/or futures contract(s) is/are traded to report an official settlement price for such option(s) and/or futures contract(s) on the day on which that event occurs or any succeeding day on which it continues;
- a limitation, suspension or disruption of trading in one or more options or futures contracts on (x) a relevant commodity or commodities related to the relevant commodity index or (y) any of the relevant Reference Commodities, by reason of movements exceeding “limit up” or “limit down” levels permitted by the relevant exchange and which the index calculation agent

determines is material to trading volume or market conditions in such option(s) and/or futures contract(s) for the relevant day;

- publication by the relevant exchange of a “limit price” as the official settlement price for one or more futures contracts on (x) a relevant commodity or commodities related to the relevant commodity index or (y) any of the relevant Reference Commodities, by reason of movements exceeding “limit up” or “limit down” levels permitted by the relevant exchange;
- the occurrence of a Commodity Index Non-Publication Event;
- the relevant exchange for any options or futures contracts on (x) the relevant commodity or commodities related to the relevant commodity index or (y) any of the relevant Reference Commodities is not open for trading during its regular trading session as scheduled for the relevant day; or
- the relevant market for any of the relevant Reference Commodities is not open for trading during its regular trading session as scheduled for the relevant day.

**“Commodity Index Non-Publication Event”** means the failure by the relevant exchange, index sponsor of the relevant commodity index or other price source to announce publicly or publish the following (or the information necessary for determining the following): (a) the official settlement price for any relevant futures contract on (x) the relevant commodity or commodities related to the relevant commodity index or (y) the relevant Reference Commodities; or (b) the closing level of the relevant commodity index, in either case by noon (London time) on the immediately following Dealing Day, *provided, however*, that the occurrence of such an event will not constitute a Commodity Index Non-Publication Event in the case of clause (b) hereof if the index calculation agent determines in its sole discretion by noon (London time) on such immediately following Dealing Day that the information necessary for determining the closing level of the relevant commodity index has been announced publicly or published by the relevant exchange, index sponsor of the relevant commodity index or other price source in which case the index calculation agent will determine the closing level of that commodity index (the closing level so determined being a **“Proxy Calculated Level”**) in good faith and in a commercially reasonable manner.

An **“Exchange-Traded Product Disruption Event”** means, in each case as determined by the index calculation agent in its sole discretion:

- the occurrence or existence of a suspension, absence or material limitation of trading of the securities of an Exchange-Traded Constituent on the relevant primary exchange for such securities for more than two hours of trading during, or during the last one-half hour period preceding the close of, the principal trading session on that relevant primary exchange;
- a breakdown or failure in the price and trade reporting systems of the relevant primary exchange for the securities of an Exchange-Traded Constituent as a result of which the reported trading prices for those securities are materially inaccurate for more than two hours of trading during, or during the last one-half hour period preceding the close of, the principal trading session on that relevant primary exchange;
- if applicable, the occurrence or existence of a suspension, absence or material limitation of trading on the primary exchange or market for trading in futures or options contracts related to the securities of an Exchange-Traded Constituent or on any Related Exchange for that Exchange-Traded Constituent for more than two hours of trading during, or during the last one-half hour period preceding the close of, the principal trading session on the applicable exchange or market;

- as applicable, if any of the following is calculated or announced in the ordinary course, but is not calculated or is not announced by or on behalf of the relevant sponsor or issuer of an Exchange-Traded Constituent or the relevant calculation agent or information provider that the relevant sponsor or issuer of an Exchange-Traded Constituent designates: the intraday net asset value or the intraday indicative value of that Exchange-Traded Constituent, the intraday indicative value of a Reference Index or a Reference Commodity of that Exchange-Traded Constituent, or any intraday value or level that indicates or affects the approximate intrinsic economic value of that Exchange-Traded Constituent or the amount of any payment in respect of that Exchange-Traded Constituent;
- as applicable, if any of the following is calculated or announced in the ordinary course, but is not calculated or is not announced by or on behalf of the relevant sponsor or issuer of an Exchange-Traded Constituent or the relevant calculation agent or information provider that the relevant sponsor or issuer of an Exchange-Traded Constituent designates: the closing net asset value or the closing indicative value of that Exchange-Traded Constituent, the closing indicative value of a Reference Index or a Reference Commodity of that Exchange-Traded Constituent, or any closing value or level or other value or level that indicates or affects the approximate intrinsic economic value of that Exchange-Traded Constituent or the amount of any payment in respect of that Exchange-Traded Constituent; or
- as applicable, the relevant sponsor or issuer of an Exchange-Traded Constituent suspends creations, issuances or redemptions of securities of that Exchange-Traded Constituent.

For the purpose of determining whether an Equity Index Disruption Event or an Exchange-Traded Product Disruption Event has occurred:

- a limitation on the hours or number of days of trading will not constitute an Equity Index Disruption Event or an Exchange-Traded Product Disruption Event if it results from an announced change in the regular business hours of the relevant primary exchange or the primary exchange or market for trading in futures or options contracts related to the relevant securities;
- limitations pursuant to the rules of any relevant primary exchange similar to New York Stock Exchange Rule 80B (or any applicable rule or regulation enacted or promulgated by any other self-regulatory organization or any government agency of scope similar to New York Stock Exchange Rule 80B as determined by the index calculation agent) on trading during significant market fluctuations will constitute a suspension, absence or material limitation of trading;
- a suspension of trading in futures or options contracts on the applicable equity index (including, for the avoidance of doubt, an index composed of one or more of the following types of securities: equities, preferred stocks, MLPs and REITs) or securities of an Exchange-Traded Constituent by the primary exchange or market for trading in those contracts or securities of that Exchange-Traded Constituent by reason of (a) a price change exceeding limits set by that exchange or market, (b) an imbalance of orders relating to those contracts or securities of that Exchange-Traded Constituent or (c) a disparity in bid and ask quotes relating to those contracts or securities of that Exchange-Traded Constituent, will constitute a suspension, absence or material limitation of trading in futures or options contracts related to that equity index or the securities of that Exchange-Traded Constituent; and
- a suspension, absence or material limitation of trading on any relevant primary exchange or, if applicable, on the primary exchange or market on which futures or options contracts related to the applicable equity index (including, for the avoidance of doubt, an index composed of one or more of the following types of securities: equities, preferred stocks, MLPs and REITs) or the

securities of an Exchange-Traded Constituent are traded will not include any time when that exchange or market is itself closed for trading under ordinary circumstances.

A **“Related Exchange”** means, in respect of any Exchange-Traded Constituent, each exchange or quotation system (as determined by the index calculation agent) where trading has a material effect (as determined by the index calculation agent) on the overall market for futures or options contracts relating to that Exchange-Traded Constituent.

**“Reference Index”** means, with respect to an Exchange-Traded Constituent, the index, if applicable, whose performance that Exchange-Traded Constituent attempts to track.

**“Reference Commodity”** means with respect to an ETF Constituent, each commodity underlying that ETF Constituent.

#### *Disruption Affecting a Monthly Re-weighting Selection Date*

If a Monthly Re-weighting Selection Date is a Dealing Day on which an Index Market Disruption Event occurs or is continuing (an **“Index Disrupted Day”**) in respect of any Basket Constituent (for these purposes, each such Basket Constituent, an **“Affected Basket Constituent”**), then the relevant Monthly Re-weighting Selection Date will remain the originally scheduled Monthly Re-weighting Selection Date and the Closing TR Level or Closing Level, as the case may be, for each Affected Basket Constituent in respect of that Index Disrupted Day will be deemed to be the Closing TR Level or Closing Level, as the case may be, for that Affected Basket Constituent as of the immediately preceding day that was both (x) a Dealing Day for that Affected Basket Constituent and (y) not an Index Disrupted Day for that Affected Basket Constituent.

**“Closing TR Level”** means, subject to the provisions of **“— Index Market Disruption Events”** below, with respect to an Exchange-Traded Constituent and a Dealing Day, the Closing Level of that Exchange-Traded Constituent with distributions re-invested, determined for each Exchange-Traded Constituent on each Dealing Day as the product of (x) the Closing TR Level of that Exchange-Traded Constituent as of the immediately preceding Dealing Day and (y) the quotient of (a) the Closing Level of that Exchange-Traded Constituent as of that Dealing Day *plus* the Gross Distribution Amount in respect of that Exchange-Traded Constituent for that Dealing Day (if that Dealing Day is an Ex-Distribution Date for that Exchange-Traded Constituent) *divided* by (b) the Closing Level of that Exchange-Traded Constituent as of the immediately preceding Dealing Day.

**“Gross Distribution Amount”** means, in respect of an Exchange-Traded Constituent and an Ex-Distribution Date for that Exchange-Traded Constituent, 100% of the amount of any distribution per share or security of that Exchange-Traded Constituent that a shareholder or security-holder in that Exchange-Traded Constituent on that Ex-Distribution Date would no longer have the right to receive due to the occurrence of that Ex-Distribution Date, as determined by the index calculation agent in its discretion as the sum of (x) the amount of any cash distribution made and (y) the fair market value of any distribution of shares of capital stock, evidences of indebtedness or other assets or property of that Exchange-Traded Constituent or its issuer (other than share dividends or distributions referred to in **“— Anti-dilution Adjustments”** below). If a portion of that distribution consists of property traded on the Ex-Distribution Date on a U.S. national securities exchange, the fair market value of that portion will equal the closing price of that distributed property on that Ex-Distribution Date.

**“Ex-Distribution Date”** means, with respect to a distribution for an Exchange-Traded Constituent, the first trading day on which transactions in the securities of that Exchange-Traded Constituent trade on the relevant primary exchange without the right to receive that distribution.

### *Disruption Affecting a Monthly Re-weighting Date*

If an originally scheduled Monthly Re-weighting Date for a Monthly Re-weighting Period is postponed, then each subsequent Monthly Re-weighting Date originally scheduled to occur after that Monthly Re-weighting Date will also be postponed so that all of the Monthly Re-weighting Dates for that Monthly Re-weighting Period will occur in the order in which they were originally scheduled to occur, each on a different Index Business Day.

If an originally scheduled Monthly Re-weighting Date for a Monthly Re-weighting Period is an Index Disrupted Day in respect of any Basket Constituent, then that Monthly Re-weighting Date and each other Monthly Re-weighting Date for the same Monthly Re-weighting Period originally scheduled to follow that Monthly Re-weighting Date will each be an **"Affected Monthly Re-weighting Date."**

In that case, each Affected Monthly Re-weighting Date will be postponed to the first of the following days to occur (which day will be a **"Postponed Monthly Re-weighting Date"**): (i) the first following Index Business Day that is (x) not an Index Disrupted Day for any Basket Constituent and (y) not the postponed date of any Monthly Re-weighting Date for the same Monthly Re-weighting Period that was originally scheduled to occur prior to the date on which that Affected Monthly Re-weighting Date was originally scheduled to occur; and (ii) the fifth Index Business Day following the date on which that Affected Monthly Re-weighting Date was originally scheduled to occur.

For the avoidance of doubt, no two Effective Monthly Re-weighting Dates should occur on the same day as a result of the operation of this "— Disruption Affecting a Monthly Re-weighting Date" section.

### *Disruptions Affecting Exposure Determination and Calculation of Index Levels in Connection with Index Market Disruption Events*

If a Postponed Monthly Re-weighting Date is an Index Disrupted Day for any Basket Constituent, then that Postponed Monthly Re-weighting Date will be a **"Re-weighting Disruption Determination Date."** If a Portfolio Disruption Day immediately follows five consecutive Portfolio Disruption Days, then that Portfolio Disruption Day will be a **"Portfolio Disruption Determination Date."** **"Final Disruption Determination Date"** means a day that is either a Re-weighting Disruption Determination Date or a Portfolio Disruption Determination Date.

**"Portfolio Disruption Day"** means an Index Business Day that (i) occurs during the period from but excluding the final Effective Monthly Re-weighting Date in a given Monthly Re-weighting Period to but excluding the first Effective Monthly Re-weighting Date in the immediately following Monthly Re-weighting Period and (ii) is an Index Disrupted Day for any Basket Constituent that has a non-zero Monthly Basket Constituent Weight in the Monthly Reference Portfolio determined as of the Monthly Re-weighting Selection Date associated with the Monthly Re-weighting Selection Date immediately preceding the most recently completed Monthly Re-weighting Period.

On each Final Disruption Determination Date, the index calculation agent will calculate its good faith estimate of the Exposure of the Index (that is otherwise determined pursuant to "— Determining the Basket Constituent Portfolio Volatility — Exposure Calculation"), the Index Level as of that Final Disruption Determination Date (notwithstanding the fact that that Final Disruption Determination Date is an Index Disrupted Day for at least one Basket Constituent) and the Closing TR Level for any Exchange-Traded Constituent for which that Final Disruption Determination Date is an Index Disrupted Day, using its good faith estimate of (i) the Closing Level for any Basket Constituent, if that Final Disruption Determination Date is an Index Disrupted Day for that Basket Constituent, and (ii) the level of any Monthly Reference Portfolio that affects the calculation of the Index Level. Any estimate of the Exposure of an Index and any estimated levels may be subject to correction on any of (x) the first succeeding Index Business Day that is not a Final Disruption Determination Date for the Index, (y) the first succeeding Index Business Day that is not an Index Disrupted Day in respect of any Basket

Constituent and (z) the first succeeding Index Business Day that is not an Index Disrupted Day for a Basket Constituent with respect to which that estimated level was determined pursuant to this “— Disruptions Affecting Exposure Determination and Calculation of Index Levels in Connection with Index Market Disruption Events” section.

For the avoidance of doubt, on each Re-weighting Disruption Determination Date, the index calculation agent will re-weight the portion of the Index to be rebalanced on that day in accordance with “— Determining the Basket Constituent Portfolio Volatility — Volatility Calculation” using its good faith estimates determined pursuant to this “— Disruptions Affecting Exposure Determination and Calculation of Index Levels in Connection with Index Market Disruption Events” section.

For purposes of determining the Closing TR Level for any Exchange-Traded Constituent for any Dealing Day, if the immediately preceding Dealing Day (the “**Prior Dealing Day**”) for that Exchange-Traded Constituent was an Index Disrupted Day then, in the formula for determining the Closing TR Level for that Dealing Day, (i) the Closing TR Level for that Prior Dealing Day will be replaced with the Closing TR Level on the Dealing Day immediately preceding that Prior Dealing Day that was not an Index Disrupted Day (the “**Prior Non-Disrupted Dealing Day**”) for that Exchange-Traded Constituent, (ii) the Closing Level for that Prior Dealing Day will be replaced with the Closing Level on that Prior Non-Disrupted Dealing Day for that Exchange-Traded Constituent and (iii) the Gross Distribution Amount of that Exchange-Traded Constituent in respect of that Dealing Day will be replaced with the sum of each of the Gross Distribution Amounts for that Exchange-Traded Constituent in respect of each day from but excluding the Prior Non-Disrupted Dealing Day to and including that Dealing Day.

Any Final Disruption Determination Date will be deemed to be an Index Trading Day, notwithstanding the fact that it is an Index Disrupted Day for at least one Basket Constituent.

### **Extraordinary Events**

Certain events may have the effect of any one or more of the Basket Constituents set out in Table 2 above being succeeded to, being subject to a material change in its calculation or being cancelled. We refer to each of these events individually as an Extraordinary Event, as described in detail below.

- (a) For an ETF Constituent, (x) if any of the following is calculated or announced in the ordinary course, but is not calculated or is not announced by or on behalf of the relevant sponsor or issuer for that ETF Constituent or the relevant calculation agent or information provider that such sponsor or issuer designates: its intraday or closing net asset value or another value or level that indicates or affects the approximate intrinsic economic value of that ETF Constituent or the amount of any payment in respect of that ETF Constituent, (y) yet that value or level is calculated and announced by or on behalf of a successor sponsor or issuer acceptable to the index calculation agent or a calculation agent or information agent (in either case, that such successor sponsor or issuer designates) acceptable to the index calculation agent;
- (b) for a Note Constituent, (x) if any of the following is calculated or announced in the ordinary course, but is not calculated or is not announced by or on behalf of the relevant sponsor or issuer for the Note Constituent or the relevant calculation agent or information provider that such sponsor or issuer designates: its intraday or closing indicative value or another value or level that indicates or affects the approximate intrinsic economic value of the Note Constituent or the amount of any payment in respect of the Note Constituent, (y) yet that value or level is calculated and announced by or on behalf of a successor sponsor or issuer acceptable to the index calculation agent or a calculation agent or information provider (in either case, that such successor sponsor or issuer designates) acceptable to the index calculation agent;
- (c) for a Basket Constituent that is an index (including, for the avoidance of doubt, the Cash Constituent) or for the Reference Index of an Exchange-Traded Constituent, (x) if the relevant index is replaced by a successor index, (y) yet that successor index uses, in the determination of

the index calculation agent, the same or a substantially similar formula for and method of calculation as used in the calculation of the relevant index or that successor index is otherwise acceptable to the index calculation agent;

- (d) for a Basket Constituent that is an index (including, for the avoidance of doubt, the Cash Constituent) or for the Reference Index of an Exchange-Traded Constituent, (x) if the relevant index sponsor makes a material change in the formula for or the method of calculating that index or in any other way materially modifies that index (other than a modification prescribed in that formula or method to maintain that index in routine circumstances), (y) yet that change or modification is acceptable to the index calculation agent;
- (e) for an ETF Constituent that has one or more Reference Commodities, (x) if it is replaced by a successor ETF, (y) yet any Reference Commodities of that successor ETF are the same as that of the replaced ETF Constituent or that successor ETF is otherwise acceptable to the index calculation agent; or
- (f) for an Exchange-Traded Constituent, (x) if it is replaced by a successor Exchange-Traded Constituent, (y) yet (1) the Reference Index of that successor Exchange-Traded Constituent is either the same as that of the replaced Exchange-Traded Constituent or is an index using, in the determination of the index calculation agent, the same or a substantially similar formula for and method of calculation as used in the calculation of the replaced Exchange-Traded Constituent's Reference Index or (2) that successor Exchange-Traded Constituent is otherwise acceptable to the index calculation agent,

then, in the case of clause (a), (b), (c), (d), (e) or (f) above (each such clause, a "**Successor Provision**"), that Basket Constituent, that Reference Index or the relevant sponsor, issuer, calculation agent or information provider will thereafter be deemed to be the successor Basket Constituent, successor Reference Index or the successor sponsor, issuer, calculation agent or information provider described in the relevant clause above, with effect from a date determined by the index calculation agent, which may make such adjustments to the Rules of the relevant Index as it determines in good faith are appropriate to account for that change (including, without limitation, adjustments to market disruption provisions in respect of an index that includes securities or components that are bonds or loans).

For the avoidance of doubt, the index calculation agent will not accept a particular successor ETF, successor ETN or successor index if the index calculation agent determines, in its sole discretion, that doing so would immediately result in the occurrence of an Extraordinary Event. Upon the acceptance of a successor ETF, successor ETN or successor index, that successor will take the place of the relevant Basket Constituent. For the avoidance of doubt, the prior performance of that successor ETF, ETN or index will be used with respect to Eligible Portfolios for future Performance Observation Periods and for determining Exposure if the relevant prior performance of that successor is available; *provided* that, if some portion of the relevant prior performance of that successor is not available, the prior performance of the replaced ETF, ETN or index will be used (in place of that portion of the relevant prior performance of that successor that is not available) with such adjustments as the index calculation agent determines in good faith are appropriate to account for the use of prior performance of both that successor and that replaced ETF, ETN or index.

If an Extraordinary Event occurs in respect of a Basket Constituent, the index calculation agent, acting in good faith and a commercially reasonable manner, will select as a substitute for that Basket Constituent:

- (a) an ETF that has a Reference Index;
- (b) an ETF that has one or more Reference Commodities;



- (c) an ETN that has a Reference Index; or
- (d) an index,

(such substitute ETF, ETN or index being referred to herein as a “**substitute ETF**,” “**substitute ETN**” or “**substitute index**,” respectively) that, in any case, the index calculation agent determines, in its sole discretion, possesses substantially similar characteristics or provides a substantially similar exposure (as considered prior to the occurrence of that Extraordinary Event, with the understanding that (1) a substitute ETF or a substitute index can be substantially similar to an ETF Constituent, (2) a substitute index, a substitute ETF or a substitute ETN can be substantially similar to a Note Constituent and (3) a substitute ETF or a substitute index can be substantially similar to an index that is a Basket Constituent) as compared to the Basket Constituent that is being replaced, *provided* that, if the index calculation agent determines that no such substitute is available, the index calculation agent will instead select an appropriate substitute by considering the context of the relevant Index and its Weighting Constraints.

In that case, the index calculation agent will, in good faith, make such adjustments that it determines to be appropriate to any variable, calculation methodology, valuation terms or any other rule in relation to the relevant Index to account for that substitution (including, without limitation, adjustments to market disruption provisions in respect of an index that includes securities or components that are bonds or loans); *provided* that

- (a) the index calculation agent may not select a substitute ETN for a Basket Constituent that is either an ETF or an index, with the effect that the index calculation agent may select a substitute ETN only in respect of a Note Constituent;
- (b) the index calculation agent will not select a substitute ETF or a substitute ETN for the Cash Constituent, but may select a substitute index for the Cash Constituent;
- (c) for any Basket Constituent other than the Cash Constituent, if the index calculation agent determines, in its sole discretion, that no such substitute ETF, substitute ETN or substitute index is available, then the index calculation agent will, in its sole discretion, (x) determine its good faith estimate of the closing price of that Basket Constituent as of a date on or prior to the occurrence of that Extraordinary Event and use that estimate of the closing price (without modification over time) in respect of that Basket Constituent in subsequent calculations of the Index Level of the relevant Index until the final Effective Monthly Re-weighting Date in the immediately following Monthly Re-weighting Period, (y) replace that Basket Constituent with the Cash Constituent as its substitute and (z) in good faith, make such adjustments that it determines to be appropriate to any variable, calculation methodology, valuation terms or any other rule in relation to the relevant Index to account for that substitution (for the avoidance of doubt, as a result of that replacement of any Basket Constituent with the Cash Constituent, the aggregate weight of the Cash Constituent would be allowed to exceed the Weighting Constraints specific to the Cash Constituent, because a portion of that aggregate weight would be subject to the Weighting Constraints specific to the replaced Basket Constituent and not the Weighting Constraints specific to the Cash Constituent); and
- (d) for the Cash Constituent, if the index calculation agent determines, in its sole discretion, that no such substitute index is available, then the index calculation agent will, in its sole discretion, calculate the level of the Cash Constituent using, in lieu of a published level for the Cash Constituent, the level for the Cash Constituent as of any future Index Business Day as determined by the index calculation agent in accordance with the formula for and method of calculating the Cash Constituent last in effect prior to the occurrence of that Extraordinary Event, but using only the types of components that composed the Cash Constituent immediately prior to that Extraordinary Event (and in the case of components with an expiration or maturity, any components required to roll any expiring positions in accordance with the formula for and method of calculating the Cash Constituent will be permitted).

The index calculation agent will not select a particular substitute ETF, ETN or index if the index calculation agent determines, in its sole discretion, that doing so would immediately result in the occurrence of an Extraordinary Event. Upon the selection of a substitute ETF, ETN or index, that substitute will take the place of the relevant Basket Constituent. For the avoidance of doubt, the prior Performance of that substitute ETF, ETN or index will be used with respect to Eligible Portfolios for future Performance Observation Periods and for determining Exposure; *provided* that, if some portion of the relevant prior performance of that successor is not available, the prior performance of the replaced ETF, ETN or index will be used (in place of that portion of the relevant prior performance of that successor that is not available) with such adjustments as the index calculation agent determines in good faith are appropriate to account for the use of prior performance of both that successor and that replaced ETF, ETN or index.

An “**Extraordinary Event**” occurs if the index calculation agent determines in its sole discretion that (i) on any Dealing Day in respect of a Basket Constituent one or more of the following events has occurred and (ii) the applicable event or events described below materially interferes with the ability of market participants to transact in positions with respect to the relevant Index (including, without limitation, positions with respect to any Basket Constituent or the Reference Index or any Reference Commodity of any Exchange-Traded Constituent):

- (1) for any ETF Constituent for which the securities of the relevant exchange-traded fund are issued by a trust (such issuer trust, the “Trust Issuer”), the trust agreement or any similar governing document of the Trust Issuer is terminated, or the Trust Issuer becomes, for any reason, subject to voluntary or involuntary termination, liquidation, bankruptcy, insolvency, dissolution or winding-up or any other analogous proceeding;
- (2) for any Exchange-Traded Constituent, the issuer becomes, for any reason, subject to voluntary or involuntary termination, liquidation, bankruptcy, insolvency, dissolution or winding-up or any other analogous proceeding;
- (3) for any Exchange-Traded Constituent or its issuer, all the securities of the Exchange-Traded Constituent or its issuer or all or substantially all of the assets of the Exchange-Traded Constituent or its issuer are nationalized, expropriated or otherwise required to be transferred to any governmental agency, authority, entity or instrumentality thereof;
- (4) for any Basket Constituent, the sponsor or issuer of the Basket Constituent permanently cancels the Basket Constituent, and no successor exists, or the Basket Constituent’s level, net asset value or indicative value is not calculated and is not announced by or on behalf of the relevant sponsor or issuer of the Basket Constituent, and is not calculated and announced by or on behalf of a successor sponsor or issuer acceptable to the index calculation agent;
- (5) for a Note Constituent, the issuer exercises a right to call or redeem all or substantially all of the securities of the Note Constituent or the issuer or another entity exercises any right with a similar effect;
- (6) for a relevant Basket Constituent, the event specified in clause (x) of any Successor Provision occurs, but the relevant event specified in clause (y) of that Successor Provision does not occur;
- (7) in respect of any Basket Constituent that is an index, a failure by the relevant sponsor to calculate and publish the Closing Level for that index for five consecutive Dealing Days;
- (8) in respect of any Exchange-Traded Constituent, that Exchange-Traded Constituent is de-listed from the relevant primary exchange for that Exchange-Traded Constituent and is not concurrently listed on a U.S. securities exchange acceptable to the index calculation agent;

- (9) in respect of any ETF Constituent, an ETF Material Event occurs in respect of that ETF Constituent;
- (10) in respect of a Note Constituent, a Note Material Event occurs in respect of that Note Constituent;
- (11) in respect of a Basket Constituent, a Market Disruption Event occurs for ten consecutive Dealing Days and the index calculation agent determines that such Market Disruption Event is reasonably likely to continue for a period of an indeterminate duration;
- (12) in respect of a Basket Constituent, (x) a suspension or limitation on trading in respect of a Relevant Underlying is announced or imposed for ten consecutive relevant days or for a period of indeterminate duration that the index calculation agent determines is reasonably likely to include ten consecutive relevant days or (y) any other event occurs or condition exists that causes trading to cease in respect of a Relevant Underlying for ten consecutive relevant days;
- (13) in respect of a Basket Constituent, at any time, the license granted (if required) by a non-affiliate of the index calculation agent to the index calculation agent (or its affiliates) to use that Basket Constituent for the purposes of the relevant Index terminates, or the index calculation agent determines that the index calculation agent's rights to use the Basket Constituent for the purpose of the relevant Index have become impaired or ceased (for any reason); or
- (14) the occurrence or continuation of a Change in Law.

An “**ETF Material Event**” occurs in respect of an ETF Constituent when one or more of the following events occurs, and the index calculation agent determines in its sole discretion that such event or combination of events is material (although, for the avoidance of doubt, the index calculation agent has no obligation to monitor actively whether or not any of the following events has occurred):

- (a) there is an amendment, variation or modification to the constitutional documents or offering documents of the ETF Constituent that the index calculation agent determines has or is reasonably likely to have an adverse impact on the ability of market participants to trade in securities of the ETF Constituent;
- (b) there is an amendment, variation or modification to the terms of the ETF Constituent or the obligations of the issuer in respect of the ETF Constituent, in any case and by any means, that the index calculation agent determines has or is reasonably likely to have an adverse impact on the value, redeemability or liquidity of the securities of the ETF Constituent;
- (c) an ETF Regulatory Action occurs in respect of the ETF Constituent;
- (d) the Average Daily Trading Volume of any ETF Constituent declines below (x) an amount equal to 20% of its Average Daily Trading Volume as of December 31, 2014 (as such Average Daily Trading Volume is set forth in the Rules) or (y) \$7.5 million;
- (e) the Market Capitalization of the ETF Constituent declines below (x) an amount equal to 20% of its Market Capitalization as of December 31, 2014 (as such Market Capitalization is set forth in the Rules) or (y) \$500 million;
- (f) the relevant primary exchange for the ETF Constituent announces that such ETF Constituent will be de-listed from that exchange;
- (g) if any of the following is calculated or announced in the ordinary course, but, for a period of five consecutive Dealing Days, is not calculated or is not announced by or on behalf of the relevant sponsor or issuer of the ETF Constituent or the relevant calculation agent or

information provider that the relevant sponsor or issuer of the ETF Constituent designates: the intraday net asset value of the ETF Constituent, the intraday indicative value of a Reference Index or a Reference Commodity of the ETF Constituent, or any intraday value or level that indicates or affects the approximate intrinsic economic value of the ETF Constituent or the amount of any payment in respect of the ETF Constituent;

- (h) if any of the following is calculated or announced in the ordinary course, but, for a period of five consecutive Dealing Days, is not calculated or is not announced by or on behalf of the relevant sponsor or issuer of the ETF Constituent or the relevant calculation agent or information provider that the relevant sponsor or issuer of the ETF Constituent designates: the closing net asset value of the ETF Constituent, the closing indicative value of a Reference Index or a Reference Commodity of the ETF Constituent, or any closing value or level or other value or level that indicates or affects the approximate intrinsic economic value of the ETF Constituent or the amount of any payment in respect of the ETF Constituent;
- (i) if any of the following is calculated or announced in the ordinary course, but, for a period of five consecutive Dealing Days, the Closing Level of the ETF Constituent reflects a premium greater than 5% or a discount greater than 5% as compared to the closing net asset value of the ETF Constituent, the closing indicative value of a Reference Index or a Reference Commodity of the ETF Constituent, or any closing value or level or other value or level that indicates or affects the approximate intrinsic economic value of the ETF Constituent or the amount of any payment in respect of the ETF Constituent;
- (j) the relevant sponsor of the Reference Index of the ETF Constituent fails to calculate and publish the Closing Level for that index for five consecutive Dealing Days; or
- (k) the relevant sponsor of the ETF Constituent suspends new issuances, creations or redemptions of securities of that ETF Constituent for five consecutive Dealing Days or announces a suspension of unlimited duration of those creations or redemptions.

**“ETF Regulatory Action”** means (i) any cancellation, suspension or revocation of the registration or approval of the ETF Constituent or the securities of the ETF Constituent by any governmental, legal or regulatory entity with authority over the ETF Constituent or the securities of the ETF Constituent, (ii) any change in the legal, tax, accounting, or regulatory treatments of the ETF Constituent, any sponsor, issuer or adviser of the ETF Constituent or the securities of the ETF Constituent that the index calculation agent determines has or is reasonably likely to have an adverse impact on the holders of the securities of the ETF Constituent or on the value of the securities of the ETF Constituent, (iii) the ETF Constituent or any sponsor, issuer or adviser of the ETF Constituent becoming subject to any investigation, proceeding or litigation by any relevant governmental, legal or regulatory authority involving any activities relating to or resulting from the operation of the ETF Constituent (including, without limitation, any future, announced or implemented material change to any one or more exemptive orders, no action letters or interpretative guidance of the U.S. Securities and Exchange Commission (the **“SEC”**), including guidance issued by the SEC’s staff, relating to the ETF Constituent or to exchange-traded funds generally that affects holders of the securities of the ETF Constituent, whether occurring through action of the SEC or otherwise, including as a result of a court order or executive order) that the index calculation agent determines has or is reasonably likely to have a material adverse effect on the value, redeemability or liquidity of the securities of the ETF Constituent, or the operation of the ETF Constituent in accordance with the terms of the ETF Constituent or the ETF Constituent’s offering documents or (iv) the issuance by the SEC of an order to suspend redemption obligations of the ETF Constituent, to freeze assets of the ETF Constituent or to take any other action that the index calculation agent determines is reasonably likely to have a material effect on the value, redeemability or liquidity of the ETF Constituent.

**“Average Daily Trading Volume”** means, with respect to an Exchange-Traded Constituent and an Index Business Day, the product of (a) the ratio of (i) the total volume of trading in the securities of that Exchange-Traded Constituent on all U.S. exchanges from but excluding the calendar day six months prior to that Index Business Day, to and including that Index Business Day, as reported by Bloomberg using the function Bloomberg Ticker US Equity HP or another information provider selected by the index calculation agent, divided by (ii) the total number of Index Business Days from but excluding the calendar day six months prior to that Index Business Day, to and including that Index Business Day, times (b) the Closing Level of that Exchange-Traded Constituent on that Index Business Day.

**“Market Capitalization”** means, with respect to an Exchange-Traded Constituent and an Index Business Day, the market capitalization of that Exchange-Traded Constituent as provided by Bloomberg on the “DES” page or by another information provider selected by the index calculation agent for that Exchange-Traded Constituent on that Index Business Day.

A **“Note Material Event”** occurs in respect of a Note Constituent when one or more of the following events occurs, and the index calculation agent determines in its sole discretion that such event or combination of events is material (although, for the avoidance of doubt, the index calculation agent has no obligation to monitor actively whether or not any of the following events has occurred):

- (a) there is an amendment, variation or modification to (x) the note, indenture or other constitutional documents of the Note Constituent or (y) the offering documents of the Note Constituent, that the index calculation agent determines has or is reasonably likely to have an adverse impact on the ability of market participants to trade in securities of the Note Constituent;
- (b) there is an amendment, variation or modification to the terms of the Note Constituent or the obligations of the issuer or any Note Guarantor in respect of the Note Constituent, in any case and by any means, that the index calculation agent determines has or is reasonably likely to have an adverse impact on the value, redeemability or liquidity of the securities of the Note Constituent (including, without limitation, (1) a reduction in the rate or amount of interest payable or the amount of scheduled interest accruals (including by way of redenomination) or a change in the manner of determining the amount of interest payable or interest accruals; (2) a reduction in the amount of principal or premium payable at redemption (including by way of redenomination) or a change in the manner of determining the amount of principal or premium payable at redemption; (3) a postponement or other deferral of a date or dates for either (I) the payment or accrual of interest, or (II) the payment of principal or premium; (4) a change in the ranking in priority of payment of any payment obligation in respect of the Note Constituent, causing the subordination of any such payment obligation in respect of the Note Constituent to any other obligation; or (5) any change in the currency of any payment of interest, principal or premium);
- (c) a Note Regulatory Action occurs in respect of the Note Constituent;
- (d) the Average Daily Trading Volume of the Note Constituent declines below (x) an amount equal to 20% of its Average Daily Trading Volume as of December 31, 2014 (as such Average Daily Trading Volume is set forth in the Rules) or (y) \$7.5 million;
- (e) the Market Capitalization of the Note Constituent declines below (x) an amount equal to 20% of its Market Capitalization as of December 31, 2014 (as such Market Capitalization is set forth in the Rules) or (y) \$500 million;
- (f) the relevant primary exchange for the Note Constituent announces that the Note Constituent will be de-listed from that exchange;

- (g) if any of the following is calculated or announced in the ordinary course, but, for a period of five consecutive Dealing Days, is not calculated or is not announced by or on behalf of the relevant sponsor or issuer of the Note Constituent or the relevant calculation agent or information provider that the relevant sponsor or issuer of the Note Constituent designates: the intraday indicative value of the Note Constituent, the intraday indicative value of a Reference Index of the Note Constituent, or any intraday value or level that indicates or affects the approximate intrinsic economic value of the Note Constituent or the amount of any payment in respect of the Note Constituent;
- (h) if any of the following is calculated or announced in the ordinary course, but, for a period of five consecutive Dealing Days, is not calculated or is not announced by or on behalf of the relevant sponsor or issuer of the Note Constituent or the relevant calculation agent or information provider that the relevant sponsor or issuer of the Note Constituent designates: the closing indicative value of the Note Constituent, the closing indicative value of a Reference Index of the Note Constituent, or any closing value or level or other value or level that indicates or affects the approximate intrinsic economic value of the Note Constituent or the amount of any payment in respect of the Note Constituent;
- (i) if any of the following is calculated or announced in the ordinary course, but, for a period of five consecutive Dealing Days, the Closing Level of the Note Constituent reflects a premium greater than 3% or a discount greater than 3% as compared to the closing indicative value of the Note Constituent, the closing indicative value of a Reference Index of the Note Constituent, or any closing value or level or other value or level that indicates or affects the approximate intrinsic economic value of the Note Constituent or the amount of any payment in respect of the Note Constituent;
- (j) the relevant issuer of the Note Constituent suspends new issuances, creations or redemptions of securities representing the Note Constituent for five consecutive Dealing Days or announces a suspension of unlimited duration of those new issuances, creations or redemptions;
- (k) the relevant issuer announces that it will exercise a right to call or redeem all or substantially all of the securities of the Note Constituent or the issuer or another entity announces that it will exercise any right with a similar effect;
- (l) the relevant issuer of the Note Constituent fails to maintain investment grade long-term issuer credit ratings from each of Standard & Poor's Ratings Services, Moody's Investors Service, Inc. and Fitch Ratings (or the relevant successor of each);
- (m) the remaining time to the maturity of the Note Constituent is one year or less;
- (n) the remaining time to the maturity of the Note Constituent is three months or less;
- (o) the issuer of the Note Constituent or one of its affiliates announces the issuance by that issuer or one of its affiliates of an ETN with the same Reference Index as the Note Constituent with a time to maturity that is 10 years or more than the remaining time to the maturity of the Note Constituent or otherwise publicly announces a successor ETN to the Note Constituent that will be offered prior to the maturity of the Note Constituent;
- (p) a Note Specified Event or Note Potential Specified Event occurs in respect of the Note Constituent; or
- (q) a Governmental Intervention occurs in respect of the Note Constituent.

**"Note Regulatory Action"** means (i) any cancellation, suspension or revocation of the registration or approval of the Note Constituent or the securities of the Note Constituent by any governmental,

legal or regulatory entity with authority over the Note Constituent or the securities of the Note Constituent, (ii) any change in the legal, tax, accounting, or regulatory treatments of the Note Constituent, the sponsor or issuer of the Note Constituent or the securities of the Note Constituent that the index calculation agent determines has or is reasonably likely to have an adverse impact on the holders of the securities of the Note Constituent or on the value of the securities of the Note Constituent, (iii) the Note Constituent or the sponsor or issuer of the Note Constituent becoming subject to any investigation, proceeding or litigation by any relevant governmental, legal or regulatory authority involving any activities relating to or resulting from the operational or procedural mechanics of the Note Constituent (including, without limitation, any future, announced or implemented material change to any one or more exemptive orders, no action letters or interpretative guidance of the SEC, including guidance issued by the SEC's staff, relating to the Note Constituent or to exchange-traded notes generally that affects holders of the securities of the Note Constituent, whether occurring through action of the SEC or otherwise, including as a result of a court order or executive order) that the index calculation agent determines has or is reasonably likely to have a material adverse effect on the value, redeemability or liquidity of the securities of the Note Constituent, or the operational or procedural mechanics of the Note Constituent in accordance with the terms of the Note Constituent or the Note Constituent's offering documents or (iv) the issuance by the SEC of an order to suspend redemption obligations of the Note Constituent, to freeze assets of the issuer of the Note Constituent or to take any other action that the index calculation agent determines is reasonably likely to have a material effect on the value, redeemability or liquidity of the Note Constituent.

**"Note Specified Event"** means the occurrence of any of the following, as applicable:

- (a) failure by the issuer of the Note Constituent or its agent to make, when due, any payment or delivery in respect of the Note Constituent required to be made by that issuer or its agent;
- (b) failure by the issuer of the Note Constituent or its agent to comply with or perform any agreement or obligation to be complied with or performed by that issuer or its agent in respect of the Note Constituent;
- (c) the issuer or its agent (or any person or entity appointed or empowered to operate or act on behalf of the issuer or its agent) disaffirms, disclaims, repudiates or rejects, in whole or in part, or challenges the validity of (1) any obligation of the issuer or its agent in respect of the Note Constituent, (2) any note, indenture or other constitutional document for the Note Constituent, (3) any offering document for the Note Constituent or (4) any contract executed and delivered by the issuer or its agent in respect of the Note Constituent;
- (d) failure by any guarantor of the issuer of the Note Constituent (a **"Note Guarantor"**) to comply with or perform any agreement or obligation to be complied with or performed by that guarantor in accordance with any guarantee agreement in respect of any obligation of the issuer or its agent in respect of the Note Constituent (a **"Note Guarantee Agreement"**);
- (e) the expiration or termination of any Note Guarantee Agreement or the failing or ceasing of any Note Guarantee Agreement to be in full force and effect in respect of any obligation of the issuer or its agent in respect of the Note Constituent;
- (f) the issuer or its agent or the relevant Note Guarantor (or any person or entity appointed or empowered to operate or act on behalf of the issuer, its agent or the relevant Note Guarantor) disaffirms, disclaims, repudiates or rejects, in whole or in part, or challenges the validity of a Note Guarantee Agreement;
- (g) the occurrence or existence of (1) a default, event of default or other similar condition or event (however described) in respect of the issuer or the relevant Note Guarantor under one or more agreements or instruments relating to Specified Indebtedness of either of them (individually or collectively) where the aggregate principal amount of those agreements or instruments, either

alone or together with the amount, if any, referred to in clause (2) below, is not less than \$10 million (or its equivalent) which has resulted in that Specified Indebtedness becoming, or becoming capable at that time of being declared, due and payable, or (2) a default by the issuer or the relevant Note Guarantor (individually or collectively) in making one or more payments under those agreements or instruments on the due date for payment (after giving effect to any applicable notice requirement or grace period) in an aggregate amount, either alone or together with the amount, if any, referred to in clause (1) above, of not less than \$10 million (or its equivalent) and payable under those agreements or instruments before it would otherwise have been due and payable ("**Specified Indebtedness**" means any obligation (whether present or future, contingent or otherwise, as principal or surety or otherwise) in respect of borrowed money);

- (h) the issuer or the relevant Note Guarantor (1) is dissolved (other than pursuant to a consolidation, amalgamation or merger); (2) becomes insolvent or is unable to pay its debts or fails or admits in writing its inability generally to pay its debts as they become due; (3) makes a general assignment, arrangement or composition with or for the benefit of its creditors; (4)(A) institutes or has instituted against it, by a regulator, supervisor or any similar official with primary insolvency, rehabilitative or regulatory jurisdiction over it in the jurisdiction of its incorporation or organization or the jurisdiction of its head or home office, a proceeding seeking a judgment of insolvency or bankruptcy or any other relief under any bankruptcy or insolvency law or other similar law affecting creditors' rights, or a petition is presented for its winding up or liquidation by it or that regulator, supervisor or similar official, or (B) has instituted against it a proceeding seeking a judgment of insolvency or bankruptcy or any other relief under any bankruptcy or insolvency law or other similar law affecting creditors' rights, or a petition is presented for its winding-up or liquidation, and that proceeding or petition is instituted or presented by a person or entity not described in clause (A) above and either (I) results in a judgment of insolvency or bankruptcy or the entry of an order for relief or the making of an order for its winding-up or liquidation or (II) is not dismissed, discharged, stayed or restrained in each case within 15 days of the institution or presentation thereof; (5) has a resolution passed for its winding-up, official management or liquidation (other than pursuant to a consolidation, amalgamation or merger); (6) seeks or becomes subject to the appointment of an administrator, provisional liquidator, conservator, receiver, trustee, custodian or other similar official for it or for all or substantially all its assets; (7) has a secured party take possession of all or substantially all its assets or has a distress, execution, attachment, sequestration or other legal process levied, enforced or sued on or against all or substantially all its assets and such secured party maintains possession, or any such process is not dismissed, discharged, stayed or restrained, that each case within 15 days thereafter; (8) causes or is subject to any event with respect to it which, under the applicable laws of any jurisdiction, has an analogous effect to any of the events specified in clauses (1) to (7) above (inclusive); or (9) takes any action in furtherance of, or indicating its consent to, approval of, or acquiescence in, any of the foregoing acts; or
- (i) the issuer or the relevant Note Guarantor consolidates or amalgamates with, or merges with or into, or transfers all or substantially all its assets to, or reorganizes, reincorporates or reconstitutes into or as, another entity and, at the time of that consolidation, amalgamation, merger, transfer, reorganization, reincorporation or reconstitution (1) the resulting, surviving or transferee entity fails to assume all the obligations of the issuer or the relevant Note Guarantor in respect of the Note Constituent or any Note Guarantee Agreement in respect of which that entity or its predecessor had obligations; or (2) the benefits of any Note Guarantee Agreement fail to extend (without the consent of that entity) to the performance by that resulting, surviving or transferee entity of its obligations in respect of the Note Constituent or any Note Guarantee Agreement.



**"Note Potential Specified Event"** means any event which, with the giving of notice or the lapse of time or both, would constitute a Note Specified Event.

**"Governmental Authority"** means: (i) any de facto or de jure government (or any agency, instrumentality, ministry or department thereof); (ii) any court, tribunal, administrative or other governmental, inter-governmental or supranational body; (iii) any authority or any other entity (private or public) either designated as a resolution authority or charged with the regulation or supervision of the financial markets (including a central bank) of the issuer of a Note Constituent or a Note Guarantor or some or of all of its obligations; or (iv) any other authority which is analogous to any of the entities specified in sub-paragraphs (i) to (iii) above.

**"Governmental Intervention"** means that, with respect to one or more obligations, in respect of a Note Constituent, of the issuer of the Note Constituent or a Note Guarantor, any one or more of the following events occurs as a result of action taken or an announcement made by a Governmental Authority pursuant to, or by means of, a restructuring and resolution law or regulation (or any other similar law or regulation), in each case, applicable to the relevant entity in a form which is binding, irrespective of whether that event is expressly provided for under the terms of any such obligation:

- (i) any event which would affect creditors' rights so as to cause: (a) a reduction in the rate or amount of interest payable or the amount of scheduled interest accruals (including by way of redenomination) or a change in the manner of determining the amount of interest payable or interest accruals; (b) a reduction in the amount of principal or premium payable at redemption (including by way of redenomination) or a change in the manner of determining the amount of principal or premium payable at redemption; (c) a postponement or other deferral of a date or dates for either (I) the payment or accrual of interest, or (II) the payment of principal or premium; or (d) a change in the ranking in priority of payment of any such obligation, causing the subordination of any such obligation to any other obligation;
- (ii) an expropriation, transfer or other event that mandatorily changes the beneficial holder of any such obligation;
- (iii) a mandatory cancellation, conversion or exchange; or
- (iv) any event that has an analogous effect to any of the events specified in sub-paragraphs (i) to (iii) above.

A **"Change in Law"** occurs when, due to either:

- (a) the adoption of, or any change in, any applicable law, regulation or rule (including, without limitation, (x) any tax law or (y) adoption or promulgation of new regulations authorized or mandated by existing statute); or
- (b) the promulgation of, or any change in, the announcement or statement of a formal or informal interpretation by any court, tribunal or regulatory authority with competent jurisdiction of any applicable law, rule, regulation or order (including, without limitation, as implemented by the U.S. Commodity Futures Trading Commission, the U.S. Securities and Exchange Commission or any exchange or trading facility); and

the index calculation agent determines in good faith that (x) it is contrary to that law, rule, regulation or order for any market participants that are brokers or financial intermediaries (individually or collectively) to hold, acquire or dispose of (in whole or in part) a position in or a transaction referencing or relating to (1) a Basket Constituent, (2) a component of a Basket Constituent that is an index, (3) a component of a Reference Index of an Exchange-Traded Constituent or (4) a Reference Commodity of an Exchange-Traded Constituent (each such underlying described in any of the immediately preceding clauses (1), (2), (3) and (4), being a **"Relevant Underlying"**) or (y) holding a

position in or a transaction referencing or relating to a Relevant Underlying is (or, but for the consequent disposal or termination thereof, would otherwise be) in excess of any allowable position limit(s) applicable to any market participants that are brokers or financial intermediaries (individually or collectively) under any such law, rule or regulation in relation to a Relevant Underlying, including in any case traded on any exchange(s), market or other trading facility.

### **Anti-dilution Adjustments**

With respect to each Exchange-Traded Constituent (or the relevant successor or substitute Exchange-Traded Constituent), the index calculation agent will make anti-dilution adjustments to the Closing Level of that Exchange-Traded Constituent only (a) if the securities of that Exchange-Traded Constituent are subject to a split or reverse split, once such split has become effective, and (b) if that Exchange-Traded Constituent is subject to (i) an issuance of additional securities of that Exchange-Traded Constituent that is given ratably to all or substantially all holders of securities of that Exchange-Traded Constituent or (ii) a distribution of securities of that Exchange-Traded Constituent as a result of the triggering of any provision of the corporate charter of that Exchange-Traded Constituent or its issuer, as applicable, once the dividend or distribution has become effective and the securities of that Exchange-Traded Constituent are trading ex-distribution. The index calculation agent will be solely responsible for the determination and calculation of any anti-dilution adjustments and any related determinations and calculations, and its determinations and calculations with respect thereto will be conclusive in the absence of manifest error.

### **Corrections**

If (a) the Closing Level of any Basket Constituent as of any date which is published or otherwise made available in respect of the relevant Basket Constituent is subsequently corrected and that correction is published or otherwise made available in respect of that Basket Constituent; or (b) the index calculation agent identifies an error or omission in any of its calculations, determinations or interpretations in respect of an Index, then the index calculation agent may, if practicable and if the index calculation agent determines in good faith that such correction, error or omission (as the case may be) is material, adjust or correct the relevant calculation, determination or interpretation and/or the Index Level as of any Index Business Day to take into account that correction.

### **Trademarks**

“Efficiente®” is a trademark of JPMorgan Chase & Co.

## BASKET CONSTITUENTS OF THE INDEX

### BACKGROUND ON THE VANGUARD S&P 500 ETF

We have derived all information contained in this underlying supplement regarding the Vanguard S&P 500<sup>®</sup> ETF, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by Vanguard Index Funds (the “**Vanguard Trust**”) and The Vanguard Group, Inc. (“**Vanguard**”). The Vanguard S&P 500<sup>®</sup> ETF is an investment portfolio of the Vanguard Trust. Vanguard is the investment adviser to the Vanguard S&P 500<sup>®</sup> ETF. The Vanguard S&P 500<sup>®</sup> ETF is an exchange-traded fund that trades on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “VOO.”

The Vanguard Trust is a registered investment company that consists of numerous separate investment portfolios, including the Vanguard S&P 500<sup>®</sup> ETF. Information provided to or filed with the SEC by Vanguard Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 002-56846 and 811-02652, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding the Vanguard Trust, Vanguard and the Vanguard S&P 500<sup>®</sup> ETF, please see the Vanguard S&P 500<sup>®</sup> ETF’s prospectus. In addition, information about Vanguard and the Vanguard S&P 500<sup>®</sup> ETF may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the Vanguard website at [www.vanguard.com](http://www.vanguard.com). Information contained in the Vanguard website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

#### Investment Objective and Strategy

The Vanguard S&P 500<sup>®</sup> ETF seeks to track the performance of a benchmark index that measures the investment return of U.S. large-capitalization stocks, which is currently the S&P 500<sup>®</sup> Index. For more information about the S&P 500<sup>®</sup> Index, please see “— The S&P 500<sup>®</sup> Index” below.

#### Indexing Investment Approach

The Vanguard S&P 500<sup>®</sup> ETF employs an indexing investment approach designed to track the performance of the S&P 500<sup>®</sup> Index. The Vanguard S&P 500<sup>®</sup> ETF uses the replication method of indexing, meaning that it invests all, or substantially all, of its assets in the stocks that make up the S&P 500<sup>®</sup> Index, holding each stock in approximately the same proportion as its weighting in the S&P 500<sup>®</sup> Index.

To track the S&P 500<sup>®</sup> Index as closely as possible, the Vanguard S&P 500<sup>®</sup> ETF attempts to remain fully invested in stocks. To help stay fully invested and to reduce transaction costs, the Vanguard S&P 500<sup>®</sup> ETF may invest, to a limited extent, in derivatives, including stock futures. The Vanguard S&P 500<sup>®</sup> ETF may also use derivatives, such as total return swaps, to obtain exposure to a stock, a basket of stocks or an index. The Vanguard S&P 500<sup>®</sup> ETF will not use derivatives for speculation or for the purpose of leveraging (magnifying) investment returns. The Vanguard S&P 500<sup>®</sup> ETF’s daily cash balance may be invested in one or more money-market funds sponsored by Vanguard. The Vanguard S&P 500<sup>®</sup> ETF may temporarily depart from its normal investment policies and strategies when Vanguard believes that doing so is in the Vanguard S&P 500<sup>®</sup> ETF’s best interest, so long as the alternative is consistent with the Vanguard S&P 500<sup>®</sup> ETF’s investment objective. The Vanguard S&P 500<sup>®</sup> ETF may substitute a different index for the S&P 500<sup>®</sup> Index if the S&P 500<sup>®</sup> Index is discontinued, if the Vanguard S&P 500<sup>®</sup> ETF’s agreement with the sponsor of the S&P 500<sup>®</sup> Index is terminated, or for any other reason determined in good faith by the Vanguard S&P 500<sup>®</sup> ETF’s board of trustees. In any such instance, the substitute index would measure the same market segment as the S&P 500<sup>®</sup> Index.

#### Holdings Information

The following tables summarize the Vanguard S&P 500® ETF's top holdings in individual securities and by sector as of March 31, 2015.

**Top holdings in individual securities as of March 31, 2015**

<b>Security</b>	<b>Percentage of Total Holdings</b>
Apple Inc.	3.90%
Exxon Mobil Corp.	1.90%
Microsoft Corp.	1.80%
Google Inc.	1.70%
Johnson & Johnson	1.50%
Berkshire Hathaway Inc.	1.40%
Wells Fargo & Co.	1.40%
General Electric Co.	1.40%
JPMorgan Chase & Co.	1.20%
Procter & Gamble Co.	1.20%

**Top holdings by sector as of March 31, 2015**

<b>Sector</b>	<b>Percentage of Total Holdings</b>
Information Technology	19.70%
Financials	16.20%
Health Care	14.90%
Consumer Discretionary	12.60%
Industrials	10.40%
Consumer Staples	9.70%
Energy	8.00%
Materials	3.20%
Utilities	3.00%
Telecommunication Services	2.30%

The information above was compiled from the Vanguard website, without independent verification. Information contained in the Vanguard website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### **The S&P 500® Index**

We have derived all information contained in this underlying supplement regarding the S&P 500® Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, S&P Dow Jones Indices LLC. The S&P 500® Index is calculated, maintained and published by S&P Dow Jones Indices LLC. S&P Dow Jones Indices LLC has no obligation to continue to publish, and may discontinue the publication of, the S&P 500® Index.

The S&P 500® Index is reported by Bloomberg L.P. under the ticker symbol "SPX."

The S&P 500® Index is intended to provide a performance benchmark for the U.S. equity markets. The calculation of the level of the S&P 500® Index (discussed below in further detail) is based on the relative value of the aggregate Market Value (as defined below) of the common stocks of 500 companies (the "**S&P Component Stocks**") as of a particular time as compared to the aggregate average Market Value of the common stocks of 500 similar companies during the base period of the years 1941 through 1943. Historically, the "Market Value" of any S&P Component Stock was calculated as the product of the market price per share and the number of the then-outstanding shares of such S&P Component Stock. As discussed below, on March 21, 2005, S&P Dow Jones Indices LLC began to use a new methodology to calculate the Market Value of the S&P Component Stocks and on September 16, 2005, S&P Dow Jones Indices LLC completed its transition to the new calculation methodology. The 500 companies are not the 500 largest companies listed on the New York Stock Exchange (the "**NYSE**") and not all 500 companies are listed on such exchange. S&P Dow Jones Indices LLC chooses companies for inclusion in the S&P 500® Index with the objective of achieving a distribution by broad industry groupings that approximates the distribution of these groupings in the common stock population of the U.S. equity market. S&P Dow Jones Indices LLC may from time to time, in its sole discretion, add companies to, or delete companies from, the S&P 500® Index to achieve the objectives stated above. Relevant criteria employed by S&P Dow Jones Indices LLC include the viability of the particular company, the extent to which that company represents the industry group to which it is assigned, the extent to which the company's common stock is widely-held and the Market Value and trading activity of the common stock of that company.

The S&P 500® Index is a float-adjusted index. Under float adjustment, the share counts used in calculating the S&P 500® Index reflect only those shares that are available to investors, not all of a company's outstanding shares. Float adjustment excludes shares that are closely held by control groups, other publicly traded companies or government agencies.

Beginning September 21, 2012, all share-holdings with a position greater than 5% of a stock's outstanding shares, other than holdings by "block owners," are removed from the float for purposes of calculating the S&P 500® Index. Generally, these "control holders" include officers and directors, private equity, venture capital & special equity firms, other publicly traded companies that hold shares for control, strategic partners, holders of restricted shares, ESOPs, employee and family trusts, foundations associated with the company, holders of unlisted share classes of stock or government entities at all levels (other than government retirement/pension funds) and any individual person who controls a 5% or greater stake in a company as reported in regulatory filings. Holdings by block owners, such as depositary banks, pension funds, mutual funds & ETF providers, 401(k) plans of the company, government retirement/pension funds, investment funds of insurance companies, asset managers and investment funds, independent foundations and savings and investment plans, are ordinarily considered to be part of the float.

Prior to September 21, 2012, S&P Dow Jones Indices LLC defined three groups of shareholders whose holdings were subject to float adjustment if the relevant group's holdings exceeded 10% of the outstanding shares:

- holdings by other publicly traded corporations, venture capital firms, private equity firms, strategic partners, or leveraged buyout groups;
- holdings by government entities, including all levels of government in the United States or foreign countries; and
- holdings by current or former officers and directors of the company, founders of the company or family trusts of officers, directors or founders, as well as holdings of trusts, foundations, pension funds, employee stock ownership plans, or other investment vehicles associated with and controlled by the company.

Under these previous float-adjustment rules, in cases where holdings in a group exceeded 10% of the outstanding shares of a company, the holdings of that group were excluded from the float-adjusted count of shares to be used in the S&P 500® Index calculation. Mutual funds, investment advisory firms, pension funds or foundations not associated with the company and investment funds in insurance companies and shares that trust beneficiaries may buy or sell without difficulty or significant additional expense beyond typical brokerage fees were part of the float.

Treasury stock, stock options, equity participation units, warrants, preferred stock, convertible stock and rights are generally not part of the float. However, shares held in a trust to allow investors in countries outside the country of domicile (e.g., ADRs, CDIs and Canadian exchangeable shares) are normally part of the float unless those shares form a control block. If a company has more than one class of stock outstanding, shares in an unlisted or non-traded class are treated as a control block.

For each stock, an investable weight factor ("IWF") is calculated by dividing the available float shares by the total shares outstanding. Beginning September 21, 2012, available float shares are defined as total shares outstanding less shares held by control holders. Prior to September 21, 2012, available float shares were defined as the total shares outstanding less shares held in one or more of the three groups listed above where the group holdings exceeded 10% of the outstanding shares. The S&P 500® Index is calculated by dividing the sum of the IWF multiplied by both the price and the total shares outstanding for each stock by the Index Divisor.

As of the date of this underlying supplement, the S&P 500® Index is calculated using a base-weighted aggregate methodology: the level of the S&P 500® Index reflects the total Market Value of all 500 S&P Component Stocks relative to the S&P 500® Index's base period of 1941–43 (the "**Base Period**").

An indexed number is used to represent the results of this calculation in order to make the value easier to work with and track over time.

The actual total Market Value of the S&P Component Stocks during the Base Period has been set equal to an indexed value of 10. This is often indicated by the notation 1941–43=10. In practice, the daily calculation of the S&P 500® Index is computed by dividing the total Market Value of the S&P Component Stocks by a number called the Index Divisor. By itself, the Index Divisor is an arbitrary number. However, in the context of the calculation of the S&P 500® Index, it is the only link to the original Base Period level of the S&P 500® Index. The Index Divisor keeps the S&P 500® Index comparable over time and is the manipulation point for all adjustments to the S&P 500® Index ("**Index Maintenance**").

Index Maintenance includes monitoring and completing the adjustments for company additions and deletions, share changes, stock splits, stock dividends and stock price adjustments due to company restructurings or spin-offs.

To prevent the level of the S&P 500® Index from changing due to corporate actions, all corporate actions which affect the total Market Value of the S&P 500® Index require an Index Divisor adjustment. By adjusting the Index Divisor for the change in total Market Value, the level of the S&P 500® Index remains constant. This helps maintain the level of the S&P 500® Index as an accurate barometer of stock market performance and ensures that the movement of the S&P 500® Index does not reflect the corporate actions of individual companies in the S&P 500® Index. All Index Divisor adjustments are made after the close of trading and after the calculation of the closing level of the S&P 500® Index. Some corporate actions, such as stock splits and stock dividends, require simple changes in the common shares outstanding and the stock prices of the companies in the S&P 500® Index and do not require Index Divisor adjustments.

The table below summarizes the types of Index Maintenance adjustments and indicates whether or not an Index Divisor adjustment is required.

Type of Corporate Action	Comments	Divisor Adjustment
Company added/ deleted	Net change in market value determines divisor adjustment.	Yes
Change in shares outstanding	Any combination of secondary issuance, share repurchase or buy back – share counts revised to reflect change.	Yes
Stock split	Share count revised to reflect new count. Divisor adjustment is not required since the share count and price changes are offsetting.	No
Spin-off	If the spun-off company is not being added to the index, the divisor adjustment reflects the decline in index market value ( <i>i.e.</i> , the value of the spun-off unit).	Yes
Spin-off	Spun-off company added to the index, no company removed from the index.	No
Spin-off	Spun-off company added to the index, another company removed to keep number of names fixed. Divisor adjustment reflects deletion.	Yes
Change in IWF	Increasing (decreasing) the IWF increases (decreases) the total market value of the index. The divisor change reflects the change in market value caused by the change to an IWF.	Yes
Special dividend	When a company pays a special dividend the share price is assumed to drop by the amount of the dividend; the divisor adjustment reflects this drop in index market value.	Yes

Type of Corporate Action	Comments	Divisor Adjustment
Rights offering	Each shareholder receives the right to buy a proportional number of additional shares at a set (often discounted) price. The calculation assumes that the offering is fully subscribed. Divisor adjustment reflects increase in market cap measured as the shares issued multiplied by the price paid.	Yes

Stock splits and stock dividends do not affect the Index Divisor, because following a split or dividend, both the stock price and number of shares outstanding are adjusted by S&P Dow Jones Indices LLC so that there is no change in the Market Value of the S&P Component Stock. All stock split and dividend adjustments are made after the close of trading on the day before the ex-date.

Each of the corporate events exemplified in the table requiring an adjustment to the Index Divisor has the effect of altering the Market Value of the S&P Component Stock and consequently of altering the aggregate Market Value of the S&P Component Stocks (the “**Post-Event Aggregate Market Value**”). In order that the level of the S&P 500® Index (the “**Pre-Event Index Value**”) not be affected by the altered Market Value (whether increase or decrease) of the affected Component Stock, a new Index Divisor (“**New Divisor**”) is derived as follows:

$$\frac{\text{Post-Event Aggregate Market Value}}{\text{New Divisor}} = \text{Pre-Event Index Value}$$

$$\text{New Divisor} = \frac{\text{Post-Event Aggregate Market Value}}{\text{Pre-Event Index Value}}$$

A large part of the Index Maintenance process involves tracking the changes in the number of shares outstanding of each of the S&P 500® Index companies. Four times a year, on a Friday close to the end of each calendar quarter, the share totals of companies in the S&P 500® Index are updated as required by any changes in the number of shares outstanding. After the totals are updated, the Index Divisor is adjusted to compensate for the net change in the total Market Value of the S&P 500® Index. In addition, any changes over 5% in the current common shares outstanding for the S&P 500® Index companies are carefully reviewed on a weekly basis, and when appropriate, an immediate adjustment is made to the Index Divisor.



## BACKGROUND ON THE VANGUARD SMALL-CAP ETF

We have derived all information contained in this underlying supplement regarding the Vanguard Small-Cap ETF, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by Vanguard Index Funds (the “**Vanguard Trust**”) and The Vanguard Group, Inc. (“**Vanguard**”). The Vanguard Small-Cap ETF is an investment portfolio of the Vanguard Trust. Vanguard is the investment adviser to the Vanguard Small-Cap ETF. The Vanguard Small-Cap ETF is an exchange-traded fund that trades on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “VTI.”

The Vanguard Trust is a registered investment company that consists of numerous separate investment portfolios, including the Vanguard Small-Cap ETF. Information provided to or filed with the SEC by Vanguard Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 002-56846 and 811-02652, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding the Vanguard Trust, Vanguard and the Vanguard Small-Cap ETF, please see the Vanguard Small-Cap ETF’s prospectus. In addition, information about Vanguard and the Vanguard Small-Cap ETF may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the Vanguard website at [www.vanguard.com](http://www.vanguard.com). Information contained in the Vanguard website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Investment Objective and Strategy

The Vanguard Small-Cap ETF seeks to track the performance of a benchmark index that measures the investment return of U.S. small-capitalization stocks, which is currently the CRSP U.S. Small Cap Index (the “**CRSP Index**”). For more information about the CRSP Index, please see “— The CRSP U.S. Small Cap Index” below.

### Indexing Investment Approach

The Vanguard Small-Cap ETF employs an indexing investment approach designed to track the performance of the CRSP Index. The Vanguard Small-Cap ETF attempts to replicate the CRSP Index by investing all, or substantially all, of its assets in the stocks that make up the CRSP Index, holding each stock in approximately the same proportion as its weighting in the CRSP Index.

To track the CRSP Index as closely as possible, the Vanguard Small-Cap ETF attempts to remain fully invested in stocks. To help stay fully invested and to reduce transaction costs, the Vanguard Small-Cap ETF may invest, to a limited extent, in derivatives, including stock futures. The Vanguard Small-Cap ETF may also use derivatives, such as total return swaps, to obtain exposure to a stock, a basket of stocks or an index. The Vanguard Small-Cap ETF will not use derivatives for speculation or for the purpose of leveraging (magnifying) investment returns. The Vanguard Small-Cap ETF’s daily cash balance may be invested in one or more money-market funds sponsored by Vanguard. The Vanguard Small-Cap ETF may temporarily depart from its normal investment policies and strategies when Vanguard believes that doing so is in the Vanguard Small-Cap ETF’s best interest, so long as the alternative is consistent with the Vanguard Small-Cap ETF’s investment objective.

### Holdings Information

The following tables summarize the Vanguard Small-Cap ETF’s top holdings in individual securities and by sector as of March 31, 2015.

**Top holdings in individual securities as of March 31, 2015**

<b>Security</b>	<b>Percentage of Total Holdings</b>
Cooper Cos. Inc.	0.30%
Alaska Air Group Inc.	0.30%
Snap-on Inc.	0.30%
Rite Aid Corp.	0.30%
Gannett Co. Inc.	0.30%
E*TRADE Financial Corp.	0.30%
Whitewave Foods Co.	0.30%
Arthur J Gallagher & Co.	0.30%
Packaging Corp. of America	0.30%
United Therapeutics Corp.	0.30%

**Top holdings by sector as of March 31, 2015**

<b>Sector</b>	<b>Percentage of Total Holdings</b>
Financials	25.20%
Industrials	19.50%
Consumer Services	14.00%
Technology	11.40%
Health Care	10.60%
Consumer Goods	7.70%
Oil & Gas	4.10%
Utilities	3.60%
Basic Materials	3.60%
Telecommunications	0.30%

The information above was compiled from the Vanguard website, without independent verification. Information contained in the Vanguard website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

## The CRSP U.S. Small Cap Index

We have derived all information contained in this underlying supplement regarding the CRSP Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, the Center for Research in Security Prices ("CRSP"). The CRSP Index was developed by CRSP and is calculated, maintained and published by CRSP. CRSP has no obligation to continue to publish, and may discontinue the publication of the CRSP Index.

The CRSP Index is reported by Bloomberg L.P. under the ticker symbol "CRSPSCT."

The CRSP Index is designed to represent small-capitalization investable U.S. equity securities. The CRSP Index generally encompasses listed equity securities, including common stocks and real estate investment trusts ("REITs") of U.S.-incorporated or U.S.-headquartered companies traded on the New York Stock Exchange ("NYSE"), NYSE MKT, NASDAQ or NYSE Arca exchanges, each of which is a CRSP exchange of interest.

## Index Composition

### *Eligible Universe*

To be eligible for the CRSP Index, the securities must meet the following criteria:

- the securities must be listed on NYSE, NYSE MKT, NASDAQ or NYSE Arca;
- the securities must be common stock, REITs, shares of beneficial interest (excluding funds) or Berkshire Hathaway A & B shares; and
- the company issuing the securities must generally be currently incorporated and headquartered in the U.S.; however, the securities of a company headquartered in a U.S. territory, tax haven or domicile of convenience may also be considered for inclusion in the CRSP Index if the company has an Employer Identification Number and its securities are owned by more than 5% of U.S. domestic equity funds. Other exceptions may be made based on factors including whether a company actually has notable U.S. assets, revenue, employment and relevant operations.

Eligibility status is reviewed quarterly at ranking. Data for the review is collected as of the previous quarter end.

### *Investability Screens*

Once the eligible securities are identified, investability screens are applied quarterly on the ranking date (the first Friday of each of March, June, September and December) to determine the constituents of the CRSP Index as of the following reconstitution date (the third Friday of each of March, June, September and December), as follows:

- Minimum total market capitalization: The total company market capitalization must be greater than \$15 million to be added to the CRSP Index at ranking. If, at ranking, the total company market capitalization for a security in the CRSP Index has fallen below \$10 million, the security will be removed from the CRSP Index.
- Float shares requirement: A security's float shares outstanding, or those shares readily available for trading, must be at least 12.5 percent of the total shares outstanding in order for it to be added to the CRSP Index at ranking. If the actual float shares outstanding of a security in the

CRSP Index falls below 10 percent of total shares outstanding at ranking, the security will be removed from the CRSP Index.

- **Minimum trading volume:** CRSP determines a sparse trading score for each security by calculating the average of the daily split-adjusted consolidated trading volume over the last 125 trading days divided by float shares known as of the end-of-day five trading days before the ranking day. Trading data used for calculating the average for each security is collected no earlier than its first day of regular way trading on a CRSP exchange of interest. In order for a security to be considered for index inclusion at ranking, this ratio must be at least 0.001. If the ratio of a security that is currently a member of the CRSP Index falls below 0.0008 for two consecutive quarters, it is removed from the CRSP Index. For the small number of organizations with multiple share classes, CRSP may consider the trading volume for all the securities that are represented in the company's total market capitalization.
- **Consecutive trading days requirement:** To be considered for CRSP Index inclusion at ranking, a security must not have a sequence of 10 or more consecutive non-trading (zero volume) days during the previous quarter. If it does, the security will be removed from the CRSP Index at ranking. Days that a security is halted or suspended do not count toward this requirement.
- **Seasoning of new securities:** New securities are eligible for CRSP Index inclusion if they fulfill at least one of the two following conditions: (1) First day of regular way trading on a CRSP exchange of interest was at least 20 trading days before ranking day, or (3) First day of regular way trading on a CRSP exchange of interest was at least 5 trading days before ranking day and the company capitalization is greater than or equal to the lower breakpoint of the Large Cap index determined at the last ranking. The seasoning test does not apply to a security already included in the CRSP Index.

If a security is removed from the CRSP Index due to failure of an investability screen, it must pass all investability screens for four consecutive quarters before it will be considered for re-inclusion in the CRSP Index at ranking. For example, if a security is removed at a March ranking, it is eligible to be considered for re-inclusion at the next March ranking, assuming it passes all investability screens at all four quarters. If a security is removed from the CRSP Index due to delisting from a CRSP exchange of interest and it is later readmitted to that or another CRSP exchange of interest, the security cannot be added back to the CRSP Index earlier than the fourth ranking after it was removed, unless the entity is reconstituted or restructured and treated as an IPO or some form of merger before reentry. If a security that is not currently in the CRSP Index is blocked from entry by one of the investability screens above, it may be included in future rankings as soon as it passes all investability screens. The minimum total market capitalization and float shares requirement investability screens are also applied mid-quarter when adding or reevaluating securities after certain corporate actions such as spin-offs or large mergers.

## **Index Calculation**

The CRSP Index is a free float-adjusted capitalization-based index. The CRSP Index is weighted by float-adjusted market capitalization, rather than total shares outstanding, reflecting the availability of shares from the perspective of U.S. domestic investors. Float-adjusted market capitalization is equal to float shares outstanding times price. The estimate of readily available shares (free float) is calculated by subtracting the number of restricted shares (*i.e.*, insiders and inactive shareholders) from the total number of shares issued for a particular company. Restricted shares include but are not limited to shares held by board members, directors and executives (insiders), government holdings, employee-held shares, shares held by corporations not actively managing money and other unavailable shares.

## *Index Levels and Index Returns*

The Index Level is the value of an investment relative to its value at one fixed point in time. Index Levels allow for comparison of the relative performance of the different portfolios or asset classes. The Index level was set to 1000.00 on April 1, 2011. The Index Level for day  $t$  is calculated as follows:

$$Index\ Level_t = \frac{Index\ Market\ Value_t}{Divisor_t}$$

The Index Level including dividends (i.e., the total return index level) is calculated as follows:

$$Index\ Level\ TR_t = Index\ Level\ TR_{t-1} \left( \frac{Index\ Level_t + Dividend\ Points_t}{Index\ Level_{t-1}} \right)$$

Where:

$$Dividend\ Points_t = \frac{Dividend\ Amount_t}{Divisor_t} - 1$$

The Divisor is computed as followed:

$$Divisor_{initial} = \frac{Index\ market\ value\ at\ inception}{1000}$$

$$Divisor_t = Divisor_{t-1} \left( \frac{Start\ of\ Day\ Index\ Market\ Value_t}{End\ of\ Day\ Index\ Market\ Value_{t-1}} \right)$$

The Index Return is calculated as follows:

$$Index\ Return_t = \left( \frac{Index\ Level_t}{Index\ Level_{t-1}} \right) - 1$$

The Index Return including dividends (i.e., the total return) is calculated as follows:

$$Index\ Return\ TR_t = \left( \frac{Index\ Level\ TR_t}{Index\ Level\ TR_{t-1}} \right) - 1$$

### Security Returns

The CRSP Index is a total return index and takes into account all distributions to shareholders and reinvestment of all cash dividends. Security returns are calculated as follows:

$$r(t) = \frac{p(t) + n(t) + d(t)}{p(t')} - 1$$

Where:

$r(t)$  = return on purchase at  $t'$  and sale at  $t$

$p(t)$  = end-of-day price

$d(t)$  = dividend amount for  $t$

$n(t)$  = value of non-ordinary payments not available for start-of-day adjustment

$p(t')$  = start-of-day price on day  $t$

Dividends are assumed to be reinvested in the security at the end of the day on the Ex-Distribution Date.

#### *Start-of-day Price*

Start-of-day prices are computed from the previous day's end-of-day prices and already known distribution values and split factors according to the following equation:

$$p(t') = \frac{p(t-1)}{f(t)} - v(t)$$

Where:

$p(t')$  = start-of-day price on day  $t$

$p(t-1)$  = end-of-day price on previous trading day

$f(t)$  = split factor applicable on day  $t$

$v(t)$  = value of non-ordinary (split-adjusted) payments available for start-of-day adjustment

#### *Turnover*

Turnover is a measurement of the overnight activity needed to maintain a weighted holdings match to the CRSP Index, based on a fixed investment amount. The weight of a security is the ratio of the market value held to the total market value of the CRSP Index. CRSP calculates daily index turnover number as follows:

$$CRSP\ Index\ Daily\ Turnover_t = \frac{\sum_{i=1}^N |w_{i,t} - w_{i,t-1}|}{2}$$

Where:

$w_{i,t}$  = start-of-day weight for security  $i$  in the CRSP Index on day  $t$

$w_{i,t-1}$  = end-of-day weight for security  $i$  in the CRSP Index on day  $t-1$

$N$  = number of securities in the CRSP Index

Annual turnover is calculated as the summation of daily turnover as follows:

$$CRSP\ Index\ Daily\ Turnover_t = \frac{\sum_{i=1}^N |w_{i,t} - w_{i,t-1}|}{2}$$

Where:

$T$  = number of trading days in the calendar year

Since there is no money inflow/outflow, for indexes, the total sales will always equal the total purchases. Thus, the total weight change due to sales will always equal to the total weight change due to purchases.

## **Index Maintenance**

### *Quarterly Maintenance*

The CRSP Index is reviewed on a quarterly basis. A security's eligibility, investability and float (known as of the close five trading days before ranking day) are updated after the close on the first Friday of March, June, September, and December. Reconstitution follows two weeks later, effective on the third Friday of corresponding months. CRSP may make adjustments to the holdings of individual pro forma constituents based on information that was unknown on the ranking day. Pro forma holdings adjustments are generally applied during the first week following any ranking day.

CRSP uses the closing price for all eligible securities on a "random price day" to determine the company's total market capitalization used at ranking. The random price day is selected algorithmically from the seven trading days immediately prior to the ranking day according to the following convention:

- The two days with the highest aggregate absolute price moves (as measured for the CRSP U.S. Total Market Index) are excluded.
- The two days with the lowest aggregate trading volume (as measured for the CRSP U.S. Total Market Index) are excluded.
- The excluded days above may overlap.
- The remaining days will be used to randomly select the random price day.

Prices are adjusted for all corporate actions to place them on the same basis as the ranking day. A security not yet trading (pending listing) on the random price day is priced on its first trading day.

If a non-cap neutral corporate action that impacts holdings occurs during the two-week pro forma period, CRSP seeks to evaluate and move the resultant entity only once. If the corporate action causes a reevaluation during this time, the affected company will be migrated from its location in the primary indexes, not the pro forma index.

For secondary offerings, if the offering amount is greater than or equal to five percent of the primary (non-pro forma) index holdings, then both the pro forma and the primary index holdings are adjusted accordingly. However, if the secondary offering share amount is less than five percent of the primary index holdings and greater than or equal to five percent of the pro forma index holdings, CRSP will apply the event to the pro forma index only.

### *Daily Maintenance*

Changes in the CRSP Index occur on a daily basis as a result of numerous factors, including price movements, corporate actions, and security additions and deletions. In order to accurately track and reflect these potentially impactful daily changes, CRSP uses the following price methodology.

Start-of-Day Price. A security's start-of-day price is defined as the previous day end-of-day price adjusted for all splits and non-ordinary distributions, such as special dividends, rights distributions, returns of capital, and spin-offs. If a detached (dummy) security is created on the ex-date of a non-ordinary distribution (such as a spin-off or mandatory distribution) to represent a stock received but not yet trading regular way, the detached security's start-of-day price on the ex-date is initially set to zero. The zero price of the detached security is then revised to the price difference between the parent

security's end-of-day price and start-of-day price at the end of the ex-date. The start-of-day price of a parent security in a corporate action with a detached (dummy) security will be revised to match its end-of-day price at the end of the ex-date.

End-of-Day Price. Closing prices are assigned in the following order of precedence to securities traded on NYSE, NYSE MKT, NYSE Arca or NASDAQ:

(1) The closing price reported by the primary listing exchange. If no volume on the primary exchange, move to 2.

(2) The last trade price from consolidated price feeds. If no volume on the primary or consolidated tape, move to 3.

(3) The last traded date end-of-day price carried forward. Bid-ask averages are not used to fill gaps, and no adjustment is made to adjust prices based on the market or market segments. There is no limit to the number of days a price can be carried forward while the security remains listed on a CRSP exchange of interest.

Final Closing Price for Delisted Securities. A security that delists from a CRSP exchange of interest but is held in the CRSP Index because of late notification (after 1:30 p.m. CST on the last day of trading) is assigned a price until it can be valued and removed from the CRSP Index. Prices are assigned in the following order of precedence:

(1) The closing price reported by the primary listing exchange. If no volume on the primary exchange, go to step 2.

(2) The last trade on the consolidated tape. If no volume on the consolidated market, go to step 3.

(3) The last trade reported on a secondary exchange. If no volume on the secondary exchange, go to step 4.

(4) The average of the closing bid/ask spread on the secondary exchange. If no bid/ask spread is reported, go to step 5.

(5) If no volume on the primary or secondary exchange, the last known price on a CRSP exchange of interest is carried forward 10 days. If there is no volume on any exchange by the end of the tenth day, on the eleventh day the security is removed at a price of zero.

Price Adjustment as a Result of Corporate Actions. If a security is held in the CRSP Index but is in the process of exchanging itself for other property (or security) as part of a merger, acquisition, or liquidation, prices are assigned in the following order of precedence:

(1) The total value of all distributions (cash and/or stock) received in exchange for the security through the current day.

(2) The start-of-day price carried forward. A price can be carried forward no more than 10 trading days after its last day listed on a CRSP exchange of interest.

(3) Partial liquidation payments after delisting are applied as they are paid, up through the end of the eleventh day after delisting. If no final payment is made by the eleventh day the security is removed with a price of zero.

CRSP will calculate an end-of-day price adjustment amount from the terms of the corporate action in cases where a security could not be valued accurately at the start of a day.

*Share Changes Reported in Corporate Filings*



Any changes to total or float shares outstanding that are not directly attributable to a single corporate action on a specific day, but are reported in corporate filings, are applied at the next ranking. If a non-neutral corporate action that impacts holdings occurs intra-quarter, the last known total and float shares outstanding are used in corporate action calculations.

## *Mergers*

The surviving entity in a merger will be evaluated for inclusion in the CRSP Index immediately, and the non-survivor will be removed from the CRSP Index. Non-surviving participants of a merger are generally removed from the CRSP Index after the market close on the day before the effective date. However, if necessary, the non-survivor may be kept in the CRSP Index until the surviving entity can be correctly valued. Assuming both participants are CRSP Index eligible and investable, a stock merger will result in an increase of shares outstanding for the surviving security and, consequently, its CRSP Index holdings after the close on the trading day before the effective date (*i.e.*, the first day of trading of the combined entity).

CRSP will reevaluate “large” mergers intra-quarter if the resultant (combined) entity’s market capitalization is at least as large as the lower breakpoint of the CRSP U.S. Large Cap Index as of the last ranking. If CRSP can confirm the merger is complete and is able to acquire the information necessary to determine the company’s market capitalization, sector, and value/growth placement by 1:30 p.m. CST on the trading day before the merger’s effective date, it will reevaluate the surviving entity. Any changes made will be effective after the close on the trading day before the effective date. Banding and migration rules will apply, with migration originating from the index location of the company with the largest pre-merger market capitalization. If the resulting company does not meet the size requirements for immediate reevaluation, it will remain in its current index and will be reviewed at the next ranking. In general, no changes will be made at the time of the corporate action if the acquired entity is not index eligible and investable.

Late Announcement of Completed Mergers. If the completion of a merger is confirmed after 1:30 p.m. CST on the trading day before the effective date, then the non-surviving entity may appear in the CRSP Index on the effective date. Its end-of-day value will be set to the sum of the value of the shares received plus any cash amounts distributed, and it will be removed on the following trading day (the day after the effective date). Late mergers will be reevaluated if the merger meets the same criteria as an on-time merger.

Merger and Concurrent Spin-Off. CRSP merger rules require that the surviving entity be included in the proper index on the effective date, unless it is also involved in a spin-off. In this case, spin-off rules will be applied. For the following situations, the non-surviving participants will continue to be held in the CRSP Index until the second day of regular way trading for the spun-off security, after which time the new security will be evaluated for index inclusion:

- Two or more companies combine and spin-off part of the resultant entity.
- There is no start-of-day price for the resultant security of a merger due to the fact that it did not previously trade when-issued.
- The merger was not confirmed by 1:30 p.m. CST on the previous trading day.

Merger with Election. In some mergers, shares of the acquired company will be exchanged for a combination of cash and stock of the surviving company where either the cash amount or the number of shares is limited. Standard merger implementation applies, but a prorated stock and cash payout will be used, taking into account the stated limits. If the final shares payout cannot be determined on the day before the effective date, the merger will be completed when final payout is known.

Reverse Mergers. Any merger in which the surviving entity originates from outside of CRSP's security universe is treated as a reverse merger. This includes, but is not limited to, cases where the acquiring company is either private, foreign, or does not trade on a CRSP exchange of interest. If the resulting security from the reverse merger is CRSP Index ineligible, then CRSP will remove it from the CRSP Index after the close of the trading day before the effective date. Otherwise, current CRSP Index holdings will be replaced by an equivalent amount of the survivor after the merger terms are applied.

CRSP will reevaluate "large" reverse mergers intra-quarter after the close on the fifth day of regular way trading if the resultant entity's market capitalization, as of the close of the first day of regular way trading, is at least as large as the lower breakpoint of the CRSP U.S. Large Cap Index as of the last ranking. If the resultant entity's change in size, industry or style is significant enough to warrant moving indexes, CRSP will remove the old entity and reassign the new entity to the appropriate market cap, sector and/or style indexes. Banding and migration rules will apply, with migration originating from the index location of the company with the largest market capitalization. A new effective float factor will be calculated and multiplied by total shares outstanding on the first day of regular way trading in order to determine the new index holdings. A reverse merger that does not qualify for reevaluation will be kept in the current index with holdings reflective of the entitlement received on the effective date.

Exchanges and Conversions. An exchange or conversion is a mandatory swapping of one security for another security of the same company, such as a preferred stock being converted into a common stock or one class of security being exchanged for another class. If the received security will no longer trade on a CRSP exchange of interest, it will be removed from the CRSP Index after the close on the day before the effective date. If the resultant (received) security already exists in the CRSP security universe, the additional shares from the conversion will be added to the last known shares of the existing security on the effective date. The security will remain in the CRSP Index and will not be reevaluated until the next ranking, regardless of any increase in market capitalization. If the resultant security is new (not already existing in the CRSP security universe), the number of shares of the new security is determined from the number of shares of the converting security using a conversion rate. The new security is eligible for inclusion in the CRSP Index immediately.

Tender Offers. As a general guideline, CRSP will consider the tender offer successful if the security being acquired is trading within 10 basis points of the tender price at the time of tender expiration, and either: (i) 95 percent of the company's shares have been tendered; or (ii) the initial tender offer has expired and the acquirer seeks to complete the acquisition via a short-form merger. If a tender offer is successful, it will affect the CRSP Index in the same way as a merger: the tendered security will be removed at the tender price. No action is taken if a full tender offer is unsuccessful. If a security is removed from the CRSP Index but the tender offer is subsequently declared unsuccessful, the security will not be reinstated immediately. Instead, it will be reconsidered for inclusion in the CRSP Index on the next ranking day.

Partial Liquidations. In general, a security that is under a plan of liquidation but is still listed on a CRSP exchange of interest will be removed from the CRSP Index after the close on the trading day before the ex-date for a partial liquidating payment if either of the following is true: (i) the estimated capitalization of the remaining security is less than \$10 million; or (ii) the partial payment includes non-transferable property estimated to be at least 10 percent of the value of the current pre-event market price of the liquidating security. If a security is removed from the CRSP Index because either of these criteria is met, it will not be reconsidered for inclusion in the CRSP Index until the fourth ranking after its removal.

#### *Adds and Delists*

Initial Public Offerings. A new security resulting from an initial public offering ("IPO") is considered for inclusion after trading regular way for five days on a CRSP exchange of interest. Total

company market capitalization is calculated using the closing price and shares known on the first day of trading.

If the offered security's total company market capitalization is at least as large as the breakpoint of the CRSP U.S. Large Cap Index, then it is eligible to be added to the CRSP Index after the close of the fifth day of trading as a fast track IPO. The security must also pass the eligibility and investability screens (however, for fast track IPOs, the minimum float share requirement is 10 percent). Otherwise, the security is not immediately added to the CRSP Index but is reviewed for inclusion at the next ranking.

Other Adds. In general, if a pre-existing company moves from a non-eligible exchange to an exchange eligible for the CRSP Index, or converts to a new share class independent of any net distributions, then the new security is reevaluated at the next reconstitution.

Deslists Unrelated to Corporate Actions. A security that delists from a CRSP exchange of interest unrelated to a corporate action, such as due to company preference or to not maintaining regulatory compliance, is removed from the CRSP Index after the close of the last day of trading on a CRSP exchange of interest, or on the next trading day if CRSP receives late notification (after 1:30 p.m. CST) of the delist. If a closing price is not available from a CRSP exchange of interest at the time of delisting, the security will remain in the CRSP Index for up to 10 additional days. If, on the eleventh trading day after the primary exchange delisting, there is no volume on either the security's primary exchange or a secondary exchange, then the security is removed with a price of zero.

Delists Due to Mergers and Acquisitions. A security that delists from a CRSP exchange of interest due to the exchange of its stock as part of a merger or acquisition is removed from all indexes after the close of the last day of trading, assuming the event is confirmed effective before 1:30 p.m. CST on the trading day before the effective date. If the merger or acquisition event is confirmed to be final after 1:30 p.m. CST on the trading day before the effective date, the security is kept in its indexes and is removed on the following trading day.

Delists Due to Bankruptcy. In the event that a company declares bankruptcy, CRSP will continue to hold its securities in the CRSP Index as long as each security remains listed on a CRSP exchange of interest. The securities will be reviewed at ranking using the same criteria as for other securities.

When a company's bankruptcy results in a security's removal from a CRSP exchange of interest, the security will be removed from the CRSP Index after the close of the last day of trading on a CRSP exchange of interest. If the delist due to bankruptcy is confirmed after 1:30 p.m. CST on a day when the affected security is still trading on a CRSP exchange of interest, or it is suspended from trading on the day before delisting, the security will be kept in the CRSP Index until a final valuation can be assigned to the security, according to the following criteria:

- If trading continues on a secondary exchange, then the security is removed from the CRSP Index effective after the close of the first day of trading on the secondary exchange.
- If trading does not continue on a secondary exchange then the security is removed as soon as final payments are announced, using the same rules as for delisting due to merger or acquisition.
- If trading does not continue on a secondary exchange and no final payments are announced by the tenth day after delisting (on a primary exchange), the security is removed on the eleventh day and valued at the total of any partial payments announced up to that time.

Delists Due to Liquidation. When a company announces its intention to delist from a CRSP exchange of interest due to liquidation, the security will be removed from the CRSP Index after the close of the last day of trading on a CRSP exchange of interest. If the delisting is confirmed after 1:30

p.m. CST on the last day of trading, the security will be kept in the CRSP Index until a final valuation can be assigned to the security, according to the following criteria:

- If trading continues on a secondary exchange, then the security is removed from the CRSP Index effective after the close of the first day of trading on the secondary exchange.
- If trading does not continue on a secondary exchange then the security is removed as soon as final liquidation payments are announced, using the same rules as for delisting due to merger or acquisition.
- If trading does not continue on a secondary exchange and no final liquidation payments are announced by the tenth day after delisting, the security is removed on the eleventh day and valued at the total of any partial payments announced up to that time.

### *Capital Raising Events*

Rights Distribution. If the subscription price of the right is less than the end-of-day price of the underlying security on the trading day before the ex-date of the rights distribution, the rights are considered to be “in-the-money” and are generally assumed to be fully subscribed and exercised immediately. Accordingly, the issuing security’s holdings in the CRSP Index are increased after market close on the ex-date. If the subscription price of the right is greater than or equal to the end-of-day price of the underlying security on the trading day before the ex-date, the rights are considered to be “out-of-the-money”, and CRSP Index holdings are not adjusted.

Warrant Distributions. Warrant distributions are treated in the same manner as rights distributions.

Secondary Offerings. CRSP makes the following distinction between two types of secondary share offerings:

- Primary equity offerings (primary shares) involve the issuance of additional (new) shares of a security. CRSP increases both the total shares outstanding (“TSO”) and the float shares outstanding (“FSO”) by the number of additional shares issued, using the most recently available TSO and FSO figures. The effective float factor and CRSP Index holdings are then recalculated using these new figures.
- Secondary equity offerings (secondary shares) involve the distribution of already issued (old) shares. The FSO will be increased by the number of shares distributed, using the most recently available share figures, however, since the company did not issue additional shares, the TSO remains unchanged. The effective float factor and CRSP Index holdings are then recalculated using these new figures.

Changes in CRSP Index holdings resulting from primary or secondary equity offerings that represent 5% or more of a security’s holdings in the U.S. Total Market Index are implemented as of the close on the day after the issue prices or the following trading day, if all necessary information is known before 1:30 p.m. CST on the trading day after pricing. Otherwise, the event is implemented at the next regularly scheduled ranking or upon the application of an intra-quarter non-cap neutral corporate action. Primary or secondary equity offerings that represent less than 5% of a security’s holdings in the U.S. Total Market Index are implemented at the next quarterly ranking or upon the application of an intra-quarter corporate action which adjusts holdings. An offer limited to a subset of potential investors (private placement), such as depositors in a bank, does not impact CRSP Index holdings at the time of the offer. However, the increased shares will be considered at the next ranking.

Block Trades or Spot Secondaries (Strategic Shareholder Sales). CRSP considers a Spot Secondary or Block Trade to be a large privately-negotiated transaction involving a change in strategic ownership

that does not require SEC registration. Unlike a standard secondary offering, a block trade is generally only made available to institutional investors and is implemented without an underwriter or prospectus. CRSP requires an official press release or news story confirming the block trade in order to make the associated holdings change.

Changes in CRSP Index holdings resulting from strategic block trades that represent 5% or more of a security's holdings in the U.S. Total Market Index will be implemented on a best-efforts basis. CRSP will increase shares no later than the close two trading days after the sale is consummated. Otherwise, the event is implemented at the next regularly scheduled ranking or upon the application of an intra-quarter non-cap neutral corporate action.

### *Capital Distribution Events*

Spin-offs. A received security in a spin-off is added to the indexes of its parent effective after the market close the day before the ex-date of the spin-off. Holdings are calculated by multiplying the parent's holdings by the spin-off ratio. This represents the preservation of the previous end-of-day index capitalization, distributed among the spin-off parent and received security.

The new company is reevaluated on its own merits after the close on the ex-date. The parent company will also be reevaluated at the same time as the new company. Either or both may move to new indexes, or may drop altogether.

At reevaluation both parent and received company are migrated independently from the parent's capitalization index based on the company capitalization on the day after the ex-date. Banding and Packeting rules are applied as for ranking, using the breakpoint ranges for each band set at the last ranking. Like ranking, all index eligible securities of a company are combined to set a company capitalization, and ineligible securities or securities that fail investability limits for security float (10 percent) or company size (\$10M) are excluded from any indexes.

Spin-offs without When-Issued Trading Prior to the Ex-Date. If a security received in a spin-off does not trade on a when-issued basis before the ex-date, then both the parent and received stock cannot be accurately valued at the start-of-day on the ex-date. In this case, a detached security is created after the close on the trading day before the ex-date. The detached security is used as a placeholder until a trade in the spun-off security occurs. The detached security will be added to the same index as the parent security. The detached security will be replaced as soon as an end-of-day trading price for the actual received security is available. Until then, the detached security is kept in the index and its start-of-day price is carried forward. If the parent undergoes a split or reverse split as part of the corporate action, both its start-of-day price and the spin-off ratio are adjusted to account for the split.

CRSP will not reevaluate companies until there is an opportunity to trade all securities on a regular way basis, with at least one day of notice for any reevaluation results. If the child does not trade regular-way on the ex-date and did not trade when-issued before it, then both companies will be reevaluated at the close on either the day after regular way trading begins or the second trading day after any trading, whichever comes last.

If there are multiple parents distributing one security, or one parent distributing multiple securities, then all the entities involved will be reevaluated at the same time. A company's index eligible securities are kept in the same indexes after reevaluation regardless of whether or not they were involved in the corporate action at hand. If an index ineligible security is distributed as one component of a spin-off and does not have a price but can be assigned a derived fair market value, then that can be used to adjust the parent's price and a regular way price is not needed for reevaluation.

### *Cash Payment/Dividends*

Cash Dividend. There is no adjustment to a security's start-of-day price for payments received as cash dividends. The following unique situations related to Cash Dividends are recognized:

- A dividend paid in a foreign currency where the exchange rate is given by the company is converted into U.S. dollars using the provided exchange rate. If no exchange rate is provided, the dividend amount is converted into U.S. dollars using the spot exchange rate available on the day before (or on) the ex-date.
- A cash dividend with an ex-date on the same day as a stock split will be reported in post-split terms.
- A dividend with a payout amount that is only conditionally approved before the ex-date is not applied.

Return of Capital. Cash received as a return of capital is treated like a non-ordinary distribution. The security's start-of-day price will be adjusted by the amount of the payment on the ex-date.

Special Cash Dividend. Cash received as a special dividend is also considered to be a non-ordinary distribution. The security's start-of-day price will be adjusted by the amount of the dividend on the ex-date.

#### *Redemptions*

A full call is the redemption of a security by the issuer (usually prior to the maturity date) at the call (redemption) price. A security that is called and delists from a CRSP exchange of interest is generally removed after the close the last day of trading.

#### *Neutral Capital Structure Events*

Stock Dividend. On the ex-date, total and float shares outstanding of the issuing security are increased by the stock dividend rate and index holdings are adjusted accordingly.

Forward and Reverse Stock Splits. On the ex-date, index holdings are increased or decreased by the split factor. Since the change in shares and stock price are proportional and offsetting, they have no net impact on a company's market capitalization and thus both forward and reverse stock splits are considered to be capitalization neutral corporate events.

#### **Index Announcement Policy**

##### *Ranking Procedure and Results*

Announcements regarding ranking procedures and results are made available on the CRSP Index website at 6:00 a.m. CST on the Monday following ranking day (*i.e.*, the Monday after the first Friday of March, June, September, and December) to index subscribers.

Two months advance notice will be given prior to a change in the ranking schedule.

##### *Exchange Closures*

If the CRSP exchanges of interest close due to unforeseen circumstances, CRSP will not produce CRSP Index results for that day. Instead, the CRSP Index levels will continue from the last complete day of trading.

If the closing is known at least one day in advance, corporate actions originally declared effective for the closed day(s) will be made effective on the day that markets reopen. CRSP Index holdings will

be carried forward from the end of the day prior to the closed date. Normal CRSP Index notifications will occur on the trading day before the closing.

All corporate actions declared effective on a closed day or the first day after reopening that impact the security universe will be re-dated to the day after trading resumes. Changes to CRSP Index holdings will take place after the close of the day when trading resumes.

## BACKGROUND ON THE VANGUARD FTSE DEVELOPED MARKETS ETF

We have derived all information contained in this underlying supplement regarding the Vanguard FTSE Developed Markets ETF from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by Vanguard Tax-Managed Funds (the “**Vanguard Tax-Managed Trust**”) and The Vanguard Group, Inc. (“**Vanguard**”). The Vanguard FTSE Developed Markets ETF is an investment portfolio of the Vanguard Tax-Managed Trust. Vanguard is the investment adviser to the Vanguard FTSE Developed Markets ETF. The Vanguard FTSE Developed Markets ETF is an exchange-traded fund that trades on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “VEA.”

The Vanguard Tax-Managed Trust is a registered investment company that consists of numerous separate investment portfolios, including the Vanguard FTSE Developed Markets ETF. Information provided to or filed with the SEC by Vanguard pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 033-53683 and 811-07175, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding the Vanguard Tax-Managed Trust, Vanguard and the Vanguard FTSE Developed Markets ETF, please see the Vanguard FTSE Developed Markets ETF’s prospectus. In addition, information about Vanguard and the Vanguard FTSE Developed Markets ETF may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the Vanguard website at [www.vanguard.com](http://www.vanguard.com). Information contained in the Vanguard website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Investment Objective and Strategy

The Vanguard FTSE Developed Markets ETF seeks to track the performance of a benchmark index that measures the investment return of stocks issued by companies located in major markets of Europe and the Pacific region, which is currently the FTSE Developed ex North America Index. For more information about the FTSE Developed ex North America Index, please see “Background on the FTSE GEIS Indices” in this underlying supplement.

### Indexing Investment Approach

The Vanguard FTSE Developed Markets ETF employs an indexing investment approach designed to track the performance of the FTSE Developed ex North America Index. The Vanguard FTSE Developed Markets ETF uses the replication method of indexing, meaning that it invests all, or substantially all, of its assets in the stocks that make up the FTSE Developed ex North America Index, holding each stock in approximately the same proportion as its weighting in the FTSE Developed ex North America Index.

The Vanguard FTSE Developed Markets ETF may invest, to a limited extent, in stock futures and option contracts, warrants, convertible securities, and swap agreements, all of which are types of derivatives. The Vanguard FTSE Developed Markets ETF will not use derivatives for speculation or for the purpose of leveraging (magnifying) investment returns. The Vanguard FTSE Developed Markets ETF may enter into foreign currency exchange forward contracts, which are a type of derivative, in order to maintain the same currency exposure as the FTSE Developed ex North America Index. The Vanguard FTSE Developed Markets ETF may use these contracts to gain currency exposure when investing in stock index futures and to settle trades in a foreign currency. The Vanguard FTSE Developed Markets ETF may engage, only to a limited extent and only if doing so is considered to be in the best interest of the Vanguard FTSE Developed Markets ETF, in strategies designed to minimize taxable distributions by the Vanguard FTSE Developed Markets ETF or to limit undesirable tax characteristics of the Vanguard FTSE Developed Markets ETF’s assets.

The Vanguard FTSE Developed Markets ETF’s daily cash balance may be invested in one or more money-market funds sponsored by Vanguard. The Vanguard FTSE Developed Markets ETF may



temporarily depart from its normal investment policies and strategies when Vanguard believes that doing so is in the Vanguard FTSE Developed Markets ETF's best interest, so long as the alternative is consistent with the Vanguard FTSE Developed Markets ETF's investment objective. The Vanguard FTSE Developed Markets ETF may substitute a different index for the FTSE Developed ex North America Index if the FTSE Developed ex North America Index is discontinued, if the Vanguard FTSE Developed Markets ETF's agreement with the sponsor of the FTSE Developed ex North America Index is terminated, or for any other reason determined in good faith by the Vanguard FTSE Developed Markets ETF's board of trustees. In any such instance, the substitute index would measure the same market segment as the FTSE Developed ex North America Index.

### Holdings Information

The following tables summarize the Vanguard FTSE Developed Markets ETF's top holdings in individual securities and by region as of March 31, 2015.

#### Top holdings in individual securities as of March 31, 2015

<b>Security</b>	<b>Percentage of Total Holdings</b>
Nestle SA	1.70%
Novartis AG	1.60%
Roche Holding AG	1.40%
Royal Dutch Shell plc	1.30%
Toyota Motor Corp.	1.30%
HSBC Holdings plc	1.10%
Samsung Electronics Co. Ltd.	1.0%
Bayer AG	0.90%
BHP Billiton	0.80%
BP plc	0.80%

#### Top holdings by region as of March 31, 2015

<b>Sector</b>	<b>Percentage of Total Holdings</b>
Europe	60.50%
Pacific	38.80%
Middle East	0.70%

The information above was compiled from the Vanguard website, without independent verification. Information contained in the Vanguard website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

## BACKGROUND ON THE iSHARES® MSCI EAFE SMALL-CAP ETF

We have derived all information contained in this underlying supplement regarding the iShares® MSCI EAFE Small-Cap ETF (the “**SCZ Fund**”), including, without limitation, its makeup, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, iShares® Trust, BlackRock Institutional Trust Company, N.A. (“**BTC**”) and BlackRock Fund Advisors (“**BFA**”). The SCZ Fund is an investment portfolio maintained and managed by iShares® Trust. BFA is currently the investment adviser to the SCZ Fund. The SCZ Fund is an exchange-traded fund that trades on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “SCZ.”

iShares® Trust is a registered investment company that consists of numerous separate investment portfolios, including the SCZ Fund. Information provided to or filed with the SEC by iShares® Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-92935 and 811-09729, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding iShares® Trust, BFA and the SCZ Fund, please see the SCZ Fund’s prospectus. In addition, information about iShares® Trust and the SCZ Fund may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the iShares® website at [www.ishares.com](http://www.ishares.com). Information contained in the iShares® website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Investment Objective and Strategy

The SCZ Fund seeks to track the investment results, before fees and expenses, of an index composed of small-capitalization developed market equities, excluding the U.S. and Canada, which is currently the MSCI EAFE® Small-Cap Index (the “**MSCI Index**”). For more information about the MSCI Index, please see “— The MSCI EAFE® Small-Cap Index” below.

As of February 18, 2015, the SCZ Fund holdings by country consisted of the following 22 countries: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom and the United States. In addition, as of February 18, 2015, the SCZ Fund’s three largest holdings by country were Japan, the United Kingdom and Australia; its three largest equity securities were St. James Place PLC., Barratt Developments PLC and Taylor Wimpey PLC; and its three largest sectors were financials, industrials and consumer discretionary.

The SCZ Fund uses a representative sampling indexing strategy (as described below under “— Representative Sampling”) to try to track the MSCI Index. The SCZ Fund generally invests at least 90% of its assets in the securities of the MSCI Index and in depository receipts representing securities in the MSCI Index. In addition, the SCZ Fund may invest the remainder of its assets in certain futures, options and swap contracts, cash and cash equivalents, including shares of money market funds advised by BFA or its affiliates, as well as in securities not included in the MSCI Index, but which BFA believes will help the SCZ Fund track the MSCI Index.

### Representative Sampling

The SCZ Fund pursues a “representative sampling” indexing strategy in attempting to track the performance of the MSCI Index. The SCZ Fund invests in a representative sample of securities that collectively has an investment profile similar to the MSCI Index. The securities selected are expected to have, in the aggregate, investment characteristics (based on factors such as market capitalization and industry weightings), fundamental characteristics (such as return variability and yield) and liquidity measures similar to those of the MSCI Index. The SCZ Fund may or may not hold all of the securities that are included in the MSCI Index.

## Correlation

The MSCI Index is a theoretical financial calculation, while the SCZ Fund is an actual investment portfolio. The performance of the SCZ Fund and the MSCI Index may vary due to transaction costs, foreign currency valuation, asset valuations, corporate actions (such as mergers and spin-offs), timing variances, and differences between the SCZ Fund's portfolio and the MSCI Index resulting from legal restrictions (such as diversification requirements) that apply to the SCZ Fund but not to the MSCI Index or the use of representative sampling. "Tracking error" is the divergence of the performance (return) of a fund's portfolio from that of its underlying index. BFA expects that, over time, the SCZ Fund's tracking error will not exceed 5%. Because the SCZ Fund uses a representative sampling indexing strategy, it can be expected to have a greater tracking error than if it used a replication indexing strategy. "Replication" is an indexing strategy in which a fund invests in substantially all of the securities in its underlying index in approximately the same proportions as in the underlying index.

## Industry Concentration Policy

The SCZ Fund will concentrate its investments (*i.e.*, hold 25% or more of its total assets) in a particular industry or group of industries to approximately the same extent that the MSCI Index is concentrated. For purposes of this limitation, securities of the U.S. government (including its agencies and instrumentalities) and repurchase agreements collateralized by U.S. government securities are not considered to be issued by members of any industry.

## Holdings Information

The following tables summarize the SCZ Fund's top holdings in individual securities and by sector as of May 5, 2015.

### Top holdings in individual securities as of May 5, 2015

<b>Security</b>	<b>Percentage of Total Holdings</b>
Taylor Wimpey plc	0.40%
Barratt Developments plc	0.37%
Mondi plc	0.37%
Smurfit Kappa Group plc	0.35%
St. James Place plc	0.35%
Provident Financial plc	0.34%
Kaken Pharmaceutical Ltd	0.34%
Nippon Shinyaku Ltd	0.32%
Clariant AG	0.32%
Ingenico	0.32%

### Top holdings by sector as of May 5, 2015

Sector	Percentage of Total Holdings
Financials	22.25%
Industrials	21.81%
Consumer Discretionary	17.78%
Information Technology	9.40%
Materials	9.14%
Health Care	7.40%
Consumer Staples	5.70%
Energy	2.75%
Utilities	1.64%
Telecommunications	1.43%
Cash and/or Derivatives	0.70%

The information above was compiled from the iShares® website, without independent verification. Information contained in the iShares® website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### The MSCI EAFE® Small-Cap Index

We have derived all information contained in this underlying supplement regarding the MSCI Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, MSCI Inc. (“**MSCI**”). The MSCI Index is calculated, maintained and published by MSCI. MSCI has no obligation to continue to publish, and may discontinue publication of, the MSCI Index.

The MSCI Index is a free float-adjusted market capitalization index intended to measure the small capitalization equity market performance of certain developed markets. The MSCI Index is calculated daily in U.S. dollars. The MSCI Index is reported by Bloomberg L.P. under the ticker symbol “MXEASC.”

### Transition

On March 28, 2007, MSCI announced changes to the methodology used by MSCI to calculate its Standard and Small Cap Indices. The transition of the Standard and Small Cap Indices to the MSCI Global Investable Market Indices occurred in two phases, the first completed as of November 30, 2007 and the second completed as of May 30, 2008. The current index calculation methodology used to formulate the MSCI Indices (and which is also used to formulate the MSCI Global Investable Market Indices) (the “**MSCI Global Investable Market Indices Methodology**”) was implemented as of June 1, 2008.

## Constructing the MSCI Global Investable Market Indices

MSCI undertakes an index construction process that involves: (i) defining the Equity Universe; (ii) determining the Market Investable Equity Universe for each market; (iii) determining market capitalization size segments for each market; (iv) applying Index Continuity Rules for the MSCI Standard Index; (v) creating style segments within each size segment within each market; and (vi) classifying securities under the Global Industry Classification Standard (the "GICS").

### *Defining the Equity Universe*

(i) **Identifying Eligible Equity Securities:** The Equity Universe initially looks at securities listed in any of the countries in the MSCI Global Index Series, which will be classified as Developed Markets ("DM"), Emerging Markets ("EM") or Frontier Markets ("FM"). All listed equity securities, including Real Estate Investment Trusts ("REITs") and certain income trusts in Canada are eligible for inclusion in the Equity Universe. Limited partnerships, limited liability companies, and business trusts, which are listed in the U.S. and are not structured to be taxed as limited partnerships, are likewise eligible for inclusion in the Equity Universe. Conversely, mutual funds, ETFs, equity derivatives, and most investment trusts are not eligible for inclusion in the Equity Universe. Preferred shares that exhibit characteristics of equity securities are eligible.

(ii) **Country Classification of Eligible Securities:** Each company and its securities (*i.e.*, share classes) are classified in one and only one country, which allows for a distinctive sorting of each company by its respective country.

### *Determining the Market Investable Equity Universes*

A Market Investable Equity Universe for a market is derived by applying investability screens to individual companies and securities in the Equity Universe that are classified in that market. A market is equivalent to a single country, except in DM Europe, where all DM countries in Europe are aggregated into a single market for index construction purposes. Subsequently, individual DM Europe country indices within the MSCI Europe Index are derived from the constituents of the MSCI Europe Index under the Global Investable Market Indices methodology.

The "Global Investable Equity Universe" is the aggregation of all Market Investable Equity Universes. The "DM Investable Equity Universe" is the aggregation of all the Market Investable Equity Universes for Developed Markets.

The investability screens used to determine the Investable Equity Universe in each market are as follows:

- (i) **Equity Universe Minimum Size Requirement:** This investability screen is applied at the company level. In order to be included in a Market Investable Equity Universe, a company must have the required minimum full market capitalization. A company will meet this requirement if its cumulative free float-adjusted market capitalization is within the top 99% of the Equity Universe sorted in descending order by full market capitalization.
- (ii) **Equity Universe Minimum Float-Adjusted Market Capitalization Requirement:** This investability screen is applied at the individual security level. To be eligible for inclusion in a Market Investable Equity Universe, a security must have a free float-adjusted market capitalization equal to or higher than 50% of the Equity Universe Minimum Size Requirement.
- (iii) **DM and EM Minimum Liquidity Requirement:** This investability screen is applied at the individual security level. To be eligible for inclusion in a Market Investable Equity Universe, a security must have adequate liquidity as measured by the 12-month and 3-month Annualized

Traded Value Ratio ("**ATVR**") and the 3-month Frequency of Trading. The ATVR screens out extreme daily trading volumes, taking into account the free float-adjusted market capitalization size of securities. The aim of the 12-month and 3-month ATVR together with the 3-month Frequency of Trading is to select securities with a sound long- and short-term liquidity. A minimum liquidity level of 20% of 3-month ATVR and 90% of 3-month Frequency of Trading over the last 4 consecutive quarters, as well as 20% of 12-month ATVR are required for the inclusion of a security in a Market Investable Equity Universe of a Developed Market. A minimum liquidity level of 15% of 3-month ATVR and 80% of 3-month Frequency of Trading over the last 4 consecutive quarters, as well as 15% of 12-month ATVR are required for the inclusion of a security in a Market Investable Equity Universe of an Emerging Market.

In instances when a security does not meet the above criteria, the security will be represented by a relevant liquid eligible Depository Receipt if it is trading in the same geographical region. Depository Receipts are deemed liquid if they meet all the above mentioned criteria for 12-month ATVR, 3-month ATVR and 3-month Frequency of Trading.

- (iv) **Global Minimum Foreign Inclusion Factor Requirement:** This investability screen is applied at the individual security level. To be eligible for inclusion in a Market Investable Equity Universe, a security's Foreign Inclusion Factor ("**FIF**") must reach a certain threshold. The FIF of a security is defined as the proportion of shares outstanding that is available for purchase in the public equity markets by international investors. This proportion accounts for the available free float of and/or the foreign ownership limits applicable to a specific security (or company). In general, a security must have an FIF equal to or larger than 0.15 to be eligible for inclusion in a Market Investable Equity Universe. Exceptions to this general rule are made only in the limited cases where the exclusion of securities of a very large company would compromise the Standard Index's ability to fully and fairly represent the characteristics of the underlying market.
- (v) **The Minimum Length of Trading Requirement:** This investability screen is applied at the individual security level. For an initial public offering ("**IPO**") to be eligible for inclusion in a Market Investable Equity Universe, the new issue must have started trading at least three months before the implementation of a semi-annual index review. This requirement is applicable to small new issues in all markets. Large IPOs and large primary/secondary offerings of non index-constituents are not subject to the Minimum Length of Trading Requirement and may be included in a Market Investable Equity Universe and the Standard Index outside of a quarterly or semi-annual index review.

#### *Defining Market Capitalization Size Segments for Each Market*

Once a Market Investable Equity Universe is defined, it is segmented into the following size-based indices:

- Investable Market Index (Large + Mid + Small)
- Standard Index (Large + Mid)
- Large Cap Index
- Mid Cap Index
- Small Cap Index

Creating the Size Segment Indices in each market involves the following steps: (i) defining the Market Coverage Target Range for each size segment; (ii) determining the Global Minimum Size Range for each size segment; (iii) determining the Market Size-Segment Cutoffs and associated Segment

Number of Companies; (iv) assigning companies to the size segments; and (v) applying final size-segment investability requirements and index continuity rules.

#### *Index Continuity Rules for the Standard Indices*

In order to achieve index continuity, as well as provide some basic level of diversification within a market index, notwithstanding the effect of other index construction rules, a minimum number of five constituents will be maintained for a DM Standard Index and a minimum number of three constituents will be maintained for an EM Standard Index.

If after the application of the index construction methodology, a Standard Index contains fewer than five securities in a Developed Market or three securities in an Emerging Market, then the largest securities by free float-adjusted market capitalization among the securities included in the Market Investable Equity Universe are added to the Standard Index in order to reach five constituents in that Developed Market or three in that Emerging Market. At subsequent index reviews, if after the application of the index maintenance methodology a Standard Index contains fewer than five securities in a Developed Market or three securities in an Emerging Market, then the remaining securities are selected for inclusion in the Standard Index using the following process: (i) the securities included in the updated Market Investable Equity Universe are identified; (ii) these securities are ranked by descending free float-adjusted market capitalization, however in order to increase index stability the free float-adjusted market capitalization of the securities included in the Standard Index prior to the index review is multiplied by a factor of 1.5; and (iii) the securities are added to the Standard Index in order to reach five constituents for a Developed Market or three for an Emerging Market in the ranking order determined in the previous step.

#### *Creating Style Indices within Each Size Segment*

All securities in the investable equity universe are classified into Value or Growth segments using the MSCI Global Value and Growth methodology.

#### *Classifying Securities under the Global Industry Classification Standard*

All securities in the Global Investable Equity Universe are assigned to the industry that best describes their business activities. To this end, MSCI has designed, in conjunction with S&P Dow Jones Indices, the Global Industry Classification Standard (“GICS”). The GICS entails four levels of classification: (1) sector; (2) industry groups; (3) industries; (4) sub-industries. Under the GICS, each company is assigned uniquely to one sub-industry according to its principal business activity. Therefore, a company can belong to only one industry grouping at each of the four levels of the GICS.

#### **Maintenance of the MSCI Global Investable Market Indices**

The MSCI Global Investable Market Indices are maintained with the objective of reflecting the evolution of the underlying equity markets and segments on a timely basis, while seeking to achieve index continuity, continuous investability of constituents and replicability of the indices, and index stability and low index turnover.

In particular, index maintenance involves:

- (i) semi-annual index reviews (“SAIRs”) in May and November of the Size Segment and Global Value and Growth Indices, which include:
  - updating the indices on the basis of a fully refreshed Equity Universe;
  - taking buffer rules into consideration for migration of securities across size and style segments; and



- updating FIFs and Number of Shares (“NOS”).

The objective of the SAIRs is to systematically reassess the various dimensions of the Equity Universe for all markets on a fixed semi-annual timetable. A SAIR involves a comprehensive review of the Size Segment and Global Value and Growth Indices.

(ii) quarterly index reviews (“QIRs”) in February and August of the Size Segment Indices aimed at:

- including significant new eligible securities (such as IPOs that were not eligible for earlier inclusion) in the index;
- allowing for significant moves of companies within the Size Segment Indices, using wider buffers than in the SAIR; and
- reflecting the impact of significant market events on FIFs and updating NOS.

QIRs are designed to ensure that the indices continue to be an accurate reflection of the evolving equity marketplace. This is achieved by a timely reflection of significant market driven changes that were not captured in the index at the time of their actual occurrence but are significant enough to be reflected before the next SAIR. QIRs may result in additions or deletions due to migration to another Size Segment Index, addition of significant new investable companies to the Standard Index, deletion of companies from the Investable Market Indices due to low liquidity and changes in FIFs and in NOS. The buffer zones used to manage the migration of companies from one segment to another are wider than those used in the SAIR. The style classification is reviewed only for companies that are reassigned to a different size segment.

(iii) Ongoing event-related changes. Ongoing event-related changes to the indices are the result of mergers, acquisitions, spin-offs, bankruptcies, reorganizations and other similar corporate events. They can also result from capital reorganizations in the form of rights issues, bonus issues, public placements and other similar corporate actions that take place on a continuing basis. These changes generally are reflected in the indices at the time of the event. Significantly large IPOs are included in the indices after the close of the company’s tenth day of trading.

### **Announcement Policy**

The results of the SAIRs are announced at least two weeks in advance of their effective implementation dates as of the close of the last business day of May and November. The results of the QIRs are announced at least two weeks in advance of their effective implementation dates as of the close of the last business day of February and August. All changes resulting from corporate events are announced prior to their implementation.

The changes are typically announced at least ten business days prior to the changes becoming effective in the indices as an “expected” announcement, or as “undetermined” announcements, when the effective dates are not known yet or when aspects of the event are uncertain. MSCI sends “confirmed” announcements at least two business days prior to events becoming effective in the indices, provided that all necessary public information concerning the event is available. The full list of all new and pending changes is delivered to clients on a daily basis, between 5:30 p.m. and 6 p.m., U.S. Eastern Time through the Advance Corporate Events (ACE) File.

In exceptional cases, events are announced during market hours for same or next day implementation. Announcements made by MSCI during market hours are usually linked to late company disclosure of corporate events or unexpected changes to previously announced corporate events.

In the case of secondary offerings representing more than 5% of a security's number of shares for existing constituents, these changes will be announced prior to the end of the subscription period when possible and a subsequent announcement confirming the details of the event (including the date of implementation) will be made as soon as the results are available.

Both primary equity offerings and secondary offerings for U.S. securities, representing at least 5% of the security's number of shares, will be confirmed through an announcement during market hours for next day or shortly after implementation, as the completion of the events cannot be confirmed prior to the notification of the pricing.

Early deletions of constituents due to bankruptcy or other significant cases are announced as soon as practicable prior to their implementation.

## Index Calculation

### Price Index Level

The MSCI Indices are calculated using the Laspeyres' concept of a weighted arithmetic average together with the concept of chain-linking. As a general principle, today's index level is obtained by applying the change in the market performance to the previous period index level.

$$Price\ Index\ Level\ USD_t = Price\ Index\ Level_{t-1} \times \frac{Index\ Adjusted\ Market\ Cap\ USD_t}{Index\ Initial\ Market\ Cap\ USD_t}$$

$$Price\ Index\ Level\ Local_t = Price\ Index\ Level\ Local_{t-1} \times \frac{Index\ Adjusted\ Market\ Cap\ for\ Local_t}{Index\ Initial\ Market\ Cap\ USD_t}$$

Where:

- $PriceIndexLevelUSD_{t-1}$  is the Price Index level in USD at time t-1.
- $IndexAdjustedMarketCapUSD_t$  is the Adjusted Market Capitalization of the index in USD at time t.
- $IndexInitialMarketCapUSD_t$  is the Initial Market Capitalization of the index in USD at time t.
- $PriceIndexLevelLocal_{t-1}$  is the Price Index level in local currency at time t-1.
- $IndexAdjustedMarketCapForLocal_t$  is the Adjusted Market Capitalization of the index in USD converted using FX rate as of t-1 and used for local currency index at time t.

### Security Price Index Level

$$Security\ Price\ Index\ Level_t = Security\ Price\ Index\ Level_{t-1} \times \frac{Security\ Adjusted\ Market\ Cap\ for\ Local_t}{Security\ Initial\ Market\ Cap\ USD_t}$$

### SecurityAdjustedMarketCapForLocal<sub>t</sub> =

$$\frac{End\ of\ Day\ Number\ of\ Shares_{t-1} \times Price\ Per\ Share_t \times Inclusion\ Factor_t \times PAF_t}{FX\ rate_{t-1}} \times \frac{ICI_t}{ICI_{t-1}}$$

$$Security\ Index\ Market\ Cap\ USD_t = \frac{End\ of\ Day\ Number\ of\ Shares_{t-1} \times Price\ Per\ Share_{t-1} \times Inclusion\ Factor_t}{FX\ rate_{t-1}}$$

Where:

- $SecurityPriceIndexLevel_{t-1}$  is the Security Price Index level at time t-1.

- $SecurityAdjustedMarketCapForLocal_t$  is the Adjusted Market Capitalization of security  $s$  in USD converted using FX rate as of  $t-1$ .
- $SecurityInitialMarketCapUSD_t$  is the Initial Market Capitalization of security  $s$  in USD at time  $t$ .
- $EndOfDayNumberOfShares_{t-1}$  is the number of shares of security  $s$  at the end of day  $t-1$ .
- $PricePerShare_t$  is the price per share of security  $s$  at time  $t$ .
- $PricePerShare_{t-1}$  is the price per share of security  $s$  at time  $t-1$ .
- $InclusionFactor_t$  is the inclusion factor of security  $s$  at time  $t$ . The inclusion factor can be one or the combination of the following factors: Foreign Inclusion Factor, Domestic Inclusion Factor Growth Inclusion Factor, Value Inclusion Factor, Index Inclusion Factor.
- $PAF_t$  is the Price Adjustment Factor of security  $s$  at time  $t$ .
- $FXrate_{t-1}$  is the FX rate of the price currency of security  $s$  versus USD at time  $t-1$ . It is the value of 1 USD in foreign currency.
- $ICI_t$  is the Internal Currency Index of price currency at time  $t$ . The ICI is different than 1 when a country changes the internal value of its currency (e.g., from Turkish Lira to New Turkish Lira – ICI = 1,000,000).
- $ICI_{t-1}$  is the Internal Currency Index of price currency at time  $t-1$ .

#### Index Market Capitalization

$$Index\ Adjusted\ Market\ Cap\ USD_t = \sum_{s \in I, t} \frac{End\ of\ Day\ Number\ of\ Shares_{t-1} \times Price\ Per\ Share_t \times Inclusion\ Factor_t \times PAF_t}{FX\ rate_t}$$

$$Index\ Adjusted\ Market\ Cap\ for\ Local_t = \sum_{s \in I, t} \frac{End\ of\ Day\ Number\ of\ Shares_{t-1} \times Price\ Per\ Share_t \times Inclusion\ Factor_t \times PAF_t}{FX\ rate_t} \times \frac{ICI_t}{ICI_{t-1}}$$

$$Index\ Adjusted\ Market\ Cap\ USD_t = \sum_{s \in I, t} \frac{End\ of\ Day\ Number\ of\ Shares_{t-1} \times Price\ Per\ Share_t \times Inclusion\ Factor_t \times F_t}{FX\ rate_{t-1}}$$

Where:

- $EndOfDayNumberOfShares_{t-1}$  is the number of shares of security  $s$  at the end of day  $t-1$ .
- $PricePerShare_t$  is the price per share of security  $s$  at time  $t$ .
- $PricePerShare_{t-1}$  is the price per share of security  $s$  at time  $t-1$ .
- $InclusionFactor_t$  is the inclusion factor of security  $s$  at time  $t$ . The inclusion factor can be one or the combination of the following factors: Foreign Inclusion Factor, Domestic Inclusion Factor Growth Inclusion Factor, Value Inclusion Factor, Index Inclusion Factor.
- $PAF_t$  is the Price Adjustment Factor of security  $s$  at time  $t$ .
- $FXrate_t$  is the FX rate of the price currency of security  $s$  vs USD at time  $t$ . It is the value of 1 USD in foreign currency.
- $FXrate_{t-1}$  is the FX rate of the price currency of security  $s$  vs USD at time  $t-1$ . It is the value of 1 USD in foreign currency.
- $ICI_t$  is the Internal Currency Index of price currency at time  $t$ . The ICI is different than 1 when a country changes the internal value of its currency (e.g., from Turkish Lira to New Turkish Lira – ICI = 1,000,000).
- $ICI_{t-1}$  is the Internal Currency Index of price currency at time  $t-1$ .

#### Corporate Events

##### Mergers and Acquisitions

As a general principle, MSCI implements M&As as of the close of the last trading day of the acquired entity or merging entities (last offer day for tender offers), regardless of the status of the securities (index constituents or non-index constituents) involved in the event. MSCI uses market prices for implementation. This principle applies if all necessary information is available prior to the completion of the event and if the liquidity of the relevant constituent(s) is not expected to be significantly diminished on the day of implementation. Otherwise, MSCI will determine the most appropriate implementation method and announce it prior to the changes becoming effective in the indices.

### *Tender Offers*

In tender offers, the acquired or merging security is generally deleted from an index at the end of the initial offer period, when the offer is likely to be successful and/or if the free float of the security is likely to be substantially reduced (this rule is applicable even if the offer is extended), or once the results of the offer have been officially communicated and the offer has been successful and the security's free float has decreased below 0.15, if all required information is not available in advance or if the offer's outcome is uncertain. The main factors considered by MSCI when assessing the outcome of a tender offer (not in order of importance) are: the announcement of the offer as friendly or hostile, a comparison of the offer price to the acquired security's market price, the recommendation by the acquired company's board of directors, the major shareholders' stated intention whether to tender their shares, the required level of acceptance, the existence of pending regulatory approvals, market perception of the transaction, official preliminary results if any, and other additional conditions for the offer.

In certain cases, securities may be deleted earlier than the last offer day. For example, in the case of tender offers in the United Kingdom, a security is typically deleted two business days after the offer is declared unconditional in all respects.

If a security is deleted from an index, the security is not reinstated immediately after its deletion even when the tender offer is subsequently declared unsuccessful and/or the free float of the security is not substantially reduced. It will be reconsidered for index inclusion at the following regularly scheduled index review.

Changes to a security resulting from large acquisition of non-listed companies or assets are implemented at the next regularly scheduled index review following the completion of the event and listing of the newly issued shares.

Increases in a security's number of shares resulting from acquisition of listed non-index constituent securities representing at least 5% of the security's number of shares are generally implemented as of the close of the last trading day of the acquired entity if all necessary information is available prior to the completion of the event or if such information is not available prior to the completion of the event, as soon as practicable following the completion of the event. Changes representing less than 5% of the security's number of shares are implemented at the next regularly scheduled index review following the completion of the event.

Listed non-index constituents acquiring index constituents with newly issued shares or via exchange of shares are generally considered for immediate inclusion in the MSCI Index at the time of the event.

### *Late Announcements of Completion of Mergers and Acquisitions*

When the completion of an event is announced too late to be reflected as of the close of the last trading day of the acquired or merging entities, implementation occurs as of the close of the following day or as soon as practicable thereafter. In these cases, MSCI uses a calculated price for the acquired or merging entities. The calculated price is determined using the terms of the transaction and the price of

the acquiring or merged entity, or, if not appropriate, using the last trading day's market price of the acquired or merging entities.

### *Conversions of Share Classes*

Conversions of a share class into another share class resulting in the deletion and/or addition of one or more classes of shares are implemented as of the close of the last trading day of the share class to be converted.

### *Spin-Offs*

On the ex-date of a spin-off, a price adjustment factor is applied to the price of the security of the parent company. The price adjustment factor is calculated based on the terms of the transaction and the market price of the spun-off security. If the spun-off entity qualifies for inclusion, it is included as of the close of its first trading day. In cases of spin-offs of partially owned companies, the post-event free float of the spun-off entity is calculated using a weighted average of the existing shares and the spun-off shares, each at their corresponding free float. Any resulting changes to FIFs and/or DIFs are implemented as of the close of the ex-date.

In cases of spin-offs of partially-owned companies, the post-event free float of the spun-off entity is calculated using a weighted average of the existing shares and the spun-off shares, each at their corresponding free float. Any resulting changes to FIFs and/or Domestic Inclusion Factors ("**DIFs**") are implemented as of the close of the ex-date.

When the spun-off security does not trade on the ex-date, a price adjustment factor is applied to the price of the parent entity and a "detached" security is created to avoid a drop in the free float-adjusted market capitalization of the parent entity, regardless of whether the spun-off security is added or not. The detached security is included in the MSCI Indices as of the close of the ex-date and is maintained until the spun-off security begins trading. Generally, the value of the detached security is equal to the difference between the cum price and the ex price of the parent security.

### *Corporate Actions*

Corporate actions such as splits, stock dividends and rights issues, which affect the price of a security, require a price adjustment. In general, the price adjustment factor is applied on the ex-date of the event to ensure that security prices are comparable between the ex-date and the cum date. To do so, MSCI adjusts for the value of the right and/or the value of the special assets that are distributed and the changes in number of shares and FIF, if any, are reflected as of the close of the ex-date. In general, corporate actions do not impact the free float of the securities because the distribution of new shares is carried out on a pro rata basis to all existing shareholders. Therefore, MSCI will generally not implement any pending number of shares and/or free float updates simultaneously with the event.

If a security does not trade for any reason on the ex-date of the corporate action, the event will be generally implemented on the day the security resumes trading.

### *Share Placements and Offerings*

Changes in number of shares and FIF resulting from primary equity offerings representing at least 5% of the security's number of shares are generally implemented as of the close of the first trading day of the new shares, if all necessary information is available at that time. Otherwise, the event is implemented as soon as practicable after the relevant information is made available. A primary equity offering involves the issuance of new shares by a company. Changes in number of shares and FIF resulting from primary equity offerings representing less than 5% of the security's number of shares are deferred to the next regularly scheduled index review following the completion of the event. For public secondary offerings of existing constituents representing at least 5% of the security's number of

shares, where possible, MSCI will announce these changes and reflect them shortly after the results of the subscription are known. Secondary public offerings that, given lack of sufficient notice, were not reflected immediately will be reflected at the next regularly scheduled index review. Secondary offerings involve the distribution of existing shares of current shareholders' in a listed company and are usually pre-announced by a company or by a company's shareholders and open for public subscription during a pre-determined period.

#### *Debt-to-Equity Swaps*

In general, large debt-to-equity swaps involve the conversion of debt into equity originally not convertible at the time of issue. In this case, changes in numbers of shares and subsequent FIF and/or DIF changes are implemented as of the close of the first trading day of the newly issued shares, or shortly thereafter if all necessary information is available at the time of the swap. In general, shares issued in debt-to-equity swaps are assumed to be issued to strategic investors. As such, the post event free float is calculated on a pro forma basis assuming that all these shares are non-free float. Changes in numbers of shares and subsequent FIF and/or DIF changes due to conversions of convertible bonds or other convertible instruments, including periodical conversions of preferred stocks and small debt-to-equity swaps are implemented at a following regularly scheduled index review.

#### *Suspensions, Bankruptcies and Delistings*

MSCI will remove from an index as soon as practicable companies that file for bankruptcy, companies that file for protection from their creditors. MSCI will delete from an index after 40 business days of suspension securities of companies facing financial difficulties (e.g., liquidity issues, debt repayment issues, companies under legal investigation, etc.) with at least two business days advance notice. Subsequently, if and when these securities resume normal trading, they may be considered as a potential addition to an index at the next scheduled semi-annual index review.

Securities of companies suspended due to pending corporate events (e.g., merger, acquisition, etc.), will continue to be maintained in an index until they resume trading regardless of the duration of the suspension period. When the primary exchange price is not available, MSCI will delete securities at an over the counter or equivalent market price when such a price is available and deemed relevant. If no over the counter or equivalent price is available, the security will be deleted at the smallest price (unit or fraction of the currency) at which a security can trade on a given exchange. For securities that are suspended, MSCI will carry forward the market price prior to the suspension during the suspension period.

In some cases, companies may delist their shares on the primary exchange covered by MSCI but maintain a listing in a different country. In such cases, provided that the change of listing does not result in the company becoming ineligible in the MSCI Indexes, MSCI will change the price source to take the price from the other exchange. The country classification of that company is reviewed as part of the index review following the completion of the change of listing. However, depending on the countries concerned by this change of listing, being for example between different regions, MSCI may decide to review the country classification at the time of event instead of the index review.

## BACKGROUND ON THE VANGUARD FTSE EMERGING MARKETS ETF

We have derived all information contained in this underlying supplement regarding the Vanguard FTSE Emerging Markets ETF from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by Vanguard International Equity Index Funds (the “**Vanguard International Trust**”) and The Vanguard Group, Inc. (“**Vanguard**”). The Vanguard FTSE Emerging Markets ETF is an investment portfolio of the Vanguard International Trust. Vanguard is the investment adviser to the Vanguard FTSE Emerging Markets ETF. The Vanguard FTSE Emerging Markets ETF is an exchange-traded fund that trades on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “VVO.”

The Vanguard International Trust is a registered investment company that consists of numerous separate investment portfolios, including the Vanguard FTSE Emerging Markets ETF. Information provided to or filed with the SEC by Vanguard pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 033-32548 and 811-05972, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding the Vanguard International Trust, Vanguard and the Vanguard FTSE Emerging Markets ETF, please see the Vanguard FTSE Emerging Markets ETF’s prospectus. In addition, information about Vanguard and the Vanguard FTSE Emerging Markets ETF may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the Vanguard website at [www.vanguard.com](http://www.vanguard.com). Information contained in the Vanguard website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Investment Objective and Strategy

The Vanguard FTSE Emerging Markets ETF seeks to track the performance of a benchmark index that measures the investment return of stocks issued by companies located in emerging market countries, which is currently the FTSE Emerging Index. For more information about the FTSE Emerging Index, please see “Background on the FTSE GEIS Indices” in this underlying supplement.

### Indexing Investment Approach

The Vanguard FTSE Emerging Markets ETF employs an indexing investment approach by investing substantially all (approximately 95%) of its assets in the common stocks included in the FTSE Emerging Index, while employing a form of sampling to reduce risk. The Vanguard FTSE Emerging Markets ETF is subject to index sampling risk, which is the chance that the securities selected for the Vanguard FTSE Emerging Markets ETF, in the aggregate, will not provide investment performance matching that of the FTSE Emerging Index.

To track the FTSE Emerging Index as closely as possible, the Vanguard FTSE Emerging Markets ETF attempts to remain fully invested in stocks. To help stay fully invested and to reduce transaction costs, the Vanguard FTSE Emerging Markets ETF may invest, to a limited extent, in derivatives, including stock futures. The Vanguard FTSE Emerging Markets ETF may also use derivatives, such as total return swaps, to obtain exposure to a stock, a basket of stocks or an index. The Vanguard FTSE Emerging Markets ETF will not use derivatives for speculation or for the purpose of leveraging (magnifying) investment returns. The Vanguard FTSE Emerging Markets ETF’s daily cash balance may be invested in one or more money-market funds sponsored by Vanguard. The Vanguard FTSE Emerging Markets ETF may temporarily depart from its normal investment policies and strategies when the advisor believes that doing so is in the Vanguard FTSE Emerging Markets ETF’s best interest, so long as the alternative is consistent with the Vanguard FTSE Emerging Markets ETF’s investment objective. The Vanguard FTSE Emerging Markets ETF may substitute a different for index for the index it currently tracks if the current index is discontinued, if the Vanguard FTSE Emerging Markets ETF’s agreement with the sponsor of its target index is terminated, or for any other reason determined in good faith by the

Vanguard FTSE Emerging Markets ETF's board of trustees. In any such instance, the substitute index would measure the same market segment as the current index.

### Holdings Information

The following table summarizes the Vanguard FTSE Emerging Markets ETF's top holdings in individual securities as of March 31, 2015.

#### Top holdings in individual securities as of March 31, 2015

<b>Security</b>	<b>Percentage of Total Holdings</b>
Taiwan Semiconductor Manufacturing Co. Ltd.	3.20%
Tencent Holdings Ltd.	2.90%
China Mobile Ltd.	2.00%
China Construction Bank Corp.	1.70%
Naspers Ltd.	1.60%
Industrial & Commercial Bank of China Ltd.	1.50%
Bank of China Ltd.	1.20%
Hon Hai Precision Industry Co. Ltd.	1.10%
Infosys Ltd.	1.00%
Housing Development Finance Corp. Ltd.	0.90%

The information above was compiled from the Vanguard website, without independent verification. Information contained in the Vanguard website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.



## BACKGROUND ON THE iSHARES® 20+ YEAR TREASURY BOND ETF

We have derived all information contained in this underlying supplement regarding the iShares® 20+ Year Treasury Bond ETF (the “**20+ Treasury Fund**”) from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, iShares® Trust, BlackRock Institutional Trust Company, N.A. (“**BTC**”) and BlackRock Fund Advisors (“**BFA**”). The 20+ Treasury Fund is an investment portfolio maintained and managed by iShares® Trust. BFA is currently the investment adviser to the 20+ Treasury Fund. The 20+ Treasury Fund is an exchange-traded fund that trades on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “TLT.”

iShares® Trust is a registered investment company that consists of numerous separate investment portfolios, including the 20+ Treasury Fund. Information provided to or filed with the SEC by iShares® Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-92935 and 811-09729, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding iShares® Trust, BFA and the 20+ Treasury Fund, please see the 20+ Treasury Fund’s prospectus. In addition, information about iShares® Trust and the 20+ Treasury Fund may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the iShares® website at [www.ishares.com](http://www.ishares.com). Information contained in the iShares® website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Investment Objective and Strategy

The 20+ Treasury Fund seeks to track the investment results of an index composed of U.S. Treasury bonds with remaining maturities greater than twenty years, which is currently the Barclays U.S. 20+ Year Treasury Bond Index (the “**20+ Treasury Index**”). For more information about the 20+ Treasury Index, please see “— Barclays U.S. 20+ Year Treasury Bond Index” below.

The 20+ Treasury Fund may or may not hold all of the securities in the 20+ Treasury Index. The 20+ Treasury Fund generally invests at least 90% of its assets in the bonds included in the 20+ Treasury Index and at least 95% of its assets in U.S. government bonds. The 20+ Treasury Fund may invest up to 10% of its assets in U.S. government bonds not included in the 20+ Treasury Index, but which BFA believes will help the 20+ Treasury Fund track the 20+ Treasury Index. The 20+ Treasury Fund also may invest up to 5% of its assets in repurchase agreements collateralized by U.S. government obligations and in cash and cash equivalents, including shares of money market funds advised by BFA or its affiliates. The 20+ Treasury Fund may lend securities representing up to one-third of the value of the 20+ Treasury Fund’s total assets (including the value of the collateral received).

### Representative Sampling

The 20+ Treasury Fund pursues a “representative sampling” indexing strategy in attempting to track the performance of the 20+ Treasury Index. The 20+ Treasury Fund invests in a representative sample of securities that collectively has an investment profile similar to that of the 20+ Treasury Index. The securities selected are expected to have, in the aggregate, investment characteristics (based on factors such as market capitalization and industry weightings), fundamental characteristics (such as return variability, duration, maturity or credit ratings and yield) and liquidity measures similar to those of the 20+ Treasury Index.

### Correlation

The 20+ Treasury Index is a theoretical financial calculation while the 20+ Treasury Fund is an actual investment portfolio. The performance of the 20+ Treasury Fund and the 20+ Treasury Index may vary due to transaction costs, non-U.S. currency valuation, asset valuations, corporate actions (such as mergers and spin-offs), timing variances and differences between the 20+ Treasury Fund’s portfolio

and the 20+ Treasury Index resulting from legal restrictions (such as diversification requirements) that apply to the 20+ Treasury Fund but not to the 20+ Treasury Index or to the use of representative sampling. "Tracking error" is the difference between the performance (return) of the portfolio of the 20+ Treasury Fund and that of the 20+ Treasury Index. BFA expects that, over time, the 20+ Treasury Fund's tracking error will not exceed 5%. Because the 20+ Treasury Fund uses a representative sampling indexing strategy, it can be expected to have a greater tracking error than if it used a replication indexing strategy. "Replication" is an indexing strategy in which a fund invests in substantially all of the securities in its underlying index in approximately the same proportions as in the underlying index.

### Industry Concentration Policy

The 20+ Treasury Fund will concentrate its investments (*i.e.*, hold 25% or more of its total assets) in a particular industry or group of industries to approximately the same extent that the 20+ Treasury Index is concentrated. For purposes of this limitation, securities of the U.S. government (including its agencies and instrumentalities), repurchase agreements collateralized by U.S. government securities and securities of state or municipal governments and their political subdivisions are not considered to be issued by members of any industry.

### Holdings Information

The holding information for the 20+ Treasury Fund is updated on a daily basis. As of May 5, 2015, 99.62% of the 20+ Treasury Fund's holdings consisted of bonds and 0.38% was in other assets, including dividends booked but not yet received. The following table summarizes the top 10 holdings of the 20+ Treasury Fund as of that date.

**Top 10 holdings as of May 5, 2015**

<b>Security</b>	<b>Percentage of Total Holdings</b>
U.S. Treasury Bonds, 02/15/2043, 3.13%	11.42%
U.S. Treasury Bonds, 08/15/2043, 3.63%	9.44%
U.S. Treasury Bonds, 05/15/2044, 3.38%	7.77%
U.S. Treasury Bonds, 02/15/2044, 3.63%	6.42%
U.S. Treasury Bonds, 08/15/2042, 2.75%	6.18%
U.S. Treasury Bonds, 11/15/2040, 4.25%	5.41%
U.S. Treasury Bonds, 11/15/2043, 3.75%	4.84%
U.S. Treasury Bonds, 02/15/2040, 4.63%	4.36%
U.S. Treasury Bonds, 11/15/2041, 3.13%	4.29%
U.S. Treasury Bonds, 11/15/2042, 2.75%	3.99%

The information above was compiled from the iShares® website, without independent verification. Information contained in the iShares® website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

## **The Barclays U.S. 20+ Year Treasury Bond Index**

We have derived all information contained in this underlying supplement regarding the Barclays U.S. 20+ Year Treasury Bond Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Barclays Capital Inc. ("BCI"). The Barclays U.S. 20+ Year Treasury Bond Index is calculated, maintained and published by BCI. BCI is under no obligation to continue to publish, and may discontinue publication of, the Barclays U.S. 20+ Year Treasury Bond Index.

The Barclays U.S. 20+ Year Treasury Bond Index measures the performance of public obligations of the U.S. Treasury. The Barclays U.S. 20+ Year Treasury Bond Index is market capitalization weighted, includes all publicly issued U.S. Treasury securities that meet the criteria for inclusion and is rebalanced once a month on the last business day of the month. The U.S. Treasury securities included in the Barclays U.S. 20+ Year Treasury Bond Index must have a remaining maturity of 20 years or more, are rated investment grade (Baa3/BBB-/BBB- or higher, using the middle rating of Moody's Investor Service, Inc., Standard and Poor's Financial Services, LLC and Fitch Ratings Inc. when all three ratings are available, the lower rating when only two ratings are available, and that rating when only one rating is available) and have \$250 million or more of outstanding face value. In addition, the securities must be denominated in U.S. dollars and must be fixed-rate and non-convertible. Certain special issuances, such as targeted investor notes, state and local government series bonds and coupon issues that have been stripped from bonds, are excluded from the Barclays U.S. 20+ Year Treasury Bond Index.

## BACKGROUND ON THE iSHARES® 7-10 YEAR TREASURY BOND ETF

We have derived all information contained in this underlying supplement regarding the iShares® 7-10 Year Treasury Bond ETF (the “**7-10 Treasury Fund**”), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, iShares® Trust, BlackRock Institutional Trust Company, N.A. (“**BTC**”) and BlackRock Fund Advisors (“**BFA**”). The 7-10 Treasury Fund is an investment portfolio maintained and managed by iShares® Trust. BFA is currently the investment adviser to the 7-10 Treasury Fund. The 7-10 Treasury Fund is an exchange-traded fund that trades on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “IEF.”

iShares® Trust is a registered investment company that consists of numerous separate investment portfolios, including the 7-10 Treasury Fund. Information provided to or filed with the SEC by iShares® Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-92935 and 811-09729, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding iShares® Trust, BFA and the 7-10 Treasury Fund, please see the 7-10 Treasury Fund’s prospectus. In addition, information about iShares® Trust and the 7-10 Treasury Fund may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the iShares® website at [www.ishares.com](http://www.ishares.com). Information contained in the iShares® website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Investment Objective and Strategy

The 7-10 Treasury Fund seeks to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of an index composed of U.S. Treasury bonds with remaining time-to-maturity between seven and ten years, which is currently the Barclays U.S. 7-10 Year Treasury Bond Index (the “**7-10 Treasury Index**”). The 7-10 Treasury Index measures the performance of public obligations of the U.S. Treasury that have a remaining life to maturity of greater than or equal to seven years and less than ten years. See “— The Barclays Capital U.S. 7-10 Year Treasury Bond Index” below for more information about the 7-10 Treasury Index.

BFA uses a “passive” or indexing approach to try to achieve the investment objective of the 7-10 Treasury Fund. The 7-10 Treasury Fund does not try to “beat” the index it tracks and does not seek temporary defensive positions when markets decline or appear overvalued. The 7-10 Treasury Fund uses a representative sampling indexing strategy (as described below under “Representative Sampling”) to try to track the 7-10 Treasury Index.

The 7-10 Treasury Fund may or may not hold all of the securities in the 7-10 Treasury Index. The 7-10 Treasury Fund generally invests at least 90% of its assets in the bonds included in the 7-10 Treasury Index and at least 95% of its assets in U.S. government bonds. The 7-10 Treasury Fund may invest up to 10% of its assets in U.S. government bonds not included in the 7-10 Treasury Index, but which BFA believes will help the 7-10 Treasury Fund track the 7-10 Treasury Index. The 7-10 Treasury Fund also may invest up to 5% of its assets in repurchase agreements collateralized by U.S. government obligations and in cash and cash equivalents, including shares of money market funds advised by BFA or its affiliates. The 7-10 Treasury Fund may lend securities representing up to one-third of the value of the 7-10 Treasury Fund’s total assets (including the value of the collateral received).

### Representative Sampling

The 7-10 Treasury Fund pursues a “representative sampling” indexing strategy in attempting to track the performance of the 7-10 Treasury Index. The 7-10 Treasury Fund invests in a representative sample of securities that collectively has an investment profile similar to that of the 7-10 Treasury Index. The securities selected are expected to have, in the aggregate, investment characteristics (based

on factors such as market capitalization and industry weightings), fundamental characteristics (such as return variability, duration, maturity or credit ratings and yield) and liquidity measures similar to those of the 7-10 Treasury Index.

### Correlation

The 7-10 Treasury Index is a theoretical financial calculation while the 7-10 Treasury Fund is an actual investment portfolio. The performance of the 7-10 Treasury Fund and the 7-10 Treasury Index may vary due to transaction costs, non-U.S. currency valuation, asset valuations, corporate actions (such as mergers and spin-offs), timing variances and differences between the 7-10 Treasury Fund's portfolio and that of the 7-10 Treasury Index resulting from legal restrictions (such as diversification requirements) that apply to the 7-10 Treasury Fund but not to the 7-10 Treasury Index or to the use of representative sampling. "Tracking error" is the difference between the performance (return) of the portfolio of the 7-10 Treasury Fund and that of the 7-10 Treasury Index. BFA expects that, over time, the 7-10 Treasury Fund's tracking error will not exceed 5%. Because the 7-10 Treasury Fund uses a representative sampling indexing strategy, it can be expected to have a larger tracking error than if it used a replication indexing strategy. "Replication" is an indexing strategy in which a fund invests in substantially all of the securities in its underlying index in approximately the same proportions as in the underlying index.

### Industry Concentration Policy

The 7-10 Treasury Fund will concentrate its investments (*i.e.*, hold 25% or more of its total assets) in a particular industry or group of industries to approximately the same extent that the 7-10 Treasury Index is concentrated. For purposes of this limitation, securities of the U.S. government (including its agencies and instrumentalities), repurchase agreements collateralized by U.S. government securities and securities of state or municipal governments and their political subdivisions are not considered to be issued by members of any industry.

### Holdings Information

The holding information for the 7-10 Treasury Fund is updated on a daily basis. As of May 5, 2015, 99.93% of the 7-10 Treasury Fund's holdings consisted of bonds and 0.07% was in other assets, including dividends booked but not yet received. The following table summarizes the top 10 holdings of the 7-10 Treasury Fund as of that date.

#### Top 10 holdings as of May 5, 2015

<u>Security</u>	<u>Percentage of Total Holdings</u>
U.S. Treasury Bonds, 05/15/2024, 2.50%	23.52%
U.S. Treasury Bonds, 08/15/2024, 2.38%	20.93%
U.S. Treasury Bonds, 02/15/2024, 2.75%	16.69%
U.S. Treasury Bonds, 05/15/2023, 1.75%	11.99%
U.S. Treasury Bonds, 11/15/2022, 1.63%	11.76%
U.S. Treasury Bonds, 08/15/2042, 1.63%	6.41%
U.S. Treasury Bonds, 11/15/2024, 2.25%	3.81%

<b>Security</b>	<b>Percentage of Total Holdings</b>
U.S. Treasury Bonds, 05/15/2022, 1.75%	2.56%
U.S. Treasury Bonds, 08/15/2023, 2.50%	1.14%
U.S. Treasury Bonds, 11/15/2043, 2.75%	0.82%

The information above was compiled from the iShares® website, without independent verification. Information contained in the iShares® website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### **The Barclays U.S. 7-10 Year Treasury Bond Index**

We have derived all information contained in this underlying supplement regarding the 7-10 Treasury Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Barclays Capital Inc. (“BCI”). The 7-10 Treasury Index is calculated, maintained and published by BCI. BCI is under no obligation to continue to publish, and may discontinue publication of, the 7-10 Treasury Index.

The 7-10 Treasury Index measures the performance of public obligations of the U.S. Treasury that have remaining time-to-maturity of between seven and ten years. The 7-10 Treasury Index is market capitalization weighted, includes all publicly issued U.S. Treasury securities that meet the criteria for inclusion and is rebalanced monthly on the last business day of each month. The U.S. Treasury securities included in the 7-10 Treasury Index must have a remaining time-to-maturity of greater than or equal to seven years and less than ten years, are rated investment grade (Baa3/BBB-/BBB- or higher, using the middle rating of Moody’s Investor Service, Inc., Standard and Poor’s Financial Services, LLC and Fitch Ratings Inc. when all three ratings are available, the lower rating when only two ratings are available, and that rating when only one rating is available) and have \$250 million or more of outstanding face value. In addition, the securities must be denominated in U.S. dollars and must be fixed-rate and non-convertible. Certain special issuances, such as targeted investor notes, state and local government series bonds and coupon issues that have been stripped from bonds, are excluded from the 7-10 Treasury Index.

## BACKGROUND ON THE iSHARES® iBOXX \$ INVESTMENT GRADE CORPORATE BOND ETF

We have derived all information contained in this underlying supplement regarding the iShares® iBoxx \$ Investment Grade Corporate Bond ETF (the “**Investment Grade Bond Fund**”) from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by iShares® Trust, BlackRock Institutional Trust Company, N.A. (“**BTC**”) and BlackRock Fund Advisors (“**BFA**”). The Investment Grade Bond Fund is an investment portfolio maintained and managed by iShares® Trust. BFA is currently the investment adviser to the Investment Grade Bond Fund. The Investment Grade Bond Fund is an exchange-traded fund that trades on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “**LQD**.”

iShares® Trust is a registered investment company that consists of numerous separate investment portfolios, including the Investment Grade Bond Fund. Information provided to or filed with the SEC by iShares® Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-92935 and 811-09729, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding iShares® Trust, BFA and the Investment Grade Bond Fund, please see the Investment Grade Bond Fund’s prospectus. In addition, information about iShares® Trust and the Investment Grade Bond Fund may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the iShares® website at [www.ishares.com](http://www.ishares.com). Information contained in the iShares® website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Investment Objective and Strategy

The Investment Grade Bond Fund seeks to track the investment results, before fees and expenses, of an index consisting of liquid, U.S. dollar-denominated, investment-grade corporate bonds, which is currently the iBoxx® \$ Liquid Investment Grade Index (the “**IG Index**”). For more information about the IG Index, please see “— The iBoxx® \$ Liquid Investment Grade Index” below.

The Investment Grade Bond Fund uses a representative sampling indexing strategy (as described below under “Representative Sampling”) to try to track the IG Index.

The Investment Grade Bond Fund generally invests at least 90% of its assets in securities of the IG Index and at least 95% of its assets in investment-grade corporate bonds. The Investment Grade Bond Fund also may invest in bonds not included in the IG Index, but which BFA believes will help the Investment Grade Bond Fund track the IG Index. The Investment Grade Bond Fund may invest up to 5% of its assets in repurchase agreements collateralized by U.S. government obligations and in cash and cash equivalents, including shares of money market funds advised by BFA or its affiliates.

### Representative Sampling

BFA uses a “representative sampling” indexing strategy to manage the Investment Grade Bond Fund. “Representative sampling” is an indexing strategy that involves investing in a representative sample of securities that collectively has an investment profile similar to the IG Index. The securities selected are expected to have, in the aggregate, investment characteristics (based on factors such as market capitalization and industry weightings), fundamental characteristics (such as return variability, duration, maturity or credit ratings and yield) and liquidity measures similar to those of the IG Index. The Investment Grade Bond Fund may or may not hold all of the securities in the IG Index.

### Correlation

The IG Index is a theoretical financial calculation while the Investment Grade Bond Fund is an actual investment portfolio. The performance of the Investment Grade Bond Fund and the IG Index may vary due to transaction costs, non-U.S. currency valuations, asset valuations, corporate actions

(such as mergers and spin-offs), timing variances and differences between the Investment Grade Bond Fund's portfolio and the IG Index resulting from legal restrictions (such as diversification requirements) that apply to the Investment Grade Bond Fund but not to the IG Index or to the use of representative sampling. "Tracking error" is the divergence of the performance (return) of a fund's portfolio from that of its underlying index. BFA expects that, over time, the Investment Grade Bond Fund's tracking error will not exceed 5%. Because the Investment Grade Bond Fund uses a representative sampling indexing strategy, it can be expected to have a greater tracking error than if it used a replication indexing strategy. "Replication" is an indexing strategy in which a fund invests in substantially all of the securities in its underlying index in approximately the same proportions as in the underlying index.

### Industry Concentration Policy

The Investment Grade Bond Fund will concentrate its investments (*i.e.*, hold 25% or more of its total assets) in a particular industry or group of industries to approximately the same extent that the IG Index is concentrated. For purposes of this limitation, securities of the U.S. government (including its agencies and instrumentalities), repurchase agreements collateralized by U.S. government securities and securities of state or municipal governments and their political subdivisions are not considered to be issued by members of any industry.

### Holdings Information

The following table summarizes the Investment Grade Bond Fund's top holdings as of May 6, 2015.

#### Top 10 Holdings as of May 6, 2015

Security	Percentage of Total Holdings
BlackRock Cash Fund	0.94%
Verizon Communications Inc. (maturing 2043)	0.50%
Verizon Communications Inc. (maturing 2023)	0.40%
Goldman Sachs Group Inc.	0.39%
General Electric Capital Corp. (maturing 2038)	0.37%
General Electric Capital Corp. (maturing 2032)	0.37%
Apple Inc.	0.31%
General Electric Capital Corp. (maturing 2039)	0.30%
Verizon Communications Inc. (maturing 2033)	0.29%
Pfizer Inc.	0.26%

The information above was compiled from the iShares® website, without independent verification. Information contained in the iShares® website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.



## The iBoxx® \$ Liquid Investment Grade Index

We have derived all information contained in this underlying supplement regarding the IG Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Markit Group Limited ("**Markit**"). The IG Index is calculated, maintained and published by Markit. Markit has no obligation to continue to publish, and may discontinue publication of, the IG Index.

The IG Index is reported by Bloomberg L.P. under the ticker symbol "IBOXIG."

The IG Index is designed to reflect the performance of the U.S. dollar-denominated investment-grade corporate bond market. The IG Index is market-value weighted with an issuer cap of 3%.

The IG Index consists of investment grade U.S. dollar-denominated bonds issued by corporate issuers from developed countries and rated by at least one of three rating services: Fitch Ratings, Moody's Investors Service or Standard & Poor's Rating Services (each a "**Ratings Agency**" and collectively, the "**Ratings Agencies**"). The IG Index composition is rebalanced once a month, after the close of business on the last business day of the rebalancing month (the "**rebalancing date**"). The new IG Index composition becomes effective on the first business day of the next month (the "**composition month**").

The IG Index uses multi-source prices as described under "Pricing Methodology" below.

Additionally, Markit will seek the advice from the following committees:

- **Technical Committee:** composed of representatives of market makers and banks. The Technical Committee meets once a month in order to arbitrate monthly rebalancing, and to monitor market developments. It also provides assistance in the identification of eligible constituents, especially in the instance where the eligibility or the classification of a bond is unclear or contentious. Additionally, the Technical Committee discusses any market developments which may warrant index rule changes and provides recommendations on changes to the rules.
- **Oversight Committee:** composed of representatives from a broad range of asset managers. The purpose of the Oversight Committee is to review the recommendations of the Technical Committee and also to provide consultation on any market developments which may warrant rule changes.

## Selection Criteria for the iBoxx® \$ Liquid Investment Grade Index

The following selection criteria are applied to select the constituents for the IG Index: bond type, credit rating, time to maturity, amount outstanding, classification, lockout period and minimum run.

**Bond Type.** Only fixed-rate bonds whose cash flow can be determined in advance are eligible for the IG Index. The IG Index is comprised solely of bonds. Treasury Bills and other money market instruments are not eligible. The IG Index includes only U.S. dollar-denominated bonds.

In particular, bonds with the following characteristics are included: fixed coupon bonds, step-up bonds with coupon schedules known at issuance (or as functions of the issuer's rating), sinking funds and amortizing bonds, medium-term notes, Rule 144A offerings with a registration right (only 144A bonds where the Registration S version of the bond is eligible for the Markit iBoxx USD Benchmark Index are eligible), callable bonds and putable bonds.

The following instrument types are specifically excluded from the IG Index: preferred shares, optionally and mandatorily convertible bonds, subordinated bank or insurance debt with mandatory

contingent conversion features or with any conversion options before the first call date, bonds with other equity features attached (e.g., options or warrants), private placements, perpetual bonds, fixed-to-floater bonds, floating rate notes, pay-in-kind bonds (during the pay-in-kind period), zero coupon bonds, zero step-ups (GAINS) and bonds with differences between accrual and coupon payment periods and monthly-paying bonds.

Any bond subject to a firm call or tender offer, with the exception of exchange offers, in the month immediately following the rebalancing date will be excluded from the IG Index, *provided* that Markit is aware of that tender offer or call as of the Bond Selection Cut-off Date.

*Credit Rating.* All bonds in the IG Index must have a Markit iBoxx Rating of investment grade, which is defined as BBB- or above by Fitch or S&P or Baa3 or above by Moody's. If a bond is rated by more than one of the Ratings Agencies, then the Markit iBoxx Rating is the average of the provided ratings. The rating is consolidated to the nearest rating grade in accordance with Appendix 4.3 to the Markit iBoxx Rules. Rating notches are not used. In case of an ID change or exchange of a Rule 144A/Regulation S offering into a registered bond the ratings from the Rule 144A/Regulation S offering are also used for the registered bond.

*Time to Maturity.* To qualify for entry in the IG Index, bonds must have at least three years and six months remaining time to maturity. Bonds in the IG Index must have maturities of at least three years at the rebalancing date.

*Amount Outstanding.* The outstanding face value of all bonds denominated in U.S. dollars from the issuer (excluding fixed-to-floater and perpetual bonds) must be greater than or equal to \$2 billion as of the Bond Selection Cut-off Date. The outstanding face value of a bond must be greater than or equal to \$750 million as of the Bond Selection Cut-off Date. Partial buybacks or increases will affect the outstanding face value of a prospective bond. Markit considers changes to the outstanding face value of a candidate bond as a result of partial or full buybacks or increases, *provided* that Markit is aware of such changes as of the Bond Selection Cut-off Date.

*Bond Classification.* The bond must be corporate credit, *i.e.*, debt instruments backed by corporate issuers that are not secured by specific assets. Debt issued by governments, sovereigns, quasi-sovereigns and government-backed or guaranteed entities is excluded.

Bonds must be denominated in U.S. dollars, publicly registered in the United States with the SEC and clear and settle through The Depository Trust Company. Eurobonds are excluded.

Bonds from countries classified as developed markets based on the "Markit Global Economic Development Classification" are eligible for the IG Index. As of August 2012, the issuer or, in the case of a finance subsidiary, the issuer's guarantor, must be domiciled and incorporated and the country of risk must be in Andorra, Australia, Austria, Belgium, Bermuda, Canada, Cayman Islands, Cyprus, Denmark, Faeroe Islands, Finland, France, Germany, Gibraltar, Greece, Hong Kong, Iceland, Ireland, Italy, Japan, Jersey, Liechtenstein, Luxembourg, Malta, Monaco, Netherlands, New Zealand, Norway, Portugal, San Marino, Singapore, Spain, Sweden, Switzerland, the United States or the United Kingdom in order to be eligible for inclusion in the IG Index. A new country is added to the IG Index if it is classified as a developed market based on the "Markit Global Economic Development Classification." A country is no longer eligible for the IG Index if it is classified as an emerging market based on the "Markit Global Economic Development Classification." The "Markit Global Economic Development Classification" is updated once per year. The results are published at the end of July. The inclusion or exclusion of a country becomes effective at the end of the October following that publication.

*Lockout Period.* A bond that drops out of the IG Index at the rebalancing day is excluded from re-entering the IG Index for a three-month period. The rule for the lockout period takes precedence over the other rules for the IG Index selection. A locked out bond will not be selected, even if it qualifies for the IG Index.

*Minimum Run.* Any bond that enters the IG Index must remain in the IG Index for a minimum of six months, provided it is not downgraded to sub-investment grade, defaulted or fully redeemed in that period.

## **Annual Index Review**

The rules for the IG Index are reviewed once per year during the annual index review process to ensure that the IG Index provides a balanced representation of the U.S. dollar-denominated liquid investment grade corporate debt market. The results of the annual index review become available at the end of October.

## **Index Rebalancing**

The IG Index is rebalanced every month, on the last business day of the month after the close of business, *i.e.*, the rebalancing date. Changes to amounts outstanding are taken into account only if they are publicly known four business days before the end of the month. Changes in ratings are taken into account only if they are publicly known three business days before the end of the month. New bonds issued are taken into account if they are publicly known to settle until the last calendar day of the month, inclusive, and if their rating has become known at least four business days before the end of the month.

Three business days before the end of each month, the rating information for the constituents is updated and the list is adjusted for all rating changes which are known to have taken place three trading days before the end of the month. Bonds that are known to have been upgraded to investment grade after the bond selection cut-off date are not included in the membership, but bonds which are known to have been downgraded to high yielded three trading days before the end of the month do get excluded from the membership.

In a first step, the selection criteria set out above are applied to the universe of U.S. dollar-denominated bonds. Bond ratings and amount outstanding are used as of the Bond Selection Cut-off Date. Maturity dates remain fixed for the life of the bond. Only bonds with a first settlement date on or before the rebalancing date are included in the selection process. Once the eligible bond universe has been defined, the weight for each bond is determined and if necessary capped, applying an issuer cap of 3%. The weights and capping factors are determined on the last business day of each month using the end-of-month market values.

## **Pricing Methodology**

Index calculations are based on multi-sourced pricing that takes into account a variety of data inputs, including market quotes received from sell-side/buy-side market participants, end-of-day book of records prices, institutional size transaction data and, where observable prices are not available, a curve-based pricing model. The curve-based pricing model is based on the yield curve of the calculation day. Yield curves for determining the price must be entity specific, be currency specific, be seniority specific (including guarantees), be cash flow type specific, contain bonds of similar issue size, be single coupon frequency specific (each bucket will have constituents with a common coupon frequency), separate legacy issues within an entity (merger-related legacy issues generally require a separate curve) and trade consistently as fungible issues (*i.e.*, at same spread vs. reference bond consistently).

## **Calculation of the iBoxx® \$ Liquid Investment Grade Index**

Calculations are performed daily, using iBoxx bid prices at approximately 4:00 p.m. Eastern Time.

The total return of the IG Index is calculated using the price changes, accrued interest, interest payments and reinvestment income on cash flows received during the composition month.

## **Treatment of Special Intra-Month Events**

If a bond is fully redeemed intra-month, the bond effectively ceases to exist. In all calculations, the redeemed bond is treated as cash based on the last iBoxx price, the call price or the repurchase price, as applicable. A redemption factor and redemption price are used to treat these events in the IG Index and in calculations relating thereto. In addition, the clean price of the bond is set to the redemption price, and the interest accrued until the redemption date is treated as an irregular coupon payment.

If a bond is identified as trading flat of accrued, the accrued interest on the bond is set to zero in the total return index calculation and the bond is excluded from the calculation of all bond and index analytical values.

Some bonds have predefined coupon changes that lead to a change in the annual coupon over the life of the bond. In all instances, the coupon change must be a fixed amount on top of a fixed coupon, *i.e.* floating coupon bonds are not eligible for the IG Index. The two main categories of bonds with coupon changes of this nature are step-up bonds and event-driven bonds. Step-up bonds have a predefined coupon schedule that cannot change during the life of the bond. That coupon schedule is used in all bond calculations. Event-driven bonds' coupons may change upon the occurrence (or non-occurrence) of specified events, such as ratings changes, failure to register a bond or failure to complete a merger. In the calculation of the IG Index and the analytics, the coupon schedule as of the calculation date is used. Any events occurring after the calculation date are ignored in the determination of the applicable coupon schedule.

## BACKGROUND ON THE iSHARES® TIPS BOND ETF

We have derived all information contained in this underlying supplement regarding the iShares® TIPS Bond ETF (the “**TIPS Fund**”), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by iShares® Trust, BlackRock Institutional Trust Company, N.A. (“**BTC**”) and BlackRock Fund Advisors (“**BFA**”). The TIPS Fund is an investment portfolio maintained and managed by iShares® Trust. BFA is currently the investment adviser to the TIPS Fund. The TIPS Fund is an exchange-traded fund (“**ETF**”) that trades on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “TIP.”

On July 1, 2013, the name of the IPS Fund was changed from the iShares® Barclays TIPS Bond Fund to the current name.

iShares® Trust is a registered investment company that consists of numerous separate investment portfolios, including the TIPS Fund. Information provided to or filed with the SEC by iShares® Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-92935 and 811-09729, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding iShares® Trust, BFA and the TIPS Fund, please see the TIPS Fund’s prospectus. In addition, information about iShares® Trust and the TIPS Fund may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the iShares® website at [www.ishares.com](http://www.ishares.com). Information contained in the iShares® website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Investment Objective and Strategy

The TIPS Fund seeks to track investment results, before fees and expenses, of an index composed of inflation-protected U.S. Treasury bonds, which is currently the Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L) (the “**Barclays TIPS Index**”). Inflation-protected public obligations of the U.S. Treasury, commonly known as “TIPS,” are securities issued by the U.S. Treasury that are designed to provide inflation protection to investors. TIPS are income-generating instruments the interest and principal payments of which are adjusted for inflation — a sustained increase in prices that erodes the purchasing power of money. The inflation adjustment, which is typically applied monthly to the principal of the bond, follows a designated inflation index, such as the consumer price index. A fixed coupon rate is applied to the inflation-adjusted principal so that as inflation rises, both the principal value and the interest payments increase. This can provide investors with a hedge against inflation, as it helps preserve the purchasing power of an investment. Because of this inflation adjustment feature, inflation-protected bonds typically have lower yields than conventional fixed-rate bonds. For more information about the Barclays TIPS Index, please see “— The Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L)” below.

The TIPS Fund uses a representative sampling indexing strategy (as described below under “Representative Sampling”) to try to track the Barclays TIPS Index.

The TIPS Fund generally invests at least 90% of its assets in the bonds included in the Barclays TIPS Index and at least 95% of its assets in U.S. government bonds. The TIPS Fund may invest up to 10% of its assets in U.S. government bonds not included in the Barclays TIPS Index, but which BFA believes will help the TIPS Fund track the Barclays TIPS Index. The TIPS Fund also may invest up to 5% of its assets in repurchase agreements collateralized by U.S. government obligations and in cash and cash equivalents, including shares of money market funds advised by BFA or its affiliates.

## Representative Sampling

BFA uses a “representative sampling” indexing strategy to manage the fund. “Representative sampling” is an indexing strategy that involves investing in a representative sample of securities that collectively has an investment profile similar to the Barclays TIPS Index. The securities selected are expected to have, in the aggregate, investment characteristics (based on factors such as market capitalization and industry weightings), fundamental characteristics (such as return variability, duration, maturity or credit ratings and yield) and liquidity measures similar to those of the Barclays TIPS Index. The TIPS Fund may or may not hold all of the securities in the Barclays TIPS Index.

## Correlation

The Barclays TIPS Index is a theoretical financial calculation, while the TIPS Fund is an actual investment portfolio. The performance of the TIPS Fund and the Barclays TIPS Index may vary due to transaction costs, non-U.S. currency valuations, asset valuations, corporate actions (such as mergers and spin-offs), timing variances and differences between the TIPS Fund’s portfolio and the Barclays TIPS Index resulting from legal restrictions (such as diversification requirements) that apply to the TIPS Fund but not to the Barclays TIPS Index or to the use of representative sampling. “Tracking error” is the divergence of the performance (return) of a fund’s portfolio from that of its underlying index. BFA expects that, over time, the TIPS Fund’s tracking error will not exceed 5%. Because the TIPS Fund uses a representative sampling indexing strategy, it can be expected to have a greater tracking error than if it used a replication indexing strategy. “Replication” is an indexing strategy in which a fund invests in substantially all of the securities in its underlying index in approximately the same proportions as in the underlying index.

## Industry Concentration Policy

The TIPS Fund will concentrate its investments (*i.e.*, hold 25% or more of its total assets) in a particular industry or group of industries to approximately the same extent that the Barclays TIPS Index is concentrated. For purposes of this limitation, securities of the U.S. government (including its agencies and instrumentalities), repurchase agreements collateralized by U.S. government securities and securities of state or municipal governments and their political subdivisions are not considered to be issued by members of any industry.

## Holdings Information

The following table summarizes the TIPS Fund’s top 10 holdings in individual securities as of May 5, 2015.

**Top 10 Holdings as of May 5, 2015**

<b>Security</b>	<b>Percentage of Total Holdings</b>
U.S. Treasury (CPI) Note, 04/15/2018	10.66%
U.S. Treasury (CPI) Note, 07/15/2023	8.21%
U.S. Treasury (CPI) Note, 01/15/2024	6.27%
U.S. Treasury (CPI) Note, 07/15/2024	5.81%
U.S. Treasury (CPI) Note, 04/15/2019	5.50%

<b>Security</b>	<b>Percentage of Total Holdings</b>
U.S. Treasury (CPI) Note, 04/15/2016	4.84%
U.S. Treasury (CPI) Note, 01/15/2023	4.22%
U.S. Treasury (CPI) Note, 07/15/2019	4.13%
U.S. Treasury (CPI) Note, 01/15/2021	4.07%
U.S. Treasury (CPI) Note, 07/15/2021	4.04%

The information above was compiled from the iShares® website, without independent verification. Information contained in the iShares® website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### **The Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L)**

We have derived all information contained in this underlying supplement regarding the Barclays TIPS Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Barclays Capital Inc. (“BCI”). The Barclays TIPS Index is a bond index calculated, published and disseminated by BCI. BCI is under no obligation to continue to publish, and may discontinue publication of, the Barclays TIPS Index.

The Barclays TIPS Index measures the performance of inflation-protected securities issued by the U.S. Treasury known as “TIPS.” The Barclays TIPS Index is market capitalization weighted, includes all publicly issued U.S. inflation-protected securities that meet the criteria for inclusion and is rebalanced once a month on the last calendar day of the month. TIPS are indexed to the non-seasonally adjusted Consumer Price Index for All Urban Consumers, or the CPI-U.

#### *Eligibility Criteria*

In order to be eligible for inclusion in the Barclays TIPS Index, securities must have \$250 million or more of outstanding face value. U.S. Treasuries held in the Federal Reserve SOMA account (both purchases at issuance and net secondary market transactions) are deducted from the total amount outstanding. Any issuance bought at auction by the Federal Reserve does not enter the Barclays TIPS Index. Net secondary market purchases and sales are adjusted at each month-end with a one-month lag.

The U.S. inflation-protected securities included in the Barclays TIPS Index must be rated investment grade (Baa3/BBB-/BBB-) or higher using the middle rating of Moody’s, S&P and Fitch after dropping the highest and lowest available ratings. When a rating from only two agencies is available, the lower is used. When a rating from only one agency is available, that is used to determine index eligibility.

Securities must have a remaining maturity of at least one year, regardless of optionality. Securities with a coupon that converts from fixed to floating rate must have at least one year until the conversion date.

Principal and coupons must be denominated in U.S. dollars. Coupons must be fixed rate, step-up coupons or coupons that change according to a predetermined schedule.

The securities must be SEC-registered securities, bonds exempt from registration at the time of issuance or Rule 144A securities with registration rights. Public obligations of the U.S. Treasury and inflation-protected securities are eligible for inclusion in the Barclays TIPS Index. State and local government series bonds, STRIPS, T-bills and bellwethers are excluded from the Barclays TIPS Index.

### *Rebalancing*

The compositions of the “returns universe” is rebalanced at each month-end and represents the fixed set of bonds on which index returns are calculated for the ensuing month. The “statistics universe” is a forward-looking version that changes daily to reflect issues dropping out and entering the index, but is not used for return calculation. On the last business day of the month (the “rebalancing date”), the composition of the latest statistics universe becomes the returns universe for the following month.

During the month, indicative changes to securities (e.g., credit rating changes, sector reclassification, amount outstanding changes, corporate actions, ticker changes) are reflected in both the statistic universe and returns universe of the index on a daily basis. These changes may cause bonds to enter or fall out of the statistics universe of the index on a daily basis, but will affect the composition of the returns universe only at month-end, when the index is rebalanced.

Intra-month cash flows from interest and principal payments contribute to monthly index returns, but are not reinvested at any short-term reinvestment rate in between rebalance dates to earn an incremental return. However, after the rebalancing, cash is effectively reinvested into the returns universe for the following month, so that index results over two or more months reflect monthly compounding.

Eligible securities issued but not necessarily settled on or before the month-end rebalancing date qualify for inclusion in the following month’s index if required security reference information and pricing are readily available.

### *Index Calculation*

The Barclays TIPS Index is priced by Barclays Capital market makers on a daily basis on 3:00 p.m. New York time. Bonds in the index are priced on the mid side. The primary price for each security is analyzed and compared with other third-party pricing sources through statistical routines and scrutiny by the research staff. Significant discrepancies are researched and corrected, as necessary.

The amount outstanding reported for TIPS is equal to the notional par value of each TIP security available for purchase by the public as reported by the U.S. Treasury in the Quarterly Treasury Bulletin. This number is then adjusted (divided) by the compounded rate of inflation since the date of issue. The number is updated quarterly, at the end of a month that the Quarterly Treasury Bulletin is released.

When a new TIPS is issued or an existing issue is reopened, the full uninflated par amount outstanding enters the index for returns purposes on the first day of the following month. Only when the next published Quarterly Treasury Bulletin includes the new issuance or reopening will this amount be adjusted to reflect the amount outstanding net of holds by the U.S. Treasury.



## BACKGROUND ON THE VANGUARD SHORT-TERM CORPORATE BOND ETF

We have derived all information contained in this underlying supplement regarding the Vanguard Short-Term Corporate Bond ETF (the “**Vanguard Bond ETF**”) from publicly available information. This information reflects the policies of, and is subject to change by Vanguard Scottsdale Funds and The Vanguard Group, Inc. (“**Vanguard**”). The Vanguard Bond ETF is an investment portfolio of Vanguard Scottsdale Funds. Vanguard is the investment adviser to the Vanguard Bond ETF. The Vanguard Bond ETF is an exchange-traded fund that trades on The NASDAQ Stock Market under the ticker symbol “VCSH.”

Vanguard Scottsdale Funds is a registered investment company that consists of numerous separate investment portfolios, including the Vanguard Bond ETF. Information provided to or filed with the SEC by Vanguard pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-11763 and 811-07803, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding Vanguard Scottsdale Funds, Vanguard and the Vanguard Bond ETF, please see the Vanguard Bond ETF’s prospectus. In addition, information about Vanguard and the Vanguard Bond ETF may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the Vanguard website at [www.vanguard.com](http://www.vanguard.com). Information contained in the Vanguard website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Investment Objective and Strategy

The Vanguard Bond ETF seeks to track the performance of a market-weighted corporate bond index with a short-term dollar-weighted average maturity, which is currently the Barclays U.S. 1-5 Year Corporate Bond Index (the “**Barclays Bond Index**”). The Barclays Bond Index includes U.S. dollar-denominated, investment-grade, fixed-rate, taxable securities issued by industrial, utility and financial companies with maturities between 1 and 5 years.

### Indexing Investment Approach

The Vanguard Bond ETF employs an indexing investment approach designed to track the performance of the Barclays Bond Index. The Vanguard Bond ETF uses the sampling method of indexing, meaning that it holds a range of securities that, in the aggregate, approximates the Barclays Bond Index in terms of key risk factors and other characteristics. All of the Vanguard Bond ETF’s investments are selected through the sampling process, and under normal circumstances, at least 80% of the Vanguard Bond ETF’s assets will be invested in bonds included in the Barclays Bond Index. The Vanguard Bond ETF maintains a dollar-weighted average maturity consistent with that of the Barclays Bond Index, which was 3.0 years as of August 31, 2014. The Vanguard Bond ETF is subject to index sampling risk, which is the chance that the securities selected for the Vanguard Bond ETF, in the aggregate, will not provide investment performance matching that of the Vanguard Bond Index.

Up to 20% of the Vanguard Bond ETF’s assets may be used to purchase nonpublic, investment-grade securities, as well as smaller public issues or medium-term notes not included in the Barclays Bond Index because of the small size of the issue. Subject to the same 20% limit, the Vanguard Bond ETF may also purchase other investments that are outside of the Barclays Bond Index or may hold bonds that, when acquired, were included in the Barclays Bond Index but subsequently were removed.

The Vanguard Bond ETF may invest in derivatives only if the expected risks and rewards of the derivatives are consistent with the investment objective, policies, strategies and risks as disclosed in its prospectus. The Vanguard Bond ETF’s derivative investments may include fixed income futures contracts, fixed income options, interest rate swaps, total return swaps, credit default swaps, or other derivatives.

Vanguard may invest a small portion of the Vanguard Bond ETF's assets in U.S. Treasury futures and/or shares of other ETFs. ETFs may be purchased when doing so will reduce the Vanguard Bond ETF's transaction costs or add value because the instruments are favorably priced.

### Holdings Information

As of March 31, 2015, 100% of the Vanguard Bond ETF's holdings consisted of debt securities. The following tables summarize the distribution of the Vanguard Bond ETF's holdings by issuer, credit quality and maturity.

#### Distribution of holdings by type of issuance as of March 31, 2015

<b>Issuer</b>	<b>Percentage of Total Holdings</b>
Asset-Backed	0.00%
Commercial Mortgage-Backed	0.00%
Finance	42.50%
Foreign	0.00%
Government Mortgage-Backed	0.00%
Industrial	51.40%
Other	0.30%
Treasury Agency	0.70%
Utilities	5.00%
Total	100.00%

#### Distribution of holdings by credit quality as of March 31, 2015

<b>Credit Rating</b>	<b>Percentage of Total Holdings</b>
U.S. Government	0.70%
Aaa	1.30%
Aa	11.60%
A	50.80%
Baa	35.60%
<Baa	0.00%
Total	100.00%

**Distribution of holdings by maturity as of March 31, 2015**

<b><u>Maturity</u></b>	<b><u>Percentage of Total Holdings</u></b>
Under 1 year	1.30%
1 – 3 years	49.70%
3 – 5 years	49.00%
5 – 10 years	0.00%
10 – 20 years	0.00%
20 – 30 years	0.00%
Over 30 years	0.00%
Total	100.00%

The information above was compiled from the Vanguard website. Information contained in the Vanguard website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

## BACKGROUND ON THE SPDR® BARCLAYS HIGH YIELD BOND ETF

We have derived all information contained in this underlying supplement regarding the SPDR® Barclays High Yield Bond ETF (the “**High Yield Bond ETF**”), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, the SPDR® Series Trust and SSgA Funds Management Inc. (“**SSgA**”). The High Yield Bond ETF is an investment portfolio managed by SSgA, the investment adviser to the High Yield Bond ETF. The High Yield Bond ETF is an exchange-traded fund that trades on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “JNK.”

The SPDR® Series Trust is a registered investment company that consists of numerous separate investment portfolios, including the High Yield Bond ETF. Information provided to or filed with the SEC by the SPDR® Series Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-57793 and 811-08839, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding the SPDR® Series Trust, SSgA and the High Yield Bond ETF, please see the High Yield Bond ETF’s prospectus. In addition, information about the High Yield Bond ETF and SSgA may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the High Yield Bond ETF’s website at <https://www.spdrs.com/product/fund.seam?ticker=JNK>. Information contained in the High Yield Bond ETF’s website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Investment Objective and Strategy

The High Yield Bond ETF seeks to provide investment results that, before fees and expenses, correspond generally to the price and yield performance of an index that tracks the U.S. high yield corporate bond market, which is currently the Barclays High Yield Very Liquid Index (the “**High Yield Index**”). The High Yield Index is designed to measure the performance of publicly issued, U.S. dollar-denominated high yield corporate bonds with above-average liquidity. See “— The Barclays High-Yield Very Liquid Index” below for more information about the High Yield Index.

In seeking to track the performance of the High Yield Index, the High Yield Bond ETF employs a sampling strategy, which means that the High Yield Bond ETF is not required to purchase all of the securities represented in the High Yield Bond Index. Instead, the High Yield Bond ETF may purchase a subset of the securities in the High Yield Index in an effort to hold a portfolio of securities with generally the same risk and return characteristics of the High Yield Index. The quantity of holdings in the High Yield Bond ETF will be based on a number of factors, including asset size of the High Yield Bond ETF. Based on its analysis of these factors, SSgA may invest the High Yield Bond ETF’s assets in a subset of securities in the High Yield Bond Index or may invest the High Yield Bond ETF’s assets in substantially all of the securities represented in the High Yield Bond Index in approximately the same proportions as the High Yield Bond Index.

Under normal market conditions, the High Yield Bond ETF generally invests substantially all, but at least 80%, of its total assets in the securities comprising the High Yield Index or in securities that SSgA determines have economic characteristics that are substantially identical to the economic characteristics of the securities that comprise the High Yield Index. In addition, the High Yield Bond ETF may invest in debt securities that are not included in the High Yield Index, cash and cash equivalents or money market instruments, such as repurchase agreements and money market funds (including money market funds advised by SSgA).

While SSgA seeks to track the performance of the High Yield Index as closely as possible (*i.e.*, achieve a high degree of correlation with the High Yield Index), the return of the High Yield Bond ETF

may not match or achieve a high degree of correlation with the return of the High Yield Index due to operating expenses, transaction costs, cash flows, regulatory requirements and operational inefficiencies. For example, SSgA anticipates that it may take several business days for additions and deletions to the High Yield Index to be reflected in the portfolio composition of the High Yield Bond ETF.

### Holdings Information

The following tables summarize the High Yield Bond ETF's top holdings in individual securities and by sector as of May 6, 2015.

#### Top holdings in individual securities as of May 6, 2015

<b>Name</b>	<b>Weight</b>
Sprint Nextel Corp, 09/15/2023, 7.875%	0.62%
Numericable – SFR, 05/15/2022, 6.00%	0.58%
First Data Corporation, 01/15/2021, 12.625%	0.57%
FCA US LLC/CG Co-Issuer, 06/15/2021, 8.25%	0.51%
Valeant Pharmaceuticals, 04/15/2025, 6.125%	0.49%
HCA Inc, 02/15/2020, 6.50%	0.48%
Sprint Communications, 11/15/2018, 9.00%	0.48%
Valeant Pharmaceuticals, 05/15/2023, 5.875%	0.47%
HJ Heinz Company., 10/15/2020, 4.25%	0.47%
CHS/Community Health Systems, 02/01/2022, 6.875%	0.45%

#### Fund sector allocation as of May 6, 2015

<b>Sector</b>	<b>Percentage of Total Holdings</b>
Corporate – Industrial	89.41%
Corporate – Finance	7.56%
Corporate – Utility	3.36%
Cash	-0.32%

The information above was compiled from the High Yield Bond ETF's website, without independent verification. Information contained in the High Yield Bond ETF's website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

## **The Barclays High Yield Very Liquid Index**

We have derived all information contained in this underlying supplement regarding the High Yield Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. This information reflects the policies of, and is subject to change by, Barclays Capital Inc. ("BCI"). The High Yield Index is calculated, maintained and published by BCI. BCI is under no obligation to continue to publish, and may discontinue publication of, the High Yield Index.

The High Yield Index is reported by Bloomberg L.P. under the ticker symbol "LHVLTRUU."

The High Yield Index measures the market of U.S. dollar-denominated, non-investment grade, fixed-rate, taxable corporate bonds of above-average liquidity.

### *Rules for Inclusion*

To qualify for membership in the High Yield Index, a bond issuance must have a minimum issue still outstanding of US\$600 million.

In order to be included in the High Yield Index, a bond must be rated high yield, using the middle rating of Moody's, S&P and Fitch after dropping the highest and lowest available ratings. When a rating from only two agencies is available, the lower rating is used. When a rating is available from only one agency, that rating is used to determine index eligibility. With respect to Moody's, a rating of Ba1 or lower is considered a high yield rating, and with respect to both S&P and Fitch, a rating of BB+ or lower is considered a high-yield rating. Expected ratings at issuance may be used when there are other index-eligible bonds from the same issuer that hold the same actual rating as the expected rating.

In order to be included in the High Yield Index, a bond must have at least one year time to maturity, regardless of optionality. Securities with a coupon that converts from fixed- to floating-rate must have at least one year left before the conversion date. Fixed-to-floating perpetual securities are included in the High Yield Index. They are included until one year before their first call date, provided that they meet all other index criteria.

Both senior and subordinated issues may be included. Capital securities (hybrid capital) are eligible during their fixed-rate term and exit the High Yield Index one year prior to their conversion to floating-coupon securities.

To qualify for membership, a bond's coupon must be either fixed-rate or else a step-up coupon, or changes according to a pre-determined schedule. Capital securities with coupons that convert from fixed- to floating-rate are eligible for inclusion, so long as they are currently fixed rate; the maturity date then equals the conversion date. Fixed-to-floating rate perpetual capital securities that do not have coupon rate step-ups on their first call date will remain index eligible for their fixed-rate term, provided that they meet all other inclusion rules and exit the High Yield Index one year prior to their conversion to floating-coupon securities.

Both the principal and coupon of the bond must be denominated in U.S. dollars.

SEC-registered securities and SEC Rule 144A securities, with or without registration rights, are index eligible. Bonds from issuers that have later de-registered remain index eligible if they were either previously registered with the SEC, or if they were Rule 144A securities with registration rights.

The following types of bonds are eligible for inclusion: corporate bonds, fixed-rate bullet, putable and callable bonds, SEC Rule 144A securities, original issue zeroes, pay-in-kind bonds and fixed-rate and fixed-to-floating capital securities.

The following types of bonds are specifically excluded: non-corporate bonds, bonds with equity features (e.g. warrants, convertibles or contingent capital securities), Eurobonds, defaulted bonds, private placements, floating-rate issues, emerging market bonds (sovereign rating Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P and Fitch).

If an issuer has multiple issues outstanding, BCI will apply a rules-based methodology to select only the largest issue, based on amount outstanding, for each issuer.

In order to be included, a bond must have been issued within the past three years.

### *Rebalancing Rules*

The composition of the Returns Universe is rebalanced at each month-end; the Returns Universe is the fixed set of bonds on which High Yield Index returns are calculated for the ensuing month. The Statistics Universe is a forward-looking version that changes daily to reflect issues dropping out of and entering the High Yield Index, but is not used for return calculation. On the last business day of the month (the "rebalancing date"), the composition of the latest Statistics Universe becomes the Returns Universe for the following month.

During the month, indicative changes to securities (e.g. credit rating change, sector reclassification, amount outstanding changes, corporate actions, ticker changes) are reflected in both the Statistics and Returns Universe on a daily basis. These changes may cause bonds to enter or fall out of the Statistics Universe of the High Yield Index on a daily basis, but will affect the composition of the Returns Universe only at month-end, when the High Yield Index is rebalanced.

Intra-month cash flows from interest and principal payments contribute to monthly index returns, but are not reinvested at any short-term reinvestment rate in between rebalancing dates for an incremental return. However, after rebalancing, cash is effectively reinvested into the Returns Universe for the following month so that the High Yield Index results over two or more months reflect monthly compounding.

Qualifying securities issued, but not necessarily settled on or before the rebalancing date, qualify for inclusion in the following month if required security reference information and pricing are readily available.

### *Pricing and Related Issues*

All index-eligible bonds are priced on a daily basis by either Barclays Capital traders or FT Interactive Data.

Bonds can be quoted in a variety of ways, including nominal spreads over benchmark securities or Treasuries, spreads over swap curves, or direct price quotes as a percentage of par. In most instances, the quote type used is a spread measure that results in daily security price changes from the movement of the underlying curve (swap or Treasury) and/or change in the quoted spread.

Prices are observed at 3:00 p.m. (New York time) each day. On early market closes, prices will be taken as of 1:00 p.m., unless otherwise noted. If the last business day of the month is a public holiday in the United States, prices from the previous business day will be used.

Bonds in the High Yield Index are priced on the bid side. The initial price for new corporate issues entering the High Yield Index is the offer side; afterwards, however, the bid side price is used.

A settlement basis of T+1 calendar day is assumed for all bonds.

The price for each security is subject to multi-contributor verification. The primary price for each security is analyzed and compared with other third-party pricing sources through statistical routines and scrutiny by the research staff. Significant discrepancies are researched and corrected, as necessary.

The High Yield Index follows the U.S. bond market holiday schedule.



## BACKGROUND ON THE PIMCO 0-5 YEAR HIGH YIELD CORPORATE BOND INDEX ETF

We have derived all information contained in this underlying supplement regarding the PIMCO 0-5 Year High Yield Corporate Bond Index ETF (the “**PIMCO High Yield Bond ETF**”), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, the PIMCO ETF Trust and Pacific Investment Management Company LLC (“**PIMCO**”). PIMCO is currently the investment adviser to the PIMCO High Yield Bond ETF. The PIMCO High Yield Bond ETF is an exchange-traded fund that trades on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “HYS.”

The PIMCO ETF Trust is a registered investment company that consists of numerous separate investment portfolios, including the PIMCO High Yield Bond ETF. Information provided to or filed with the SEC by PIMCO ETF Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-155395 and 811-22250, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding PIMCO and the PIMCO High Yield Bond ETF, please see the PIMCO High Yield Bond ETF’s prospectus. In addition, information about PIMCO and the PIMCO High Yield Bond ETF may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the PIMCO website at [www.pimcoetfs.com](http://www.pimcoetfs.com). Information contained in the PIMCO website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Investment Objective and Strategy

The PIMCO High Yield Bond ETF seeks to provide total return that corresponds, before fees and expenses, to the total return of the BofA Merrill Lynch 0-5 Year US High Yield Constrained Index<sup>SM</sup> (the “**HY Index**”). For more information about the HY Index, please see “— BofA Merrill Lynch 0-5 Year US High Yield Constrained Index<sup>SM</sup>” below.

PIMCO uses a “passive” or indexing approach to try to achieve the investment objective of the PIMCO High Yield Bond ETF. The PIMCO High Yield Bond ETF does not try to “beat” the index it tracks and does not seek temporary defensive positions when markets decline or appear overvalued. The PIMCO High Yield Bond ETF uses a representative sampling indexing strategy (as described below under “— Representative Sampling”) to try to track the HY Index.

The PIMCO High Yield Bond ETF may or may not hold all of the securities in the HY Index. The PIMCO High Yield Bond ETF generally invests at least 80% (exclusive of collateral held from securities lending) of its assets in the bonds of the HY Index. The PIMCO High Yield Bond ETF may invest the remainder of its assets in fixed income instruments that are not included in the HY Index but which PIMCO believes will help the PIMCO High Yield Bond ETF track the HY Index, as well as in cash and investment grade, liquid short-term instruments, forwards or derivatives, such as options, futures contracts or swap agreements, and shares of affiliated bond funds.

### Representative Sampling

PIMCO uses an indexing approach in managing the PIMCO High Yield Bond ETF’s investments. The PIMCO High Yield Bond ETF employs a representative sampling strategy in seeking to achieve its investment objective. Representative sampling involves investing in a representative sample of securities included in the HY Index and other instruments such that the combination effectively provides exposure to the HY Index. In using a representative strategy, the PIMCO High Yield Bond ETF may not track the HY Index with the same degree of accuracy as a fund that replicates the composition of its underlying index. The PIMCO High Yield Bond ETF does not attempt to outperform the HY Index.

## Correlation

The HY Index is a theoretical financial calculation while the PIMCO High Yield Bond ETF is an actual investment portfolio. The performance of the PIMCO High Yield Bond ETF and the HY Index may vary due to the operating expenses incurred by the fund, the cost of buying and selling securities, asset valuation differences and differences between the PIMCO High Yield Bond ETF's portfolio and the HY Index due to legal restrictions, cost or liquidity restraints. "Tracking error" is the difference between the performance (return) of the PIMCO High Yield Bond ETF's portfolio and that of the HY Index. Because the PIMCO High Yield Bond ETF uses a representative sampling indexing strategy, it can be expected to have a larger tracking error than if it held all of the securities in the HY index.

## Holdings Information

The holding information for the PIMCO High Yield Bond ETF is updated on a daily basis. The following table summarizes the top 10 holdings of the PIMCO High Yield Bond ETF as of such date.

### Top 10 holdings as of May 6, 2015

Security	Percentage of Total Holdings
CDX HY23 5Y	13.70%
SPRINT COMMUNICATIONS SR UNSEC	1.89%
FIN FUT US 5YR CBT 06/30/15	1.69%
NUMERICABLE-SFR 144A	1.46%
SPRINGLEAF FINANCE CORP SR UNSEC MTN	1.37%
ALGECO SCOTSMAN GLOB FIN 144A	1.36%
TELECOM ITALIA CAPITAL GLBL CO GTD	1.36%
ALLY FINANCIAL INC CO GTD	1.20%
CIT GROUP INC GLBL SR UNSEC	1.18%
GENERAL MOTORS FINL CO SR UNSEC	1.17%

The information above was compiled from the PIMCO website, without independent verification. Information contained in the PIMCO website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### The BofA Merrill Lynch 0-5 Year US High Yield Constrained Index<sup>SM</sup>

We have derived all information contained in this underlying supplement regarding the HY Index including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Bank of America Merrill Lynch ("BofA Merrill Lynch"). The HY Index is calculated, maintained and published by BofA Merrill Lynch. BofA Merrill Lynch has no obligation to continue to publish, and may discontinue publication of, the HY Index.

The HY Index is reported by Bloomberg L.P. under the ticker symbol "HUCD." The HY Index data may not be publicly available.

The HY Index tracks the performance of short-term U.S. dollar denominated below investment grade corporate debt publicly issued in the U.S. domestic market.

The HY Index consists of U.S. dollar-denominated bonds issued by corporate issuers from the United States that are rated below investment grade based on the average of three rating services: Fitch Ratings, Moody's Investors Service or Standard & Poor's Rating Services (each a "**Ratings Agency**" and collectively, the "**Ratings Agencies**"). The HY Index composition is rebalanced once a month, on the last calendar day of the month (the "rebalancing date") based on information available up to and including the third business day prior to the last business day of the month (the "rebalancing lock-out date"). No changes are made to constituent holdings other than on month end rebalancing dates.

### **Selection Criteria for the BofA Merrill Lynch 0-5 Year US High Yield Constrained Index**

The following selection criteria are applied to determine the constituents for the HY Index: bond type, credit rating, time to maturity, amount outstanding, and geographic risk exposure.

***Bond Type:*** Only bonds with a fixed coupon schedule are eligible for the HY Index. The HY Index includes only U.S. dollar denominated bonds.

In particular, bonds with the following characteristics are included: original issue zero coupon bonds, Rule 144A offerings (with and without registration rights), pay-in-kind securities (including toggle notes), callable perpetual securities (provided they are at least one year from the first call date), fixed-to-floating rate securities (provided they are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transitions from a fixed to a floating rate security), capital securities where conversion can be mandated by a regulatory authority, but which have no specified trigger, and other hybrid capital securities (including securities that potentially convert into preference shares, securities with both cumulative and non-cumulative coupon deferral provisions and securities with alternative coupon satisfaction mechanisms).

The following instrument types are specifically excluded from the HY Index: securities issued or marketed primarily to retail investors, equity-linked securities, securities in legal default, hybrid securitized corporates, eurodollar bonds (USD securities not issued in the U.S. domestic market), taxable and tax-exempt U.S. municipal securities and DRD-eligible securities.

***Credit Rating.*** Qualifying securities must be rated below investment grade, based on an average of the ratings provided by Fitch Ratings, Moody's Investors Service or Standard & Poor's Rating Services. To calculate the average, a numeric equivalent is assigned to the ratings in each agency's scale. The average of the numeric equivalents for each agency that rates a particular bond is rounded to the nearest integer and then converted back to an equivalent composite rating. If only two of the designated agencies rate a bond, the composite rating is based on an average of the two. Likewise, if only one of the designated agencies rates a bond, the composite rating is based on that one rating.

***Time to Maturity.*** To qualify for entry in the HY Index, bonds must have at least 18 months to final maturity at the time of issuance. Bonds in the HY Index must have at least one month but less than five years remaining term to final maturity as of the rebalancing date.

***Amount Outstanding.*** Qualifying securities must have a minimum amount outstanding of \$100 million.

***Geographic Risk Exposure.*** Qualifying securities must have risk exposure to countries that are members of the FX-G10 (which includes all Euro members, the U.S., Japan, the UK, Canada, Australia,

New Zealand, Switzerland, Norway and Sweden), Western Europe or territories of the U.S. and Western Europe.

#### **Calculation of the BofA Merrill Lynch 0-5 Year US High Yield Constrained Index**

Index constituents are capitalization-weighted, based on their current amount outstanding, provided the total allocation to an individual issuer does not exceed 2%. Issuers that exceed the limit are reduced to 2% and the face value of each of their bonds is adjusted on a pro-rata basis. Similarly, the face values of bonds of all other issuers that fall below the 2% cap are increased on a pro-rata basis. In the event there are fewer than 50 issuers in the HY Index, each is equally weighted and the face values of their respective bonds are increased or decreased on a pro-rata basis.

Accrued interest is calculated assuming next-day settlement. Cash flows from bond payments that are received during the month are retained in the HY Index until the end of the month and then are removed as part of the rebalancing. Cash does not earn any reinvestment income while it is held in the HY Index.

The daily closing index value is a function of the prior month-end index value and current month-to-date return. The month-to-date return of the index is equal to the sum of the individual constituent returns times their respecting beginning of month weights.

## BACKGROUND ON THE POWERSHARES SENIOR LOAN PORTFOLIO

We have derived all information contained in this underlying supplement regarding the PowerShares Senior Loan Portfolio (the **"PowerShares Fund"**), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, PowerShares Exchange-Traded Fund Trust II (the **"PowerShares Trust"**), Invesco PowerShares Capital Management LLC (**"Invesco"**) and Invesco Senior Secured Management, Inc. (**"Invesco Inc."**). The PowerShares Fund is an investment portfolio of the PowerShares Trust. Invesco is currently the investment adviser to the PowerShares Fund. Invesco Inc. is the sub-adviser to the PowerShares Fund. The PowerShares Fund is an exchange-traded fund that trades on the NYSE Arca, Inc. (**"NYSE Arca"**) under the ticker symbol **"BKLN."**

The PowerShares Trust is a registered investment company that consists of numerous separate investment portfolios, including the PowerShares Fund. Information provided to or filed with the SEC by the PowerShares Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-138490 and 811-21977, respectively, through the SEC's website at <http://www.sec.gov>. For additional information regarding the PowerShares Trust, Invesco, Invesco Inc. and the PowerShares Fund, please see the PowerShares Fund's prospectus. In addition, information about the PowerShares Trust, Invesco, Invesco Inc. and the PowerShares Fund may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the PowerShares Fund's website at <http://www.invescopowershares.com/products/overview.aspx?ticker=BKLN>. Information contained in the PowerShares Fund's website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant term supplement.

### Investment Objective and Strategy

The PowerShares Fund seeks to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of the S&P/LSTA U.S. Leveraged Loan 100 Index (the **"Leveraged Loan 100 Index"**). For more information about the Leveraged Loan 100 Index, please see **"— The S&P/LSTA U.S. Leveraged Loan 100 Index"** below.

The PowerShares Fund generally will invest at least 80% of its net assets (plus any borrowings for investment purposes) in senior loans that comprise the Leveraged Loan 100 Index. Invesco and Invesco Inc. define senior loans to include loans referred to as leveraged loans, bank loans and/or floating rate loans. Banks and other lending institutions generally issue senior loans to corporations, partnerships or other entities (**"borrowers"**). These borrowers operate in a variety of industries and geographic regions, including foreign countries.

Senior loans often are issued in connection with recapitalizations, acquisitions, leveraged buyouts and re-financings. Senior loans typically are structured and administered by a financial institution that acts as agent for the lenders in the lending group. The PowerShares Fund generally will purchase loans from banks or other financial institutions through assignments or participations. The PowerShares Fund may acquire a direct interest in a loan from the agent or another lender by assignment or an indirect interest in a loan as a participation in another lender's portion of a loan. The PowerShares Fund generally will sell loans it holds by way of an assignment, but may sell participation interests in such loans at any time to facilitate its ability to fund redemption requests.

The PowerShares Fund will invest in loans that are expected to be below investment grade quality and to bear interest at a floating rate that periodically resets. The Leveraged Loan 100 Index may include, and the PowerShares Fund may acquire and retain, loans of borrowers that have filed for bankruptcy protection. The PowerShares Fund also may invest up to 20% of its assets in closed-end funds that invest all or a portion of their assets in senior loans and in other liquid instruments such as high yield securities (commonly known as **"junk bonds"**). The PowerShares Fund does not purchase all

of the loans in the Leveraged Loan 100 Index; instead, the PowerShares Fund utilizes a “sampling” methodology to seek to achieve its investment objective.

Non-investment grade loans and bonds, and unrated loans and bonds of comparable credit quality are subject to the increased risk of a borrower’s or issuer’s inability to meet principal and interest payment obligations. These securities may be subject to greater price volatility due to such factors as specific corporate developments, interest rate sensitivity, negative perceptions of the non-investment grade securities markets generally, real or perceived adverse economic and competitive industry conditions and less secondary market liquidity. In addition, if the borrower of lower-rated loans or issuer of lower-rated bonds defaults, the PowerShares Fund may incur additional expenses to seek recovery.

### **Representative Sampling**

The PowerShares Fund utilizes a “sampling” methodology to seek to achieve its investment objective. Sampling means that Invesco and Invesco Inc. use a quantitative analysis to select loans from the Leveraged Loan 100 Index universe to obtain a representative sample of loans that have, in the aggregate, investment characteristics similar to the Leveraged Loan 100 Index in terms of key risk factors, performance attributes and other characteristics. These attributes and other characteristics include duration, maturity, credit quality, yield and coupon. Invesco and Invesco Inc. generally expect the PowerShares Fund to hold less than the total number of loans in the Leveraged Loan 100 Index, but reserves the right to hold as many loans or securities as it believes necessary to achieve the PowerShares Fund’s investment objective. The PowerShares Fund’s use of a representative sampling approach may cause the PowerShares Fund to not be as well correlated with the return of the Leveraged Loan 100 Index as would be the case if the PowerShares Fund purchased all of the loans in the Leveraged Loan 100 Index in the proportions represented in the Leveraged Loan 100 Index.

### **Correlation**

Invesco and Invesco Inc. seek a correlation over time of 0.95 or better between the PowerShares Fund’s performance and the performance of the Leveraged Loan 100 Index; a figure of 1.00 would represent perfect correlation. Another means of evaluating the relationship between the returns of the PowerShares Fund and the Leveraged Loan 100 Index is to assess the tracking error between the two. Tracking error means the variation between the PowerShares Fund’s annual return and the return of the Leveraged Loan 100 Index, expressed in terms of standard deviation. The PowerShares Fund seeks to have a tracking error of less than 5%, measured on a monthly basis over a one-year period by taking the standard deviation of the difference in the PowerShares Fund’s returns versus the Leveraged Loan 100 Index’s returns.

### **Industry Concentration Policy**

The PowerShares Fund will concentrate its investments (*i.e.*, invest 25% or more of the value of its total assets) in loans of issuers in any one industry or sector only to the extent that the Leveraged Loan 100 Index reflects a concentration in that industry or sector. The PowerShares Fund will not otherwise concentrate its investments in loans of issuers in any one industry or sector.

### **Holdings Information**

The following table summarizes the PowerShares Fund’s top holdings in individual loans as of May 6, 2015.

### Top holdings in individual loans as of May 6, 2015

Company	Coupon Rate	Maturity Date	Percentage of Total Holdings
New Red Finance, Inc.	4.50%	12/12/2021	1.93%
Hilton Worldwide Finance, LLC	3.50%	10/26/2020	1.86%
Energy Future Immediate	4.25%	6/19/2016	1.86%
Petsmart Inc. Frn	5.00%	3/11/2022	1.80%
Fortescue Metal	3.75%	6/30/2019	1.78%
H.J. Heinz Comp.	3.25%	6/5/2020	1.71%
Avago Tech. Finance Pte Ltd.	3.75%	5/6/2021	1.65%
Albertson's LLC	5.50%	8/25/2021	1.61%
Asurion Corp.	5.00%	5/24/2019	1.59%
Biomet	3.68%	7/25/2017	1.53%

The information above was compiled from the Invesco website, without independent verification. Information contained in the Invesco website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### S&P/LSTA U.S. Leveraged Loan 100 Index

We have derived all information contained in this underlying supplement regarding the Leveraged Loan 100 Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information prepared by S&P Dow Jones Indices LLC, a subsidiary of The McGraw-Hill Companies, Inc., without independent verification. This information reflects the policies of, and is subject to change by, S&P Dow Jones Indices LLC. The Leveraged Loan 100 Index is calculated, published and disseminated by S&P Dow Jones Indices LLC. S&P Dow Jones Indices LLC has no obligation to continue to publish, and may discontinue the publication of, the Leveraged Loan 100 Index.

The Index is reported by Bloomberg L.P. under the ticker symbol "SPBDLL."

The Leveraged Loan 100 Index is a market value-weighted index designed to measure the performance of the U.S. leveraged loan market. The Leveraged Loan 100 Index consists of 100 loan facilities drawn from a larger benchmark — the S&P/LSTA Leveraged Loan Index. The Leveraged Loan 100 Index mirrors the market-weighted performance of the largest institutional leveraged loans based upon market weightings, spreads and interest payments. The Leveraged Loan 100 Index is rebalanced semi-annually to avoid excessive turnover, but reviewed weekly to reflect pay-downs and ensure that the index portfolio maintains 100 loan facilities. At each weekly review, which typically occurs on Friday, facilities that exceed 2% of the market capitalization weight of the Leveraged Loan 100 Index are reduced to 1.90%. A syndicated loan (or credit) is composed of facilities (or tranches). Each facility can have different maturities, sizes, spreads and terms to fulfill a variety of borrowing needs. The Leveraged Loan 100 Index only includes term loans, which generally are fully funded at origination.

### Eligibility Criteria

All syndicated leveraged loans covered by the S&P/LSTA Leveraged Loan Index universe are eligible for inclusion in the Leveraged Loan 100 Index.

*Eligibility Factors.* In order to be eligible for inclusion in the S&P/LSTA U.S. Leveraged Loan Index, term loans from syndicated credits must be:

- senior secured
- with a minimum initial term of one year
- with a minimum initial spread of LIBOR plus 125 basis points, and
- denominated in US dollar

In addition, terms loans must have a minimum par amount of US \$50 million to be eligible for inclusion in the S&P/LSTA U.S. Leveraged Loan Index.

Furthermore, the constituents of the Leveraged Loan 100 Index (the “Index Loans”) must have a publicly assigned CUSIP. Only the 100 largest facilities in terms of par amount outstanding from the S&P/LSTA Leverage Loan Index that meet all eligibility requirements are considered for inclusion in the Leveraged Loan 100 Index.

The Leveraged Loan 100 Index covers all issuers regardless of origin, however all facilities must be denominated in U.S. dollar.

Defaulted loans remain in the Leveraged Loan 100 Index unless they no longer meet any of the other criteria for inclusion.

*Timing of Changes, Additions and Deletions.* When facilities are repaid or no longer priced by LSTA/LPC Mark-to-Market Pricing, they are deleted from the Leveraged Loan 100 Index. An index addition is generally made only if a vacancy is created by an index deletion. Index additions are reviewed on a weekly basis and are made according to par outstanding and overall liquidity. Liquidity is determined by the par outstanding and number of market bids available.

## **Index Construction**

*Approaches.* The Leveraged Loan 100 Index is designed to measure the performance of the largest segment of the U.S. syndicated leveraged loan market.

## **Index Calculations**

The Leveraged Loan 100 Index is a market value-weighted index. LSTA/LPC Mark-to-Market Pricing is used to price each loan in the Leveraged Loan 100 Index. LSTA/LPC Mark-to-Market Pricing is based on bid/ask quotes gathered from dealers and is not based upon derived pricing models. The Leveraged Loan 100 Index uses the average bid for its market value calculation.

Each loan facility’s total return is calculated by aggregating the interest return, reflecting the return due to interest paid and accrued interest, and price return, reflecting the gains or losses due to changes in end-of-day prices and principal prepayments.

The return of each loan facility is weighted in the Leveraged Loan 100 Index based upon its market value outstanding, which reflects both the prior period’s price as well as accrued interest. The overall index return is the composite of each component loan facility’s return multiplied by the market value outstanding from the prior time period. The returns are calculated for all Index Loans on every calendar day.

*Calculation of Index Loan Market Values.* The market value for each Index Loan is calculated as of the close on each calendar day. The market value of an Index Loan on day  $t$  is calculated as follows:

$$MV_t = IWF * PAR_t \frac{(P_t + AI_t)}{100}$$



where:

- $MV_t$  = The market value of Index Loan on day  $t$
- $PAR_t$  = The par amount of Index Loan as of the last weekly rebalancing, adjusted for principal pre-payments, etc., up to and including day  $t$ .
- $P_t$  = The price of Index Loan on day  $t$
- $AI_t$  = The accrued interest on Index Loan up to and including day  $t$
- $IWF$  = The Investable Weight Factor used to adjust the par amount when a loan is capped. ( $0 \leq IWF \leq 1.0$ )

If the valuation date is not a business day, the market value is based on the price as of the immediate prior business day, plus interest accrued to the valuation date.

The Investable Weight Factor (IWF) is used to reduce the weight of an Index Loan to less than 2% if the Index Loan exceeds the maximum 2% weight. At each rebalancing, the loan weights are checked; if any Index Loan exceeds 2%, its IWF is reduced until its weight is 1.90% and all the Index Loans are reviewed for adjusted weights. If necessary, further IWF adjustments are made until no Index Loan exceeds 2% weight.

*Calculation of Relative Weights.* The relative weight of an Index Loan is defined as the market value of that loan expressed as a percentage of the aggregate market value of all Index Loans in the Index portfolio, as follows:

$$Weight_k = \frac{yIWF_k * MV_k}{\sum [IWF_k * MV_k]}$$

*Calculation of Total Return.* The total return, TR, of an Index Loan at time  $t$  is the sum of the interest return and the market price return on day  $t$ :

$$TR_t = IR_t + PR_t$$

where:

- $IR_t$  = Interest return on day  $t$
- $PR_t$  = Price return on day  $t$

Price return measures the return due to the change in the market price of the loan. Interest return (or coupon return) includes the return due to the interest earned on that loan.

*Calculation of Interest Return.* In the following formula, PAR should be treated as (IWF\*PAR). The formula for the interest return on an individual Index Loan on day  $t$  is as follows:

$$IR_t = \frac{(PAR_t * R_t) / 360}{MV_{Beg}}$$

where:

- $IR_t$  = Interest return on day  $t$

$PAR_t$  = Par amount of the Index Loan as of the last weekly rebalancing, adjusted for principal pre-payments, etc., up to and including day  $t$ .

$R_t$  = Interest rate on day  $t$

$MV_{Beg}$  = Market value, at the beginning of day  $t$

The index interest rate is determined by the weighted average spread to LIBOR over the rate as provided by Wall Street Office™.

*Calculation of Price Return.* The formula for the price return for an Index Loan on day  $t$  is as follows:

$$PR_t = \frac{PAR_t \left[ \frac{P_t - P_{t-1}}{100} \right] + Prin_t * \frac{RP - P_{t-1}}{100}}{MV_{Beg}}$$

where:

$PR_t$  = Price return on day  $t$

$PAR_t$  = Par amount of the Index Loan as of the last weekly rebalancing, adjusted for principal pre-payments, etc., up to and including day  $t$ .

$P_t$  = Loan price on day  $t$

$P_{t-1}$  = Loan price on the previous day

$Prin_t$  = Principal pre-payments, etc., on day  $t$ .

$MV_{Beg}$  = Market value, beginning of day  $t$

$RP$  = Redemption price

*Daily Index Returns.* The individual Index Loan returns are aggregated to calculate returns for the Leveraged Loan 100 Index. Specifically, the total return for the Leveraged Loan 100 Index, on a given day, are equal to a weighted average of the returns of the Index Loans that constitute the Leveraged Loan 100 Index — with the weight of each Index Loan return being equal to the relative weight of that Index Loan in the Index as of the previous calendar day (adjusted for principal pre-payments, etc.). The formula is as follows:

$$Index TR_t = \frac{\sum_i MV_{i,Beg} * TR_{i,t}}{\sum_i MV_{i,Beg}}$$

where:

$IndexTR_t$  = Total return of the Index on day  $t$

$TR_{i,t}$  = Total return of the Index Loan  $i$  on day  $t$

$MV_{i,Beg}$  = Market value of the Index Loan, beginning of day  $t$

*Daily Index Values.* Index values are calculated each day by applying the current day's index return to the previous day's index value.

## Index Maintenance

The Index is maintained in accordance with the following rules:

- A complete review and rebalancing of all Leveraged Loan 100 Index constituents is completed on a semi-annual basis effective after the close of the last business day in June and December;
- Eligible loan facilities approved by S&P/LSTA U.S. Leveraged Loan 100 Index Committee (the "Index Committee") are added to the Leveraged Loan 100 Index during the semi-annual rebalancing. Eligible loan facilities are added to the Leveraged Loan 100 Index at the weekly review only if other facilities are repaid or otherwise drop out of the Leveraged Loan 100 Index, in order to maintain 100 Index Loans.
- Par amounts of Index Loans are adjusted on the weekly rebalancing date to reflect any changes that have occurred since the previous rebalancing date, due to partial pre-payments, pay-downs, etc.
- Constituent facilities are capped at 2% of the Leveraged Loan 100 Index and drawn-down at the weekly rebalancing. When a loan facility exceeds the 2% cap, the weight is reduced to 1.90% and the proceeds are invested in the other Leveraged Loan 100 Index components on a relative-weight basis.

*Rebalancing.* The Leveraged Loan 100 Index is normally reviewed and rebalanced on a weekly basis to maintain 100 constituents. The Index Committee, nevertheless, reserves the right to make adjustments to the Leveraged Loan 100 Index at any time that it believes appropriate.

Weekly Index rebalancing maintenance (additions, deletions, pay-downs, and other changes to the Leveraged Loan 100 Index) is based on data as of Friday (or the last business day of the week in the case of holidays) and is announced the following Thursday (or Wednesday in the case of a holiday) for implementation on the following Friday. Announcements are made only if there are changes to the Leveraged Loan 100 Index. Highly probable weekly pay-downs are estimated each Friday and enter the return universe at that time, until they are adjusted with actual data the following week. Publicly available information, up to and including each Thursday's close, is considered in each weekly rebalancing.

Index changes published in the announcement generally are not subject to revision and become effective on the date listed in the announcement.

*Frequency.* The Leveraged Loan 100 Index is priced daily, reviewed weekly to ensure 100 eligible constituents, and is subject to an extensive semi-annual review and rebalancing.

*Currency of Calculation.* The Leveraged Loan 100 Index is calculated in U.S. dollars.

*Base Date.* The Leveraged Loan 100 Index base date is January 1, 2002. The base value on that date is 1000. Levels prior to October 20th, 2008 are pro-forma.

*Cash flows.* The Leveraged Loan 100 Index is rebalanced weekly to maintain 100 constituents. Interest payments are considered paid on a rolling 90-day basis from the date each loan enters the Leveraged Loan 100 Index and are reinvested in the Leveraged Loan 100 Index, on a relative-weight basis, after 90 days. Pre-payments, pay-downs, and most other forms of cash flow (other than scheduled interest payments) are reconciled at the end of each week to be considered part of that week's total return.

*Base Rate.* Each loan uses a base rate in the calculation of interest. This base rate represents the average contracted LIBOR rate set on institutional loans posted by the Markit WSOData loan database. The base rate, for Leveraged Loan 100 Index calculation purposes, is updated each Monday.

*Loan Interest Rate.* On each individual loan in the Index, the loan interest rate is the Base Rate plus the spread relevant to each loan.

*Index Interest Rate.* The Leveraged Loan 100 Index interest rate is the sum of all Loan Interest Rates multiplied by their relevant weights in the Leveraged Loan 100 Index.

## **Index Governance**

*Index Committee.* The Index Committee maintains the Leveraged Loan 100 Index. The committee is composed of employees of S&P Dow Jones Indices and Leverage Commentary & Data and chaired by the Managing Director and Index Committee Chairman at S&P Dow Jones Indices. Meetings are held annually and as needed. The Index Committee is solely responsible for all matters relating to methodology, maintenance, constituent selection and index procedures. The Index Committee makes decisions based on all available information and discussions are kept confidential to avoid any unnecessary impact on market trading.

## **Overview of Leveraged Loans Market**

Generally, leveraged loans are made to leveraged borrowers whose credit ratings are speculative grade and who are paying interest rates or spreads (premiums above LIBOR or another base rate) sufficient to attract the interest of non-bank term-loan investors. Leveraged loans are also often issued with original issue discount (OID). The credit ratings for leveraged loans are typically in the range of BB or Ba or below.

Leveraged loans are commonly used to finance the acquisition of a company by the borrower but are also used for more general corporate purposes. Today, the U.S. market is dominated by institutional investors who use leveraged loans to balance the risk and reward levels of their portfolios.

Leveraged loans are floating-rate instruments and can generate higher yield, the interest-rate margins of which usually are based on the credit ratings or leverage ratios of the borrower and will fluctuate with market volatility.

Large leveraged loans are often syndicated. The syndication process begins with the borrower picking an arranging bank(s) and settling on a structure of the deal. The arranging bank(s) will in turn go to the “retail” market, which consists of banks, finance companies and institutional investors, such as mutual funds, structured finance vehicles and hedge funds, to offer the loan to these accounts. Since the 1980s, the market has adopted a “market flex” model, which allows the arranging bank(s) to change the pricing of the loan based on investor demand—in some cases within a predetermined range—as well as to shift amounts between various tranches of a loan. After the closing and initial allocation, these syndicated loans are also often traded in the secondary market, structured as either assignments or participations. An assignment of a loan typically requires the consent of the borrower and agent (though consent may be withheld only if a reasonable objection is made), where the assignee becomes a direct signatory to the loan and receives interest and principal payments directly from the administrative agent. In contrast, the buyer in a participation agreement takes a participating interest in the selling lender’s commitment, and the selling lender remains the official holder of the loan.

Unlike traditional equity or debt instruments, leveraged loans are not exchange-traded. Instead, investors usually trade leveraged loans through dealer desks at the large underwriting banks. Dealer-to-dealer trading is mostly conducted through an over-the-counter broker. Today, LSTA/LPC Mark-to-Market Pricing provides a source of daily, third-party pricing data on secondary loans.

Investing in leverage loans carries considerable risks. Leveraged loans typically represent debt of sub-investment-grade companies with high leverage. Loan prices can drop precipitously during a credit crisis. In addition, default on payment of principal and/or interest is a real and significant risk associated with leveraged loans, with or without macro-economic risks. Although leveraged loans are typically secured by the assets of the operating company (unlike high-yield bonds, which are generally

unsecured), holders of leveraged loans may still suffer losses of both principal and interest when the company defaults.

## BACKGROUND ON THE iSHARES® U.S. PREFERRED STOCK ETF

We have derived all information contained in this underlying supplement regarding the iShares® U.S. Preferred Stock ETF (the “**Preferred Stock Fund**”), including, without limitation, its make-up, method of calculation, and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, iShares® Trust, BlackRock Institutional Trust Company, N.A. (“**BTC**”) and BlackRock Fund Advisors (“**BFA**”). The Preferred Stock Fund is an investment portfolio maintained and managed by iShares® Trust. BFA is currently the investment adviser to the Preferred Stock Fund. The Preferred Stock Fund is an exchange-traded fund that trades on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “PFF.”

iShares® Trust is a registered investment company that consists of numerous separate investment portfolios, including the Preferred Stock Fund. Information provided to or filed with the SEC by iShares® Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-92935 and 811-09729, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding iShares® Trust, BFA and the Preferred Stock Fund, please see the Preferred Stock Fund’s prospectus. In addition, information about iShares® Trust and the Preferred Stock Fund may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the iShares® website at [www.ishares.com](http://www.ishares.com). Information contained in the iShares® website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Investment Objective and Strategy

The Preferred Stock Fund seeks to track investment results that correspond generally to the price and yield performance, before fees and expenses, of an index composed of U.S. preferred stocks, which is currently the S&P U.S. Preferred Stock Index™ (the “**Preferred Stock Index**”). The Preferred Stock Index measures the performance of select group of preferred stocks listed on the New York Stock Exchange, NYSE Arca, NYSE Amex, NASDAQ Global Select Market, NASDAQ Select Market or NASDAQ Capital Market. See “— The S&P U.S. Preferred Stock Index” below for more information about the Preferred Stock Index.

BFA uses a “passive” or indexing approach to try to achieve the investment objective of the Preferred Stock Fund. The Preferred Stock Fund does not try to “beat” the Preferred Stock Index and does not seek temporary defensive positions when markets decline or appear overvalued. The Preferred Stock Fund uses a representative sampling indexing strategy (as described below under “Representative Sampling”) to try to track the Preferred Stock Index.

The Preferred Stock Fund generally invests at least 90% of its assets in securities of the Preferred Stock Index and in depositary receipts representing securities of the Preferred Stock Index. The Preferred Stock Fund may invest the remainder of its assets in certain futures, options and swap contracts, cash and cash equivalents, including shares of money market funds advised by BFA or its affiliates, as well as in securities not included in the Preferred Stock Index, but which BFA believes will help the Preferred Stock Fund track the Preferred Stock Index.

### Representative Sampling

BFA uses a “representative sampling” indexing strategy to manage the Preferred Stock Fund. “Representative sampling” is an indexing strategy that involves investing in a representative sample of securities that collectively has an investment profile similar to the Preferred Stock Index. The securities selected are expected to have, in the aggregate, investment characteristics (based on factors such as market capitalization and industry weightings), fundamental characteristics (such as return variability and yield) and liquidity measures similar to those of the Preferred Stock Index. The Preferred Stock Fund may or may not hold all of the securities in the Preferred Stock Index.

## Correlation

The Preferred Stock Index is a theoretical financial calculation, while the Preferred Stock Fund is an actual investment portfolio. The performance of the Preferred Stock Fund and the Preferred Stock Index may vary due to transaction costs, non-U.S. currency valuations, asset valuations, corporate actions (such as mergers and spin-offs), timing variances and differences between the Preferred Stock Fund's portfolio and that of the Preferred Stock Index resulting from legal restrictions (such as diversification requirements) that apply to the Preferred Stock Fund but not to the Preferred Stock Index or to the use of representative sampling. "Tracking error" is the divergence of the performance (return) of an ETF's portfolio from that of its underlying index. BFA expects that, over time, the Preferred Stock Fund's tracking error will not exceed 5%. Because the Preferred Stock Fund uses a representative sampling indexing strategy, it can be expected to have a larger tracking error than if it used a replication indexing strategy. "Replication" is an indexing strategy in which a fund invests in substantially all of the securities in its underlying index in approximately the same proportions as in the underlying index.

## Industry Concentration Policy

The Preferred Stock Fund will concentrate its investments (*i.e.*, hold 25% or more of its total assets) in a particular industry or group of industries to approximately the same extent that the Preferred Stock Index is concentrated. For purposes of this limitation, securities of the U.S. government (including its agencies and instrumentalities) and repurchase agreements collateralized by U.S. government securities are not considered to be issued by members of any industry.

## Holdings Information

The following tables summarize the top 10 holdings of the Preferred Stock Fund in individual stocks and by sector as of such date.

### Top 10 holdings in individual stocks as of May 5, 2015

<u>Security</u>	<u>Percentage of Total Holdings</u>
Actavis Mandatory Convertible Pr	2.90%
HSBC Holdings plc	2.30%
GMAC Capital Trust I	1.61%
Barclays Bank Plc	1.59%
Wells Fargo & Co.	1.46%
Citigroup Cap XIII 7.875% TruPS	1.36%
HSBC Holdings plc	1.33%
DB Cont Cap Cap Trust III	1.29%
Southwestern Energy DS	1.16%
Well Fargo Depositary Shares Co.	1.07%

### Top holdings by sector as of May 5, 2015

<b>Sector</b>	<b>Percentage of Total Holdings</b>
Banks	35.69%
Diversified Financials	15.88%
Real Estate	13.78%
Other/Undefined	11.02%
Insurance	9.32%
Pharma, Biotech & Life Sciences	2.90%
Telecommunications	2.71%
Utilities	2.54%
Energy	1.78%
Materials	1.69%
Food Beverage Tobacco	1.26%
Transportation	0.45%
Capital Goods	0.44%
Commercial & Professional Services	0.27%
Media	0.18%
Cash and/or Derivatives	0.11%

The information above was compiled from the iShares® website, without independent verification. Information contained in the iShares® website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### The S&P U.S. Preferred Stock Index

We have derived all information contained in this underlying supplement regarding the Preferred Stock Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information prepared by S&P Dow Jones Indices LLC, a subsidiary of The McGraw-Hill Companies, Inc., without independent verification. This information reflects the policies of, and is subject to change by S&P Dow Jones Indices LLC. The Preferred Stock Index is an index calculated, published and disseminated by S&P Dow Jones Indices LLC. S&P Dow Jones Indices LLC has no obligation to continue to publish, and may discontinue publication of, the Preferred Stock Index.

In July 2012, The McGraw-Hill Companies, Inc. ("McGraw-Hill"), the owner of the S&P Indices business, and CME Group Inc. ("CME Group"), the 90% owner of the CME Group and Dow Jones & Company, Inc. joint venture that owns the Dow Jones Indexes business, formed a new joint venture,



S&P Dow Jones Indices, which owns the S&P Indices business and the Dow Jones Indexes business, including the S&P U.S. Preferred Stock Index.

### *Generally*

The Preferred Stock Index is composed of U.S.-traded preferred stocks (the “**Preferred Stock Index Constituents**”) that meet criteria relating to size, liquidity, issuance type, exchange listing and time to maturity. In general, preferred stock is a class of equity security that pays a specified dividend that must be paid before any dividends can be paid to common stockholders, and which takes precedence over common stock in the event of the company’s liquidation. Although preferred stocks represent a partial ownership interest in a company, preferred stocks generally do not carry voting rights and have economic characteristics similar to fixed-income securities. Preferred stocks generally are issued with a fixed par value and pay dividends based on a percentage of that par value at a fixed or variable rate. Additionally, preferred stocks often have a liquidation value that generally equals the original purchase price of the preferred stock at the date of issuance.

### *Index Eligibility*

Preferred stocks trading on the New York Stock Exchange (including NYSE Arca and NYSE MKT), NASDAQ Global Select Market, NASDAQ Select Market or the NASDAQ Capital Market are eligible. Over-the-counter, bulletin board and unregistered securities are excluded.

Preferred stocks issued by a company to meet its capital or financing requirements are eligible. These include floating- and fixed-rate preferreds, cumulative and non-cumulative preferreds, preferred stocks with a callable or conversion feature and trust preferreds. Some trust preferreds issued by a company to meet its capital requirements carry a brand name or moniker—these are included. However, structured products and brand name products issued by financial institutions that are packaged securities linked to indices, baskets of stocks or another company’s stock are excluded. Special ventures such as toll roads or dam operators may issue preferred-like securities; these are also excluded.

### *Inclusion Criteria*

Preferred stocks that do not have a mandatory conversion or scheduled maturity within the next 12 months are eligible. Preferred stocks with market capitalization of more than \$100 million are eligible. Preferred stocks that have traded more than 250,000 shares per month in each of the previous six months are eligible for inclusion. Issues with fewer than six months of trading history will be evaluated over the available period and may be included should size and available trading history infer the issue will satisfy this requirement. Preferred stocks for which S&P Dow Jones Indices cannot determine an indicated dividend yield are not eligible. There is no limit to the number of preferred stocks issued by a single company; however, a maximum weight of 10% is set per issuer. All eligible securities for an issuer are included in the Preferred Stock Index, with the aggregate weight capped on a pro rata basis to a maximum of 10% of the Preferred Stock Index market capitalization. At least 15 trust preferred issuers are targeted for inclusion in the Preferred Stock Index. In the event that fewer than 15 trust preferred issuers qualify based on the criteria above, the liquidity constraint is relaxed and the largest stocks are included until the count reaches 15.

### *Exclusion Criteria*

Preferred stocks with market capitalization of less than \$75 million as of the rebalancing reference date (as defined below) are excluded from the Preferred Stock Index. Preferred stocks that have not traded more than 125,000 shares per month over the previous six months as of the rebalancing reference date are excluded from the Preferred Stock Index. No issue is removed from the Preferred Stock Index for violating this requirement for the first 12 months following its addition effective date.

Preferred stocks for which S&P Dow Jones Indices cannot determine an indicated dividend yield as of the rebalancing reference date will be excluded from the Preferred Stock Index.

#### *Timing of Changes and Rebalancing*

Rebalancing of the Preferred Stock Index occurs quarterly after the close of the third Friday in January, April, July, and October. The “reference date” for additions and deletions is five business days prior to the first Friday of the rebalancing month. Share changes for existing index constituents occur semi-annually in January and July after the close of the third Friday.

Additions occur only at the quarterly rebalancing. There are no intra-quarter additions.

A Preferred Stock Index Constituent is deleted intra-quarter if it is called or undergoes mandatory conversion. Subject to market conditions, S&P Dow Jones Indices will provide five days’ advance notice of a deletion. Should an existing Preferred Stock Index Constituent delist during the five-day notification period, it is removed at the closing price from its last day of trading. The quarterly rebalancing also results in deletions, if one or more Preferred Stock Index Constituents no longer meets continued eligibility requirements.

#### *Index Calculations*

The Preferred Stock Index is calculated by means of the divisor method. The initial divisor (“**Index Divisor**”) is set to have a base index value of 1000 on September 19, 2003, and has been adjusted from time to time, as described below, to minimize distortions introduced by the addition and removal of Preferred Stock Index Constituents. The **Preferred Stock Index Value** is calculated as follows:

$$\text{Preferred Stock Index Value} = \text{Preferred Stock Index Market Value} / \text{Preferred Stock Index Divisor}$$

Where the **Preferred Stock Index Market Value** is equal to the sum of the products, for each Preferred Stock Index Constituent, of the price of one share of that Preferred Stock Index Constituent *times* the “**Preferred Index Shares**,” which, for each Preferred Index Constituent, is set equal to the number of that Preferred Index Constituent’s shares outstanding as of the applicable reference date.

After each rebalancing, the Preferred Index Shares number for each Preferred Stock Index Constituent is adjusted to equal the “**Modified Outstanding Preferred Shares**” for each such Preferred Index Constituent. The Modified Outstanding Preferred Shares are all outstanding shares of the Preferred Stock Index Constituent except for certain large issuers where the combined weight of all issues by that issuer in the Preferred Stock Index exceeds 10%. The combined weight in the Preferred Stock Index of the issues by each such issuer is reduced so that, on a combined basis, issues by that issuer account for only 10%, resulting in a proportionate increase in the weights for all other issuers.

In order to maintain index series continuity, the Index Divisor is adjusted after each rebalancing so that the Preferred Stock Index Value before rebalancing is equal to the Preferred Stock Index Value after rebalancing. Therefore, after each rebalancing the value of the Index Divisor is set equal to the quotient of the Preferred Stock Index Market Value after that rebalancing *divided by* the Preferred Stock Index Value before that rebalancing.

#### *Corporate Actions*

<b>Corporate Action</b>	<b>Adjustment Made to the Preferred Stock Index</b>	<b>Divisor Adjustment?</b>
Shares called for cash or par value	If the issuer calls a Preferred Stock Index Constituent, it is removed from the Preferred Stock Index with five-day notice at the closing price of the date at which it is dropped. Note that the issuer may choose not to call, in	Yes

	which case no change is necessary.	
Shares called for conversion or automatically converted	The Preferred Stock Index Constituent is removed from the Preferred Stock Index with five-days' notice at the closing price of the date at which it is dropped. If the issuer chooses not to invoke the right to convert and conversion is not automatic, no change is necessary.	Yes
Delisting from primary exchange	The Preferred Stock Index Constituent is removed at the closing price of the delisting date. (Occasionally, a Preferred Stock Index Constituent may be removed at zero price.)	Yes
Special cash distribution	The price of the stock making the special payment is reduced by the per share special payment amount after the close of trading on the day before the ex-date.	Yes
Rights offering on preferred share class	The price is adjusted to the Price of Parent shares minus (Price of Rights shares/Rights Ratio).	Yes
Preferred Stock Split	Index Shares are multiplied by and the price is divided by the split factor.	No
Issuance of additional shares for the preferred share class in the index	None. Shares are revised semiannually.	No
Partial call for cash or par value	On the redemption date, the Preferred Stock Index Constituent shares outstanding are reduced by the number of shares called and the Preferred Stock Index Constituent is adjusted to the call prices plus accrued interest.	Yes

### *Index Governance*

The Preferred Stock Index is maintained by the Americas Thematic and Strategy Index Committee (the "Index Committee"). All committee members are full-time professional members of S&P Dow Jones Indices staff. The Index Committee meets monthly. At each meeting, the Index Committee reviews pending corporate actions that may affect Preferred Stock Index Constituents, statistics comparing the composition of the Preferred Stock Index to the market, companies that are being considered as candidates for addition to the Preferred Stock Index, and any significant market events. In addition, the Index Committee may revise index policy covering rules for selecting companies, treatment of dividends, share counts or other matters.

## BACKGROUND ON THE iSHARES® J.P. MORGAN USD EMERGING MARKETS BOND ETF

We have derived all information contained in this underlying supplement regarding the iShares® J.P. Morgan USD Emerging Markets Bond ETF (the “**EMB Fund**”) from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by iShares® Trust, BlackRock Institutional Trust Company, N.A. (“**BTC**”) and BlackRock Fund Advisors (“**BFA**”). The EMB Fund is an investment portfolio maintained and managed by iShares® Trust. BFA is currently the investment adviser to the EMB Fund. The EMB Fund is an exchange-traded fund that trades on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “EMB.”

On July 1, 2013, the name of the EMB Fund was changed from the iShares® J.P. Morgan USD Emerging Markets Bond Fund to the current name.

iShares® Trust is a registered investment company that consists of numerous separate investment portfolios, including the EMB Fund. Information provided to or filed with the SEC by iShares® Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-92935 and 811-09729, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding iShares® Trust, BFA and the EMB Fund, please see the EMB Fund’s prospectus. In addition, information about iShares® Trust and the EMB Fund may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the iShares® website at [www.ishares.com](http://www.ishares.com). Information contained in the iShares® website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Investment Objective and Strategy

The EMB Fund seeks to track the investment results, before fees and expenses, of an index composed of U.S. dollar-denominated, emerging market bonds, which is currently the J.P. Morgan Emerging Markets Bond Index Global CORE (the “**EMBIG Core Index**”). For more information about the EMBIG Core Index, please see “— The J.P. Morgan Emerging Markets Bond Index Global CORE” below.

As of February 19, 2015, the iShares® J.P. Morgan USD Emerging Markets Bond ETF holdings by country consisted of the following 47 countries: Angola, Argentina, Azerbaijan, Brazil, Chile, China, Colombia, Costa Rica, Croatia, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, Gabon, Ghana, Hungary, Indonesia, Iraq, Ivory Coast, Kazakhstan, Kenya, Latvia, Lebanon, Lithuania, Malaysia, Mexico, Mongolia, Morocco, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Romania, Russia, Serbia, Slovak Republic, South Africa, Sri Lanka, Turkey, Ukraine, Uruguay, Venezuela, Vietnam and Zambia. In addition, as of February 19, 2015, the EMB Fund’s three largest holdings by country were Turkey, Philippines and Indonesia.

BFA uses a representative sampling indexing strategy (as described below under “Representative Sampling”) to try to track the EMBIG Core Index. The EMB Fund generally invests at least 90% of its assets in the securities of the EMBIG Core Index. However, the EMB Fund may at times invest up to 20% of its assets in certain futures, options and swap contracts, cash and cash equivalents, including shares of money market funds advised by BFA or its affiliates, as well as in securities not included in the EMBIG Core Index, but which BFA believes will help the EMB Fund track the EMBIG Core Index.

### Representative Sampling

BFA uses a “representative sampling” indexing strategy to manage the EMB Fund. “Representative sampling” is an indexing strategy that involves investing in a representative sample of securities that collectively has an investment profile similar to the EMBIG Core Index. The securities selected are expected to have, in the aggregate, investment characteristics (based on factors such as market capitalization and industry weightings), fundamental characteristics (such as return variability,

duration, maturity or credit ratings and yield) and liquidity measures similar to those of the EMBIG Core Index. The EMB Fund may or may not hold all of the securities in the EMBIG Core Index.

### Correlation

The EMBIG Core Index is a theoretical financial calculation while the EMB Fund is an actual investment portfolio. The performance of the EMB Fund and the EMBIG Core Index may vary from one another due to transaction costs, non-U.S. currency valuations, asset valuations, corporate actions (such as mergers and spin-offs), timing variances and differences between the EMB Fund's portfolio and the EMBIG Core Index resulting from legal restrictions (such as diversification requirements) that apply to the EMB Fund but not to the EMBIG Core Index or to EMB Fund's use of representative sampling. "Tracking error" is the divergence of the performance (return) of a fund's portfolio from that of its underlying index. BFA expects that, over time, the EMB Fund's tracking error will not exceed 5%. Because the EMB Fund uses using a representative sampling indexing strategy, it can be expected to have a greater tracking error than if it used a replication indexing strategy. "Replication" is an indexing strategy in which a fund invests in substantially all of the securities in its underlying index in approximately the same proportions as in the underlying index.

### Industry Concentration Policy

The EMB Fund will concentrate its investments (*i.e.*, hold 25% or more of its total assets) in a particular industry or group of industries to approximately the same extent that the EMBIG Core Index is concentrated. For purposes of this limitation, securities of the U.S. government (including its agencies and instrumentalities), repurchase agreements collateralized by U.S. government securities and securities of state or municipal governments and their political subdivisions are not considered to be issued by members of any industry.

### Holdings Information

The following tables summarize the EMB Fund's top holdings by security and by sector as of May 5, 2015.

#### Top holdings by security as of May 5, 2015

Security	Percentage of Total Holdings
Russia, 03/31/2030, 7.50%	1.78%
Argentina, 12/31/2033, 8.28%	1.19%
Poland, 07/15/2019, 6.38%	1.02%
Uruguay, 06/18/2050, 5.10%	1.01%
Poland, 03/23/2022, 5.00%	0.94%
Petronas Capital Ltd., 08/12/2019, 5.25%	0.93%
Peru, 11/21/2033, 8.75%	0.92%
Peru, 11/18/2050, 5.63%	0.89%
Brazil, 01/07/2025, 4.25%	0.87%

<b>Security</b>	<b>Percentage of Total Holdings</b>
Hungary, 03/29/2021, 6.38%	0.85%

**Top holdings by sector as of May 5, 2015**

<b>Sector</b>	<b>Percentage of Market Value</b>
Philippines	5.54%
Turkey	5.54%
Indonesia	5.32%
Mexico	5.21%
Russia	5.19%
Brazil	5.14%
Colombia	4.33%
Hungary	4.11%
China	3.97%
South Africa	3.85%
Poland	3.63%

The information above was compiled from the iShares® website, without independent verification. Information contained in the iShares® website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

**The J.P. Morgan Emerging Markets Bond Index Global CORE**

The EMBIG Core Index is a proprietary index that was developed and is maintained and calculated by the Global Index Research Group (“GIRG”) of JP Morgan Chase & Co. GIRG is part of our Global Research division and resides within JPMorgan Securities LLC. GIRG is under no obligation to continue to publish, and may discontinue publication of, the EMBIG Core Index.

The EMBIG Core Index is a broad, diverse, market capitalization weighted index designed to measure the performance of liquid, U.S. dollar-denominated emerging market fixed- and floating-rate debt instruments issued by sovereign and quasi-sovereign entities. Quasi-sovereign entities are entities the securities of which are either 100% owned by their respective governments or subject to a 100% guarantee that does not rise to the level of constituting the full faith and credit by such governments. The methodology is designed to distribute the weights of each country within the EMBIG Core Index by limiting the weights of countries with higher debt outstanding and reallocating this excess to countries with lower debt outstanding.

In order for a bond to be considered eligible for inclusion in the EMBIG Core Index, the bond must be issued by a country with a GNI per capita below the Index Income Ceiling (“IIC”) for three consecutive years (an “**Eligible Country Issuer**”). The IIC is defined as the income level that is adjusted every year by the growth rate of the World “GNI per capita” (which is provided annually by the World Bank). The base IIC level was established in 1987 at US\$6,000 GNI per capita. A country will be removed as an Eligible Country Issuer from the EMBIG Core Index if (i) the country’s long term foreign currency sovereign credit rating is A-/A3/A- or above (from Standard & Poor’s Ratings Services, Moody’s Investors Service and Fitch Ratings, Inc., respectively), in each case, for each of the three consecutive calendar years immediately preceding the date on which the World Bank publishes the World GNI per capita. Countries that either have restructured their external debt during the past ten years or currently have restructured external debt outstanding will also be considered for inclusion in the EMBIG Core Index.

Once the universe of emerging markets countries has been defined for the EMBIG Core Index, the eligible instruments from these countries must be selected. Instruments that satisfy all of the following defined criteria will be eligible for inclusion in the EMBIG Core Index:

- (1) Instrument type;
- (2) Issuer type classification;
- (3) Currency denomination;
- (4) Current face amount outstanding;
- (5) Remaining time until maturity;
- (6) Legal jurisdiction;
- (7) Settlement method;
- (8) Availability of daily pricing; and
- (9) Quantifiable source of cash flow return.

*Instrument Type.* The instrument must be one or more of:

- (1) a fixed or floating rate bond;
- (2) a capitalizing/amortizing bond; or
- (3) a bond with embedded options, such as the right of an issuer to call the bonds early, an investor put provision, a payment in kind provision or any other rights that may be attached to that bond (e.g., an embedded exchange for subordinated debt).

*Issuer Type Classification.* The EMBIG Core Index contains bonds issued by an Eligible Country Issuer or a quasi-sovereign entity that is (i) 100% guaranteed or 100% owned by the national government of an Eligible Country Issuer and (ii) domiciled in an Eligible Country Issuer. Instruments issued by municipalities or provinces that meet the above criteria are eligible for inclusion in the EMBIG Core Index.

*Currency Denomination.* Only those instruments denominated in U.S. dollars are eligible for inclusion in the EMBIG Core Index.

*Current Face Amount Outstanding.* Only issues with a current face amount outstanding of \$1 billion or more will be considered for inclusion. If an issue’s current face outstanding falls below this requirement, the issue will be removed from the EMBIG Core Index at the next month-end rebalancing date. The reverse also holds true. Existing issues that, through reopenings, increase in size to satisfy the minimum current face outstanding requirement are then considered for inclusion in the EMBIG Core Index at the next month-end rebalancing date.

*Time Until Maturity.* Only those instruments with at least 2.5 years until maturity are considered for inclusion. Once added, an instrument may remain in the EMBIG Core Index until 24 months before it matures. On the month-end preceding this anniversary, the instrument is removed from the EMBIG Core Index.

*Legal Jurisdiction.* Inclusion into the EMBIG Core Index is limited to issues with legal jurisdiction that is domestic to a G-7 country. Local law instruments are not eligible for the EMBIG Core Index.

*Settlement Criteria.* Instruments in the EMBIG Core Index must be able to settle internationally (either through Euroclear or another institution domiciled outside the issuing country).

*Availability of Daily Pricing.* The instrument's bid and offer prices must be available on a daily and timely basis from PricingDirect Inc. ("Pricing Direct"). The lack of availability of such prices prevents the addition of a new issue to the EMBIG Core Index. In the case of the current EMBIG Core Index issues, if reliable prices for an issue become unavailable, it is removed from the EMBIG Core Index. Once an issue is removed, it will not be reconsidered for inclusion in the EMBIG Core Index during the next 12 months.

*Quantifiable Source of Cash Flow Return.* The legal documentation governing the instrument must provide a cash flow structure from which verifiable daily returns or other statistics (i.e., yield, spreads) can be calculated in a reasonably accurate manner using commercially reasonable efforts.

The EMBIG Core Index is generally rebalanced on a monthly basis. A new issue that meets the admission requirements is added to the EMBIG Core Index on the first month-end business day after its issuance, provided its issue date falls before the 15th of the month. A new issue whose settlement date falls on or after the 15th of the month is added to the EMBIG Core Index on the last business day of the next month.

There are two exceptions to this rule. The first exception applies to a new issue that is released as part of a debt exchange program. For example, if a country exchanges a portion of its outstanding debt for a new issue after the 15th of the month, at the month-end rebalancing date immediately following this event the amount of debt retired in this exchange would be removed from the EMBIG Core Index. The new issue would then be added to the EMBIG Core Index (provided official exchange results are made available in a timely manner and the issue settles by month-end).

The second exception concerns Regulation S securities. An instrument that is issued solely in reliance on Regulation S of the Securities Act of 1933 and not pursuant to Rule 144A will be ineligible for inclusion in the EMBIG Core Index until the expiration of the relevant Regulation S restricted period. The date at which the restriction is lifted will effectively be the new "issue" date, at which point the 15th of the month rule will apply.

The weight of each security in the EMBIG Core Index is determined by first starting with the face amount outstanding of all eligible securities and aggregating such securities by country. The highest-weighted countries are then constrained by capping the total weight within those countries. The result establishes new (constrained) country face amounts that are then used to calculate the new eligible face amounts per security within those countries. To calculate the final weights of each security in the EMBIG Core Index, the current day's price is multiplied by each security's adjusted face amount. The market capitalization for each security is then divided by the total market capitalization for all securities in the EMBIG Core Index. The result represents the weight of the security expressed as a percentage of the EMBIG Core Index.

The EMBIG Core Index is scheduled to be priced at or about 5:00 p.m. New York time every business day in the U.S. bond market calendar by reference to the calendar convention guidance provided by Emerging Markets Trading Association. The prices of the bonds are provided by PricingDirect. PricingDirect is our wholly-owned subsidiary and provides valuation and other metrics



data for fixed income securities and derivatives. PricingDirect determines these prices through a proprietary evaluation process that takes into account market-based evaluations (such as market intelligence for traded, quoted securities). GIRG and PricingDirect are separated by information barriers from each other, and from the our sales and trading teams. GIRG and PricingDirect will make all determinations and calculations in good faith and in a commercially reasonable manner.

## BACKGROUND ON THE VANGUARD REIT ETF

We have derived all information contained in this underlying supplement regarding the Vanguard REIT ETF, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by Vanguard Specialized Funds (the “**Vanguard Specialized Trust**”) and The Vanguard Group, Inc. (“**Vanguard**”). The Vanguard REIT ETF is an investment portfolio of the Vanguard Specialized Trust. Vanguard is the investment adviser to the Vanguard REIT ETF. The Vanguard REIT ETF is an exchange-traded fund that trades on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “VNQ.”

The Vanguard Specialized Trust is a registered investment company that consists of numerous separate investment portfolios, including the Vanguard REIT ETF. Information provided to or filed with the SEC by Vanguard Specialized Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 002-88116 and 811-03916, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding the Vanguard Specialized Trust, Vanguard and the Vanguard REIT ETF, please see the Vanguard REIT ETF’s prospectus. In addition, information about Vanguard and the Vanguard REIT ETF may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the Vanguard website at [www.vanguard.com](http://www.vanguard.com). Information contained in the Vanguard website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Investment Objective and Strategy

The Vanguard REIT ETF seeks to track the performance of a benchmark index that measures the investment return of publicly traded equity real estate investment trusts (“**REITs**”), which is currently the MSCI U.S. REIT Index. For more information about the MSCI U.S. REIT Index, please see “— The MSCI U.S. REIT Index” below.

### Indexing Investment Approach

The Vanguard REIT ETF employs an indexing investment approach designed to track the performance of the MSCI U.S. REIT Index. The Vanguard REIT ETF attempts to replicate the MSCI U.S. REIT Index by investing all, or substantially all, of its assets in the securities that make up the MSCI U.S. REIT Index, holding each security in approximately the same proportion as its weighting in the MSCI U.S. REIT Index.

The Vanguard REIT ETF has significant ownership positions in many REITs included in the MSCI U.S. REIT Index. For tax and other reasons, a REIT imposes limits on how much of its securities any one investor may own. If an ownership limit is reached, the Vanguard REIT ETF may seek to obtain an ownership waiver from the REIT to exceed the limit. If the Vanguard REIT ETF is unable to obtain a waiver, it may seek to obtain economic exposure to the REIT through alternative means, such as through a total return swap. Additional measures could be taken in the future in response to REIT ownership limits, including changing the Vanguard REIT ETF’s investment strategy or any other appropriate action.

The Vanguard REIT ETF may invest in foreign securities to the extent necessary to carry out its investment strategy of holding all or substantially all of the securities that make up the MSCI U.S. REIT Index. The Vanguard REIT ETF may invest in derivatives only if the expected risks and rewards of the derivatives are consistent with the investment objective, policies, strategies, and risks of the Vanguard REIT ETF. In particular, derivatives will be used only when they may help Vanguard: (i) invest in eligible asset classes with greater efficiency and lower cost than is possible through direct investment; (ii) obtain economic exposure to a security, a basket of securities, or an index when deemed desirable; or

(iii) add value when these instruments are attractively priced. The Vanguard REIT ETF's derivative investments may include total return swaps or other derivatives.

The Vanguard REIT ETF's daily cash balance may be invested in one or more money-market funds sponsored by Vanguard. The Vanguard REIT ETF may temporarily depart from its normal investment policies and strategies when Vanguard believes that doing so is in the Vanguard REIT ETF's best interest, so long as the alternative is consistent with the Vanguard REIT ETF's investment objective.

### Holdings Information

The following tables summarize the Vanguard REIT ETF's top holdings in individual securities and by sector as of March 31, 2015.

#### Top holdings in individual securities as of March 31, 2015

Security	Percentage of Total Holdings
Simon Property Group Inc.	8.50%
Public Storage	4.00%
Health Care REIT Inc.	3.70%
Equity Residential	3.70%
Ventas Inc.	3.30%
AvalonBay Communities Inc.	3.20%
Prologis Inc.	3.00%
Boston Properties Inc.	3.00%
HCP Inc.	2.80%
Vornado Realty Trust	2.60%

The information above was compiled from the Vanguard website, without independent verification. Information contained in the Vanguard website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### The MSCI U.S. REIT Index

We have derived all information contained in this underlying supplement regarding the MSCI U.S. REIT Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, MSCI Inc. ("MSCI"). The MSCI U.S. REIT Index is calculated, maintained and published by MSCI. MSCI has no obligation to continue to publish, and may discontinue publication of, the MSCI U.S. REIT Index.

The MSCI U.S. REIT Index is reported by Bloomberg L.P. under the ticker symbol "RMZ."

The MSCI U.S. REIT Index is a free float-adjusted market capitalization weighted index that is comprised of equity REIT securities. The MSCI U.S. REIT Index includes securities with exposure to core

real estate (e.g., residential and retail properties) as well as securities with exposure to other types of real estate (e.g., casinos, theaters). The MSCI US REIT Index represents approximately 99% of the U.S. REIT universe and is based on the MSCI USA Investable Market Index (the "Parent Index"), which is comprised of all the securities included in the MSCI USA Large Cap, MSCI USA Mid Cap and MSCI USA Small Cap Indexes.

### *Index Eligibility*

MSCI classifies REIT securities into one of the nine REIT Sub-Industries within the Global Industry Classification Standard ("GICS") structure. The nine REITs Sub-Industries aim to represent REITs with distinct property type profiles, and are as follows: diversified REITs, health care REITs, hotel and resort REITs, industrial REITs, mortgage REITs, office REITs, residential REITs, retail REITs, and specialized REITs. REITs eligible for inclusion in the MSCI U.S. REIT Index are REITs that are included in the Parent Index and that exhibit the following characteristics:

- equity REIT structure (*i.e.*, mortgage REITs are not eligible); and
- real estate exposure (*i.e.*, only selected specialized REITs are eligible)

REITs classified in the specialized REITs Sub-Industry are eligible for inclusion in the MSCI U.S. REIT Index only if they own and/or operate the following types of properties: storage and self-storage facilities; correctional facilities; entertainment facilities (e.g., theaters); or casinos and gaming facilities.

### *Index Maintenance*

The maintenance of the MSCI U.S. REIT Index includes semi-annual index reviews in May and November, quarterly index reviews in February and August, and ongoing event-related changes that are generally implemented in the MSCI U.S. REIT Index as they occur.

During semi-annual index reviews and quarterly index reviews, changes in the Parent Index may impact the MSCI U.S. REIT Index as follows:

- Existing constituents of the MSCI U.S. REIT Index that are deleted from the Parent Index are deleted from the MSCI U.S. REIT Index;
- Eligible equity REIT securities not currently constituents of the MSCI U.S. REIT Index that are added to the Parent Index are added to the MSCI U.S. REIT Index;
- Changes in the Foreign Inclusion Factors ("FIFs") and Number of Shares ("NOS") for securities of the Parent Index are also applied to the securities included in the MSCI U.S. REIT Index; and
- When a change in Global Industrial Classification Standard (GICS®) for an existing constituent of the Parent Index to one of the eligible REIT Sub-Industries defined above is announced, then provided that the date of such announcement is before the implementation date of the next index review, such constituent may be considered for inclusion in the MSCI U.S. REIT Index at such index review.

The Parent Index is also updated to reflect ongoing event-related changes. Ongoing event-related changes in the Parent Index are reflected in the MSCI U.S. REIT Index at the time of the implementation of the event in the Parent index:

- Existing constituents of the MSCI U.S. REIT Index that are deleted from the Parent Index due to corporate events are deleted from the MSCI U.S. REIT Index;
- Eligible equity REIT securities not currently constituents of the MSCI U.S. REIT Index that are added to the Parent Index due to corporate events are added to the MSCI U.S. REIT Index; and

- Changes in the FIFs and NOS for securities of the Parent Index due to corporate events are also applied to the securities included in the MSCI U.S. REIT Index.

#### *Announcement Policy*

Changes to the MSCI U.S. REIT Index are typically announced at least ten business days prior to these changes becoming effective in the MSCI U.S. REIT Index as “expected” announcements, or as “undetermined” announcements, when the effective dates are not known yet or when aspects of the event are uncertain. MSCI sends “confirmed” announcements at least two business days prior to events becoming effective in the MSCI U.S. REIT Index provided that all necessary public information concerning the event is available. In case a “confirmed” announcement needs to be amended, MSCI sends a “correction” announcement with a descriptive text announcement to provide details about the changes made. If warranted, MSCI may make descriptive text announcements for events that are complex in nature and for which additional clarification could be beneficial.

## BACKGROUND ON THE MARKET VECTORS® GOLD MINERS ETF

We have derived all information contained in this underlying supplement regarding the Market Vectors Gold Miners ETF (the “**GDX Fund**”) from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Market Vectors ETF Trust and Van Eck Associates Corporation (“**Van Eck**”). The GDX Fund is an investment portfolio of Market Vectors ETF Trust. Van Eck is currently the investment adviser to the GDX Fund. The GDX Fund is an exchange-traded fund that trades on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “GDX.”

Market Vectors ETF Trust is a registered investment company that consists of numerous separate investment portfolios, including the GDX Fund. Information provided to or filed with the SEC by Market Vectors ETF Trust pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to SEC file numbers 333-123257 and 811-10325, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding Market Vectors ETF Trust, Van Eck and the GDX Fund, please see the GDX Fund’s prospectus. In addition, information about Market Vectors ETF Trust and the GDX Fund may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the Van Eck website at [www.vaneck.com](http://www.vaneck.com). Information contained in the Van Eck website is not incorporated by reference in, and should not be considered a part of, this underlying supplement.

### Investment Objective and Strategy

The GDX Fund seeks to replicate as closely as possible, before fees and expenses, the price and yield performance of the NYSE Arca Gold Miners Index (the “**Gold Miners Index**”). For more information about the Gold Miners Index, please see “— The NYSE Arca Gold Miners Index” below.

### Indexing Investment Approach

The GDX Fund uses a “passive” or indexing investment approach to attempt to approximate the investment performance of the Gold Miners Index. The GDX Fund will normally invest at least 80% of its total assets in companies that are involved in the gold mining industry. These companies may include small- and medium-capitalization companies and foreign issuers. The GDX Fund normally invests at least 80% of its total assets in securities that comprise the Gold Miners Index. The GDX Fund may or may not hold all of the securities that are included in the Gold Miners Index.

### Correlation

The Gold Miners Index is a theoretical financial calculation, while the GDX Fund is an actual investment portfolio. The performance of the GDX Fund and the Gold Miners Index may vary somewhat due to operating expenses, transaction costs, and differences between the GDX Fund’s portfolio and the Gold Miners Index resulting from legal restrictions that apply to the GDX Fund but not to the Gold Miners Index or lack of liquidity. Van Eck expects that, over time, the correlation between the GDX Fund’s performance and that of the Gold Miners Index before fees and expenses will be 95% or better. A figure of 100% would indicate perfect correlation.

### Industry Concentration Policy

The GDX Fund may concentrate its investments in a particular industry or group of industries to the extent that the Gold Miners Index concentrates in an industry or group of industries.

## Holdings Information

As of May 6, 2015, 99.86% of the GDX Fund's holdings consisted of equity securities and 0.14% consisted of cash. The following tables summarize the GDX Fund's top holdings in individual securities and by country as of that date.

### Top holdings in individual securities as of May 6, 2015

<b>Security</b>	<b>Percentage of Total Holdings</b>
Goldcorp Inc.	6.90%
Barrick Gold Corporation	6.90%
Newmont Mining Corporation	6.00%
Newcrest Mining Limited	5.45%
Anglogold Ashanti Ltd	5.08%
Franco-Nevada Corporation	5.07%
Randgold Resources Limited.	4.93%
Agnico Eagle Mines Limited	4.92%
Silver Wheaton Corp	4.73%
Royal Gold, Inc.	4.29%
Yamana Gold Inc.	3.88%

### Top holdings by country as of May 6, 2015

<b>Country</b>	<b>Percentage of Total Holdings</b>
Canada	55.20%
United States	12.70%
South Africa	11.70%
Australia	7.20%
United Kingdom	5.00%

The information above was compiled from the Van Eck website, without independent verification. Information contained in the Van Eck website is not incorporated by reference in, and should not be considered a part of, this underlying supplement.

## The NYSE Arca Gold Miners Index

We have derived all information contained in this underlying supplement regarding the Gold Miners Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information and information supplied by the NYSE Arca, without independent verification. This information reflects the policies of, and is subject to change by, the NYSE Arca. The Gold Miners Index was developed by the NYSE MKT LLC (formerly the American Stock Exchange) and is calculated, maintained and published by the NYSE Arca. The NYSE Arca has no obligation to continue to publish, and may discontinue the publication of, the Gold Miners Index.

The Gold Miners Index is reported by Bloomberg L.P. under the ticker symbol "GDM."

The Gold Miners Index is a modified market capitalization weighted index composed of publicly traded companies involved primarily in the mining of gold or silver.

### Eligibility Criteria for Index Components

The Gold Miners Index includes common stocks, American Depositary Receipts ("ADRs") and Global Depositary Receipts ("GDRs") of selected companies that are involved in mining for gold and silver and that are listed for trading on a major stock market that is accessible by foreign investors. Only companies with market capitalization greater than \$750 million that have an average daily trading volume of at least 50,000 shares over the past three months and an average daily value traded of at least \$1 million over the past three months are eligible for inclusion in the Gold Miners Index. For companies that were already in the Gold Miners Index prior to the September 20, 2013 rebalance, the market capitalization requirement is \$450 million, the average daily trading volume requirement is at least 30,000 shares over the past three months and the average daily value traded requirement is at least \$600,000 over the past three months. Further, the universe of companies eligible for inclusion in the Gold Miners Index will specifically include those companies that derive at least 50% of their revenues for gold mining and related activities. Companies already in the Gold Miners Index will only be removed from the Gold Miners Index in the following quarterly review if their gold mining revenues fall below the 40% level. The index will maintain an exposure, of not more than 20% of the Gold Miners Index weight, to companies with a significant revenue exposure to silver mining as well as gold mining. These are companies that either (1) have a revenue exposure to silver mining greater than 50% or (2) have a greater revenue exposure to silver mining than gold mining and have a combined gold/silver mining revenue exposure of greater than 50%.

In addition, both streaming companies and royalty companies are eligible for inclusion in the Gold Miners Index. Companies that have not yet commenced production are also eligible for inclusion in the Gold Miners Index, *provided* that they have tangible revenues that are related to the mining of either gold or silver ore. There are no restrictions imposed on the eligibility of company in how much the company has hedged in gold or silver production via futures, options or forward contracts.

### Index Calculation

The Gold Miners Index is calculated using a modified market capitalization weighting methodology. The Gold Miners Index is weighted based on the market capitalization of each of the component securities, modified to conform to the following asset diversification requirements, which are applied in conjunction with the scheduled quarterly adjustments to the Gold Miners Index. The information utilized in this modification process will be taken from the close of trading on the second Friday of the rebalancing month:

(1) the weight of any single component security may not account for more than 20% of the total value of the Gold Miners Index;



(2) the component securities are split into two subgroups—(1) large and (2) small, which are ranked by their unadjusted market capitalization weight in the Gold Miners Index. Large stocks are defined as having a Gold Miners Index weight greater than or equal to 5%. Small securities are defined as having an Gold Miners Index weight below 5%; and

(3) the final aggregate weight of those component securities which individually represent more than 4.5% of the total value of the Gold Miners Index may not account for more than 45% of the total Gold Miners Index value.

The Gold Miners Index is reviewed quarterly so that the Gold Miners Index components continue to represent the universe of companies involved in the gold mining industry. The NYSE Arca may at any time and from time to time change the number of securities composing the group by adding or deleting one or more securities, or replacing one or more securities contained in the group with one or more substitute securities of its choice, if in the NYSE Arca's discretion such addition, deletion or substitution is necessary or appropriate to maintain the quality and/or character of the Gold Miners Index. Changes to the Gold Miners Index compositions and/or the component share weights in the Gold Miners Index typically take effect after the close of trading on the third Friday of each calendar quarter month in connection with the quarterly index rebalance.

At the time of the quarterly rebalance, the quantities for the components stocks (taking into account expected component changes and share adjustments), are modified in accordance with the following procedures.

- Diversification Rule 1: If any component stock exceeds 20% of the total value of the Gold Miners Index, then all stocks greater than 20% of the Gold Miners Index are reduced to represent 20% of the value of the Gold Miners Index. The aggregate amount by which all component stocks are reduced is redistributed proportionately across the remaining stocks that represent less than 20% of the index value. After this redistribution, if any other stock then exceeds 20%, the stock is set to 20% of the index value and the redistribution is repeated. If there is no component stock over 20% of the total value of the Gold Miners Index, then Diversification Rule 1 is not executed.
- Diversification Rule 2: The components are sorted into two groups, (1) large components, with a starting index weight of 5% or greater, and (2) small components, with a weight of under 5% (after any adjustments for Diversification Rule 1. If there are no components that are classified as large components after Diversification Rule 1 is run, then Diversification Rule 2 is not executed. In addition, if the starting aggregate weight of the large components after Diversification Rule 1 is run is not greater than 45% of the starting index weight, then Diversification Rule 2 is not executed. If Diversification Rule 2 is executed, then the large group and the small group will represent 45% and 55%, respectively, of the final index weight. This will be adjusted for through the following process:
- The weight of each of the large stocks will be scaled down proportionately with a floor of 5% so that the aggregate weight of the large components will be reduced to represent 45% of the Gold Miners Index. If any component stock falls below a weight equal to the product of 5% and the proportion by which the stocks were scaled down following this distribution, then the weight of the stock is set equal to the product of 5% and the proportion by which the stocks were scaled down, the components with weights greater than 5% will be reduced proportionately.
- The weight of each of the small components will be scaled up proportionately from the redistribution of the large components. If any component stock exceeds a weight equal to the product of 4.5% and the proportion by which the stocks were scaled down following this distribution, then the weight of the stock is set equal to the product of 4.5% and the

proportion by which the stocks were scaled down. The redistribution of weight to the remaining stocks is repeated until the entire amount has been redistributed.

## **Index Maintenance**

The Gold Miners Index is reviewed quarterly to ensure that at least 90% of the index weight is accounted for by index components that continue to meet the initial eligibility requirements. Components will be removed from the Gold Miners Index during the quarterly review, if either (1) the market capitalization falls below \$450 million or (2) the average daily volume traded for the previous three months was lower than 30,000 shares and the average daily value traded for the previous three months was lower than \$600,000. In conjunction with the quarterly review, the share quantities used in the calculation of the Gold Miners Index are determined based upon current shares outstanding modified, if necessary, to provide greater index diversification, as described above. An ADR or GDR ratio would be incorporated into this shares figure, so that the shares utilized in the Gold Miners Index for a depositary receipt is equal to the shares outstanding of the local share class multiplied by the depositary receipt ratio. The index components and their share quantities are determined and announced prior to taking effect. The share quantity of each component stock in the index portfolio remains fixed between quarterly reviews except in the event of certain types of corporate actions, such as stock splits, reverse stock splits, stock dividends, or similar events. The share quantities used in the index calculation are not typically adjusted for shares issued or repurchased between quarterly reviews. However, in the event of a merger between two components, the share quantity of the surviving entity may be adjusted to account for any stock issued in the acquisition. The NYSE Arca may substitute stocks or change the number of stocks included in the Gold Miners Index, based on changing conditions in the industry or in the event of certain types of corporate actions, including mergers, acquisitions, spin-offs, and reorganizations. In the event of component or share quantity changes to the index portfolio, the payment of dividends other than ordinary cash dividends, spin-offs, rights offerings, re-capitalization or other corporate actions affecting a component stock of the Gold Miners Index, the index divisor may be adjusted to ensure that there are no changes to the index level as a result of non-market forces.

## BACKGROUND ON THE ETRACS ALERIAN MLP INFRASTRUCTURE INDEX ETN

We have derived all information contained in this underlying supplement regarding UBS AG and the UBS AG Exchange Traded Access Securities (E-TRACS) linked to the Alerian MLP Infrastructure Index due April 2, 2040 (the “**MLP E-TRACS**”), including, without limitation, its investment strategy, method of calculation and other economic features, from publicly available information, without independent verification. The MLP E-TRACS are exchange-traded notes issued by UBS AG (Jersey Branch) (the “**ETN Issuer**”) that trade on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “MLPI.”

UBS AG is a Swiss banking institution that provides banking, investment banking and asset and wealth management services to its clients. Information provided to or filed with the SEC by UBS AG pursuant to the Securities Act of 1933, as amended, and the Exchange Act of 1934, as amended, can be located by reference to SEC file number 001-15060 through the SEC’s website at <http://www.sec.gov>. For additional information regarding the MLP E-TRACS, please see the MLP E-TRACS’s prospectus. In addition, information about UBS AG and the MLP E-TRACS may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the ETN Issuer’s E-TRACS website at <http://etracs.ubs.com>. Information contained in the ETN Issuer’s E-TRACS website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Overview

The MLP E-TRACS are exchange-traded notes of the ETN Issuer, with a return at maturity or upon exercise by the ETN Issuer of its call right or by a holder of its right to early redemption linked to the VWAP performance (as described below) of the Alerian MLP Infrastructure Index (ticker symbol: AMZI) (the “**MLP Index**”), less the deduction of a tracking fee and, in the case of an early redemption, a redemption fee. The MLP E-TRACS pay a quarterly variable contingent coupon based on the distributions during the relevant period by the index constituents of the MLP Index, less the deduction of a tracking fee. The MLP Index, which is a price-return index, currently consists of 24 energy infrastructure master limited partnerships (“**MLPs**”) that earn the majority of their cash flow from the transportation, storage and processing of energy commodities, and is intended to serve as a benchmark for the infrastructure component of the MLP asset class. See “— The Alerian MLP Infrastructure Index” below for more information about the MLP Index.

### What are the MLP E-TRACS?

The MLP E-TRACS are senior unsecured debt securities issued by the ETN Issuer maturing on April 2, 2040 and are traded on NYSE Arca. The MLP E-TRACS have a principal amount of \$25 per security, and pay a quarterly variable contingent coupon equal to the sum of the cash distributions that a hypothetical holder of the constituents of the MLP Index would have been entitled to receive in respect of those constituents during the relevant quarterly coupon determination period (the “**Reference Distribution Amount**”), reduced by an applicable amount of accrued tracking fee. If, on any coupon valuation date, the Reference Distribution Amount is less than the applicable amount of accrued tracking fee, no coupon payment will be made on the corresponding coupon payment date, and the amount of the difference between the applicable amount of accrued tracking fee and the Reference Distribution Amount (the “**Tracking Fee Shortfall**”) will be included in the accrued tracking fee for the next coupon valuation date. The amount of the accrued tracking fee for each quarterly coupon payment period is determined as the sum of the Quarterly Tracking Fee as of the relevant quarterly coupon valuation date and any Tracking Fee Shortfall as of the immediately preceding quarterly coupon valuation date. The Quarterly Tracking Fee is calculated as the product of 0.2125% (equivalent to a *per annum* rate of 0.85%) and the current indicative value of the MLP E-TRACS as of the immediately preceding index business day of the MLP Index.

The MLP E-TRACS are subject to both the ETN Issuer’s call right and a holder’s early redemption right. The ETN Issuer may at its option redeem all, but not less than all, issued and outstanding MLP E-

TRACS with notice to the holders of the MLP E-TRACS not less than eighteen calendar days prior to the call settlement date. A holder of the MLP E-TRACS may, at its option and subject to a redemption fee, redeem a minimum of 50,000 MLP E-TRACS by submitting a request for issuer redemption. If the MLP E-TRACS are not called by the ETN Issuer or redeemed at the request of holders prior to maturity, at maturity holders of the MLP E-TRACS will receive a cash payment for each E-TRAC calculated as the product of the principal amount of \$25 and the applicable VWAP performance of the MLP Index (as described below), plus any accrued but unpaid coupon, less the accrued tracking fee (prorated to reflect the number of days between the last quarterly coupon valuation date and the last day of the relevant period referred to below).

The current indicative value of the MLP E-TRACS is calculated based on the volume-weighted average price (“VWAP”) performance of the MLP Index. The VWAP performance of the MLP Index is determined by comparing the initial VWAP level of the MLP Index, which is the VWAP level on the initial trade date of the MLP E-TRACS (487.420), with the applicable final VWAP level of the MLP Index. The final VWAP level of the MLP Index means (i) with respect to determining the current indicative value of the MLP E-TRACS on any day, the VWAP level of that day or (ii) with respect to the payments at maturity, the average of the VWAP levels during a five-day measurement period. The VWAP level of the MLP Index on any trading day of the MLP Index is calculated by the VWAP calculation agent of the MLP E-TRACS, which is currently the New York Stock Exchange, based on the volume-weighted average price of each of the components of the MLP Index and their published index weights for that day.

Because the MLP E-TRACS may trade at a substantial premium to or discount from their current indicative value and because of the deduction of the tracking fee and the use of the VWAP levels of the MLP Index in the calculation of the value of the MLP E-TRACS, the performance of the MLP E-TRACS may diverge from the performance of the MLP Index.

### **The Alerian MLP Infrastructure Index**

We have derived all information contained in this underlying supplement regarding the MLP Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. This information reflects the policies of, and is subject to change by, GKD Index Partners, LLC (the “MLP Index Sponsor”). The MLP Index is calculated, maintained and published by Standard & Poor’s Financial Services LLC, a subsidiary of The McGraw-Hill Companies, Inc. (“S&P”) in consultation with the MLP Index Sponsor. Neither the MLP Index Sponsor nor S&P has any obligation to continue to publish, and may discontinue the publication of, the MLP Index.

#### *Introduction*

The MLP Index, currently consisting of 24 energy infrastructure MLPs, is a liquid, midstream-focused subset of the Alerian MLP Index (ticker symbol: AMZ). The MLP Index, whose constituents earn the majority of their cash flow from the transportation, storage, and processing of energy commodities, provides investors with a benchmark for the infrastructure component of the MLP asset class. The MLP Index is a price return index and is calculated on a real-time basis by S&P using a capped, float-adjusted, capitalization-weighted methodology.

#### *Index Eligibility*

A company or partnership, or its security, as applicable, must meet the following criteria in order to be eligible for inclusion in the MLP Index; likewise, an index constituent will be removed from the MLP Index on the next quarterly rebalancing date if it fails to meet all of these criteria:

- (1) Be a publicly traded partnership or limited liability company (“LLC”).
- (2) Earn the majority of its pro forma cash flow from the transportation, storage, and processing of energy commodities. (This requirement is meant to exclude, among others, those MLPs in the

production, retail marketing, royalty, shipping or wholesale distribution businesses. Majority of cash flow is calculated on a trailing-two-quarter basis using a partnership's reported business segments. Cash flow from a partnership's general partner interest or incentive distribution rights in another publicly traded partnership or LLC is not taken in account for the purposes of this determination.)

(3) Represent the primary limited partner interests of a partnership or LLC that is an operating company. (This requirement is meant to exclude, among others, general partner interests, i-units, preferred units, closed-end funds, exchange-traded products, open-end funds and royalty trusts.)

(4) Paid at least its pro-rata minimum quarterly distribution ("MQD") for the trailing two quarters. (A partnership fails to meet this criterion if it pre-announces a distribution cut below its MQD after declaring its distribution for the preceding quarter but before the upcoming rebalancing date. However, a partnership that cuts its distribution due to ongoing merger or buyout discussions in public will not be removed from the MLP Index on that basis alone. If the discussions dissolve and the partnership fails to reinstate a distribution that is at least equal to its MQD by the following quarter, it will then be removed. If a partnership does not have an MQD, the initial quarterly distribution specified in the final prospectus of its initial public offering will be used.)

(5) Maintained or grown its distribution quarter-over-quarter for at least one of the trailing two quarters.

(6) Have a split-adjusted median daily dollar trading volume of at least \$2.5 million for each of the trailing six months.

(7) Have a distribution policy intended to maintain or increase distributions over time.

(8) Generated positive distributable cash flow for the trailing four quarters combined.

(9) Have an adjusted market capitalization ("AMC") of at least \$2 billion.

A non-constituent will only be added to the MLP Index if it meets all of the above criteria. A constituent will remain in the MLP Index if it continues to meet the first eight criteria and has an AMC of at least \$1.6 billion (20% below the entry threshold, representing the generally accepted definition of a bear market).

However, notwithstanding the above, the MLP Index must have a minimum of 20 constituents. If the number of constituents falls below 20, new constituents will be added to the MLP Index on the next rebalancing date until the number reaches 20, with preference given in accordance with the following criteria (in the order provided):

- Failing the fewest number of criteria, or
- AMC.

The index eligibility criteria are reviewed regularly to ensure consistency with industry trends. Any material changes will be announced by the MLP Index Sponsor on its website.

#### *Float Adjustment*

The calculation of the MLP Index is adjusted for each index constituent's public float through the relevant index constituent's "**Investable Weight Factor**." Each index constituent's Investable Weight Factor is determined pursuant to the following formula:

$$\frac{(\text{Units outstanding} - \text{non-common units} - \text{unregistered common units} - \text{insider-owned common units})}{\text{Units outstanding}}$$

With respect to each index constituent, the units included in the calculation of units outstanding include, but are not limited to, common units, subordinated units, special class units and paid-in-kind units. Excluded are general partner units, management incentive units, and tradable, non-common

units. For the purposes of the Investable Weight Factor calculation, insider-owned common units are those that are included in Item 12 ("Security Ownership of Certain Beneficial Owners and Management") of an index constituent's latest annual report or proxy.

The Investable Weight Factors of the index constituents are updated quarterly and are incorporated in the determinations of the index constituents' index weights on the related determination date of each quarterly rebalancing date.

#### *Weighting by Capitalization*

Each index constituent's weight in the MLP Index is determined based on its float-adjusted market capitalization relative to the other index constituents and pre-set index weight caps, as follows. After market close on the first Friday of each March, June, September and December, each of which is a rebalancing determination date, the index constituents to be included after the next quarterly rebalancing are preliminarily weighted and ranked by their respective float-adjusted market capitalization. If the preliminary weight of the largest index constituent exceeds 10.00%, it is assigned an index weight of 10.00% and its excess weight is proportionately distributed to the remaining index constituents. After this reallocation, if the resulting weight of the second largest index constituent exceeds 7.50%, it is assigned a weight of 7.50% and its excess weight is proportionately distributed to the remaining lowered-ranked index constituents. This 7.50% weight cap is tested on the third, fourth, fifth, and sixth largest index constituents, and any excess weight will be proportionately distributed to the remaining lowered-ranked index constituents, iteratively. After these steps, if the resulting weight of the seventh largest index constituent exceeds 4.75%, it is assigned a weight of 4.75% and its excess weight is proportionately distributed to the remaining lowered-ranked index constituents. This process is repeated iteratively until none of the remaining index constituents has a weight that exceeds 4.75%.

#### *Index Rebalancings*

Two types of rebalancing will occur to the MLP Index: quarterly rebalancings and special rebalancings. Quarterly rebalancings occur on the third Friday of each March, June, September, and December, each of which is a quarterly rebalancing date, and are effective at the open of the next trading day. In the event that the major U.S. exchanges are closed on any quarterly rebalancing date, the relevant rebalancing will take place after market close on the immediately preceding trading day. With respect to each quarterly rebalancing, data relating to index constituent eligibility, additions, and deletions are compiled and analyzed as of 4:00 p.m. EST on the related rebalancing determination date, and each index constituent's index weight is calculated pursuant to the process described above and assigned after market close on the quarterly rebalancing date.

Special rebalancings are triggered by corporate actions and will be implemented as practically as possible on a case-by-case basis. In the event of a merger between two index constituents, a special rebalancing will take place one full trading session after the issuance of a press release indicating all needed votes have been casted in favor of the merger. If any affected index constituent is delisted before market open on the day after all merger votes have been casted, the delisted index constituent will trade at the conversion price, including any cash consideration. Data relating to the selection of a replacement constituent will be compiled and analyzed as of 4:00 p.m. EST two trading days prior to the date of the last required merger vote. The units outstanding and Investable Weight Factors of the surviving index constituent and any replacement index constituent will be updated, and their index weights will be calculated and assigned after market close on the date of the special rebalancing.

#### *Index Governance*

An independent advisory board of MLP and energy infrastructure executives and senior legal and financial professionals reviews all methodology modifications and constituent changes to ensure that they are made objectively and without bias. The advisory board consists of a minimum of five

members, all of whom must be independent. The President and CEO of Alerian Capital Management will make presentations on the MLP Index to the advisory board on a quarterly basis at a minimum, generally on the Thursday prior to the second Friday of each March, June, September, and December. A board book will be distributed in advance of each meeting so that board members have the ability to review proposed index changes, if any, and the supporting data and index rules prior to the meeting. Because information regarding methodology modifications and constituent changes is material and can have an impact on the market, all board discussions will be confidential.

The following table provides the constituents of the MLP Index and the respective index weights of the constituents as of May 5, 2015.

Constituents	Ticker	Index Weight
Enterprise Products Partners LP	EPD	10.02%
Magellan Midstream Partners LP	MMP	7.76%
Energy Transfer Partners LP	ETP	7.70%
MarkWest Energy Partners LP	MWE	7.45%
Plains All American Pipeline LP	PAA	7.28%
Williams Partners LP	WPZ	7.19%
Sunoco Logistics Partners LP	SXL	4.95%
Targa Resources Partners LP	NGLS	4.89%
Buckeye Partners LP	BPL	4.86%
Enbridge Energy Partners LP	EEP	4.68%
ONEOK Partners LP	OKS	4.54%
Western Gas Partners LP	WES	4.31%
NuStar Energy LP	NS	3.25%
Genesis Energy LP	GEL	2.94%
DCP Midstream Partners LP	DPM	2.84%
EQT Midstream Partners LP	EQM	2.59%
TC Pipelines LP	TCP	2.47%
Tesoro Logistics LP	TLLP	2.32%
Spectra Energy Partners LP	SEP	2.27%
Enlink Midstream Partners LP	ENLK	2.14%
Crestwood Midstream Partners LP	CMLP	1.85%
NGL Energy Partensr LP	NGL	1.70%



## BACKGROUND ON THE POWERSHARES DB COMMODITY INDEX TRACKING FUND

We have derived all information contained in this underlying supplement regarding the PowerShares DB Commodity Index Tracking Fund (the “**PowerShares Commodity Fund**”), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, Invesco PowerShares Capital Management LLC (“**Invesco**” or the “**Managing Owner**”), a Delaware limited liability company, as commodity pool operator and commodity trading advisor of the PowerShares Commodity Fund. The PowerShares Commodity Fund is a Delaware statutory trust that issues common units of beneficial interest (“**Shares**”) representing fractional undivided beneficial interests in and ownership of the PowerShares Commodity Fund. The trustee of the PowerShares Commodity Fund, Wilmington Trust Company, has delegated to Invesco certain of the power and authority to manage the business affairs of the PowerShares Commodity Fund and has only nominal duties and liabilities to the PowerShares Commodity Fund. The PowerShares Commodity Fund is an exchange-traded fund that trades on the NYSE Arca, Inc. (“**NYSE Arca**”) under the ticker symbol “DBC.”

The PowerShares Commodity Fund is a commodity pool as defined in the Commodity Exchange Act and the regulations of the Commodity Futures Trading Commission (the “**CFTC**”). Invesco is a commodity pool operator and commodity trading advisor registered with the CFTC. The PowerShares Commodity Fund is not an investment company registered under the Investment Company Act. Information provided to or filed with the SEC by the PowerShares Commodity Fund pursuant to the Securities Exchange Act of 1934, as amended, can be located by reference to SEC file number 001-32726, through the SEC’s website at <http://www.sec.gov>. For additional information regarding Invesco and the PowerShares Commodity Fund, please see the PowerShares Commodity Fund’s prospectus. In addition, information about the Managing Owner and the PowerShares Commodity Fund may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the Invesco website at [www.invescopowershares.com](http://www.invescopowershares.com). Information contained in the Invesco website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Structure of the PowerShares Commodity Fund

The PowerShares Commodity Fund was formed as Delaware statutory trust on May 23, 2005. Each Share represents a unit of fractional undivided beneficial interest in the net assets of the PowerShares Commodity Fund.

Prior to the close of business on December 31, 2010, the PowerShares Commodity Fund invested substantially all of its assets in the DB Commodity Index Tracking Master Fund (the “**Master Fund**”). After the determination of the net asset value of the Master Fund on December 31, 2010, the Master Fund transferred and distributed all of its assets and liabilities and terminated. Effective January 1, 2011, the reorganized PowerShares Commodity Fund began performing all of the necessary functions in order to continue normal PowerShares Commodity Fund operations.

### Investment Objective and Strategy

The PowerShares Commodity Fund’s investment objective is to track changes, whether positive or negative, in the level of the DBIQ Optimum Yield Diversified Commodity Index Excess Return™ (the “**DBIQ Commodity Index**”) over time, plus the excess, if any, of the PowerShares Commodity Fund’s interest income from its holdings of United States Treasury and other high credit quality short-term fixed income securities over the expenses of the PowerShares Commodity Fund.

The PowerShares Commodity Fund pursues its investment objective by investing in a portfolio of exchange-traded futures on the commodities composing the DBIQ Commodity Index (the “**Index Commodities**”). The Index Commodities are Light Sweet Crude Oil (WTI), Heating Oil, RBOB Gasoline, Natural Gas, Brent Crude, Gold, Silver, Aluminum, Zinc, Copper Grade A, Corn, Wheat, Soybeans and Sugar. The DBIQ Commodity Index is composed of notional amounts of each of the Index Commodities. The notional amounts of each Index Commodity included in the DBIQ Commodity Index are broadly in proportion to historical levels of the world’s production and supplies of the Index Commodities. The sponsor of the DBIQ Commodity Index is Deutsche Bank Securities, Inc. For more information about

the DBIQ Commodity Index, see “— The DBIQ Optimum Yield Diversified Commodity Index Excess Return™” below.

If the Managing Owner determines in its commercially reasonable judgment that it has become impracticable or inefficient for any reason for the PowerShares Commodity Fund to gain full or partial exposure to any Index Commodity by investing in a specific futures contract that is a part of the DBIQ Commodity Index, the PowerShares Commodity Fund may invest in a futures contract referencing the particular Index Commodity other than the specific contract that is a part of the DBIQ Commodity Index or, in the alternative, invest in other futures contracts not based on the particular Index Commodity if, in the commercially reasonable judgment of the Managing Owner, such futures contracts tend to exhibit trading prices that correlate with a futures contract that is a part of the DBIQ Commodity Index. The PowerShares Commodity Fund does not employ leverage.

### Holdings Information

As of May 6, 2015, the PowerShares Commodity Fund included 16 exchange-traded futures on commodities. The PowerShares Commodity Fund’s three largest holdings are RBOB Gasoline, Brent Crude, and Light Crude. The following table summarizes the PowerShares Commodity Fund’s holdings in individual exchange-traded futures as of such date.

#### Holdings in individual exchange-traded futures as of May 6, 2015

<u>Company</u>	<u>Percentage of Total Holdings</u>
RBOB Gasoline	12.17%
Brent Crude	11.69%
Light Crude	9.92%
Gold	9.56%
Heating Oil	7.19%
Soybeans	6.21%
Corn	6.05%
Wheat	5.81%
Sugar #11	5.17%
Zinc	5.02%
Heating Oil	4.80%
Natural Gas	4.68%
Aluminum	4.59%
Copper – Grade A	2.82%
Silver	2.44%
Copper – Grade A	1.88%

The information above was compiled from the Invesco website, without independent verification. Information contained in the Invesco website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### **The DBIQ Optimum Yield Diversified Commodity Index Excess Return™**

We have derived all information contained in this underlying supplement regarding the DBIQ Commodity Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. Such information reflects the policies of, and is subject to change by, Deutsche Bank Securities, Inc. ("**Deutsche Bank**"). We make no representation or warranty as to the accuracy or completeness of such information. The DBIQ Commodity Index was is calculated, maintained and published by Deutsche Bank. Deutsche Bank has no obligation to continue to publish, and may discontinue the publication of, the DBIQ Commodity Index.

The DBIQ Commodity Index is intended to reflect the changes in market value, positive or negative, of certain commodities. The DBIQ Commodity Index is (i) calculated on an excess return, or unfunded basis and (ii) rolled in a manner which is aimed at potentially maximizing the roll benefits in backwardated markets and minimizing the losses from rolling in contangoed markets. Futures contracts on the following commodities are included in the DBIQ Commodity Index: Light Sweet Crude Oil (WTI), Heating Oil, Reformulated Blendstock for Oxygenate Blending ("RBOB") Gasoline, Natural Gas, Brent Crude, Gold, Silver, Aluminum, Zinc, Copper Grade A, Corn, Wheat, Soybeans, and Sugar. We refer to each of these commodities as an Index Commodity.

#### *Index Composition*

The DBIQ Commodity Index is composed of notional amounts of each of the Index Commodity futures contracts. The notional amounts of each Index Commodity futures contract included in the DBIQ Commodity Index are broadly in proportion to historical levels of the world's production and supplies of the Index Commodities.

The DBIQ Commodity Index is rebalanced annually in November to ensure that each of the Index Commodities is weighted in the same proportion that such Index Commodities were weighted on September 3, 1997, which was the base date. The following table reflects the index base weights, or DBIQ Commodity Index Base Weights, of each Index Commodity on the base date:

<b>Index Commodity</b>	<b>DBIQ Commodity Index Base Weight</b>
Brent Crude	12.38%
Heating Oil	12.38%
Light Crude	12.38%
RBOB Gasoline	12.38%
Gold	8.00%
Corn	5.63%
Soybeans	5.63%
Sugar #11	5.63%

Index Commodity	DBIQ Commodity Index Base Weight
Wheat	5.63%
Natural Gas	5.50%
Aluminum	4.17%
Copper – Grade A	4.17%
Zinc	4.17%
Silver	2.00%

Futures contracts on the Index Commodities are traded on the following futures exchanges: Light Sweet Crude Oil (WTI), Heating Oil, RBOB Gasoline and Natural Gas: New York Mercantile Exchange; Brent Crude: ICE-Futures Europe; Gold and Silver: Commodity Exchange Inc., New York; Aluminum, Zinc and Copper Grade A: The London Metal Exchange Limited; Corn, Wheat and Soybeans: Board of Trade of the City of Chicago Inc.; and Sugar: ICE Futures U.S., Inc.

The composition of the DBIQ Commodity Index may be adjusted in the event that Deutsche Bank is not able to calculate the closing prices of the futures contracts on the Index Commodities.

The DBIQ Commodity Index includes provisions for the replacement of futures contracts as they approach maturity. This replacement takes place over a period of time in order to lessen the impact on the market for the futures contracts being replaced. With respect to each Index Commodity, the DBIQ Commodity Index employs a rule-based approach when it “rolls” from one futures contract to another. Rather than selecting a new futures contract based on a predetermined schedule (e.g., monthly), each Index Commodity rolls to the futures contract which generates the best possible “implied roll yield.” The futures contract with a delivery month within the next thirteen months which generates the best possible implied roll yield will be included in the DBIQ Commodity Index. As a result, the DBIQ Commodity Index is able to potentially maximize the roll benefits from an Index Commodity in backwardated markets and minimize the losses from rolling in contangoed markets.

In general, as a futures contract approaches its expiration date, its price will move towards the spot price in a contangoed market. Assuming the spot price does not change, this would result in the futures contract price decreasing and a negative implied roll yield. The opposite is true in a backwardated market. Rolling in a contangoed market will tend to cause a drag on an Index Commodity’s contribution to the index closing level while rolling in a backwardated market will tend to cause a push on an Index Commodity’s contribution to the index closing level.

On the first index business day (defined as a day on which the New York Mercantile Exchange is open for business) of each month (the “**Verification Date**”), each Index Commodity futures contract will be tested for continued inclusion in the DBIQ Commodity Index. If the Index Commodity futures contract requires delivery of the underlying commodity in the next month (the “**Delivery Month**”), a new Index Commodity futures contract will be selected for inclusion in the DBIQ Commodity Index. For example, if the first New York business day is May 1, 2015, and the Delivery Month of the Index Commodity futures contract currently in the DBIQ Commodity Index is June 2015, a new Index Commodity futures contract with a later Delivery Month will be selected.

For each underlying Index Commodity in the DBIQ Commodity Index, the new Index Commodity futures contract selected will be the Index Commodity futures contract with the best possible “implied

roll yield” based on the closing price for each eligible Index Commodity futures contract. Eligible Index Commodity futures contracts are any Index Commodity futures contracts having a Delivery Month (i) no sooner than the month after the Delivery Month of the Index Commodity futures contract currently in the DBIQ Commodity Index, and (ii) no later than the 13th month after the Verification Date. For example, if the first New York business day is May 1, 2015 and the Delivery Month of an Index Commodity futures contract currently in the DBIQ Commodity Index is June 2015, the Delivery Month of an eligible new Index Commodity futures contract must be between July 2015 and July 2016. The implied roll yield is then calculated and the futures contract on the Index Commodity with the best possible implied roll yield is selected. If two futures contracts have the same implied roll yield, the futures contract with the minimum number of months prior to the exchange expiry month is selected.

After the futures contract selection, the monthly roll for each Index Commodity subject to a roll in that particular month unwinds the old futures contract and enters a position in the new futures contract. This takes place between the 2nd and 6th index business day of the month.

On each day during the roll period, new notional holdings are calculated. The calculations for the old Index Commodity futures contracts that are leaving the DBIQ Commodity Index and the new Index Commodity futures contracts are then calculated. On all days that are not monthly index roll days, the notional holding of each Index Commodity futures contract remains constant.

#### *Calculation of the Index Level*

The DBIQ Commodity Index is re-weighted on an annual basis on the 6th index business day of each November. The DBIQ Commodity Index level is expressed as the weighted average return of the Index Commodity futures contracts. The closing level of the DBIQ Commodity Index is calculated by Deutsche Bank based on the closing prices of the futures contracts for each of the Index Commodities and the notional amount of such Index Commodity futures contracts.

The futures contract price for each Index Commodity will be the exchange closing price for such Index Commodity on each index business day. If a weekday is not an exchange business day but is an index business day, the exchange closing price from the previous index business day will be used for each Index Commodity.

The DBIQ Commodity Index has been calculated back to the base date. On the base date, the closing level was 100.

The DBIQ Commodity Index is calculated in USD.

An index business day is a day on which banks in New York, New York are open. An exchange business day is, with respect to an Index Commodity, a day that is a trading day for such Index Commodity on the relevant exchange (unless an index disruption event or force majeure event has occurred).

## BACKGROUND ON THE iSHARES® GOLD TRUST

We have derived all information contained in this underlying supplement regarding the iShares® Gold Trust (the “**Gold Trust**”), including, without limitation, its structure, the creation and redemption of its shares and their valuation, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by, the Gold Trust and iShares® Delaware Trust Sponsor LLC, the sponsor of the Gold Trust (the “**Gold Trust Sponsor**”). The Bank of New York Mellon is the trustee of the Gold Trust (the “**Gold Trust Trustee**”), and JPMorgan Chase Bank N.A., London branch is the custodian of the Gold Trust (the “**Gold Trust Custodian**”). The Gold Trust is an investment trust, formed on January 21, 2005. Shares of the Gold Trust trade under the ticker symbol “IAU” on the NYSE Arca, Inc. (“**NYSE Arca**”).

Information provided to or filed with the Securities and Exchange Commission (the “**SEC**”) by the Gold Trust pursuant to the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, can be located by reference to SEC file numbers 333-199257 and 001-32418, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding the Gold Trust, please see the Gold Trust’s prospectus. In addition, information about the Gold Trust may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents and the public website of the Gold Trust maintained by the sponsor at <http://www.ishares.com/us/products/239561/ishares-gold-trust-fund>. Information contained in the iShares® website is not incorporated by reference in, and should not be considered a part of, this underlying supplement or the relevant terms supplement.

### Investment Objective

The investment objective of the Gold Trust is to reflect generally the performance of the price of gold before the payment of the Gold Trust’s expenses and liabilities. The Gold Trust receives gold deposited with it in exchange for the creation of shares, sells gold as necessary to cover the Gold Trust’s expenses and other liabilities and delivers gold in exchange for shares surrendered to it for redemption. The shares are intended to constitute a simple and cost-effective means of making an investment similar to an investment in gold. Although the shares are not the exact equivalent of an investment in gold, they provide investors with an alternative that allows a level of participation in the gold market through the securities market.

The shares of the Gold Trust (“**Shares**”) represent units of fractional undivided beneficial interest in the net assets of the Gold Trust. The Gold Trust is not actively managed and does not engage in any activities designed to obtain a profit from, or to ameliorate losses caused by, changes in the price of gold. Proceeds received by the Gold Trust from the issuance and sale of Shares consist of gold deposits. Such deposits are held by the Gold Trust Custodian on behalf of the Gold Trust until (i) delivered to authorized participants in connection with a redemption of Shares or (ii) sold to pay the fee due to the Gold Trust Sponsor and Gold Trust expenses or liabilities not assumed by the Gold Trust Sponsor.

### Creation and Redemption

The Gold Trust issues and redeems Shares on a continuous basis. The Gold Trust issues Shares only in units of one or more Baskets (a “Basket” equals a block of 50,000 Shares). Baskets are only issued or redeemed in exchange for an amount of gold determined by the Gold Trust Trustee on each day that NYSE Arca is open for regular trading. No Shares are issued unless the Gold Trust Custodian has allocated to the Gold Trust’s account the corresponding amount of gold. Initially, a Basket required delivery of 5,000 fine ounces of gold. The amount of gold necessary for the creation of a Basket, or to be received upon redemption of a Basket, will decrease over the life of the Gold Trust, due to the payment or accrual of fees and other expenses or liabilities payable by the Gold Trust. On June 24, 2010, after giving effect to the ten-for-one share split that occurred on that date, creation of a Basket required delivery of 489.368 fine ounces of gold. Baskets may be created or redeemed only by

authorized participants, who pay the Gold Trust Trustee a transaction fee for each order to create or redeem Baskets.

### *Computation of Net Asset Value*

The net asset value of the Gold Trust is obtained by subtracting the Gold Trust's expenses and liabilities on any day from the value of the gold owned by the Gold Trust on that day; the net asset value per Share ("**NAV**"), is obtained by dividing the net asset value of the Gold Trust on a given day by the number of Shares outstanding on that date. On each day on which NYSE Arca is open for regular trading, the Gold Trust Trustee determines the NAV as promptly as practicable after 4:00 p.m. (New York time). Beginning March 20, 2015, the Trustee will value the Trust's gold on basis of the price of gold determined by the London Bullion Market Association at 3:00 pm (London Time) (the "**LBMA Gold Price PM**"). Prior to that date, The Gold Trust Trustee valued the Gold Trust's gold on the basis of the price of gold determined by the London Gold Market Fixing Limited at 3:00 pm (London time) (the "**London PM Fix**"). If there is no LBMA Gold Price PM on any day, the Gold Trust Trustee is authorized to use the most recently announced price of gold determined by the London Bullion Market Association at 10:00 a.m. (London time) (the "**LBMA Gold Price AM**") unless the Gold Trust Trustee, in consultation with the Gold Trust Sponsor, determines that such price is inappropriate as a basis for evaluation.

### *Suspension of Issuance, Transfers and Redemptions*

The Gold Trust Trustee may suspend the delivery or registration of transfers of Shares, or may refuse a particular deposit or transfer at any time, if the Gold Trust Trustee or the Gold Trust Sponsor think it advisable for any reason. Redemptions may be suspended only (i) during any period in which regular trading on NYSE Arca is suspended or restricted, or the exchange is closed, or (ii) during an emergency as a result of which delivery, disposal or evaluation of gold is not reasonably practicable.

### **Termination of the Gold Trust**

The Gold Trust Trustee will terminate the Gold Trust if:

- the Gold Trust Trustee is notified that the Shares are delisted from NYSE Arca and are not approved for listing on another national securities exchange within five business days of their delisting;
- holders of at least 75% of the outstanding Shares notify the Gold Trust Trustee that they elect to terminate the Gold Trust;
- 60 days have elapsed since the Gold Trust Trustee notified the Gold Trust Sponsor of the Gold Trust Trustee's election to resign and a successor trust has not been appointed and accepted its appointment;
- the SEC determines that the Gold Trust is an investment company under the Investment Company Act of 1940, as amended, and the Gold Trust Trustee has actual knowledge of that determination;
- the aggregate market capitalization of the Gold Trust, based on the closing price for the Shares, was less than \$350 million for five consecutive trading days and the Gold Trust Trustee receives, within six months from the last of those trading days, notice that the Gold Trust Sponsor has decided to terminate the Gold Trust;
- the CFTC determines that the Gold Trust is a commodity pool under the Commodity Exchange Act and the Gold Trust Trustee has actual knowledge of that determination; or

- the Gold Trust fails to qualify for treatment, or ceases to be treated, as a grantor trust for United States federal income tax purposes and the Gold Trust Trustee receives notice that the Gold Trust Sponsor has determined that the termination of the Gold Trust is advisable.

If not terminated earlier by the Gold Trust Trustee, the Gold Trust will terminate on January 19, 2045. After termination of the Gold Trust, the Gold Trust Trustee will deliver the Gold Trust's property upon surrender and cancellation of Shares and, ninety days after termination, may sell any remaining trust property in a private or public sale, and hold the proceeds, uninvested and in a non-interest bearing account, for the benefit of the holders who have not surrendered their Shares for cancellation.

## **Gold**

The price of gold is primarily affected by the global demand for and supply of gold. The market for gold bullion is global, and gold prices are subject to volatile price movements over short periods of time and are affected by numerous factors, including macroeconomic factors such as the structure of and confidence in the global monetary system, expectations regarding the future rate of inflation, the relative strength of, and confidence in, the U.S. dollar (the currency in which the price of gold is usually quoted), interest rates, gold borrowing and lending rates and global or regional economic, financial, political, regulatory, judicial or other events. Gold prices may be affected by industry factors such as industrial and jewelry demand as well as lending, sales and purchases of gold by the official sector, including central banks and other governmental agencies and multilateral institutions that hold gold. Additionally, gold prices may be affected by levels of gold production, production costs and short-term changes in supply and demand due to trading activities in the gold market. From time to time, above-ground inventories of gold may also influence the market. It is not possible to predict the aggregate effect of all or any combination of these factors. The price of gold has recently been, and may continue to be, extremely volatile.



## BACKGROUND ON THE JPMORGAN CASH INDEX USD 3 MONTH

We have derived all information contained in this underlying supplement regarding the JPMorgan Cash Index USD 3 Month ("**JPM Cash Constituent**"), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information and information supplied by the Global Index Research Group ("**GIRG**") of JPMorgan Chase & Co., our parent company. This information reflects the policies of, and is subject to change by, GIRG. The JPM Cash Constituent was developed by GIRG and is calculated, maintained and published by GIRG. GIRG has no obligation to continue to publish, and may discontinue the publication of, the JPM Cash Constituent.

The JPM Cash Constituent is reported by the Bloomberg Professional® service under the ticker symbol "JPCAUS3M."

The JPMorgan Cash Constituent measures the total return performance of constant maturity euro-currency deposits in the U.S. dollar from rolling over a euro-currency deposit every business day. The JPMorgan Cash Constituent is calculated daily for three-month deposits in the U.S. dollar. The JPMorgan Cash Constituent has been constructed from December 31, 1985 using daily data. From September 1, 1990 forward, the JPMorgan Cash Constituent has used quotes for the LIBOR rates for the U.S. dollar from the ICE Benchmark Administration Limited ("**IBA**"), as the successor LIBOR administrator to the British Bankers' Association (see Reuters page LIBOR01). To calculate 3-month LIBOR, IBA collects U.S. dollar offered rates for deposits in the London interbank market with maturities of 3 months at 11:00 a.m., London time on each London business day from 18 designated banks. The top quartile and bottom quartile market quotes are disregarded and the middle two quartiles are averaged: the resulting "spot fixing" is the IBA 3-month LIBOR rate for the U.S. dollar for that business day.

The returns to euro-currency deposits are highly correlated with the returns to domestic money market instruments because the two markets are well arbitrated. Therefore, the euro-currency indices are representative of the domestic money markets returns.

GIRG only includes deposits with standard maturities because other quotes are typically a linear interpolation between two standard maturity deposits. Therefore, adding deposits with non-standard maturities offers no additional information.

The JPM Cash Constituent has a relatively constant maturity. The JPM Cash Constituent assumes GIRG rolls over the corresponding deposit every business day. The maturity or duration of the JPM Cash Constituent is always equal to the term of the deposit; the actual number of days to maturity can vary due to settlement rules (e.g., a one-month index can vary from 28 to 33 days). The more common approach is to buy, for example, a three-month deposit, hold it for one month, and then roll it over into the new three-month deposit. The maturity of this index would be three months at the beginning of the month and two months at the end. It is more useful to attribute daily cash returns to particular maturities rather than confuse the measurement of returns by varying the maturity.

## **BACKGROUND ON THE FTSE GEIS INDICES**

We have derived all information in this underlying supplement regarding the FTSE Emerging Index and the FTSE Developed ex North America Index (each, a “**FTSE GEIS Index**” and together, the “**FTSE GEIS Indices**”) including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, without independent verification. This information reflects the policies of, and is subject to change by FTSE International Limited (“**FTSE**”). FTSE has no obligation to continue to publish, and may discontinue publication of, the FTSE GEIS Indices.

The FTSE Global Equity Index Series draws from a universe of over 7,400 securities in 47 different countries. It attempts to represent every equity and sector relevant to international investors’ needs and has a modular structure. The universe is divided into Developed, Advanced Emerging and Secondary Emerging segments, with indexes calculated at regional, national and sector level.

### **The FTSE Emerging Index**

The FTSE Emerging Index is included in the FTSE Global Equity Index Series. The FTSE Emerging Index is the aggregate of the Advanced and Secondary Emerging segments of the FTSE Global Equity Index Series universe.

### **The FTSE Developed ex North America Index**

The FTSE Developed ex North America Index is derived from the FTSE Global Equity Index Series. The FTSE Developed ex North America Index is a market-capitalization weighted index representing the performance of large and mid cap companies in developed markets, excluding the U.S. and Canada.

### **Country Inclusion Criteria**

FTSE classifies countries included in its global indices into one of three categories: Developed, Advanced Emerging and Secondary Emerging. FTSE maintains a set of criteria to assess market status and minimum standards for each category for countries and markets to achieve in order to be eligible for that category. The minimum standards increase from Secondary Emerging to Advanced Emerging and from Advanced Emerging to Developed. A country will be classified under the category with the highest standards that it meets. FTSE conducts an annual review of all countries included in its global indices and those being considered for inclusion. A country’s classification as Developed, Advanced Emerging or Secondary Emerging is dependent on the following criteria:

- Market and regulatory environment: formal stock market regulatory authorities actively monitor the market; fair and non-prejudicial treatment of minority shareholders; non or selective incidence of foreign ownership restrictions; no objection to or significant restrictions or penalties applied to the investment of capital or the repatriation of capital and income; free and well-developed equity market; free and well-developed foreign exchange market; no or simple registration process for foreign investors
- Custody and settlement: rare incidence of failed trades in settlement; sufficient competition to ensure high quality custodian services; clearing and settlement times, stock lending is permitted; free delivery available for settlement; omnibus account facilities available to international investors
- Dealing landscape: sufficient competition to ensure high-quality broker services; sufficient broad market liquidity to support sizeable global investment; implicit and explicit costs to be reasonable and competitive; off-exchange transactions permitted; efficient trading mechanism; market depth information/visibility and timely trade reporting process

Once a country has met the required standards, it will be eligible for inclusion in the FTSE Global Equity Index Series. However, for a country index to be constructed and included in the FTSE Global Equity Index Series, it must have a minimum of 3 companies that pass the securities eligibility criteria and screens. An existing country index will remain in the FTSE Global Equity Index Series while any eligible constituents representing the country remain within the index. On the deletion of the last constituent, the country will continue to be eligible, but the country index will be immediately removed from the FTSE Global Equity Index Series and will only be reconsidered for inclusion if it meets the minimum requirement of 3 eligible companies.

FTSE conducts an annual review of all countries included in its global indices and those being considered for possible inclusion. Countries already in the indices will be assessed against the minimum standards for each category and prior to any reclassification or removal from the index will be placed on a watch-list. Countries not in the index will be assessed against the minimum standards for each category and, if appropriate, will be added to the watch list for possible future inclusion to one of the categories. In conducting the annual review, FTSE will consult the FTSE Country Classification Advisory Committee. In March and September of each year, FTSE will publish a watch list of countries being monitored for possible promotion or demotion. FTSE releases the results of its annual review in September of each year. FTSE will normally give at least six months notice before changing the classification of any country. Countries may be added to the indices at any time after a prior announcement. New regional indices may be added at any time after a prior announcement. Companies in the newly added countries will be reviewed in line with the relevant semi-annual regional review and any changes implemented after a prior announcement.

### **Determining Nationality**

A company will be allocated to a single country. If a company is incorporated in one country and has its sole listing in the same country, FTSE will allocate the company to that country. In all other circumstances, FTSE will refer the company to the FTSE Nationality Committee who will decide the appropriate nationality for the company. The FTSE Nationality Committee will base its decision according to its assessment of various factors including, but not necessarily limited to, the following:

- The investor protection regulations present in the country of incorporation;
- The country in which the company is domiciled for tax purposes;
- The location of its factors of production;
- The location of its headquarters;
- The location of company meetings;
- The composition of its shareholder base;
- The membership of its board of directors;
- The currency denomination of the company's shares;
- The perception of investors.

If a company is incorporated in a country, has a listing in that country and listings in other countries, the FTSE Nationality Committee will normally assign the company to the country of incorporation. If the company fails FTSE's liquidity test in the country of incorporation, the FTSE Nationality Committee may assign the company to the country which exhibits the greatest liquidity. However, save for certain exceptions, a company incorporated in a country other than a developed country (as classified in the FTSE Global Equity Index Series) may not be assigned to a developed

country. If a company is incorporated in a country, and is listed only in countries other than the country of incorporation, the FTSE Nationality Committee will normally allocate the company to the country with the greatest liquidity. If a company is incorporated in a country other than a developed country, has no listing in that country and is listed only in one or more developed countries, that company will only be eligible for FTSE Global Equity Index Series inclusion if the country of incorporation is internationally recognised as having a low taxation status that has been approved by the FTSE Nationality Committee. For companies incorporated in approved low taxation countries, the FTSE Nationality Committee will normally assign the company to the developed country with the greatest liquidity. The country allocation of any FTSE index constituents may be reassessed at any time at the FTSE Nationality Committee's discretion.

### **Eligible Securities**

Most equities are eligible for inclusion in the FTSE GEIS Indices. The following are regarded as ineligible:

- Securities of companies whose business is that of holding equity and other investments;
- Securities of Limited Liability Partnerships, Limited Partnerships, Master Limited Partnerships, Limited Liability Companies and Business Development Companies;
- Stapled units comprising an eligible and a non-eligible security;
- Convertible preference shares and loan stocks before conversion; and

Companies will be ranked by their full market capitalization, as discussed under "Periodic Review of Index Constituents" below. A company's full market capitalization will consist of any equity shares that are listed and in issue at the index review cut-off date. Non-negotiable shares are included in the calculation of the full market capitalization for Chinese companies. Shares that have been listed but do not form part of a company's current issued share capital, such as treasury shares and shares pending issuance to an employee scheme, will be excluded from the full market capitalization calculation.

### **Algorithm and Calculation Method**

The FTSE Global Equity Index Series uses actual closing mid-market or last trade prices, where available, for securities with local market quotations. Reuters real-time exchange rates are used in the index calculations that are disseminated in real-time. Exchange rates used in the End of Day calculations are WM/Reuters Closing Spot Rates™, collected at 16:00 hrs London time.

For the purposes of computing the FTSE Global Equity Index Series, the number of shares for each constituent security is expressed to the nearest share and, to prevent a large number of insignificant weighting changes, the number of shares for each constituent security is amended only when the total shares held within the index system changes by more than 1% on a cumulative basis. Changes will be made quarterly after the close of business on the third Friday of March, June, September and December. The data for these changes will be taken from the close of business on the third Wednesday of the month prior to the review month. If a corporate action is applied to an index constituent that involves a change in the number of shares, the change in shares will be applied simultaneously with the corporate action.

If accumulated changes in the number of outstanding shares add up to 10% or more, or when an accumulated share change represents USD 2 billion of a company's total market capitalization, they are implemented between quarters. WM/Reuters Spot Rates will be used to convert the market capitalization into USD. The USD 2 billion threshold may be adjusted in December. If an adjustment is made, it will be applied for the first time at the next semi-annual review in March.

The FTSE GEIS Indices are calculated using the Chained Paasche methodology. The performance of a FTSE GEIS Index on a given day is determined by calculating the percentage difference between:

- the FTSE GEIS Index's market capitalization as at the close of that day and
- the market capitalization at the start of that day

'Start of the day' is defined as the previous day's close adjusted for capital changes, investability weight changes, additions and deletions.

Adjustments are applied whenever capital changes take place, so that the performance of the FTSE Global Equity Index Series reflects the experience of investors. Eligible companies may be subject to adjustment for free float and multiple lines.

### **Free Float and Multiple Lines Adjustments**

**Free Float:** The FTSE Global Equity Index Series is adjusted for free float and foreign ownership limits. Free float restrictions include:

- Shares directly owned by State, Regional, Municipal and Local governments (excluding shares held by independently managed pension schemes for governments).
- Shares held by Sovereign Wealth Funds where each holding is 10% or greater. If the holding subsequently decreases below 10%, the shares will remain restricted until the holding falls below 7%.
- Shares held by directors, senior executives and managers of the company, and by their family and direct relations, and by companies with which they are affiliated.
- Shares held within employee share plans.
- Shares held by public companies or by non-listed subsidiaries of public companies.
- Shares held by founders, promoters, former directors, founding venture capital and private equity firms, private companies and individuals (including employees) where the holding is 10% or greater. If the holding subsequently decreases below 10%, the shares will remain restricted until the holding falls below 7%.
- All shares where the holder is subject to a lock-in clause (for the duration of that clause)\*.
- Shares held for publicly announced strategic reasons, including shares held by several holders acting in concert.
- Shares that are subject to on-going contractual agreements (such as swaps) where they would ordinarily be treated as restricted.

\* Free Float changes resulting from the expiry of a lock-in will be implemented at the next quarterly review subsequent to there being a minimum of 20 business days between the lock-in expiry date and the FTSE GEIS Index review date.

Holdings that are not considered as restricted free float include portfolio holdings, nominee holdings, holdings by investment companies and ETFs. If in addition to the above restricted holdings, the company's shareholders are subject to legal restrictions, including foreign ownership restrictions, that are more restrictive, the legal restriction will be considered a free float restriction.

Free float restrictions will be calculated using available published information. For Equity Shares of companies which have been admitted to the FTSE GEIS Index that have a free float greater than 5%, the actual free float will be rounded up to the next highest whole percentage number. Companies with a free float of 5% or below are not eligible for inclusion in the FTSE GEIS Index.

The FTSE Global Equity Index Series will be periodically reviewed for changes in free float.

#### Market Lines:

Where there are multiple lines of equity capital in a company, all are included and priced separately, provided that:

- The secondary line's full market capitalization (i.e. before the application of any investability weightings) is greater than 25% of the full market capitalization of the company's principal line and the secondary line is eligible in its own right in all respects. Should the full market capitalization of a secondary line that is already a constituent of the FTSE All-World Index or the FTSE Global Small Cap Index fall below 20% of the full market capitalization of the company's principal line at an annual review, the secondary line will be deleted from the FTSE All-World Index or the FTSE Global Small Cap Index unless its full market capitalization remains above the qualification level for continued inclusion as a constituent in the relevant regional index at that review.
- All partly-paid classes of equity are priced on a fully-paid basis if the calls are fixed and are payable at known future dates. Those where future calls are uncertain in either respect are priced on a partly-paid basis.

#### **Liquidity**

Each security will be tested for liquidity semi-annually in March and September by calculation of its median daily trading volume per month. The median trading volume is calculated by ranking the daily trading volume and selecting the middle ranking day if there is an odd number of days and the mean of the middle if there is an even number of days. Daily totals with zero trades are included in the ranking, therefore a security that fails to trade for more than half of the days in a month will have a zero median trade. Any period of suspension will not be included in the test. The liquidity thresholds are as follows:

- An existing constituent which does not turnover at least 0.04% of its outstanding shares (after the application of any free float weightings) based on its median daily trade per month for at least eight of the twelve months prior to a full market review will be removed from the FTSE GEIS Indices.
- A non-constituent which, based on its median daily trading volume per month, does not turnover at least 0.05% of its outstanding shares (after the application of any free float weightings) based on its median daily trade per month for at least ten of the twelve months prior to a full market review will not be eligible for inclusion in the FTSE GEIS Indices.
- New issues that do not have a twelve-month trading record must have a minimum three-month trading record when reviewed. They must turnover at least 0.05% of their outstanding shares (after the application of any free float weightings) based on their median daily trading volume per month since their listing, unless added under fast entry rule provisions.
- In the event that a company fails the liquidity test based on its underlying shares, and the company has an equivalent Depositary Receipt ("DR"), the DR may be considered for inclusion in the FTSE GEIS Indices if it passes the liquidity test in its own right and is traded on an exchange within the same regional time zone in which the underlying shares are listed. Where

a company has both DR and underlying shares listed, both lines will be tested separately for liquidity. The underlying share will be included as long as it passes the liquidity test in its own right. The DR will only be eligible for inclusion if the underlying share fails the liquidity test and the DR passes in its own right. Where the DR has been included it will remain in a FTSE GEIS Index until it either fails the liquidity test or the underlying share passes a future liquidity test with greater liquidity than the DR. In the event that the underlying share fails the liquidity test and the DR trades in a different time zone, but passes the test in its own right, the underlying share will be included as long as the DR is fully fungible (i.e., the DR can be converted into underlying shares and the underlying shares can be converted into DRs).

- At the sole discretion of a FTSE Regional Committee, the above percentage figures may be adjusted by up to 0.01% at a market review so that, in the Committee's opinion, a FTSE GEIS Index better reflects the liquid investable market of the region. This discretion may only be exercised across the whole of a region and may not be applied to individual securities or countries.

### **Periodic Review of Index Constituents**

In order to determine which companies are included in a FTSE GEIS Index, first the 100% regional universe is defined by selecting all eligible companies that are assigned the nationality of a country that is included in the global indices. The companies are then valued by full market capitalization, secondary lines are grouped, and the companies are ranked by full market value. Next the total market capitalization of the universe is calculated by totaling the full capitalization of all eligible companies in the region. Companies are then ranked by full market capitalization in descending order, and the cumulative market capitalizations of all stocks in the regional universe and their relevant weights are calculated. The top 98% of the regional universe is selected as the Index Universe. Investability weights are assigned to all companies in accordance with the free float rules, the multiple lines rule is applied, all secondary lines that fail are eliminated, and the liquidity rule is applied to all remaining eligible lines of stock. From there, each company is evaluated for inclusion in a FTSE GEIS Index:

For companies not currently in a FTSE GEIS Index:

- Companies at or above 68% of the Index Universe by full market capitalization with a weight greater than 0.04% of the current respective regional All-World Index by full market capitalization, and with a weight greater than the inclusion percentage for the respective region by investable market capitalization, will be included in the Large Cap Index for the region under review.
- Companies ranked below 68%, but within the top 86% of the Index Universe by full market capitalization with a weight greater than 0.04% of the current respective regional All-World Index by full market capitalization, and with a weight greater than the inclusion percentage levels for the respective region by investable market capitalization, will be included in the Mid Cap Index for the region under review.
- Companies ranked below the top 86%, but within the top 98% of the Index Universe by full market capitalization or have a weight less than 0.04% of the current respective regional All-World Index by full market capitalization, and with a weight greater than the inclusion percentage levels for the respective region by investable market capitalization will be included in the Small Cap Index for the region under review.

For existing FTSE GEIS Index constituents:

- Existing Large Cap constituents will remain in the Large Cap Index if they fall within the top 72% of the ranking described above. If they are ranked between 72% and 92% of the Index

Universe they will move to the Mid Cap. If they are ranked below 92% of the Index Universe but within the top 101% of the Index Universe, they will move to the Small Cap. If they are ranked below 101% of the Index Universe by full market capitalization or have a weight less than the exclusion percentage levels for the respective region by investable market capitalization, they will be excluded from the FTSE GEIS Index.

- Existing Mid Cap constituents will move to the Large Cap if they fall within the top 68% of the ranking described above. If they are ranked between 68% and 92% of the Index Universe they will remain in the Mid Cap. If they are ranked below 92% of the Index Universe but within the top 101% of the Index Universe, they will move to the Small Cap. If they are ranked below 101% of the Index Universe by full market capitalization or have a weight less than the exclusion percentage levels for the respective region by investable market capitalization, they will be excluded from the FTSE GEIS Index.
- Existing Small Cap constituents will move to the Large Cap if they fall within the top 68% of the ranking described above. If they are ranked between 68% and 86% of the Index Universe by full market capitalization and have a weight greater than 0.04% of the current respective regional All-World Index by full market capitalization they will move to the Mid Cap. If they are ranked below 86% of the Index Universe or have a weight less than 0.04% of the current respective regional All-World Index by full market capitalization, but within the top 101% of the Index Universe, they will remain in the Small Cap. If they are ranked below 101% of the Index Universe by full market capitalization or have a weight less than the exclusion percentage levels for the respective region by investable market capitalization, they will be excluded from the FTSE GEIS Index.

Inclusion and exclusion percentage levels by investable market capitalization for all the regions in the FTSE Global Equity Index Series to determine additions and deletions and other changes in the FTSE GEIS Index are shown below. These percentages are based from the respective regional Small Cap Index. Companies will be tested as a whole by taking the aggregate of each eligible line.

<b>Region</b>	<b>For Inclusion (New Stocks)</b>	<b>For Inclusion (Current Stocks)</b>
Developed Europe		
North America	0.02%	0.005%
Asia Pacific ex Japan		
Japan	0.05%	0.01%
Latin America	0.50%	0.20%
Emerging Europe		
Middle East & Africa	1.00%	0.20%

### **Changes to Constituent Companies**

Under certain circumstances, companies can be added to the list of constituent stocks outside of a review when meeting certain market capitalization thresholds. Stocks can be deleted from the list of constituents if their market capitalization or weight falls below certain levels, there exists evidence of a change in circumstance regarding investability, or the constituent stock becomes delisted or becomes



bankrupt, insolvent or is liquidated. Constituents can also be deleted under certain circumstances involving delisting, suspension, or relisting.

If an existing constituent is acquired for eligible shares (or a combination of eligible shares and cash) by another constituent in its own or another country, then the existing constituent is deleted on the effective date of the acquisition. The enlarged company remains a constituent of the same benchmarks within the FTSE Global Equity Index Series as the acquired company.

**Mergers between a constituent and non-constituent:**

- Within one country: If an existing constituent is acquired for eligible shares (or a combination of eligible shares and cash) by a quoted non-constituent in the same country, then the purchasing company is added to the same benchmarks within the FTSE Global Equity Index Series as the acquired company on the effective date of the acquisition, if eligible in all other respects. The existing constituent is deleted on the same date.
- Cross border: If an existing constituent is acquired for eligible shares (or a combination of eligible shares and cash) by a quoted non-constituent in another country, the acquiring company will be included in its own country index on the effective date of acquisition, providing it is eligible in all other respects. The existing constituent will be deleted on the same date.

# **Annex A**

## **The J.P. Morgan Efficiente Plus Price Return Index Series Index Rules**

**J.P.Morgan**

April 10, 2015

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## **PART A**

### **THE J.P. MORGAN EFFICIENTE PLUS PRICE RETURN INDEX SERIES INDEX RULES**

#### **1. Introduction**

This document comprises the Index Rules of the J.P. Morgan Efficiente Plus Price Return Index Series, a family of notional rules-based proprietary indices. The Index Rules are divided into Part A (which includes Schedule 1 and Schedule 2 and applies to every index comprised in the J.P. Morgan Efficiente Plus Price Return Index Series) and Part B.

Table A in Schedule 1 sets out each index in the J.P. Morgan Efficiente Plus Price Return Index Series (each, an “**Efficiente Plus Price Return Index**” and together the “**Efficiente Plus Price Return Indices**”). The relevant parameters for each Efficiente Plus Price Return Index (Name, Bloomberg Ticker, Start Date, Index Level on the Start Date, Target Volatility, Exposure on the Start Date, Daily Series Applicability, Return Type, Fee, Monthly Re-weighting Selection Date, Monthly Re-weighting Dates and Weighting Constraints) are provided in the applicable module in Part B for such Efficiente Plus Price Return Index (each, a “**Module**”).

**ALL PERSONS READING THIS DOCUMENT SHOULD REFER TO THE RISK FACTORS AND NOTICES, DISCLAIMERS AND CONFLICTS OF INTEREST SECTIONS BELOW AND CONSIDER THE INFORMATION CONTAINED IN THIS DOCUMENT IN LIGHT OF SUCH RISK FACTORS, NOTICES, DISCLAIMERS AND CONFLICTS OF INTEREST.**

**NOTHING IN THE INDEX RULES CONSTITUTES AN OFFER TO BUY OR SELL ANY SECURITIES, PARTICIPATE IN ANY TRANSACTION OR ADOPT ANY INVESTMENT STRATEGY. THE INDEX RULES DO NOT CONSTITUTE INVESTMENT, LEGAL, TAX, REGULATORY OR ACCOUNTING ADVICE.**

#### **2. Amendments**

The Index Rules may be supplemented, amended or restated from time to time in the sole discretion of J.P. Morgan Securities plc (“**JPMS plc**”) in its capacity as Index Calculation Agent. The Index Rules will be made available (in a manner determined by the Index Calculation Agent from time to time) following such supplementation, amendment or restatement. Copies of the current Index Rules are available from JPMS plc upon request.

Although the Index Rules are intended to be comprehensive and accurate, ambiguities may arise and errors or omissions may have been made. In such circumstances, the Index Calculation Agent will resolve such ambiguities and, if necessary, amend the Index Rules to reflect such resolution. In the case of any inaccuracy, the Index Calculation Agent may amend the Index Rules to address errors or omissions.

This document is published by JPMS plc in its capacity as Index Calculation Agent.

#### **3. Responsibility**

The Index Calculation Agent shall act in good faith and in a commercially reasonable manner in respect of determinations, interpretations and calculations made by it pursuant to the Index Rules.

Neither the Index Calculation Agent nor any of its affiliates or subsidiaries or any of their respective directors, officers, employees, representatives, delegates or agents (each a “**Relevant Person**”) shall have any responsibility to any person (whether as a result of negligence or otherwise) for any determinations, interpretations and calculations made or anything done (or omitted to be determined or done) in respect of any Efficiente Plus Price Return Index or any use to which any person may put any Efficiente Plus Price Return Index or their Index Levels. All determinations, interpretations and calculations of the Index Calculation Agent in respect of each Efficiente Plus Price Return Index shall be final, conclusive and binding and no person shall be entitled to make any claim against any of the Relevant Persons in respect thereof. Once a determination, interpretation or calculation is made or action

is taken by the Index Calculation Agent in respect of an Efficient Plus Price Return Index, neither the Index Calculation Agent nor any other Relevant Person shall be under any obligation to revise any determination, interpretation or calculation made or action taken for any reason.

#### 4. General Notes on the Efficient Plus Price Return Indices

Each Efficient Plus Price Return Index is a notional dynamic basket that tracks the price return of a basket consisting of (i) nineteen exchange-traded funds (each, an “**ETF Constituent**”), (ii) an exchange-traded note (the “**Note Constituent**”), and together with the ETF Constituents, the “**Exchange-Traded Constituents**”), in the case of each Exchange-Traded Constituent without taking any distributions into account, and (iii) the JPMorgan Cash Index USD 3 Month (the “**Cash Constituent**”), together with the Exchange-Traded Constituents, the “**Basket Constituents**”). The Rules for an Efficient Plus Price Return Index will specify whether the Return Type is “Excess Price Return” or “Price Return” and whether there will be a deduction for a per annum fee that accrues daily. In addition, by indicating whether the Daily Series Mechanism is applicable, the Index Rules for an Efficient Plus Price Return Index will specify whether or not a particular index targets a specific volatility on a daily basis. The Basket Constituents are subject to the provisions of Section 12 (*Extraordinary Events*) below. The Exchange-Traded Constituents represent a diverse range of asset classes and geographic regions.

The Index Level of each Efficient Plus Price Return Index is calculated as of any Trading Day using (1) Closing Levels for all the Basket Constituents that are in a Monthly Reference Portfolio (which Closing Levels do not reflect the notional reinvestment of dividends or distributions for the Exchange-Traded Constituents), (2) Monthly Basket Constituent Weights for all the Basket Constituents in a Monthly Reference Portfolio, which are determined based on inputs that include the Closing TR Levels of the Exchange-Traded Constituents (which Closing TR Levels do reflect the notional reinvestment of dividends or distributions for the Exchange-Traded Constituents) and (3) if the Daily Series Mechanism is applicable, an Exposure to the Monthly Reference Portfolios that is determined based on Closing Levels for all the Basket Constituents that are in the Monthly Reference Portfolios (which Closing Levels do not reflect the notional reinvestment of dividends or distributions for the Exchange-Traded Constituents).

If the Daily Series Mechanism is not applicable, the exposure of the relevant Efficient Plus Price Return Index to the Basket Constituents is determined by means of a monthly selection process. If the Daily Series Mechanism is applicable, the exposure of the relevant Efficient Plus Price Return Index to the Basket Constituents is determined by means of a two-step process, the first step of which is the same monthly selection process used for each Efficient Plus Price Return Index to which the Daily Series Mechanism is not applicable and the second step of which targets a specific volatility on a daily basis.

Whether or not the Daily Series Mechanism is applicable, each Efficient Plus Price Return Index uses a monthly selection process that selects every month a Monthly Reference Portfolio (as defined in Section 10.1 (*The Monthly Reference Portfolios*) below) composed of the Basket Constituents. Unless a Market Disruption Event on a Monthly Re-weighting Date has occurred or is continuing (as provided for in Section 11.2 (*Market Disruption on a Monthly Re-weighting Date*)), on a monthly basis, the relevant Monthly Reference Portfolios will be rebalanced over the Monthly Re-weighting Period in the current calendar month, which is a specified period of Index Business Days commencing with and including a specified Index Business Day in such month as provided in the applicable Module for such Efficient Plus Price Return Index (each such day, a “**Monthly Re-weighting Date**”) (as described in Section 9 (*Efficient Plus Price Return Index Monthly Rebalancing*) below).

As further described in Section 9 (*Efficient Plus Price Return Index Monthly Rebalancing*), the weight assigned to each Basket Constituent in the new Monthly Reference Portfolio (being the Monthly Reference Portfolio to which an Efficient Plus Price Return Index is rebalancing) with respect to a current Monthly Re-weighting Period will be determined on the Monthly Re-weighting Selection Date specified in the applicable Module for such Efficient Plus Price Return Index (such day, the “**Monthly Re-weighting Selection Date**”) immediately preceding the first scheduled Monthly Re-weighting Date in respect of such Monthly Re-weighting Period in accordance with the methodology in Section 8 (*Determining the Monthly Basket Constituent Weights for the Basket Constituents in the Monthly Reference Portfolio*) by reference to the returns and volatilities of multiple hypothetical portfolios composed of the Basket Constituents measured over the Performance Observation Period that includes and ends on such Monthly Re-weighting Selection Date. The Monthly Basket Constituent Weights for all the Basket Constituents in a Monthly Reference Portfolio are determined based on inputs that include the Closing TR Levels of

the Exchange-Traded Constituents (which Closing TR Levels reflect the notional reinvestment of dividends or distributions for the Exchange-Traded Constituents).

The re-weighting methodology (as described in more detail below) selects the Monthly Reference Portfolio by seeking to identify a weight for each of the Basket Constituents that would have resulted in the hypothetical portfolio with the highest return over the relevant Performance Observation Period, subject to an annualized volatility over the same period equal to or less than a specified volatility (the “**Target Volatility**”). The Target Volatility for each Efficient Plus Price Return Index is specified in the applicable Module.

If the Daily Series Mechanism is not applicable, the exposure of the relevant Efficient Plus Price Return Index to the Basket Constituents is determined by means of the monthly selection process (described above) and the targeting of a specific volatility on a daily basis (described below) does not apply. If the Daily Series Mechanism is applicable, the exposure of the relevant Efficient Plus Price Return Index to the Basket Constituents is determined by means of a two-step process, the first step of which is the monthly selection process (described above) and the second step of which targets a specific volatility on a daily basis (described below).

If the applicable Module for an Efficient Plus Price Return Index specifies that the Daily Series Mechanism is Applicable (each such Efficient Plus Price Return Index, a “**Daily Series Index**”), there is a second step in determining the exposure. In the second step, during the course of the month, each Daily Series Index targets its Target Volatility on a daily basis by dynamically adjusting its Exposure (as defined and more fully described in Section 10.4 (*Exposure Calculation*)) to the relevant Monthly Reference Portfolios on a daily basis, pursuant to the Index Rules, based on the historical volatility of the relevant Monthly Reference Portfolios (the Underlying Portfolio Volatility as defined in and as more fully described in Section 10.3 (*Determining the Underlying Portfolio Volatility*)). The Exposure to the Monthly Reference Portfolios is determined based on Closing Levels for all the Basket Constituents that are in the Monthly Reference Portfolios (which Closing Levels do not reflect the notional reinvestment of dividends or distributions for the Exchange-Traded Constituents).

The Underlying Portfolio Volatility will be determined as of each Trading Day pursuant to Section 10.3 (*Determining the Underlying Portfolio Volatility*) by reference to a daily rolling Volatility Measurement Period. It should be noted that, as each Basket Constituent changes in value after the Closing Time on the first Effective Monthly Re-weighting Date in a given Monthly Re-weighting Period, the effective weight of each Basket Constituent in the relevant Monthly Reference Portfolio will change (during the period from the Closing Time on the first Effective Monthly Re-weighting Date in a given Monthly Re-weighting Period to the Closing Time on the final Effective Monthly Re-weighting Date in the next Monthly Re-weighting Period); however, for the purpose of calculating the Underlying Portfolio Volatility over the Volatility Measurement Period, the Monthly Basket Constituent Weights of the Basket Constituents in each Monthly Reference Portfolio will not change from those determined on the relevant Monthly Re-weighting Selection Date.

The Exposure of a Daily Series Index on any Trading Day to the relevant Monthly Reference Portfolios is determined in the second step by dividing the Target Volatility by the Underlying Portfolio Volatility for the relevant Volatility Measurement Period, subject to a minimum of zero percent (0%) and a variable maximum of up to two hundred percent (200%); *provided that* the Exposure may not change by more than 50% each day. As the Underlying Portfolio Volatility increases, the Exposure to the relevant Monthly Reference Portfolios decreases; as the Underlying Portfolio Volatility decreases, the Exposure to the relevant Monthly Reference Portfolios increases. The Exposure for each Daily Series Index will be greater than 100 percent (100%) when (1) the Underlying Portfolio Volatility of the relevant Monthly Reference Portfolios is lower than the Target Volatility and (2) the Monthly Reference Portfolios include a non-zero weight for the Cash Constituent.

**No assurance can be given that the investment strategy used to construct any Efficient Plus Price Return Index will be successful or that any Efficient Plus Price Return Index will outperform any alternative basket or strategy that might be constructed from the Basket Constituents. Furthermore, no assurance can be given that any Efficient Plus Price Return Index will achieve its Target Volatility. The actual realized volatility of each Efficient Plus Price Return Index may be greater or less than its Target Volatility.**

Subject to the occurrence of a Market Disruption Event, the level of each Efficient Plus Price Return Index (the “**Index Level**”) will be calculated by the Index Calculation Agent on each Trading Day in USD in accordance with

the methodology set out in Section 10 (*Efficiente Plus Price Return Index Level*) below. The Index Calculation Agent will publish the Index Level on each Trading Day to an accuracy of two decimal places.

**Each Efficiente Plus Price Return Index is described as a notional basket of assets because there is no actual portfolio of assets to which any person is entitled or in which any person has any ownership interest. Each Efficiente Plus Price Return Index merely references certain assets, the performance of which will be used as a reference point for calculating the Index Level.**

## 5. Index Calculation Agent

JPMS plc or any affiliate or subsidiary designated by it will act as calculation agent (the “**Index Calculation Agent**”) for each Efficiente Plus Price Return Index. The Index Calculation Agent’s determinations and calculations in respect of each Efficiente Plus Price Return Index and interpretations of the Index Rules are final. Further information is contained in the statement of Responsibility set out in Section 3 (*Responsibility*) above.

## 6. The Basket Constituents

Each Efficiente Plus Price Return Index is a notional dynamic basket that tracks the price return of twenty-one Basket Constituents (including the Cash Constituent). The Basket Constituents are nineteen exchange-traded funds and an exchange-traded note, in the case of each such Exchange-Traded Constituent without taking distributions into account, and the Cash Constituent. The Index Rules for an Efficiente Plus Price Return Index will specify whether the Return Type is “Excess Price Return” or “Price Return” and whether there will be a deduction for a per annum fee that accrues daily. In addition, by indicating whether the Daily Series Mechanism is applicable, the Index Rules for an Efficiente Plus Price Return Index will specify whether or not a particular index targets a specific volatility on a daily basis.

Each Basket Constituent is set out in Table 1 below. For each Basket Constituent, Table 1 contains the Bloomberg ticker for each Basket Constituent for ease of identification, as well as the current primary exchange and Related Exchange for each Exchange-Traded Constituent.

Table 1

i	Basket Constituents	Bloomberg Ticker	Current primary exchange for each Exchange-Traded Constituent on December 31, 2014	Related Exchange for each Exchange-Traded Constituent
1	Vanguard S&P 500 ETF	VOO	NYSE Arca	All Exchanges
2	Vanguard Small-Cap ETF	VB	NYSE Arca	All Exchanges
3	Vanguard FTSE Developed Markets ETF	VEA	NYSE Arca	All Exchanges
4	iShares <sup>®</sup> MSCI EAFE Small-Cap ETF	SCZ	NYSE Arca	All Exchanges
5	Vanguard FTSE Emerging Markets ETF	VWO	NYSE Arca	All Exchanges
6	iShares <sup>®</sup> 20+ Year Treasury Bond ETF	TLT	NYSE Arca	All Exchanges
7	iShares <sup>®</sup> 7-10 Year Treasury Bond ETF	IEF	NYSE Arca	All Exchanges

<b>i</b>	<b>Basket Constituents</b>	<b>Bloomberg Ticker</b>	<b>Current primary exchange for each Exchange-Traded Constituent on December 31, 2014</b>	<b>Related Exchange for each Exchange-Traded Constituent</b>
8	iShares <sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF	LQD	NYSE Arca	All Exchanges
9	iShares <sup>®</sup> TIPS Bond ETF	TIP	NYSE Arca	All Exchanges
10	Vanguard Short-Term Corporate Bond ETF	VCSH	NASDAQ	All Exchanges
11	SPDR <sup>®</sup> Barclays High Yield Bond ETF	JNK	NYSE Arca	All Exchanges
12	PIMCO 0-5 Year High Yield Corporate Bond Index ETF	HYS	NYSE Arca	All Exchanges
13	PowerShares Senior Loan Portfolio	BKLN	NYSE Arca	All Exchanges
14	iShares <sup>®</sup> U.S. Preferred Stock ETF	PFF	NYSE Arca	All Exchanges
15	iShares <sup>®</sup> J.P. Morgan USD Emerging Markets Bond ETF	EMB	NYSE Arca	All Exchanges
16	Vanguard REIT ETF	VNQ	NYSE Arca	All Exchanges
17	Market Vectors <sup>®</sup> Gold Miners ETF	GDX	NYSE Arca	All Exchanges
18	ETRACS Alerian MLP Infrastructure Index ETN	MLPI	NYSE Arca	All Exchanges
19	PowerShares DB Commodity Index Tracking Fund	DBC	NYSE Arca	All Exchanges
20	iShares <sup>®</sup> Gold Trust	IAU	NYSE Arca	All Exchanges
21	JPMorgan Cash Index USD 3 Month	JPCAUS3M	Not Applicable	Not Applicable

## 7. Initial Composition of the Efficient Plus Price Return Indices

On the applicable Start Date for the relevant Efficient Plus Price Return Index, such Efficient Plus Price Return Index may be composed of notional holdings in up to two different Monthly Reference Portfolios, being (x) the Monthly Reference Portfolio determined as of the Monthly Re-weighting Selection Date immediately preceding the Start Date (the “**Starting Selection Date**”) and also, if applicable, (y) the Monthly Reference Portfolio determined as of the Monthly Re-weighting Selection Date immediately preceding the Starting Selection Date. References in the Index Rules to (i) the “Monthly Re-weighting Period” shall be deemed to include references to the Monthly Re-weighting Period with respect to the Monthly Reference Portfolio determined as of the Starting Selection Date (the “**Initial Re-weighting Period**”), (ii) the “Monthly Re-weighting Dates” shall be deemed to include references to the Index Business Days in the Starting Re-weighting Period and (iii) the “Monthly Re-weighting Selection Date” shall be deemed to include references to the Starting Selection Date and the Monthly Re-weighting Selection Date immediately preceding the Starting Selection Date.

The composition of each Efficient Plus Price Return Index will be adjusted in accordance with the methodology described in the Index Rules.

The Index Level on the Start Date for each Efficient Plus Price Return Index is provided in the applicable Module for that Efficient Plus Price Return Index. The Index Level for each Efficient Plus Price Return Index was 100.00 on November 1, 2007 (the “**Base Date**”) unless otherwise specified in the applicable Module.

## **8. Determining the Monthly Basket Constituent Weights for the Basket Constituents in the Monthly Reference Portfolio**

On the Starting Selection Date and thereafter on a monthly basis on each subsequent Monthly Re-weighting Selection Date, the Index Calculation Agent will determine the weight (the “**Monthly Basket Constituent Weight**”) to be assigned to each Basket Constituent, whether zero or a positive number, for the relevant Monthly Reference Portfolio determined as of such Monthly Re-weighting Selection Date in accordance with the methodology described in this Section 8.

Each Basket Constituent is set to the relevant Monthly Basket Constituent Weight, determined as of the relevant Monthly Re-weighting Selection Date, only once a month in order to create the relevant Monthly Reference Portfolio. The actual weight of each of the Basket Constituents within a Monthly Reference Portfolio determined on the relevant Monthly Re-weighting Selection Date may fluctuate during the period from the Closing Time on the first Effective Monthly Re-weighting Date in the Monthly Re-weighting Period immediately following such Monthly Re-weighting Selection Date to the Closing Time on the final Effective Monthly Re-weighting Date in the next Monthly Re-weighting Period due to movements in the levels of the Basket Constituents.

The Monthly Basket Constituent Weights for all the Basket Constituents in a Monthly Reference Portfolio are determined based on inputs that include the Closing TR Levels of the Exchange-Traded Constituents (which Closing TR Levels do reflect the notional reinvestment of dividends or distributions for the Exchange-Traded Constituents), while each of (1) the level of a Monthly Reference Portfolio (after taking the Monthly Basket Constituent Weights into consideration) and (2) for a Daily Series Index, the Exposure to the Monthly Reference Portfolios is determined as of any Trading Day based on Closing Levels for all the Basket Constituents in the Monthly Reference Portfolios (which Closing Levels do not reflect the notional reinvestment of dividends or distributions for the Exchange-Traded Constituents).

### *8.1 Identifying the Performance Observation Periods*

On each Monthly Re-weighting Selection Date *k*, the Index Calculation Agent will identify the applicable Performance Observation Period *k* (being the period of 126 Weekdays comprised of (i) the 125 Weekdays immediately prior to Monthly Re-weighting Selection Date *k* and (ii) the Weekday that is Monthly Re-weighting Selection Date *k*) (the “**Performance Observation Period**”).

### *8.2 Identifying the Unique Portfolio for Each Performance Observation Period*

With respect to the applicable Performance Observation Period identified by the Index Calculation Agent with respect to a Monthly Re-weighting Selection Date, the Index Calculation Agent will:

- (a) Calculate the Closing TR Level of each Exchange-Traded Constituent and obtain the Closing Level of each Basket Constituent that is an index, including the Cash Constituent, for each Weekday in respect of the relevant Performance Observation Period. If any such Weekday is not a Dealing Day with respect to the relevant Basket Constituent or if the Index Calculation Agent cannot obtain relevant reliable information from third party sources as of such Weekday for such Basket Constituent, the Closing TR Level or Closing Level, as the case may be, for that Basket Constituent in respect of such Weekday shall be deemed to be the Closing TR Level or the Closing Level, as the case may be, for that Basket Constituent as of the immediately preceding Dealing Day for that Basket Constituent for which the Index Calculation Agent can obtain relevant reliable information from third party sources.



Closing TR Level means, subject to the provisions of Section 11 (*Market Disruption Events*), with respect to an Exchange-Traded Constituent and a Dealing Day  $t$ , the Closing Level of the Exchange-Traded Constituent with distributions re-invested, which will be determined as follows:

$$\text{Closing TR Level}_t = \text{Closing TR Level}_{t-1} \times \left( \frac{\text{Closing Level}_t + d_t}{\text{Closing Level}_{t-1}} \right)$$

Where:

Closing TR Level $_{t-1}$  means the Closing TR Level of the relevant Exchange-Traded Constituent as of the Dealing Day immediately preceding Dealing Day  $t$ ;

Closing Level $_t$  means the Closing Level of the relevant Exchange-Traded Constituent as of Dealing Day  $t$ ;

Closing Level $_{t-1}$  means the Closing Level of the relevant Exchange-Traded Constituent as of the Dealing Day immediately preceding Dealing Day  $t$ ;

$d_t$  means, in respect of an Exchange-Traded Constituent and a Dealing Day  $t$ ,

- (a) if such Dealing Day  $t$  is an Ex-Distribution Date for the relevant Exchange-Traded Constituent, the Gross Distribution Amount in respect of such Basket Constituent  $i$  for such Ex-Distribution Date; or
- (b) otherwise, 0.

For purposes of determining the Closing TR Level for any such Exchange-Traded Constituent for any Dealing Day, if the immediately preceding Dealing Day (the “**Prior Dealing Day**”) for such Exchange-Traded Constituent was a Disrupted Day then, in the formula for determining the Closing TR Level for such Dealing Day, (i) the Closing TR Level for that Prior Dealing Day shall be replaced with the Closing TR Level for the Dealing Day immediately preceding such Prior Dealing Day that was not a Disrupted Day (the “**Prior Non-Disrupted Dealing Day**”) for such Exchange-Traded Constituent, (ii) the Closing Level for that Prior Dealing Day shall be replaced with the Closing Level for such Prior Non-Disrupted Dealing Day for such Exchange-Traded Constituent, and (iii) the Gross Distribution Amount of such Exchange-Traded Constituent in respect of such Dealing Day shall be replaced with the sum of each of the Gross Distribution Amounts for the Exchange-Traded Constituent in respect of each day from but excluding the Prior Non-Disrupted Dealing Day to and including such Dealing Day.

- (b) Identify all possible Eligible Portfolios in accordance with Section 8.4 (*Eligible Portfolios & Weighting Constraints*) below.
- (c) Calculate the Performance of each such Eligible Portfolio over the relevant Performance Observation Period in accordance with the following formula:

$$P_k^j = \left( \sum_{i=1}^{21} \frac{S_k^i}{S_{k,0}^i} \times \lambda_j^i \right) - 1$$

where:

$P_k^j$  means the Performance of Eligible Portfolio  $j$  as of Monthly Re-weighting Selection Date  $k$ ;

$S_k^i$  means (i) the Closing TR Level of Basket Constituent  $i$  as of Monthly Re-weighting Selection Date  $k$  if such Basket Constituent is an Exchange-Traded Constituent or (ii) the Closing Level of Basket Constituent  $i$  as of Monthly Re-weighting Selection Date  $k$  if such Basket Constituent is an index;

$S_{k,0}^i$  means (i) the Closing TR Level of Basket Constituent  $i$  as of the first Weekday in respect of Performance Observation Period  $k$  (being the Weekday that is 125 Weekdays prior to Monthly Re-weighting Selection Date  $k$ ) if such Basket Constituent is an Exchange-Traded Constituent or (ii) the Closing Level of Basket Constituent  $i$  as of the first Weekday in respect of Performance Observation Period  $k$  (being the Weekday that is 125 Weekdays prior to Monthly Re-weighting Selection Date  $k$ ) if such Basket Constituent is an index;

$\lambda_j^i$  means the weighting of Basket Constituent  $i$  within Eligible Portfolio  $j$ .

- (d) Calculate the Realized Volatility of each such Eligible Portfolio over Performance Observation Period k in accordance with the following formula:

$$\sigma_k^j = \sqrt{\frac{L \times \sum_{n=1}^L (R_{k,n}^j)^2 - (\sum_{n=1}^L R_{k,n}^j)^2}{L^2}} \times 260$$

where:

$\sigma_k^j$  means the Realized Volatility of Eligible Portfolio j as of Monthly Re-weighting Selection Date k;  
 $L$  means 125, the number of Weekday returns in respect of Performance Observation Period k; and  
 $R_{k,n}^j$  means the weighted sum of the natural logarithms of daily returns of each Basket Constituent from Weekday n-1 to Weekday n in respect of Performance Observation Period k, calculated in accordance with the following formula:

$$R_{k,n}^j = \sum_{i=1}^{21} \lambda_j^i \times \ln \left( \frac{S_{k,n}^i}{S_{k,n-1}^i} \right)$$

where:

$S_{k,n}^i$  means (i) the Closing TR Level of Basket Constituent i for Weekday n in respect of Performance Observation Period k if such Basket Constituent is an Exchange-Traded Constituent or (ii) the Closing Level of Basket Constituent for Weekday n in respect of Performance Observation Period k if such Basket Constituent is an index;

$S_{k,n-1}^i$  means (i) the Closing TR Level of Basket Constituent i for Weekday n-1 in respect of Performance Observation Period k if such Basket Constituent is an Exchange-Traded Constituent or (ii) the Closing Level of Basket Constituent i for Weekday n-1 in respect of Performance Observation Period k if such Basket Constituent is an index;

$n$  denotes a Weekday in respect of Performance Observation Period k that is not the first Weekday of Performance Observation Period k (for the avoidance of doubt, the first Weekday n in respect of Performance Observation Period k shall be the Weekday that is 124 Weekdays prior to Monthly Re-weighting Selection Date k and the last Weekday n of Performance Observation Period k shall be the Weekday that is Monthly Re-weighting Selection Date k);

$n - 1$  denotes a Weekday in respect of Performance Observation Period k that is immediately prior to Weekday n (for the avoidance of doubt, the first Weekday n-1 in respect of Performance Observation Period k shall be the Weekday that is 125 Weekdays prior to Monthly Re-weighting Selection Date k and the last Weekday n-1 of Performance Observation Period k shall be the Weekday immediately prior to Monthly Re-weighting Selection Date k); and

$\lambda_j^i$  means the weighting of Basket Constituent i within Eligible Portfolio j.

- (e) Select the Eligible Portfolio with the highest Performance over the relevant Performance Observation Period that has an annualized Realized Volatility equal to or less than the Target Volatility; *provided that*, if there is more than one such Eligible Portfolio with the same highest Performance over the relevant Performance Observation Period, the Eligible Portfolio that has the lowest annualized Realized Volatility shall be selected. The Eligible Portfolio that satisfies these criteria is known as the “**Unique Portfolio**” for that Performance Observation Period.
- (f) If none of the Eligible Portfolios has an annualized Realized Volatility equal to or less than the Target Volatility, the Index Calculation Agent shall increase the Target Volatility by one percent (1%) and repeat step 6.2(e) above until a Unique Portfolio is selected. These steps, including an increase to the Target Volatility, may be repeated further until a Unique Portfolio is selected.

### 8.3 *Determining the Monthly Basket Constituent Weight to be assigned to each Basket Constituent with respect to the relevant Monthly Reference Portfolio*

The Monthly Basket Constituent Weight to be assigned to each Basket Constituent within a Monthly Reference Portfolio will be determined by the Index Calculation Agent as the weight assigned to such Basket Constituent within the Unique Portfolio identified with respect to the relevant Monthly Re-weighting Selection Date in accordance with Section 8.2 above.

The actual weight of each of the Basket Constituents within a Monthly Reference Portfolio determined on the relevant Monthly Re-weighting Selection Date may fluctuate during the period from the Closing Time on the first Effective Monthly Re-weighting Date in the Monthly Re-weighting Period immediately following such Monthly Re-weighting Selection Date to the Closing Time on the final Effective Monthly Re-weighting Date in the next Monthly Re-weighting Period due to movements in the levels of the Basket Constituents.

Each Basket Constituent is set to the relevant Monthly Basket Constituent Weight, determined as of the relevant Monthly Re-weighting Selection Date, only once a month in order to create the relevant Monthly Reference Portfolio.

### 8.4 *Eligible Portfolios & Weighting Constraints*

For each Efficient Plus Price Return Index, an “**Eligible Portfolio**” is any hypothetical portfolio of Basket Constituents that is composed of all twenty-one (21) of the Basket Constituents and that satisfies the “**Weighting Constraints**” detailed in the applicable Module for such Efficient Plus Price Return Index. The weight assigned to each Basket Constituent in an Eligible Portfolio may be zero or a positive number.

## 9. **Efficient Plus Price Return Index Monthly Rebalancing**

Unless a Market Disruption Event has occurred and is continuing, on a monthly basis, an Efficient Plus Price Return Index will be rebalanced over the Monthly Re-weighting Period in the current calendar month, which is a specified period of Index Business Days commencing with and including a specified Index Business Day in such month. Such rebalancing over the Monthly Re-weighting Period in the current calendar month will be into the next Monthly Reference Portfolio that was selected on the most recent Monthly Re-weighting Selection Date (the “**Next Monthly Reference Portfolio**”) and out of the prior Monthly Reference Portfolio that was selected on the Monthly Re-weighting Selection Date prior to such most recent Monthly Re-weighting Selection Date (the “**Prior Monthly Reference Portfolio**”).

## 10. **Efficient Plus Price Return Index Level**

### 10.1 *The Monthly Reference Portfolios*

Each Monthly Re-weighting Selection Date  $k$  will be associated with a reference portfolio composed of the Basket Constituents with weights set equal to the Monthly Basket Constituent Weights determined as of such Monthly Re-weighting Selection Date  $k$  (the “**Monthly Reference Portfolio**”). During Monthly Re-weighting Period  $k$ , the relevant Efficient Plus Price Return Index progressively rolls out of the Monthly Reference Portfolio associated with the previous Monthly Re-weighting Selection Date (*i.e.*, Monthly Re-weighting Selection Date  $k-1$ ) (which is the Prior Monthly Reference Portfolio) and rolls into the Monthly Reference Portfolio associated with Monthly Re-weighting Selection Date  $k$  (which is the Next Monthly Reference Portfolio). After the Closing Time on the final Effective Monthly Re-weighting Date in Monthly Re-weighting Period  $k$ , the relevant Efficient Plus Price Return Index will be exposed only to the Monthly Reference Portfolio associated with Monthly Re-weighting Selection Date  $k$  and will continue to remain exposed only to such portfolio until the Closing Time on the first Effective Monthly Re-weighting Date in the next Monthly Re-weighting Period (*i.e.*, Monthly Re-weighting Period  $k+1$ ).

The actual weight of each of the Basket Constituents within a Monthly Reference Portfolio determined on the relevant Monthly Re-weighting Selection Date may fluctuate during the period from the Closing Time on the first Effective Monthly Re-weighting Date in the Monthly Re-weighting Period immediately following such Monthly Re-weighting Selection Date to the Closing Time on the final Effective Monthly Re-weighting Date in the next Monthly Re-weighting Period due to movements in the levels of the Basket Constituents.

#### 10.2 The Levels of the Monthly Reference Portfolios

On the first Effective Monthly Re-weighting Date in Monthly Re-weighting Period k, the level of the Monthly Reference Portfolio determined as of Monthly Re-weighting Selection Date k with respect to such Monthly Re-weighting Period k is equal to 1.0. On each Index Business Day t from but excluding the first Effective Monthly Re-weighting Date in Monthly Re-weighting Period k to and including the final Effective Monthly Re-weighting Date in Monthly Re-weighting Period k+1, the level of the Monthly Reference Portfolio determined as of Monthly Re-weighting Selection Date k is determined as follows:

$$RP_{k,t} = RP_k \times \left[ 100\% + \left( \sum_{i=1}^{21} \frac{S_t^i}{S_k^i} \times \lambda_k^i \right) - \frac{S_t^{21}}{S_k^{21}} \right]$$

where:

t means an Index Business Day from but excluding the first Effective Monthly Re-weighting Date in Monthly Re-weighting Period k to and including the final Effective Monthly Re-weighting Date in Monthly Re-weighting Period k+1;

$RP_{k,t}$  means the level of the Monthly Reference Portfolio associated with Monthly Re-weighting Selection Date k for Index Business Day t;

$RP_k$  means the level of the Monthly Reference Portfolio associated with Monthly Re-weighting Selection Date k on the first Effective Monthly Re-weighting Date in Monthly Re-weighting Period k, which equals 1.0;

$S_t^i$  means, for i=1 through 20, the Closing Level of Basket Constituent i as of Index Business Day t;

$S_k^i$  means, for i=1 through 20, the Closing Level of Basket Constituent i on the first Effective Monthly Re-weighting Date in Monthly Re-weighting Period k;

$\lambda_k^i$  means the Monthly Basket Constituent Weight set for Basket Constituent i in the Monthly Reference Portfolio associated with Monthly Re-weighting Selection Date k;

$S_t^{21}$  means the Closing Level of the Cash Constituent for Index Business Day t; and

$S_k^{21}$  means the Closing Level of the Cash Constituent on the first Effective Monthly Re-weighting Date in Monthly Re-weighting Period k;

where i for each Basket Constituent is the number (1 through 21) assigned to that Basket Constituent in Table 1 in Section 6 (*The Basket Constituents*) above.

#### 10.3 Determining the Underlying Portfolio Volatility

If the applicable Module for an Efficient Plus Price Return Index specifies that the Daily Series Mechanism is Applicable (each such Efficient Plus Price Return Index being a Daily Series Index as defined in Section 4), such Daily Series Index shall target its Target Volatility on a daily basis by dynamically adjusting its Exposure to the relevant Monthly Reference Portfolios, pursuant to the Index Rules, based on the historical volatility (the “**Underlying Portfolio Volatility**”) of the relevant Monthly Reference Portfolios underlying such Daily Series Index. Specifically, (x) from and including the first Effective Monthly Re-weighting Date in Monthly Re-weighting Period k to but excluding the final Effective Monthly Re-weighting Date in Monthly Re-weighting Period k, where such Daily Series Index is exposed to a weighted combination of the Monthly Reference Portfolio with respect to Monthly Re-weighting Selection Date k and the Monthly Reference Portfolio with respect to Monthly Re-weighting Selection Date k-1, the Underlying Portfolio Volatility will be the volatility of a portfolio with portfolio weights set equal to the weighted average of the Monthly Basket Constituent Weights with respect to these two Monthly Reference Portfolios, and (y) from and including the final Effective Monthly Re-weighting Date in Monthly Re-weighting Period k (following the occurrence of the re-weighting for such day) to but excluding the first Effective Monthly Re-weighting Date in the following Monthly Re-weighting Period k+1, such Daily Series Index will be exposed only to the Monthly Reference Portfolio with respect to Monthly Re-weighting Selection Date k, and the

Underlying Portfolio Volatility will be the volatility of a portfolio with portfolio weights set equal to the Monthly Basket Constituent Weights for this Monthly Reference Portfolio.

(a) Identifying the Volatility Measurement Period

In respect of each Trading Day  $t$ , the Index Calculation Agent will identify the applicable Volatility Measurement Period for such Trading Day  $t$  as the period of 21 Trading Days prior to and ending with the Trading Day that is 2 Trading Days immediately preceding such Trading Day  $t$  (the “**Volatility Measurement Period**”). Accordingly, the first Trading Day of each Volatility Measurement Period in respect of a Trading Day  $t$  (the “**Volatility Measurement Start Date**”) is the Trading Day that is 22 Trading Days immediately preceding such Trading Day  $t$ . The last Trading Day of each Volatility Measurement Period in respect of a Trading Day  $t$  is the Trading Day that is 2 Trading Days immediately preceding such Trading Day  $t$ . For each Trading Day in the Volatility Measurement Period in respect of a Trading Day  $t$ , the Index Calculation Agent will determine for each Basket Constituent (including any Basket Constituent with a Monthly Basket Constituent Weight in the Monthly Reference Portfolio equal to zero) the Closing Level for each such Basket Constituent.

If the Index Calculation Agent has made a good faith estimate (or correction thereof) pursuant to Section 11.3 (*Exposure Determination and Calculation of Index Levels in Connection with Market Disruption*) of a Closing Level for a Basket Constituent, in any case for a Trading Day that falls in the Volatility Measurement Period, the Index Calculation Agent shall use such good faith estimate (or correction thereof) for purposes of this Section 10.3.

If the Index Calculation Agent cannot obtain relevant reliable information from third party sources for a Basket Constituent in respect of any Trading Day in the Volatility Measurement Period, then, for purposes of this Section 10.3, the Closing Level for that Basket Constituent in respect of such Trading Day shall be deemed to be the Closing Level for that Basket Constituent as of the immediately preceding Dealing Day for that Basket Constituent for which the Index Calculation Agent can obtain relevant reliable information from third party sources; *provided that* if the Index Calculation Agent has made a good faith estimate (or correction thereof) pursuant to Section 11.3 (*Exposure Determination and Calculation of Index Levels in Connection with Market Disruption*) of such Closing Level, the Index Calculation Agent shall instead use such good faith estimate (or correction thereof) for purposes of this Section 10.3.

(b) Volatility Calculation

$Volatility_{t,t-2}$  means the Underlying Portfolio Volatility in respect of a Trading Day  $t$ , with such volatility determined as of the Trading Day that is 2 Trading Days immediately preceding Trading Day  $t$  (such prior Trading Day being Trading Day  $t-2$ ).  $Volatility_{t,t-2}$  is determined in accordance with the following formula:

$$Volatility_{t,t-2} = \sqrt{\frac{L \times \sum_{n=1}^L (R_{t,n})^2 - (\sum_{n=1}^L R_{t,n})^2}{L(L-1)}} \times 252$$

where:

$L$  means 20, which is the number of daily returns in the Volatility Measurement Period in respect of Trading Day  $t$ , each being a daily return from Trading Day  $n-1$  to Trading Day  $n$ ;  
 $n$  is an integer ranging from 1 to 20; and  
 $R_{t,n}$  means the weighted sum of the natural logarithms of the daily return of each of the Basket Constituents in respect of Trading Day  $t$  (including any Basket Constituent with a Monthly Basket Constituent Weight in the relevant Monthly Reference Portfolios currently underlying the applicable Daily Series Index equal to zero), such daily return being from the Trading Day that is  $n-1$  Trading Days immediately following the Volatility Measurement Start Date for the Volatility Measurement Period in respect of Trading Day  $t$ , to the

Trading Day that is n Trading Days immediately following the Volatility Measurement Start Date for the Volatility Measurement Period in respect of Trading Day t, calculated in accordance with the following formula:

$$R_{t,n} = \sum_{i=1}^{21} \lambda_t^i \times \ln \frac{S_{t,n}^i}{S_{t,n-1}^i}$$

where:

$S_{t,n}^i$  means the Closing Level of Basket Constituent i for the Trading Day that is n Trading Days immediately following the Volatility Measurement Start Date for the Volatility Measurement Period in respect of Trading Day t;

$S_{t,n-1}^i$  means the Closing Level of Basket Constituent i for the Trading Day that is n-1 Trading Days immediately following the Volatility Measurement Start Date for the Volatility Measurement Period in respect of Trading Day t;

For the avoidance of doubt, if n-1 equals 0, the Trading Day that is n-1 Trading Days immediately following the Volatility Measurement Start Date is the Volatility Measurement Start Date.

$\lambda_t^i$  means:

(x) if Trading Day t occurs on a day that is an Effective Monthly Re-weighting Date in a Monthly Re-weighting Period k other than the final Effective Monthly Re-weighting Date in such Monthly Re-weighting Period k,  $\lambda_t^i$  will be a weighted average of the Monthly Basket Constituent Weight for Basket Constituent i with respect to Monthly Re-weighting Period k determined as of the immediately preceding Monthly Re-weighting Selection Date k (which is the Next Monthly Reference Portfolio) and the Monthly Basket Constituent Weight for Basket Constituent i with respect to Monthly Re-weighting Period k-1 determined as of Monthly Re-weighting Selection Date k-1 (which is the Prior Monthly Reference Portfolio).

Where the weighted average is calculated as follows:

On the 1st Effective Monthly Re-weighting Date,  $\lambda_t^i$  will equal 20% of the Monthly Basket Constituent Weight for Basket Constituent i in the Monthly Reference Portfolio with respect to Monthly Re-weighting Period k determined as of the immediately preceding Monthly Re-weighting Selection Date k plus 80% of the Monthly Basket Constituent Weight for Basket Constituent i in the Monthly Reference Portfolio with respect to Monthly Re-weighting Period k-1 determined as of Monthly Re-weighting Selection Date k-1;

On the 2nd Effective Monthly Re-weighting Date,  $\lambda_t^i$  will equal 40% of the Monthly Basket Constituent Weight for Basket Constituent i in the Monthly Reference Portfolio with respect to Monthly Re-weighting Period k determined as of the immediately preceding Monthly Re-weighting Selection Date k plus 60% of the Monthly Basket Constituent Weight for Basket Constituent i in the Monthly Reference Portfolio with respect to Monthly Re-weighting Period k-1 determined as of Monthly Re-weighting Selection Date k-1;

On the 3rd Effective Monthly Re-weighting Date,  $\lambda_t^i$  will equal 60% of the Monthly Basket Constituent Weight for Basket Constituent i in the Monthly Reference Portfolio with respect to Monthly Re-weighting Period k determined as of the immediately preceding Monthly Re-weighting Selection Date k plus 40% of the Monthly Basket Constituent Weight for Basket Constituent i in the Monthly Reference Portfolio with respect to Monthly Re-weighting Period k-1 determined as of Monthly Re-weighting Selection Date k-1;

On the 4th Effective Monthly Re-weighting Date,  $\lambda_t^i$  will equal 80% of the Monthly Basket Constituent Weight for Basket Constituent i in the Monthly Reference Portfolio with respect to Monthly Re-weighting Period k determined as of the immediately preceding Monthly Re-weighting Selection Date k plus 20% of the Monthly Basket Constituent Weight for Basket Constituent i in the Monthly Reference Portfolio with respect to Monthly Re-weighting Period k-1 determined as of Monthly Re-weighting Selection Date k-1.

(y) on any Trading Day t to which clause (x) above does not apply (which shall include the final Effective Monthly Re-weighting Date for each Monthly Re-weighting Period), for each Basket Constituent i,  $\lambda_t^i$  will equal 100% of the Monthly Basket Constituent Weight for Basket Constituent i in the Monthly Reference Portfolio with respect to the most recent Monthly Re-weighting Period determined as of the most recent Monthly Re-weighting Selection Date.

#### 10.4 Exposure Calculation

The Exposure on the Start Date for each Efficient Plus Price Return Index is provided in the applicable Module for such Efficient Plus Price Return Index.

For a Daily Series Index, the Exposure to the Monthly Reference Portfolios is determined based on Closing Levels for all the Basket Constituents in the Monthly Reference Portfolios (which Closing Levels do not reflect the notional reinvestment of dividends or distributions for the Exchange-Traded Constituents). The level of a Monthly Reference Portfolio is calculated as of any Trading Day using (1) Closing Levels for all the Basket Constituents in the Monthly Reference Portfolio (which Closing Levels do not reflect the notional reinvestment of dividends or distributions for the Exchange-Traded Constituents) and (2) Monthly Basket Constituent Weights for such Basket Constituents, which are determined based on inputs that include the Closing TR Levels of the Exchange-Traded Constituents (which Closing TR Levels do reflect the notional reinvestment of dividends or distributions for the Exchange-Traded Constituents).

Subject to Section 11.3 (*Exposure Determination and Calculation of Index Levels in Connection with Market Disruption*), the exposure of an Efficient Plus Price Return Index to the relevant Monthly Reference Portfolios (the “**Exposure**”) as of any Trading Day t, which is effective as of the Closing Time on such Trading Day, will be (a) if the applicable Module for an Efficient Plus Price Return Index specifies that the Daily Series Mechanism is Not Applicable (each such Efficient Plus Price Return Index not being a Daily Series Index as defined in Section 4), 100%; or (b) if the applicable Module for an Efficient Plus Price Return Index specifies that the Daily Series Mechanism is Applicable (each such Efficient Plus Price Return Index being a Daily Series Index as defined in Section 4), a non-negative number equal to  $Exp_t$  that is calculated as follows:

$$Exp_t = \min\left(\frac{1}{1 - \lambda_t^{21}}, Exp_{t-1} + Step, \max\left(Exp_{t-1} - Step, \frac{Volatility_{Target}}{Volatility_{t,t-2}}\right)\right)$$

where:

$\lambda_t^{21}$	has the meaning given to the term $\lambda_t^i$ in Section 10.3(b) ( <i>Determining the Underlying Portfolio Volatility</i> ) in respect of the Cash Constituent;
t	denotes the relevant Trading Day t;
t – 1	denotes the Trading Day that immediately precedes Trading Day t;
t – 2	denotes the Trading Day that immediately precedes Trading Day t-1;
$Exp_t$	means the exposure that the relevant Daily Series Index has to the relevant Monthly Reference Portfolios as of Trading Day t, which is effective as of the Closing Time on such Trading Day t;
$Exp_{t-1}$	means the exposure that the relevant Daily Series Index has to the relevant Monthly Reference Portfolios as of Trading Day t-1, which is effective as of the Closing Time on such Trading Day t-1;
$Volatility_{t,t-2}$	has the meaning given to such term in Section 10.3(b) ( <i>Determining the Underlying Portfolio Volatility</i> );
Step	means 50%; and
$Volatility_{Target}$	means the Target Volatility as specified in the applicable Module for such Daily Series Index.

#### 10.5 Calculating the Efficient Plus Price Return Index Level

On the relevant Base Date, the Index Level was 100 for each Efficient Plus Price Return Index. Thereafter, subject to the provisions of Section 11.3 (*Exposure Determination and Calculation of Index Levels in Connection with Market Disruption*), the Index Level of each Efficient Plus Price Return Index will be calculated by the Index Calculation Agent for each Trading Day as follows.

The Index Level of each Efficient Plus Price Return Index is calculated as of any Trading Day using (1) Closing Levels for all the Basket Constituents that are in a Monthly Reference Portfolio (which Closing Levels do not reflect the notional reinvestment of dividends or distributions for the Exchange-Traded Constituents), (2) Monthly Basket Constituent Weights for all the Basket Constituents in a Monthly Reference Portfolio, which are determined based on inputs that include the Closing TR Levels of the Exchange-Traded Constituents (which Closing TR Levels do reflect the notional reinvestment of dividends or distributions for the Exchange-Traded Constituents) and (3) for a Daily Series Index, an Exposure to the Monthly Reference Portfolios that is determined based on Closing Levels for all the Basket Constituents that are in the Monthly Reference Portfolios (which Closing Levels do not reflect the notional reinvestment of dividends or distributions for the Exchange-Traded Constituents).

- (a) On each Trading Day  $t$  from but excluding the final Effective Monthly Re-weighting Date in Monthly Re-weighting Period  $k$  to and including the first Effective Monthly Re-weighting Date in the immediately following Monthly Re-weighting Period  $k+1$ , if the Return Type specified in the applicable Module for such Efficient Plus Price Return Index is “Excess Price Return”, its level will be calculated in accordance with the following formula:

$$Index_t = Index_{t-1} \times \left[ 1 + Exp_{t-1} \times \left( \frac{RP_{k,t}}{RP_{k,t-1}} - 1 \right) - Fee \times \frac{Days_{t-1,t}}{360} \right]$$

and if the Return Type specified in the applicable Module for such Efficient Plus Price Return Index is “Price Return”, its level will be calculated in accordance with the following formula:

$$Index_t = Index_{t-1} \times \left[ \frac{S_t^{21}}{S_{t-1}^{21}} + Exp_{t-1} \times \left( \frac{RP_{k,t}}{RP_{k,t-1}} - 1 \right) - Fee \times \frac{Days_{t-1,t}}{360} \right]$$

where:

$t$	denotes the relevant Trading Day $t$ ;
$t - 1$	denotes the Trading Day that immediately precedes Trading Day $t$ ;
$Index_t$	means the Index Level of the applicable Efficient Plus Price Return Index for Trading Day $t$ ;
$Index_{t-1}$	means the Index Level of the applicable Efficient Plus Price Return Index for Trading Day $t-1$ ;
$RP_{k,t}$	means the level of the Monthly Reference Portfolio with respect to Monthly Re-weighting Selection Date $k$ for Trading Day $t$ ;
$RP_{k,t-1}$	means the level of the Monthly Reference Portfolio with respect to Monthly Re-weighting Selection Date $k$ for Trading Day $t-1$ ;
$Fee$	means the Fee specified in the Module for the applicable Efficient Plus Price Return Index;
$Days_{t-1,t}$	means the number of calendar days from but excluding Trading Day $t-1$ to and including Trading Day $t$ ;
$Exp_{t-1}$	means the exposure of the applicable Efficient Plus Price Return Index to the relevant Monthly Reference Portfolios as of Trading Day $t-1$ , which is effective as of the Closing Time on such Trading Day, that is determined pursuant to Section 10.4 ( <i>Exposure Calculation</i> );
$S_t^{21}$	means the Closing Level of the Cash Constituent for Trading Day $t$ ; and
$S_{t-1}^{21}$	means the Closing Level of the Cash Constituent for Trading Day $t-1$ .

- (b) Subject to the provisions of Section 11.2 (*Market Disruption on a Monthly Re-weighting Date*), on each Trading Day  $t$  from but excluding the first Effective Monthly Re-weighting Date in Monthly Re-weighting



Period k to and including the final Effective Monthly Re-weighting Date in Monthly Re-weighting Period k, if the Return Type specified in the applicable Module for such Efficient Plus Price Return Index is “Excess Price Return”, its level will be calculated according to the following formula:

$$Index_t = Index_{t-1} \times \left[ 1 + Exp_{t-1} \times \left( \frac{d-n}{d} \times \frac{RP_{k-1,t}}{RP_{k-1,t-1}} + \frac{n}{d} \times \frac{RP_{k,t}}{RP_{k,t-1}} - 1 \right) - Fee \times \frac{Days_{t-1,t}}{360} \right]$$

and if the Return Type specified in the applicable Module for such Efficient Plus Price Return Index is “Price Return”, its level will be calculated in accordance with the following formula:

$$Index_t = Index_{t-1} \times \left[ \frac{S_t^{21}}{S_{t-1}^{21}} + Exp_{t-1} \times \left( \frac{d-n}{d} \times \frac{RP_{k-1,t}}{RP_{k-1,t-1}} + \frac{n}{d} \times \frac{RP_{k,t}}{RP_{k,t-1}} - 1 \right) - Fee \times \frac{Days_{t-1,t}}{360} \right]$$

where:

$t$	denotes the relevant Trading Day $t$ (which in the case of this Section 10.5(b) will always also be an Effective Monthly Re-weighting Date);
$t - 1$	denotes the Trading Day that immediately precedes Trading Day $t$ (which in the case of this Section 10.5(b) will always also be an Effective Monthly Re-weighting Date);
$Index_t$	means the Index Level of the applicable Efficient Plus Price Return Index for Trading Day $t$ ;
$Index_{t-1}$	means the Index Level of the applicable Efficient Plus Price Return Index for Trading Day $t-1$ ;
$RP_{k,t}$	means the level of the Monthly Reference Portfolio with respect to Monthly Re-weighting Selection Date $k$ for Trading Day $t$ ;
$RP_{k,t-1}$	means the level of the Monthly Reference Portfolio with respect to Monthly Re-weighting Selection Date $k$ for Trading Day $t-1$ ;
$RP_{k-1,t}$	means the level of the Monthly Reference Portfolio with respect to Monthly Re-weighting Selection Date $k-1$ for Trading Day $t$ ;
$RP_{k-1,t-1}$	means the level of the Monthly Reference Portfolio with respect to Monthly Re-weighting Selection Date $k-1$ for Trading Day $t-1$ ;
$n$	is an integer from 1 to 4, such that: when $t$ denotes the second Effective Monthly Re-weighting Date in Monthly Re-weighting Period $k$ , $n=1$ ; when $t$ denotes the third Effective Monthly Re-weighting Date in Monthly Re-weighting Period $k$ , $n=2$ ; when $t$ denotes the fourth Effective Monthly Re-weighting Date in Monthly Re-weighting Period $k$ , $n=3$ ; when $t$ denotes the fifth Effective Monthly Re-weighting Date in Monthly Re-weighting Period $k$ , $n=4$ ;
$d$	means the number of Index Business Days in a scheduled Monthly Re-weighting Period and shall equal 5;
$Exp_{t-1}$	means the exposure of the applicable Efficient Plus Price Return Index to the relevant Monthly Reference Portfolios as of Trading Day $t-1$ , which is effective as of the Closing Time on such Trading Day, that is determined pursuant to Section 10.4 ( <i>Exposure Calculation</i> );
$S_t^{21}$	means the Closing Level of the Cash Constituent for Trading Day $t$ ; and
$S_{t-1}^{21}$	means the Closing Level of the Cash Constituent for Trading Day $t-1$ .

For the avoidance of doubt:

<b>For the Trading Day that is the ...</b>	<b>The Index Level calculated for such day will reflect* . . .</b>	<b>The Index Level calculated for the next Trading Day will reflect* . .</b>
1st Effective Monthly Re-weighting Date	100% of the Performance of Monthly Reference Portfolio k-1 (which is the Prior Monthly Reference Portfolio)	80% of the Performance of Monthly Reference Portfolio k-1 (which is the Prior Monthly Reference Portfolio) and 20% of the Performance of Monthly Reference Portfolio k (which is the Next Monthly Reference Portfolio)
2nd Effective Monthly Re-weighting Date	80% of the Performance of Monthly Reference Portfolio k-1 and 20% of the Performance of Monthly Reference Portfolio k	60% of the Performance of Monthly Reference Portfolio k-1 and 40% of the Performance of Monthly Reference Portfolio k
3rd Effective Monthly Re-weighting Date	60% of the Performance of Monthly Reference Portfolio k-1 and 40% of the Performance of Monthly Reference Portfolio k	40% of the Performance of Monthly Reference Portfolio k-1 and 60% of the Performance of Monthly Reference Portfolio k
4th Effective Monthly Re-weighting Date	40% of the Performance of Monthly Reference Portfolio k-1 and 60% of the Performance of Monthly Reference Portfolio k	20% of the Performance of Monthly Reference Portfolio k-1 and 80% of the Performance of Monthly Reference Portfolio k
5th Effective Monthly Re-weighting Date	20% of the Performance of Monthly Reference Portfolio k-1 and 80% of the Performance of Monthly Reference Portfolio k	100% of the Performance of Monthly Reference Portfolio k

\*as adjusted for the relevant Exposure (determined pursuant to Section 10.4 (*Exposure Calculation*)) that applies to the determination of such Index Level pursuant to this Section 10.5.

## 11. Market Disruption

### 11.1 Market Disruption on a Monthly Re-weighting Selection Date

If a Monthly Re-weighting Selection Date is a Disrupted Day in respect of any Basket Constituent (for these purposes, each such Basket Constituent shall be an “**Affected Basket Constituent**”), then the relevant Monthly Re-weighting Selection Date shall remain the originally scheduled Monthly Re-weighting Selection Date and the Closing TR Level or Closing Level, as the case may be, for each Affected Basket Constituent in respect of such Disrupted Day shall be deemed to be the Closing TR Level or Closing Level, as the case may be, for the Affected Basket Constituent as of the immediately preceding day that was both (x) a Dealing Day for such Affected Basket Constituent and (y) not a Disrupted Day for such Affected Basket Constituent.

### 11.2 Market Disruption on a Monthly Re-weighting Date

If an originally scheduled Monthly Re-weighting Date for a Monthly Re-weighting Period is postponed, then each subsequent Monthly Re-weighting Date originally scheduled to occur after that Monthly Re-weighting Date shall also be postponed so that all of the Monthly Re-weighting Dates for that Monthly Re-weighting Period will occur in the order in which they were originally scheduled to occur, each on a different Index Business Day.

If an originally scheduled Monthly Re-weighting Date for a Monthly Re-weighting Period is a Disrupted Day in respect of any Basket Constituent, then such Monthly Re-weighting Date and each other Monthly Re-weighting Date for the same Monthly Re-weighting Period originally scheduled to follow such Monthly Re-weighting Date shall each be an “**Affected Monthly Re-Weighting Date**”.

In that case, each Affected Monthly Re-weighting Date will be postponed to the first of the following days to occur (which day shall be a “**Postponed Monthly Re-weighting Date**”):

- (i) the first following Index Business Day that is (x) not a Disrupted Day for any Basket Constituent and (y) not the postponed date of any Affected Monthly Re-weighting Date for the same Monthly Re-weighting Period that was originally scheduled to occur prior to the date on which such Affected Monthly Re-weighting Date was originally scheduled to occur; and
- (ii) the fifth Index Business Day following the date on which such Affected Monthly Re-weighting Date was originally scheduled to occur.

For the avoidance of doubt, no two Effective Monthly Re-weighting Dates should occur on the same day as a result of the operation of this Section 11.2.

### *11.3 Exposure Determination and Calculation of Index Levels in Connection with Market Disruption*

For an Efficient Plus Price Return Index, (i) if a Postponed Monthly Re-weighting Date is a Disrupted Day for any Basket Constituent, then such Postponed Monthly Re-weighting Date shall be a “**Re-weighting Disruption Determination Date**” and (ii) if a Portfolio Disruption Day immediately follows five consecutive Portfolio Disruption Days, then such Portfolio Disruption Day shall be a “**Portfolio Disruption Determination Date**.” “**Final Disruption Determination Date**” means a day that is either a Re-weighting Disruption Determination Date or a Portfolio Disruption Determination Date.

On each Final Disruption Determination Date, the Index Calculation Agent will calculate its good faith estimate of the Exposure of that Efficient Plus Price Return Index (that is otherwise determined pursuant to Section 10.4 (*Exposure Calculation*)), the Index Level as of such Final Disruption Determination Date (notwithstanding the fact that such Final Disruption Determination Date is a Disrupted Day for at least one Basket Constituent) and the Closing TR Level for any Exchange-Traded Constituent for which such Final Disruption Determination Date is a Disrupted Day, using its good faith estimate of (i) the Closing Level for any Basket Constituent, if such Final Disruption Determination Date is a Disrupted Day for such Basket Constituent, and (ii) the level of any Monthly Reference Portfolio that affects the calculation of the Index Level. Any such estimate of the Exposure of an Efficient Plus Price Return Index and any such estimated levels may be subject to correction on any of (x) the first succeeding Index Business Day that is not a Final Disruption Determination Date for such Efficient Plus Price Return Index, (y) the first succeeding Index Business Day that is not a Disrupted Day in respect of any Basket Constituent and (z) the first succeeding Index Business Day that is not a Disrupted Day for a Basket Constituent with respect to which such an estimated level was determined pursuant to this Section 11.3.

For the avoidance of doubt, on each Re-weighting Disruption Determination Date, the Index Calculation Agent will re-weight the portion of the Efficient Plus Price Return Index to be rebalanced on such day in accordance with Section 10.5(b) using its good faith estimates determined pursuant to this Section 11.3. For purposes of determining the Closing TR Level for any Exchange-Traded Constituent for any Dealing Day, if the Prior Dealing Day for such Exchange-Traded Constituent was a Disrupted Day then, in the formula for determining the Closing TR Level for such Dealing Day, (i) the Closing TR Level for that Prior Dealing Day shall be replaced with the Closing TR Level on the Prior Non-Disrupted Dealing Day for such Exchange-Traded Constituent, (ii) the Closing Level for that Prior Dealing Day shall be replaced with the Closing Level on such Prior Non-Disrupted Dealing Day for such Exchange-Traded Constituent, and (iii) the Gross Distribution Amount of such Exchange-Traded Constituent in respect of such Dealing Day shall be replaced with the sum of each of the Gross Distribution Amounts for such Exchange-Traded Constituent in respect of each day from but excluding the Prior Non-Disrupted Dealing Day to and including such Dealing Day. Such Final Disruption Determination Date shall be a Trading Day for the purposes of the Index Rules, notwithstanding the fact that it is a Disrupted Day for at least one Basket Constituent.

### *11.4 Definitions Related to Market Disruption*

- (a) “**Disrupted Day**” means, in respect of a Basket Constituent, a Dealing Day on which a Market Disruption Event occurs or is continuing in respect of such Basket Constituent.

- (b) **“Portfolio Disruption Day”** means, in respect of an Efficient Plus Price Return Index, an Index Business Day that (i) occurs during the period from but excluding the final Effective Monthly Re-weighting Date in a given Monthly Re-weighting Period to but excluding the first Effective Monthly Re-weighting Date in the immediately following Monthly Re-weighting Period and (ii) is a Disrupted Day for any Basket Constituent that has a non-zero Monthly Basket Constituent Weight in the Monthly Reference Portfolio determined as of the Monthly Re-weighting Selection Date associated with the Monthly Re-weighting Selection Date immediately preceding the most recently completed Monthly Re-weighting Period.
- (c) A **“Market Disruption Event”** occurs if the Index Calculation Agent determines in its sole discretion that on any Dealing Day there has been:
- (i) in respect of any Basket Constituent that is an index or any Reference Index of any Exchange-Traded Constituent, a failure by the relevant sponsor or its agent to calculate and publish the Closing Level for such index on such Dealing Day, or any event that, in the determination of the Index Calculation Agent, disrupts or impairs the ability of market participants to effect transactions in or obtain levels or market values for (a) the relevant index, (b) any securities or components that in the aggregate comprise 20 percent or more of the level of the relevant index, (c) any futures or options contracts or other financial contracts relating to the relevant index, or (d) any futures or options contracts or other financial contracts relating to securities or components that in the aggregate comprise 20 percent or more of the level of the relevant index; or
  - (ii) in respect of a Basket Constituent that is an equity index (including, for the avoidance of doubt, an index composed of one or more of the following types of securities: equities, preferred stocks, MLPs and REITs) or any Reference Index of any Exchange-Traded Constituent that is an equity index (including, for the avoidance of doubt, an index composed of one or more of the following types of securities: equities, preferred stocks, MLPs and REITs), an Equity Index Disruption Event; or
  - (iii) in respect of a Basket Constituent that is a commodity index, any Reference Index of any ETF Constituent that is a commodity index or any Reference Commodities of any ETF Constituent, a Commodity Disruption Event; or
  - (iv) in respect of an Exchange-Traded Constituent, an Exchange-Traded Product Disruption Event; and
- the Index Calculation Agent determines in its sole discretion that the applicable event described above could materially interfere with the ability of market participants to transact in positions with respect to the relevant Efficient Plus Price Return Index (including, without limitation, positions with respect to any Basket Constituent or the Reference Index or any Reference Commodity of any Exchange-Traded Constituent).
- For the purpose of determining whether a Market Disruption Event with respect to an index and a Dealing Day exists at any time, if trading in a security or component included in the applicable index is materially suspended or materially limited at that time, then the relevant percentage contribution of that security or component to the level of the applicable index will be based on a comparison of (x) the portion of the level of the applicable index attributable to that security or component relative to (y) the overall level of the applicable index, in each case immediately before that suspension or limitation.
- (d) **“Equity Index Disruption Event”** means, in each case as determined by the Index Calculation Agent in its sole discretion, subject to the provisions of Section 11.4(h):
- (i) the occurrence or existence of a suspension, absence or material limitation of trading of securities then constituting 20% or more of the level of the equity index (including, for the avoidance of doubt, an index composed of one or more of the following types of securities: equities, preferred stocks, MLPs and REITs) on the relevant primary exchanges for such securities for more than two hours of trading during, or during the last one-half hour period preceding the close of, the principal trading session on such relevant primary exchanges; or
  - (ii) if applicable, the occurrence or existence of a suspension, absence or material limitation of trading on the primary exchange or market for trading in futures or options contracts related to the equity index (including, for the avoidance of doubt, an index composed of one or more of the following types of securities: equities, preferred stocks, MLPs and REITs) for more than two hours of trading during, or

during the last one-half hour period preceding the close of, the principal trading session on such applicable exchange or market.

- (e) **“Commodity Disruption Event”** means, in each case as determined by the Index Calculation Agent in its sole discretion:
- (i) A material limitation, suspension, discontinuation or disruption of trading in one or more of the relevant Reference Commodities;
  - (ii) A material limitation, suspension, discontinuation or disruption of trading in one or more options or futures contracts on (x) a relevant commodity or commodities related to the relevant commodity index or (y) any of the relevant Reference Commodities, which results in failure by the relevant exchange on which any such option(s) and/or futures contract(s) is/are traded to report an official settlement price for such option(s) and/or futures contract(s) on the day on which such event occurs or any succeeding day on which it continues;
  - (iii) a limitation, suspension or disruption of trading in one or more options or futures contracts on (x) a relevant commodity or commodities related to the relevant commodity index or (y) any of the relevant Reference Commodities, by reason of movements exceeding “limit up” or “limit down” levels permitted by the relevant exchange and which the Index Calculation Agent determines is material to trading volume or market conditions in such option(s) and/or futures contract(s) for the relevant day;
  - (iv) publication by the relevant exchange of a “limit price” as the official settlement price for one or more futures contracts on (x) a relevant commodity or commodities related to the relevant commodity index or (y) any of the relevant Reference Commodities, by reason of movements exceeding “limit up” or “limit down” levels permitted by the relevant exchange;
  - (v) the occurrence of a Commodity Index Non-Publication Event;
  - (vi) the relevant exchange for any options or futures contracts on (x) the relevant commodity or commodities related to the relevant commodity index or (y) any of the relevant Reference Commodities, is not open for trading during its regular trading session as scheduled for the relevant day; or
  - (vii) the relevant market for any of the relevant Reference Commodities is not open for trading during its regular trading session as scheduled for the relevant day.
- (f) **“Commodity Index Non-Publication Event”** means, the failure by the relevant exchange, index sponsor of the relevant commodity index or other price source to announce publicly or publish the following (or the information necessary for determining the following): (a) the official settlement price for any relevant futures contract on (x) the relevant commodity or commodities related to the relevant commodity index or (y) the relevant Reference Commodities; or (b) the closing level of the relevant commodity index, in either case by noon (London time) on the immediately following Dealing Day, *provided, however* that the occurrence of such an event shall not constitute a “Commodity Index Non-Publication Event” in the case of clause (b) hereof if the Index Calculation Agent determines in its sole discretion by noon (London time) on such immediately following Dealing Day that the information necessary for determining the closing level of the relevant commodity index has been announced publicly or published by the relevant exchange, index sponsor of the relevant commodity index or other price source, in which case the Index Calculation Agent shall determine the closing level of such commodity index (the closing level so determined being a **“Proxy Calculated Level”**) in good faith and in a commercially reasonable manner.
- (g) **“Exchange-Traded Product Disruption Event”** means, in each case as determined by the Index Calculation Agent in its sole discretion, subject to the provisions of Section 11.4(h):
- (i) the occurrence or existence of a suspension, absence or material limitation of trading of the securities of an Exchange-Traded Constituent on the relevant primary exchange for such securities for more than two hours of trading during, or during the last one-half hour period preceding the close of, the principal trading session on such relevant primary exchange;
  - (ii) a breakdown or failure in the price and trade reporting systems of the relevant primary exchange for the securities of an Exchange-Traded Constituent as a result of which the reported trading prices for such securities are materially inaccurate for more than two hours of trading during, or during the last one-half hour period preceding the close of, the principal trading session on such relevant primary exchange;

- (iii) if applicable, the occurrence or existence of a suspension, absence or material limitation of trading on the primary exchange or market for trading in futures or options contracts related to the securities of an Exchange-Traded Constituent or on any Related Exchange for such Exchange-Traded Constituent for more than two hours of trading during, or during the last one-half hour period preceding the close of, the principal trading session on the applicable exchange or market;
  - (iv) as applicable, if any of the following is calculated or announced in the ordinary course, but is not calculated or is not announced by or on behalf of the relevant sponsor or issuer of the Exchange-Traded Constituent or the relevant calculation agent or information provider that the relevant sponsor or issuer of the Exchange-Traded Constituent designates: the intraday net asset value or the intraday indicative value of an Exchange-Traded Constituent, the intraday indicative value of a Reference Index or a Reference Commodity of an Exchange-Traded Constituent, or any intraday value or level that indicates or affects the approximate intrinsic economic value of an Exchange-Traded Constituent or the amount of any payment in respect of an Exchange-Traded Constituent;
  - (v) as applicable, if any of the following is calculated or announced in the ordinary course, but is not calculated or is not announced by or on behalf of the relevant sponsor or issuer of the Exchange-Traded Constituent or the relevant calculation agent or information provider that the relevant sponsor or issuer of the Exchange-Traded Constituent designates: the closing net asset value or the closing indicative value of an Exchange-Traded Constituent, the closing indicative value of a Reference Index or a Reference Commodity of an Exchange-Traded Constituent, or any closing value or level or other value or level that indicates or affects the approximate intrinsic economic value of an Exchange-Traded Constituent or the amount of any payment in respect of an Exchange-Traded Constituent; or
  - (vi) as applicable, the relevant sponsor or issuer of an Exchange-Traded Constituent suspends creations, issuances or redemptions of securities of such Exchange-Traded Constituent.
- (h) For the purpose of determining whether an Equity Index Disruption Event or an Exchange-Traded Product Disruption Event has occurred:
- (1) a limitation on the hours or number of days of trading will not constitute an Equity Index Disruption Event or an Exchange-Traded Product Disruption Event if it results from an announced change in the regular business hours of the relevant primary exchange or the primary exchange or market for trading in futures or options contracts related to the relevant securities;
  - (2) limitations pursuant to the rules of any relevant primary exchange similar to New York Stock Exchange Rule 80B (or any applicable rule or regulation enacted or promulgated by any other self-regulatory organization or any government agency of scope similar to New York Stock Exchange Rule 80B as determined by the Index Calculation Agent) on trading during significant market fluctuations will constitute a suspension, absence or material limitation of trading;
  - (3) a suspension of trading in futures or options contracts on the applicable equity index (including, for the avoidance of doubt, an index composed of one or more of the following types of securities: equities, preferred stocks, MLPs and REITs) or securities of an Exchange-Traded Constituent by the primary exchange or market for trading in such contracts or securities of such Exchange-Traded Constituent by reason of (a) a price change exceeding limits set by such exchange or market, (b) an imbalance of orders relating to such contracts or securities of such Exchange-Traded Constituent or (c) a disparity in bid and ask quotes relating to such contracts or securities of such Exchange-Traded Constituent, will constitute a suspension, absence or material limitation of trading in futures or options contracts related to such equity index or the securities of such Exchange-Traded Constituent; and
  - (4) a suspension, absence or material limitation of trading on any relevant primary exchange or, if applicable, on the primary exchange or market on which futures or options contracts related to the applicable equity index (including, for the avoidance of doubt, an index composed of one or more of the following types of securities: equities, preferred stocks, MLPs and REITs) or the securities of an Exchange-Traded Constituent are traded will not include any time when such exchange or market is itself closed for trading under ordinary circumstances.

## 12. Extraordinary Events

### 12.1 *Extraordinary Events for each Basket Constituent*

- (i) (a) For an ETF Constituent, (x) if any of the following is calculated or announced in the ordinary course, but is not calculated or is not announced by or on behalf of the relevant sponsor or issuer for the ETF Constituent or the relevant calculation agent or information provider that such sponsor or issuer designates: its intraday or closing net asset value or another value or level that indicates or affects the approximate intrinsic economic value of the ETF Constituent or the amount of any payment in respect of the ETF Constituent, (y) yet such value or level is calculated and announced by or on behalf of a successor sponsor or issuer acceptable to the Index Calculation Agent or a calculation agent or information agent (in either case, that such successor sponsor or issuer designates) acceptable to the Index Calculation Agent;
- (b) for a Note Constituent, (x) if any of the following is calculated or announced in the ordinary course, but is not calculated or is not announced by or on behalf of the relevant sponsor or issuer for the Note Constituent or the relevant calculation agent or information provider that such sponsor or issuer designates: its intraday or closing indicative value or another value or level that indicates or affects the approximate intrinsic economic value of the Note Constituent or the amount of any payment in respect of the Note Constituent, (y) yet such value or level is calculated and announced by or on behalf of a successor sponsor or issuer acceptable to the Index Calculation Agent or a calculation agent or information provider (in either case, that such successor sponsor or issuer designates) acceptable to the Index Calculation Agent;
- (c) for a Basket Constituent that is an index (including, for the avoidance of doubt, the Cash Constituent) or for the Reference Index of an Exchange-Traded Constituent, (x) if the relevant index is replaced by a successor index, (y) yet such successor index uses, in the determination of the Index Calculation Agent, the same or a substantially similar formula for and method of calculation as used in the calculation of the relevant index or such successor index is otherwise acceptable to the Index Calculation Agent;
- (d) for a Basket Constituent that is an index (including, for the avoidance of doubt, the Cash Constituent) or for the Reference Index of an Exchange-Traded Constituent, (x) if the relevant index sponsor makes a material change in the formula for or the method of calculating that index or in any other way materially modifies that index (other than a modification prescribed in that formula or method to maintain that index in routine circumstances), (y) yet such change or modification is acceptable to the Index Calculation Agent;
- (e) for an ETF Constituent that has one or more Reference Commodities, (x) if it is replaced by a successor ETF, (y) yet any Reference Commodities of such successor ETF are the same as that of the replaced ETF Constituent or such successor ETF is otherwise acceptable to the Index Calculation Agent; or
- (f) for an Exchange-Traded Constituent, (x) if it is replaced by a successor Exchange-Traded Constituent, (y) yet (1) the Reference Index of such successor Exchange-Traded Constituent is either the same as that of the replaced Exchange-Traded Constituent or is an index using, in the determination of the Index Calculation Agent, the same or a substantially similar formula for and method of calculation as used in the calculation of the replaced Exchange-Traded Constituent's Reference Index or (2) such successor Exchange-Traded Constituent is otherwise acceptable to the Index Calculation Agent,

then, in each case, that Basket Constituent, that Reference Index or the relevant sponsor, issuer, calculation agent or information provider will thereafter be deemed to be the successor Basket Constituent, successor Reference Index or the successor sponsor, issuer, calculation agent or information provider described in the relevant clause above, with effect from a date determined by the Index Calculation Agent, which may make such adjustments to the Index Rules of the relevant Efficient Plus Price Return Index as it determines in good faith are appropriate to account for such change (including, without limitation, adjustments to market disruption provisions in respect of an index that includes securities or components that are bonds or loans).

For the avoidance of doubt, the Index Calculation Agent shall not accept a particular successor ETF, successor ETN or successor index if the Index Calculation Agent determines, in its sole discretion, that doing so would immediately result in the occurrence of an Extraordinary Event. Upon the acceptance of a successor ETF, successor ETN or successor index, such successor shall take the place of the relevant Basket Constituent. For the avoidance of doubt, the prior Performance of such successor ETF, ETN or index shall be used in the identification of the Unique Portfolio for future Performance Observation Periods

and for determining Exposure pursuant to Section 10.4 (*Exposure Calculation*) if the relevant prior Performance of such successor is available; *provided that*, if some portion of the relevant prior Performance of such successor is not available, the prior Performance of the replaced ETF, ETN or index shall be used (in place of such portion of the relevant prior performance of such successor that is not available) in the identification of the Unique Portfolio for future Performance Observation Periods and for determining Exposure pursuant to Section 10.4 (*Exposure Calculation*) with such adjustments as the Index Calculation Agent determines in good faith are appropriate to account for the use of prior Performance of both such successor and such replaced ETF, ETN or index.

- (ii) If an Extraordinary Event occurs in respect of a Basket Constituent, the Index Calculation Agent, acting in good faith and a commercially reasonable manner, shall select as a substitute for such Basket Constituent:

- (w) an ETF that has a Reference Index;
- (x) an ETF that has one or more Reference Commodities;
- (y) an ETN that has a Reference Index; or
- (z) an index,

(such substitute ETF, ETN or index being referred to herein as a “substitute ETF,” “substitute ETN” or “substitute index,” respectively) that, in any case, the Index Calculation Agent determines, in its sole discretion, possesses substantially similar characteristics or provides a substantially similar exposure (as considered prior to the occurrence of such Extraordinary Event, with the understanding that (1) a substitute ETF or a substitute index can be substantially similar to an ETF Constituent, (2) a substitute index, a substitute ETF or a substitute ETN can be substantially similar to a Note Constituent and (3) a substitute ETF or a substitute index can be substantially similar to an index that is a Basket Constituent) as compared to the Basket Constituent that is being replaced, *provided that*, if the Index Calculation Agent determines that no such substitute is available, the Index Calculation Agent shall instead select an appropriate substitute by considering the context of the relevant Efficient Plus Price Return Index and its Weighting Constraints.

In such a case, the Index Calculation Agent shall, in good faith, make such adjustments that it determines to be appropriate to any variable, calculation methodology, valuation terms or any other rule in relation to the relevant Efficient Plus Price Return Index to account for such substitution (including, without limitation, adjustments to market disruption provisions in respect of an index that includes securities or components that are bonds or loans);

*provided that* the Index Calculation Agent may not select a substitute ETN for a Basket Constituent that is either an ETF or an index, with the effect that the Index Calculation Agent may select a substitute ETN only in respect of a Note Constituent;

*provided further that* the Index Calculation Agent shall not select a substitute ETF or a substitute ETN for the Cash Constituent, but may select a substitute index for the Cash Constituent;

*provided further that*, for any Basket Constituent other than the Cash Constituent, if the Index Calculation Agent determines, in its sole discretion, that no such substitute ETF, substitute ETN or substitute index is available, then the Index Calculation Agent will, in its sole discretion, (x) determine its good faith estimate of the closing price of such Basket Constituent as of a date on or prior to the occurrence of such Extraordinary Event and use such estimate of the closing price (without modification over time) in respect of such Basket Constituent in subsequent calculations of the Index Level of the relevant Efficient Plus Price Return Index until the final Effective Monthly Re-weighting Date in the immediately following Monthly Re-weighting Period, (y) replace such Basket Constituent with the Cash Constituent as its substitute and (z) in good faith, make such adjustments that it determines to be appropriate to any variable, calculation methodology, valuation terms or any other rule in relation to the relevant Efficient Plus Price Return Index to account for such substitution (for the avoidance of doubt, as a result of such a replacement of any Basket Constituent with the Cash Constituent, the aggregate weight of the Cash Constituent would be allowed to exceed the Weighting Constraints specific to the Cash Constituent, because a portion of such



aggregate weight would be subject to the Weighting Constraints specific to the replaced Basket Constituent and not the Weighting Constraints specific to the Cash Constituent);

*provided further that*, for the Cash Constituent, if the Index Calculation Agent determines, in its sole discretion, that no such substitute index is available, then the Index Calculation Agent will, in its sole discretion, calculate the level of the Cash Constituent using, in lieu of a published level for the Cash Constituent, the level for the Cash Constituent as of any future Index Business Day as determined by the Index Calculation Agent in accordance with the formula for and method of calculating the Cash Constituent last in effect prior to the occurrence of such Extraordinary Event, but using only the types of components that composed the Cash Constituent immediately prior to such Extraordinary Event (and in the case of components with an expiration or maturity, any components required to roll any expiring positions in accordance with the formula for and method of calculating the Cash Constituent shall be permitted).

The Index Calculation Agent shall not select a particular substitute ETF, ETN or index if the Index Calculation Agent determines, in its sole discretion, that doing so would immediately result in the occurrence of an Extraordinary Event. Upon the selection of a substitute ETF, ETN or index, such substitute shall take the place of the relevant Basket Constituent. For the avoidance of doubt, the prior Performance of such substitute ETF, ETN or index shall be used in the identification of the Unique Portfolio for future Performance Observation Periods and for determining Exposure pursuant to Section 10.4 (*Exposure Calculation*) if the relevant prior Performance of such substitute is available; *provided that*, if some portion of the relevant prior Performance of such substitute is not available, the prior Performance of the replaced ETF, ETN or index shall be used (in place of such portion of the relevant prior performance of such substitute that is not available) in the identification of the Unique Portfolio for future Performance Observation Periods and for determining Exposure pursuant to Section 10.4 (*Exposure Calculation*) with such adjustments as the Index Calculation Agent determines in good faith are appropriate to account for the use of prior Performance of both such substitute and such replaced ETF, ETN or index.

An “**Extraordinary Event**” occurs if the Index Calculation Agent determines in its sole discretion that (i) on any Dealing Day in respect of a Basket Constituent one or more of the following events has occurred and (ii) the applicable event or events described below materially interferes with the ability of market participants to transact in positions with respect to the relevant Efficient Plus Price Return Index (including, without limitation, positions with respect to any Basket Constituent or the Reference Index or any Reference Commodity of any Exchange-Traded Constituent):

- (1) for any ETF Constituent for which the securities of the relevant exchange-traded fund are issued by a trust (such issuer trust, the “**Trust Issuer**”), the trust agreement or any similar governing document of the Trust Issuer is terminated, or the Trust Issuer becomes, for any reason, subject to voluntary or involuntary termination, liquidation, bankruptcy, insolvency, dissolution or winding-up or any other analogous proceeding;
- (2) for any Exchange-Traded Constituent, the issuer becomes, for any reason, subject to voluntary or involuntary termination, liquidation, bankruptcy, insolvency, dissolution or winding-up or any other analogous proceeding;
- (3) for any Exchange-Traded Constituent or its issuer, all the securities of the Exchange-Traded Constituent or its issuer or all or substantially all of the assets of the Exchange-Traded Constituent or its issuer are nationalized, expropriated or otherwise required to be transferred to any governmental agency, authority, entity or instrumentality thereof;
- (4) for any Basket Constituent, the sponsor or issuer of the Basket Constituent permanently cancels the Basket Constituent, and no successor exists, or the Basket Constituent’s level, net asset value or indicative value is not calculated and is not announced by or on behalf of the relevant sponsor or issuer of the Basket Constituent, and is not calculated and announced by or on behalf of a successor sponsor or issuer acceptable to the Index Calculation Agent;
- (5) for a Note Constituent, the issuer exercises a right to call or redeem all or substantially all of the securities of the Note Constituent or the issuer or another entity exercises any right with a similar effect;
- (6) for a relevant Basket Constituent, the event specified in clause (x) of subsection (a), (b), (c), (d), (e) or (f) of Section 12.1(i) occurs, but the relevant event specified in clause (y) of such subsection of Section 12.1(i) does not occur;

- (7) in respect of any Basket Constituent that is an index, a failure by the relevant sponsor to calculate and publish the Closing Level for such index for 5 consecutive Dealing Days;
- (8) in respect of any Exchange-Traded Constituent, such Exchange-Traded Constituent is de-listed from the relevant primary exchange for such Exchange-Traded Constituent and is not concurrently listed on a U.S. securities exchange acceptable to the Index Calculation Agent;
- (9) in respect of any ETF Constituent, an ETF Material Event occurs in respect of such ETF Constituent;
- (10) in respect of a Note Constituent, a Note Material Event occurs in respect of such Note Constituent;
- (11) in respect of a Basket Constituent, a Market Disruption Event occurs for 10 consecutive Dealing Days and the Index Calculation Agent determines that such Market Disruption Event is reasonably likely to continue for a period of an indeterminate duration;
- (12) in respect of a Basket Constituent, (x) a suspension or limitation on trading in respect of a Relevant Underlying is announced or imposed for 10 consecutive relevant days or for a period of indeterminate duration that the Index Calculation Agent determines is reasonably likely to include 10 consecutive relevant days or (y) any other event occurs or condition exists that causes trading to cease in respect of a Relevant Underlying for 10 consecutive relevant days;
- (13) in respect of a Basket Constituent, at any time, the license granted (if required) by a non-affiliate of the Index Calculation Agent to the Index Calculation Agent (or its affiliates) to use such Basket Constituent for the purposes of the relevant Efficient Plus Price Return Index terminates, or the Index Calculation Agent determines that the Index Calculation Agent's rights to use the Basket Constituent for the purpose of the relevant Efficient Plus Price Return Index have become impaired or ceased (for any reason); or
- (14) the occurrence or continuation of a Change in Law.

An “**ETF Material Event**” occurs in respect of an ETF Constituent when one or more of the following events occurs, and the Index Calculation Agent determines in its sole discretion that such event or combination of events is material (although, for the avoidance of doubt, the Index Calculation Agent has no obligation to monitor actively whether or not any of the following events has occurred):

(a) there is an amendment, variation or modification to the constitutional documents or offering documents of the ETF Constituent, that the Index Calculation Agent determines has or is reasonably likely to have an adverse impact on the ability of market participants to trade in securities of the ETF Constituent;

(b) there is an amendment, variation or modification to the terms of the ETF Constituent or the obligations of the issuer in respect of the ETF Constituent, in any case and by any means, that the Index Calculation Agent determines has or is reasonably likely to have an adverse impact on the value, redeemability or liquidity of the securities of the ETF Constituent;

(c) an ETF Regulatory Action occurs in respect of the ETF Constituent; “**ETF Regulatory Action**” means (i) any cancellation, suspension or revocation of the registration or approval of the ETF Constituent or the securities of the ETF Constituent by any governmental, legal or regulatory entity with authority over the ETF Constituent or the securities of the ETF Constituent, (ii) any change in the legal, tax, accounting, or regulatory treatments of the ETF Constituent, any sponsor, issuer or adviser of the ETF Constituent or the securities of the ETF Constituent that the Index Calculation Agent determines has or is reasonably likely to have an adverse impact on the holders of the securities of the ETF Constituent or on the value of the securities of the ETF Constituent, (iii) the ETF Constituent or any sponsor, issuer or adviser of the ETF Constituent becoming subject to any investigation, proceeding or litigation by any relevant governmental, legal or regulatory authority involving any activities relating to or resulting from the operation of the ETF Constituent (including, without limitation, any future, announced or implemented material change to any one or more exemptive orders, no action letters or interpretative guidance of the U.S. Securities and Exchange Commission (the “**SEC**”), including guidance issued by the SEC's staff, relating to the ETF Constituent or to exchange-traded funds generally that affects holders of the securities of the ETF Constituent, whether occurring through action of the SEC or otherwise, including as a result of a court order or executive order) that the Index Calculation Agent determines has or is reasonably likely to have a material adverse effect on the value, redeemability or liquidity of the securities of the ETF Constituent, or the operation of the ETF Constituent in accordance with the terms of the ETF Constituent or the ETF Constituent's offering documents or (iv) the issuance by the SEC of an order to suspend redemption obligations of the ETF Constituent, to freeze assets of the ETF Constituent or to take any other action that the Index Calculation Agent determines is reasonably likely to have a material effect on the value, redeemability or liquidity of the ETF Constituent;

(d) the Average Daily Trading Volume of any ETF Constituent declines below (x) an amount equal to 20 percent of its Average Daily Trading Volume as of December 31, 2014 or (y) \$7.5 million;

(e) the Market Capitalization of any ETF Constituent declines below (x) an amount equal to 20 percent of its Market Capitalization as of December 31, 2014 or (y) \$500 million;

(f) the relevant primary exchange for the ETF Constituent announces that such ETF Constituent will be de-listed from such exchange;

(g) if any of the following is calculated or announced in the ordinary course, but, for a period of 5 consecutive Dealing Days, is not calculated or is not announced by or on behalf of the relevant sponsor or issuer of the ETF Constituent or the relevant calculation agent or information provider that the relevant sponsor or issuer of the ETF Constituent designates: the intraday net asset value of the ETF Constituent, the intraday indicative value of a Reference Index or a Reference Commodity of the ETF Constituent, or any intraday value or level that indicates or affects the approximate intrinsic economic value of the ETF Constituent or the amount of any payment in respect of the ETF Constituent;

(h) if any of the following is calculated or announced in the ordinary course, but, for a period of 5 consecutive Dealing Days, is not calculated or is not announced by or on behalf of the relevant sponsor or issuer of the ETF Constituent or the relevant calculation agent or information provider that the relevant sponsor or issuer of the ETF Constituent designates: the closing net asset value of the ETF Constituent, the closing indicative value of a Reference Index or a Reference Commodity of the ETF Constituent, or any closing value or level or other value or level that indicates or affects the approximate intrinsic economic value of the ETF Constituent or the amount of any payment in respect of the ETF Constituent;

(i) if any of the following is calculated or announced in the ordinary course, but, for a period of 5 consecutive Dealing Days, the Closing Level of the ETF Constituent reflects a premium greater than 5% or a discount greater than 5% as compared to the closing net asset value of the ETF Constituent, the closing indicative value of a Reference Index or a Reference Commodity of the ETF Constituent, or any closing value or level or other value or level that indicates or affects the approximate intrinsic economic value of the ETF Constituent or the amount of any payment in respect of the ETF Constituent;

(j) the relevant sponsor of the Reference Index of the ETF Constituent fails to calculate and publish the Closing Level for such index for 5 consecutive Dealing Days; or

(k) the relevant sponsor of the ETF Constituent suspends new issuances, creations or redemptions of securities of such ETF Constituent for 5 consecutive Dealing Days or announces a suspension of unlimited duration of such creations or redemptions.

A “**Note Material Event**” occurs in respect of a Note Constituent when one or more of the following events occurs, and the Index Calculation Agent determines in its sole discretion that such event or combination of events is material (although, for the avoidance of doubt, the Index Calculation Agent has no obligation to monitor actively whether or not any of the following events has occurred):

(a) there is an amendment, variation or modification to (x) the note, indenture or other constitutional documents of the Note Constituent or (y) the offering documents of the Note Constituent, that the Index Calculation Agent determines has or is reasonably likely to have an adverse impact on the ability of market participants to trade in securities of the Note Constituent;

(b) there is an amendment, variation or modification to the terms of the Note Constituent or the obligations of the issuer or any Note Guarantor in respect of the Note Constituent, in any case and by any means, that the Index Calculation Agent determines has or is reasonably likely to have an adverse impact on the value, redeemability or liquidity of the securities of the Note Constituent (including, without limitation, (1) a reduction in the rate or amount of interest payable or the amount of scheduled interest accruals (including by way of redenomination) or a change in the manner of determining the amount of interest payable or interest accruals; (2) a reduction in the amount of principal or premium payable at redemption (including by way of redenomination) or a change in the manner of determining the amount of principal or premium payable at redemption; (3) a postponement or other deferral of a date or dates for either (I) the payment or accrual of interest, or (II) the payment of principal or premium; (4) a change in the ranking in priority of payment of any payment obligation in respect of the Note Constituent, causing the subordination of any such payment obligation in respect of the Note Constituent to any other obligation; or (5) any change in the currency of any payment of interest, principal or premium);

(c) a Note Regulatory Action occurs in respect of the Note Constituent; “**Note Regulatory Action**” means (i) any cancellation, suspension or revocation of the registration or approval of the Note Constituent or the securities of the Note Constituent by any governmental, legal or regulatory entity with authority over the Note Constituent or the securities of the Note Constituent, (ii) any change in the legal, tax, accounting, or regulatory treatments of the Note Constituent, the sponsor or issuer of the Note Constituent or the securities of the Note Constituent that the Index Calculation Agent determines has or is reasonably likely to have an adverse impact on the holders of the securities of the Note Constituent or on the value of the securities of the Note Constituent, (iii) the Note Constituent or the sponsor or issuer of the Note Constituent becoming subject to any investigation, proceeding or litigation by any relevant governmental, legal or regulatory authority involving any activities relating to or resulting from the operational or procedural mechanics of the Note Constituent (including, without limitation, any future, announced or implemented material change to any one or more exemptive orders, no action letters or interpretative guidance of the SEC, including guidance issued by the SEC’s staff, relating to the Note Constituent or to exchange-traded notes generally that affects holders of the securities of the Note Constituent, whether occurring through action of the SEC or otherwise, including as a result of a court order or executive order) that the Index Calculation Agent determines has or is reasonably likely to have a material adverse effect on the value, redeemability or liquidity of the securities of the Note Constituent, or the operational or procedural mechanics of the Note Constituent in accordance with the terms of the Note Constituent or the Note Constituent’s offering documents or (iv) the issuance by the SEC of an order to suspend redemption obligations of the Note Constituent, to freeze assets of the issuer of the Note Constituent or to take any other action that the Index Calculation Agent determines is reasonably likely to have a material effect on the value, redeemability or liquidity of the Note Constituent;

(d) the Average Daily Trading Volume of the Note Constituent declines below (x) an amount equal to 20 percent of its Average Daily Trading Volume as of December 31, 2014 or (y) \$7.5 million;

(e) the Market Capitalization of the Note Constituent declines below (x) an amount equal to 20 percent of its Market Capitalization as of December 31, 2014 or (y) \$500 million;

(f) the relevant primary exchange for the Note Constituent announces that the Note Constituent will be de-listed from such exchange;

(g) if any of the following is calculated or announced in the ordinary course, but, for a period of 5 consecutive Dealing Days, is not calculated or is not announced by or on behalf of the relevant sponsor or issuer of the Note Constituent or the relevant calculation agent or information provider that the relevant sponsor or issuer of the Note Constituent designates: the intraday indicative value of the Note Constituent, the intraday indicative value of a Reference Index of the Note Constituent, or any intraday value or level that indicates or affects the approximate intrinsic economic value of the Note Constituent or the amount of any payment in respect of the Note Constituent;

(h) if any of the following is calculated or announced in the ordinary course, but, for a period of 5 consecutive Dealing Days, is not calculated or is not announced by or on behalf of the relevant sponsor or issuer of the Note Constituent or the relevant calculation agent or information provider that the relevant sponsor or issuer of the Note Constituent designates: the closing indicative value of the Note Constituent, the closing indicative value of a Reference Index of the Note Constituent, or any closing value or level or other value or level that indicates or affects the approximate intrinsic economic value of the Note Constituent or the amount of any payment in respect of the Note Constituent;

(i) if any of the following is calculated or announced in the ordinary course, but, for a period of 5 consecutive Dealing Days, the Closing Level of the Note Constituent reflects a premium greater than 3% or a discount greater than 3% as compared to the closing indicative value of the Note Constituent, the closing indicative value of a Reference Index of the Note Constituent, or any closing value or level or other value or level that indicates or affects the approximate intrinsic economic value of the Note Constituent or the amount of any payment in respect of the Note Constituent;

(j) the relevant issuer of the Note Constituent suspends new issuances, creations or redemptions of securities representing the Note Constituent for 5 consecutive Dealing Days or announces a suspension of unlimited duration of such new issuances, creations or redemptions;

(k) the relevant issuer announces that it will exercise a right to call or redeem all or substantially all of the securities of the Note Constituent or the issuer or another entity announces that it will exercise any right with a similar effect;

- (l) the relevant issuer of the Note Constituent fails to maintain investment grade long-term issuer credit ratings from each of Standard & Poor's Ratings Services, Moody's Investors Service, Inc. and Fitch Ratings (or the relevant successor of each);
- (m) the remaining time to the maturity of the Note Constituent is one year or less;
- (n) the remaining time to the maturity of the Note Constituent is three months or less;
- (o) the issuer of the Note Constituent or one of its affiliates announces the issuance by such issuer or one of its affiliates of an ETN with the same Reference Index as the Note Constituent with a time to maturity that is 10 years or more than the remaining time to the maturity of such Note Constituent or otherwise publicly announces a successor ETN to such Note Constituent that will be offered prior to the maturity of such Note Constituent;
- (p) a Note Specified Event or Note Potential Specified Event occurs in respect of the Note Constituent; or
- (q) a Governmental Intervention occurs in respect of the Note Constituent.

A "**Change in Law**" occurs when, due to either:

- (a) the adoption of, or any change in, any applicable law, regulation or rule (including, without limitation, (x) any tax law or (y) adoption or promulgation of new regulations authorized or mandated by existing statute); or
- (b) the promulgation of, or any change in, the announcement or statement of a formal or informal interpretation by any court, tribunal or regulatory authority with competent jurisdiction of any applicable law, rule, regulation or order (including, without limitation, as implemented by the U.S. Commodity Futures Trading Commission, the U.S. Securities and Exchange Commission or any exchange or trading facility), and

the Index Calculation Agent determines in good faith that (x) it is contrary to such law, rule, regulation or order for any market participants that are brokers or financial intermediaries (individually or collectively) to hold, acquire or dispose of (in whole or in part) a position in or a transaction referencing or relating to (1) a Basket Constituent, (2) a component of a Basket Constituent that is an index, (3) a component of a Reference Index of an Exchange-Traded Constituent or (4) a Reference Commodity of an Exchange-Traded Constituent (each such underlying described in any of the immediately preceding clauses (1), (2), (3) and (4), being a "**Relevant Underlying**") or (y) holding a position in or a transaction referencing or relating to a Relevant Underlying is (or, but for the consequent disposal or termination thereof, would otherwise be) in excess of any allowable position limit(s) applicable to any market participants that are brokers or financial intermediaries (individually or collectively) under any such law, rule or regulation in relation to a Relevant Underlying, including in any case traded on any exchange(s), market or other trading facility.

"**Note Specified Event**" means the occurrence of any of the following, as applicable:

- (a) failure by the issuer of the Note Constituent or its agent to make, when due, any payment or delivery in respect of the Note Constituent required to be made by such issuer or its agent;
- (b) failure by the issuer of the Note Constituent or its agent to comply with or perform any agreement or obligation to be complied with or performed by such issuer or its agent in respect of the Note Constituent;
- (c) the issuer or its agent (or any person or entity appointed or empowered to operate or act on behalf of the issuer or its agent) disaffirms, disclaims, repudiates or rejects, in whole or in part, or challenges the validity of (1) any obligation of the issuer or its agent in respect of the Note Constituent, (2) any note, indenture or other constitutional document for the Note Constituent, (3) any offering document for the Note Constituent or (4) any contract executed and delivered by the issuer or its agent in respect of the Note Constituent;
- (d) failure by any guarantor of the issuer of the Note Constituent (a "**Note Guarantor**") to comply with or perform any agreement or obligation to be complied with or performed by such guarantor

in accordance with any guarantee agreement in respect of any obligation of the issuer or its agent in respect of the Note Constituent (a “**Note Guarantee Agreement**”);

- (e) the expiration or termination of any Note Guarantee Agreement or the failing or ceasing of any Note Guarantee Agreement to be in full force and effect in respect of any obligation of the issuer or its agent in respect of the Note Constituent;
- (f) the issuer or its agent or the relevant Note Guarantor (or any person or entity appointed or empowered to operate or act on behalf of the issuer, its agent or the relevant Note Guarantor) disaffirms, disclaims, repudiates or rejects, in whole or in part, or challenges the validity of a Note Guarantee Agreement;
- (g) the occurrence or existence of (1) a default, event of default or other similar condition or event (however described) in respect of the issuer or the relevant Note Guarantor under one or more agreements or instruments relating to Specified Indebtedness of either of them (individually or collectively) where the aggregate principal amount of such agreements or instruments, either alone or together with the amount, if any, referred to in clause (2) below, is not less than USD 10 million (or its equivalent) which has resulted in such Specified Indebtedness becoming, or becoming capable at such time of being declared, due and payable, or (2) a default by the issuer or the relevant Note Guarantor (individually or collectively) in making one or more payments under such agreements or instruments on the due date for payment (after giving effect to any applicable notice requirement or grace period) in an aggregate amount, either alone or together with the amount, if any, referred to in clause (1) above, of not less than USD 10 million (or its equivalent) and payable under such agreements or instruments before it would otherwise have been due and payable (“**Specified Indebtedness**” means any obligation (whether present or future, contingent or otherwise, as principal or surety or otherwise) in respect of borrowed money);
- (h) the issuer or the relevant Note Guarantor (1) is dissolved (other than pursuant to a consolidation, amalgamation or merger); (2) becomes insolvent or is unable to pay its debts or fails or admits in writing its inability generally to pay its debts as they become due; (3) makes a general assignment, arrangement or composition with or for the benefit of its creditors; (4)(A) institutes or has instituted against it, by a regulator, supervisor or any similar official with primary insolvency, rehabilitative or regulatory jurisdiction over it in the jurisdiction of its incorporation or organization or the jurisdiction of its head or home office, a proceeding seeking a judgment of insolvency or bankruptcy or any other relief under any bankruptcy or insolvency law or other similar law affecting creditors’ rights, or a petition is presented for its winding up or liquidation by it or such regulator, supervisor or similar official, or (B) has instituted against it a proceeding seeking a judgment of insolvency or bankruptcy or any other relief under any bankruptcy or insolvency law or other similar law affecting creditors’ rights, or a petition is presented for its winding-up or liquidation, and such proceeding or petition is instituted or presented by a person or entity not described in clause (A) above and either (I) results in a judgment of insolvency or bankruptcy or the entry of an order for relief or the making of an order for its winding-up or liquidation or (II) is not dismissed, discharged, stayed or restrained in each case within 15 days of the institution or presentation thereof; (5) has a resolution passed for its winding-up, official management or liquidation (other than pursuant to a consolidation, amalgamation or merger); (6) seeks or becomes subject to the appointment of an administrator, provisional liquidator, conservator, receiver, trustee, custodian or other similar official for it or for all or substantially all its assets; (7) has a secured party take possession of all or substantially all its assets or has a distress, execution, attachment, sequestration or other legal process levied, enforced or sued on or against all or substantially all its assets and such secured party maintains possession, or any such process is not dismissed, discharged, stayed or restrained, in each case within 15 days thereafter; (8) causes or is subject to any event with respect to it which, under the applicable laws of any jurisdiction, has an analogous effect to any of the events specified in clauses (1) to (7) above (inclusive); or (9) takes any action in furtherance of, or indicating its consent to, approval of, or acquiescence in, any of the foregoing acts; or
- (i) the issuer or the relevant Note Guarantor consolidates or amalgamates with, or merges with or into, or transfers all or substantially all its assets to, or reorganizes, reincorporates or reconstitutes

into or as, another entity and, at the time of such consolidation, amalgamation, merger, transfer, reorganization, reincorporation or reconstitution (1) the resulting, surviving or transferee entity fails to assume all the obligations of the issuer or the relevant Note Guarantor in respect of the Note Constituent or any Note Guarantee Agreement in respect of which such entity or its predecessor had obligations; or (2) the benefits of any Note Guarantee Agreement fail to extend (without the consent of such entity) to the performance by such resulting, surviving or transferee entity of its obligations in respect of the Note Constituent or any Note Guarantee Agreement.

**“Note Potential Specified Event”** means any event which, with the giving of notice or the lapse of time or both, would constitute a Note Specified Event.

**“Governmental Authority”** means: (i) any de facto or de jure government (or any agency, instrumentality, ministry or department thereof); (ii) any court, tribunal, administrative or other governmental, inter-governmental or supranational body; (iii) any authority or any other entity (private or public) either designated as a resolution authority or charged with the regulation or supervision of the financial markets (including a central bank) of the issuer of a Note Constituent or a Note Guarantor or some or of all of its obligations; or (iv) any other authority which is analogous to any of the entities specified in sub-paragraphs (i) to (iii) above.

**“Governmental Intervention”** means that, with respect to one or more obligations, in respect of a Note Constituent, of the issuer of the Note Constituent or a Note Guarantor, any one or more of the following events occurs as a result of action taken or an announcement made by a Governmental Authority pursuant to, or by means of, a restructuring and resolution law or regulation (or any other similar law or regulation), in each case, applicable to the relevant entity in a form which is binding, irrespective of whether such event is expressly provided for under the terms of any such obligation:

(i) any event which would affect creditors’ rights so as to cause: (a) a reduction in the rate or amount of interest payable or the amount of scheduled interest accruals (including by way of redenomination) or a change in the manner of determining the amount of interest payable or interest accruals; (b) a reduction in the amount of principal or premium payable at redemption (including by way of redenomination) or a change in the manner of determining the amount of principal or premium payable at redemption; (c) a postponement or other deferral of a date or dates for either (I) the payment or accrual of interest, or (II) the payment of principal or premium; or (d) a change in the ranking in priority of payment of any such obligation, causing the subordination of any such obligation to any other obligation;

(ii) an expropriation, transfer or other event that mandatorily changes the beneficial holder of any such obligation;

(iii) a mandatory cancellation, conversion or exchange; or

(iv) any event that has an analogous effect to any of the events specified in sub-paragraphs (i) to (iii) above.

## *12.2 Anti-Dilution Adjustments*

With respect to each Exchange-Traded Constituent (or the relevant successor or substitute Exchange-Traded Constituent), the Index Calculation Agent will make anti-dilution adjustments to the Closing Level of such Exchange-Traded Constituent only (a) if the securities of such Exchange-Traded Constituent are subject to a split or reverse split, once such split has become effective, and (b) if such Exchange-Traded Constituent is subject to (i) an issuance of additional securities of such Exchange-Traded Constituent that is given ratably to all or substantially all holders of securities of such Exchange-Traded Constituent or (ii) a distribution of securities of such Exchange-Traded Constituent as a result of the triggering of any provision of the corporate charter of such Exchange-Traded Constituent or its issuer, as applicable, once the dividend or distribution has become effective and the securities of such Exchange-Traded Constituent are trading ex-distribution. The Index Calculation Agent will be solely responsible for the determination and calculation of any such anti-dilution adjustments and any related determinations and calculations, and its determinations and calculations with respect thereto will be conclusive in the absence of manifest error.

### **13. Corrections**

If (i) the Closing Level of any Basket Constituent as of any date which is published or otherwise made available in respect of the relevant Basket Constituent is subsequently corrected and such correction is published or otherwise made available in respect of such Basket Constituent; or (ii) the Index Calculation Agent identifies an error or omission in any of its calculations, determinations or interpretations in respect of an Efficient Plus Price Return Index, then the Index Calculation Agent may, if practicable and if the Index Calculation Agent determines in good faith that such correction, error or omission (as the case may be) is material, adjust or correct the relevant calculation, determination or interpretation and/or the Index Level as of any Index Business Day to take into account any such correction.

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## Definitions

Terms not otherwise defined herein, shall have the following meanings:

“Affected Basket Constituent”	has the meaning given to such term in Section 11.1.
“Affected Monthly Re-weighting Date”	has the meaning given to such term in Section 11.2.
“Average Daily Trading Volume”	means, with respect to an Exchange-Traded Constituent and an Index Business Day, the product of (a) the ratio of (i) the total volume of trading in the securities of such Exchange-Traded Constituent on all U.S. exchanges from but excluding the calendar day 6 months prior to such Index Business Day, to and including such Index Business Day, as reported by Bloomberg using the function Bloomberg Ticker US Equity HP or another information provider selected by the Index Calculation Agent, divided by (ii) the total number of Index Business Days from but excluding the calendar day 6 months prior to such Index Business Day, to and including such Index Business Day, times (b) the Closing Level of such Exchange-Traded Constituent on such Index Business Day. The Average Daily Trading Volume for each Exchange-Traded Constituent on December 31, 2014 is provided in Schedule 2 to this Part A.
“Base Date”	means the date specified in Section 7 ( <i>Initial Composition of the Efficiente Plus Price Return Indices</i> ).
“Basket Constituent”	has the meaning given to such term in Section 6 ( <i>The Basket Constituents</i> ), subject to the provisions of Section 12 ( <i>Extraordinary Events</i> ).
“Basket Constituent Weight”	for any Basket Constituent, has the meaning given to such term in Section 6 ( <i>The Basket Constituents</i> ).
“Cash Constituent”	means the JPMorgan Cash Index 3 Month or any successor or substitute determined pursuant to Section 12 ( <i>Extraordinary Events</i> ).
“Change in Law”	has the meaning given to such term in Section 12 ( <i>Extraordinary Events</i> ).
“Closing Level”	means, subject to the provisions of Section 11 ( <i>Market Disruption</i> ) and Section 12 ( <i>Extraordinary Events</i> ), (a) in respect of a Basket Constituent that is an index, including the Cash Constituent, and a Dealing Day, (i) the official closing level of such Basket Constituent published by the relevant sponsor of such Basket Constituent for such Dealing Day; <i>provided, however</i> that if the Index Calculation Agent determines that such official closing level reflects manifest error on the part of the relevant sponsor of such Basket Constituent, the Index Calculation Agent shall determine the closing level of such Basket Constituent in good faith and in a commercially reasonable manner or (ii) in such circumstances as set out in the definition of Commodity Index Non-Publication Event relating to the calculation of a Proxy Calculated Level, the Proxy Calculated Level, and (b) in respect of an Exchange-Traded Constituent, and a Dealing Day, the official closing price of the regular trading session on such Dealing Day on the primary exchange in the United States on which such Exchange-Traded Constituent is listed.
“Closing Time”	means, for an Index Business Day, the scheduled closing time of the regular trading session for NYSE Arca.

<b>“Closing TR Level”</b>	means, in respect of an Exchange-Traded Constituent and a Dealing Day, as defined in Section 8.2 ( <i>Identifying the Unique Portfolio for Each Performance Observation Period</i> ).
<b>“Commodity Disruption Event”</b>	has the meaning given to such term in Section 11.4 ( <i>Definitions Related to Market Disruption</i> ).
<b>“Commodity Index Non-Publication Event”</b>	has the meaning given to such term in Section 11.4 ( <i>Definitions Related to Market Disruption</i> ).
<b>“Daily Series Index”</b>	has the meaning given to such term in Section 4 ( <i>General Notes on the Efficiente Plus Price Return Indices</i> ).
<b>“Dealing Day”</b>	means either: (a) in respect of any Basket Constituent that is an index, including the Cash Constituent, a day on which the Closing Level for that Basket Constituent is (or, but for the occurrence of a Market Disruption Event, would have been) scheduled to be calculated and published by the relevant sponsor of such Basket Constituent; or (b) in respect of an Exchange-Traded Constituent, a day on which the primary exchange in the United States on which such Exchange-Traded Constituent is listed is scheduled to be open for trading for its regular trading session.
<b>“Disrupted Day”</b>	has the meaning given to such term in Section 11.4 ( <i>Definitions Related to Market Disruption</i> ).
<b>“Effective Monthly Re-weighting Date”</b>	means (i) a scheduled Monthly Re-weighting Date that occurs as originally scheduled (and is not postponed pursuant to Section 11.2) or (ii) a Postponed Monthly Re-weighting Date.
<b>“Eligible Portfolio”</b>	has the meaning given to such term in Section 8.4 ( <i>Eligible Portfolios &amp; Weighting Constraints</i> ).
<b>“Equity Index Disruption Event”</b>	has the meaning given to such term in Section 11.4 ( <i>Definitions Related to Market Disruption</i> ).
<b>“ETF”</b>	means an exchange-traded fund listed on a U.S. securities exchange.
<b>“ETF Constituent”</b>	has the meaning given to such term in Section 4 ( <i>General Notes on the Efficiente Plus Price Return Indices</i> ).
<b>“Efficiente Plus Price Return Index”</b>	means each index included in the J.P. Morgan Efficiente Plus Price Return Index Series.
<b>“ETF Material Event”</b>	has the meaning given to such term in Section 12 ( <i>Extraordinary Events</i> ).
<b>“ETF Regulatory Action”</b>	has the meaning given to such term in Section 12 ( <i>Extraordinary Events</i> ).
<b>“ETN”</b>	means an exchange-traded note listed on a U.S. securities exchange.
<b>“Exchange-Traded Constituent”</b>	has the meaning given to such term in Section 4 ( <i>General Notes on the Efficiente Plus Price Return Indices</i> ).

<b>“Exchange-Traded Product Disruption Event”</b>	has the meaning given to such term in Section 11.4 ( <i>Definitions Related to Market Disruption</i> ).
<b>“Ex-Distribution Date”</b>	means, with respect to a distribution for an Exchange-Traded Constituent, the first trading day on which transactions in the securities of such Exchange-Traded Constituent trade on the relevant primary exchange without the right to receive that distribution.
<b>“Exposure”</b>	has the meaning given to such term in Section 10.4 ( <i>Exposure Calculation</i> ).
<b>“Extraordinary Event”</b>	has the meaning given to such term in Section 12 ( <i>Extraordinary Events</i> ).
<b>“Fee”</b>	means the Fee specified in the applicable Module for the applicable Efficient Plus Price Return Index.
<b>“Final Disruption Determination Date”</b>	has the meaning given to such term in Section 11.3 ( <i>Exposure Determination and Calculation of Index Levels in Connection with Market Disruption</i> ).
<b>“Governmental Intervention”</b>	has the meaning given to such term in Section 12 ( <i>Extraordinary Events</i> ).
<b>“Governmental Authority”</b>	has the meaning given to such term in Section 12 ( <i>Extraordinary Events</i> ).
<b>“Gross Distribution Amount”</b>	means, in respect of an Exchange-Traded Constituent and an Ex-Distribution Date for such Exchange-Traded Constituent, 100% of the amount of any distribution per share or security of the Exchange-Traded Constituent that a shareholder or security-holder in that Exchange-Traded Constituent on that Ex-Distribution Date would no longer have the right to receive due to the occurrence of such Ex-Distribution Date, as determined by the Index Calculation Agent in its sole discretion as the sum of (x) the amount of any cash distribution made and (y) the fair market value of any distribution of shares of capital stock, evidences of indebtedness or other assets or property of such Exchange-Traded Constituent or its issuer (other than share dividends or distributions referred to in Section 12.2(b) ( <i>Anti-Dilution Adjustments: Share Dividends or Distributions</i> )). If a portion of such distribution consists of property traded on the Ex-Distribution Date on a U.S. national securities exchange, the fair market value of such portion will equal the closing price of such distributed property on such Ex-Distribution Date.
<b>“Index Business Day”</b>	means a day (i) on which NYSE Arca is scheduled to open for trading for its regular trading session and (ii) that is a Dealing Day for all of the Basket Constituents.
<b>“Index Calculation Agent”</b>	has the meaning given to such term in Section 5 ( <i>Index Calculation Agent</i> ).
<b>“Index Level”</b>	has the meaning given to such term in Section 4 ( <i>General Notes on the Efficient Plus Price Return Indices</i> ).
<b>“Index Rules”</b>	means the rules of the J.P. Morgan Efficient Plus Price Return Index Series as set out in this document, as the same may be supplemented, amended or restated from time to time.
<b>“JPMS plc”</b>	means J.P. Morgan Securities plc

<b>“Market Capitalization”</b>	means, with respect to an Exchange-Traded Constituent and an Index Business Day, the market capitalization of the Exchange-Traded Constituent as provided by Bloomberg on the “DES” page or by another information provider selected by the Index Calculation Agent for such Exchange-Traded Constituent on such Index Business Day. The Market Capitalization for each Exchange-Traded Constituent on December 31, 2014 is provided in Schedule 2 to this Part A.
<b>“Market Disruption Event”</b>	has the meaning given to such term in Section 11.4 ( <i>Definitions Related to Market Disruption</i> ).
<b>“MLP”</b>	means interests in a master limited partnership <i>listed</i> on a U.S. securities exchange.
<b>“Module”</b>	has the meaning given to such term in Section 1 ( <i>Introduction</i> ).
<b>“Monthly Basket Constituent Weights”</b>	has the meaning given to such term in Section 8 ( <i>Determining the Monthly Basket Constituent Weights for the Basket Constituents in the Monthly Reference Portfolio</i> ).
<b>“Monthly Reference Portfolio”</b>	has the meaning given to such term in Section 10.1 ( <i>The Monthly Reference Portfolios</i> ).
<b>“Monthly Re-weighting Date”</b>	has the meaning given to such term in Section 4 ( <i>General Notes on the Efficiente Plus Price Return Indices</i> ) and is subject to the provisions of Section 11.2.
<b>“Monthly Re-weighting Period”</b>	means, for a given calendar month, the period of Index Business Days from and including the first scheduled Monthly Re-weighting Date for such calendar month to and including the final Effective Monthly Re-weighting Date for such calendar month.
<b>“Monthly Re-weighting Selection Date”</b>	has the meaning given to such term in Section 4 ( <i>General Notes on the Efficiente Plus Price Return Indices</i> ).
<b>“Next Monthly Reference Portfolio”</b>	has the meaning given to such term in Section 9 ( <i>Efficiente Plus Price Return Index Monthly Rebalancing</i> ).
<b>“Note Constituent”</b>	has the meaning given to such term in Section 4 ( <i>General Notes on the Efficiente Plus Price Return Indices</i> ).
<b>“Note Guarantee Agreement”</b>	has the meaning given to such term in Section 12 ( <i>Extraordinary Events</i> ).
<b>“Note Guarantor”</b>	has the meaning given to such term in Section 12 ( <i>Extraordinary Events</i> ).
<b>“Note Material Event”</b>	has the meaning given to such term in Section 12 ( <i>Extraordinary Events</i> ).
<b>“Note Potential Specified Event”</b>	has the meaning given to such term in Section 12 ( <i>Extraordinary Events</i> ).
<b>“Note Specified Event”</b>	has the meaning given to such term in Section 12 ( <i>Extraordinary Events</i> ).
<b>“Performance”</b>	means, in respect of an Eligible Portfolio and a Performance Observation Period, the performance of such Eligible Portfolio over such Performance Observation Period, as determined by the Index Calculation Agent in

	accordance with Section 8 ( <i>Determining the Monthly Basket Constituent Weights for the Basket Constituents in the Monthly Reference Portfolio</i> ).
<b>“Performance Observation Period”</b>	has the meaning given to such term in Section 8.1 ( <i>Identifying the Performance Observation Periods</i> ).
<b>“Portfolio Disruption Day”</b>	has the meaning given to such term in Section 11.4 ( <i>Definitions Related to Market Disruption</i> ).
<b>“Portfolio Disruption Determination Date”</b>	has the meaning given to such term in Section 11.3 ( <i>Definitions Related to Market Disruption</i> ).
<b>“Postponed Monthly Re-weighting Date”</b>	has the meaning given to such term in Section 11.2 ( <i>Market Disruption on a Monthly Re-weighting Date</i> ).
<b>“Prior Dealing Day”</b>	has the meaning given to such term in Section 8.2 ( <i>Identifying the Unique Portfolio for each Performance Observation Period</i> ).
<b>“Prior Monthly Reference Portfolio”</b>	has the meaning given to such term in Section 9 ( <i>Efficiente Plus Price Return Index Monthly Rebalancing</i> ).
<b>“Prior Non-Disrupted Dealing Day”</b>	has the meaning given to such term in Section 8.2 ( <i>Identifying the Unique Portfolio for each Performance Observation Period</i> ).
<b>“Proxy Calculated Level”</b>	has the meaning given to such term in Section 11.4 ( <i>Definitions Related to Market Disruption</i> ).
<b>“Realized Volatility”</b>	means, in respect of an Eligible Portfolio and a Performance Observation Period, the annualized realized volatility of such Eligible Portfolio over such Performance Observation Period, as determined by the Index Calculation Agent pursuant to Section 8.2 ( <i>Identifying the Unique Portfolio for each Performance Observation Period</i> ).
<b>“Reference Commodity”</b>	means with respect to an ETF Constituent, each commodity underlying such ETF Constituent.
<b>“Reference Index”</b>	means with respect to an Exchange-Traded Constituent, the index, if applicable, whose performance such Exchange-Traded Constituent attempts to track. The Reference Index for each Exchange-Traded Constituent on December 31, 2014 is provided in Schedule 2 to this Part A.
<b>“REIT”</b>	means interests in a real estate investment trust listed on a U.S. securities exchange.
<b>“Related Exchange”</b>	means, in respect of any Exchange-Traded Constituent, each exchange or quotation system, if any, specified as such in Table 1 (above in Section 6 ( <i>The Basket Constituents</i> )), any successor to such exchange or quotation system or any substitute exchange or quotation system to which trading in futures or options contracts relating to the Exchange-Traded Constituent has temporarily relocated ( <i>provided that</i> the Index Calculation Agent has determined that there is comparable liquidity relative to the futures or options contracts relating to the Exchange-Traded Constituent on such temporary substitute exchange or quotation system as on the original Related Exchange), <i>provided, however</i> , that where “All Exchanges” is specified as the Related Exchange, “Related Exchange” shall mean each

	exchange or quotation system (as determined by the Index Calculation Agent) where trading has a material effect (as determined by the Index Calculation Agent) on the overall market for futures or options contracts relating to the Exchange-Traded Constituent.
“Relevant Person”	has the meaning given to such term in Section 3 ( <i>Responsibility</i> ).
“Relevant Underlying”	has the meaning given to such term in Section 12 ( <i>Extraordinary Events</i> ).
“Re-weighting Disruption Determination Date”	has the meaning given to such term in Section 11.2 ( <i>Market Disruption on a Monthly Re-weighting Date</i> ).
“SEC”	has the meaning given to such term in Section 12 ( <i>Extraordinary Events</i> ).
“Specified Indebtedness”	has the meaning given to such term in Section 12 ( <i>Extraordinary Events</i> ).
“Start Date”	for each Efficiente Plus Price Return Index, has the meaning given to such term in the applicable Module.
“Starting Re-weighting Period”	has the meaning given to such term in Section 7 ( <i>Initial Composition of the Efficiente Plus Price Return Indices</i> ).
“Starting Selection Date”	has the meaning given to such term in Section 7 ( <i>Initial Composition of the Efficiente Plus Price Return Indices</i> ).
“Target Volatility”	has the meaning given to such term in Section 4 ( <i>General Notes on the Efficiente Plus Price Return Indices</i> ) and is specified in the applicable Module, subject to adjustment in accordance with Section 8.2(f).
“Trading Day”	for any Efficiente Plus Price Return Index, means a day that is: <ul style="list-style-type: none"> <li>(i) an Index Business Day that (x) occurs during the period from but excluding the final Effective Monthly Re-weighting Date in a given Monthly Re-weighting Period to but excluding the first Effective Monthly Re-weighting Date in the immediately following Monthly Re-weighting Period and (y) is not a Portfolio Disruption Day,</li> <li>(ii) an Index Business Day that is an Effective Monthly Re-weighting Date, or</li> <li>(iii) an Index Business Day that is a Portfolio Disruption Determination Date.</li> </ul>
“Trust Issuer”	has the meaning given to such term in Section 12 ( <i>Extraordinary Events</i> ).
“Underlying Portfolio Volatility”	has the meaning given to such term in Section 10.3 ( <i>Determining the Underlying Portfolio Volatility</i> ).
“Unique Portfolio”	has the meaning given to such term in Section 8.2 ( <i>Identifying the Unique Portfolio for Each Performance Observation Period</i> ).
“Volatility Measurement Period”	has the meaning given to such term in Section 10.3 ( <i>Determining the Underlying Portfolio Volatility</i> ).
“Volatility Measurement Start Date”	has the meaning given to such term in Section 10.3 ( <i>Determining the Underlying Portfolio Volatility</i> ).
“Weekday”	means any day other than a Saturday or a Sunday.

**“Weighting Constraints”**

has the meaning given to such term in Section 8.4 (*Eligible Portfolios & Weighting Constraints*) and are detailed in the applicable Module for the applicable Efficient Plus Price Return Index.

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**Schedule 1:****The indices composing the J.P. Morgan Efficiente Plus Price Return Index Series:**

Table A below of this Schedule 1 sets out the name of each index in the J.P. Morgan Efficiente Plus Price Return Index Series. The relevant parameters for each Efficiente Plus Price Return Index are provided in the applicable Module.

Table A

Name	Ticker
J.P. Morgan Efficiente Plus 5 Index (Gross Excess Price Return)	EFPLS5PB
J.P. Morgan Efficiente Plus 5 Index (Net Excess Price Return)	EFPLS5PE
J.P. Morgan Efficiente Plus DS 5 Index (Gross Excess Price Return)	EFPLS5PG
J.P. Morgan Efficiente Plus DS 5 Index (Net Excess Price Return)	EFPLS5PD
J.P. Morgan Efficiente Plus 5 Index (Gross Price Return)	EFPLUS5P
J.P. Morgan Efficiente Plus 5 Index (Net Price Return)	EFPLS5PN
J.P. Morgan Efficiente Plus 8 Index (Gross Excess Price Return)	EFPLS8PB
J.P. Morgan Efficiente Plus 8 Index (Net Excess Price Return)	EFPLS8PE
J.P. Morgan Efficiente Plus DS 8 Index (Gross Excess Price Return)	EFPLS8PG
J.P. Morgan Efficiente Plus DS 8 Index (Net Excess Price Return)	EFPLS8PD
J.P. Morgan Efficiente Plus 8 Index (Gross Price Return)	EFPLUS8P
J.P. Morgan Efficiente Plus 8 Index (Net Price Return)	EFPLS8PN
J.P. Morgan Efficiente Plus 10 Index (Gross Excess Price Return)	EFPLSTPB
J.P. Morgan Efficiente Plus 10 Index (Net Excess Price Return)	EFPLSTPE
J.P. Morgan Efficiente Plus DS 10 Index (Gross Excess Price Return)	EFPLSTPG
J.P. Morgan Efficiente Plus DS 10 Index (Net Excess Price Return)	EFPLSTPD
J.P. Morgan Efficiente Plus 10 Index (Gross Price Return)	EFPLUSTP
J.P. Morgan Efficiente Plus 10 Index (Net Price Return)	EFPLSTPN

This table may be amended from time to time to add additional Efficiente Plus Price Return Indices.



**Schedule 2:****Appendix: Exchange-Traded Constituent Name, Bloomberg Ticker, Reference Index or Reference Commodity, Average Daily Trading Volume and Market Capitalization on December 31, 2014**

<b>i</b>	<b>Exchange-Traded Constituent Name</b>	<b>Bloomberg Ticker</b>	<b>Reference Index (in the case of i=1 to 19) or Reference Commodity (in the case of i= 20)</b>	<b>Average Daily Trading Volume on December 31, 2014 (\$MM*)</b>	<b>Market Capitalization on December 31, 2014 (\$MM*)</b>
1	Vanguard S&P 500 ETF	VOO	S&P 500 <sup>®</sup> Index	270	27,518
2	Vanguard Small-Cap ETF	VB	CRSP U.S. Small Cap Index	51	9,814
3	Vanguard FTSE Developed Markets ETF	VEA	FTSE Developed ex North America Index	156	24,174
4	iShares <sup>®</sup> MSCI EAFE Small-Cap ETF	SCZ	MSCI EAFE Small Cap Index	23	3,615
5	Vanguard FTSE Emerging Markets ETF	VWO	FTSE Emerging Index	484	45,867
6	iShares <sup>®</sup> 20+ Year Treasury Bond ETF	TLT	Barclays U.S. 20+ Year Treasury Bond Index	978	6,447
7	iShares <sup>®</sup> 7-10 Year Treasury Bond ETF	IEF	Barclays U.S. 7-10 Year Treasury Bond Index	229	7,059
8	iShares <sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF	LQD	Markit iBoxx <sup>®</sup> USD Liquid Investment Grade Index	217	19,344
9	iShares <sup>®</sup> TIPS Bond ETF	TIP	Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index (Series-L)	69	12,288
10	Vanguard Short-Term Corporate Bond ETF	VCSH	Barclays U.S. 1–5 Year Corporate Bond Index	47	9,126
11	SPDR <sup>®</sup> Barclays High Yield Bond ETF	JNK	Barclays High Yield Very Liquid Index	250	9,653
12	PIMCO 0-5 Year High Yield Corporate Bond Index ETF	HYS	BofA Merrill Lynch 0-5 Year US High Yield Constrained Index	51	2,879
13	PowerShares Senior Loan Portfolio	BKLN	S&P/LSTA U.S. Leveraged Loan 100 Index	74	5,714

14	iShares <sup>®</sup> U.S. Preferred Stock ETF	PFF	S&P U.S. Preferred Stock Index <sup>™</sup>	71	11,692
15	iShares <sup>®</sup> J.P. Morgan USD Emerging Markets Bond ETF	EMB	J.P. Morgan EMBI <sup>SM</sup> Global Core Index	103	4,388
16	Vanguard REIT ETF	VNQ	MSCI US REIT Index	270	27,111
17	Market Vectors <sup>®</sup> Gold Miners ETF	GDX	NYSE Arca Gold Miners Index	853	5,482
18	ETRACS Alerian MLP Infrastructure Index ETN	MLPI	Alerian MLP Infrastructure Index	13	2,351
19	PowerShares DB Commodity Index Tracking Fund	DBC	DBIQ Optimum Yield Diversified Commodity Index Excess Return <sup>™</sup>	43	4,048
20	iShares <sup>®</sup> Gold Trust	IAU	Gold	38	6,125

\* Numbers have been rounded to the nearest \$1 MM

## **Risk Factors**

**The following list of risk factors does not purport to be a complete enumeration or explanation of all the risks associated with an Efficient Plus Price Return Index.**

### **(a) Proprietary and Rules-Based Trading Index**

An Efficient Plus Price Return Index follows a notional rules-based proprietary trading strategy that operates on the basis of pre-determined rules. Accordingly, potential investors in financial products which are linked to the performance of an Efficient Plus Price Return Index should determine whether those rules as described in the Index Rules of that Efficient Plus Price Return Index are appropriate in light of their individual circumstances and investment objectives.

**No assurance can be given that the investment strategy on which an Efficient Plus Price Return Index is based will be successful or that such Efficient Plus Price Return Index will outperform any alternative strategy that might be employed in respect of the Basket Constituents.**

### **(b) Determination of the Index Level**

The Index Level of each Efficient Plus Price Return Index is calculated as of any Trading Day using (1) Closing Levels for all the Basket Constituents that are in a Monthly Reference Portfolio (which Closing Levels do not reflect the notional reinvestment of dividends or distributions for the Exchange-Traded Constituents), (2) Monthly Basket Constituent Weights for all the Basket Constituents in a Monthly Reference Portfolio, which are determined based on inputs that include the Closing TR Levels of the Exchange-Traded Constituents (which Closing TR Levels do reflect the notional reinvestment of dividends or distributions for the Exchange-Traded Constituents) and (3) in the case of an Efficient Plus Price Return Index that is a Daily Series Index, an Exposure to the Monthly Reference Portfolios that is determined based on Closing Levels for all the Basket Constituents that are in the Monthly Reference Portfolios (which Closing Levels do not reflect the notional reinvestment of dividends or distributions for the Exchange-Traded Constituents).

### **(c) Notional Exposures**

An Efficient Plus Price Return Index comprises notional assets and liabilities. The exposures to the Basket Constituents are purely notional and will exist solely in the records maintained by or on behalf of the Index Calculation Agent. Consequently, investors in financial products which are linked to the performance of an Efficient Plus Price Return Index will not have any claim against any of the reference assets composing that Efficient Plus Price Return Index. If the Return Type for an Efficient Plus Price Return Index is Excess Price Return, the strategy tracks the excess of the price returns of a notional dynamic basket of assets over a cash investment and as such any allocation in the strategy to the Cash Constituent will result in this portion of the portfolio not being invested.

### **(d) Lack of Operating History**

Each Efficient Plus Price Return Index is only recently established and therefore has no history to evaluate its likely performance. Any back-testing or similar analysis performed by any person in respect of any Efficient Plus Price Return Index must be considered illustrative only and may be based on estimates or assumptions not used by the Index Calculation Agent when determining the Index Level of that Efficient Plus Price Return Index.

Past performance should not be considered indicative of future performance.

### **(e) Market Risks**

The performance of an Efficient Plus Price Return Index is dependent on the performance of the 21 Basket Constituents (which are currently composed of 19 ETF Constituents, 1 Note Constituent and the Cash Constituent). As a consequence, investors in financial products with returns linked to an Efficient Plus Price Return Index should

appreciate that their investment is exposed to the price performance of the 21 Basket Constituents, without taking distributions into account, (which are composed of 19 ETF Constituents, 1 Note Constituent and the Cash Constituent).

**(f) Momentum Investment Strategy**

Each Efficient Plus Price Return Index is constructed using what is generally known as a momentum investment strategy. Momentum investing generally seeks to capitalize on positive trends in the price of assets. Even when the Closing Levels of the Basket Constituents are trending downwards, the Efficient Plus Price Return Index will continue to be composed of the 21 Basket Constituents (which are currently composed of 19 ETF Constituents, 1 Note Constituent and the Cash Constituent). Due to the “long-only” construction of each Efficient Plus Price Return Index in respect of all Basket Constituents, the weight of each such Basket Constituent will not be set below zero even if the relevant Basket Constituent displayed a negative performance over the relevant Performance Observation Periods.

Furthermore, the results that may be obtained from investing in any security or other investment or transaction linked to an Efficient Plus Price Return Index may be significantly different from the results that could theoretically be obtained from investing in the Basket Constituents. Such differences may arise for a number of reasons including, but not limited to, the fees deducted from the Index Level (if any) and any distributions in respect of the Exchange-Traded Constituents (as distributions are not taken into account in determining the price performance of an Exchange-Traded Constituent).

**(g) Extraordinary Events**

Following the occurrence of certain extraordinary events as described in Section 10 (*Extraordinary Events*) of the Index Rules, with respect to a Basket Constituent, the affected Basket Constituent may be replaced by a substitute Basket Constituent.

**(h) Index Calculation Agent Discretion**

The Index Rules of each Efficient Plus Price Return Index confer on the Index Calculation Agent discretion in making certain determinations, interpretations and calculations from time to time. The exercise of such discretion in the making of calculations, determinations and interpretations may adversely affect the performance of an Efficient Plus Price Return Index. Without limitation to the generality of the foregoing, the Index Calculation Agent has discretion in relation to the calculation of the Index Level in the event of a Market Disruption Event.

**(i) Potential Conflicts of Interest**

Potential conflicts of interest may exist in the structure and operation of each Efficient Plus Price Return Index and in the course of the normal business activities of J.P. Morgan or any of its affiliates or subsidiaries or their respective directors, officers, employees, representatives, delegates or agents. Further information is set out in the disclaimer below.

**The foregoing list of risk factors is not intended to be exhaustive. All persons should seek such advice as they consider necessary from their professional advisors, legal, tax or otherwise, without reliance on the Index Calculation Agent or any of its affiliates or subsidiaries or any of their respective directors, officers, employees, representatives, delegates or agents.**

**Notices, Disclaimers and Conflicts of Interest**

The Index Rules have been prepared solely for informational purposes and nothing in the Index Rules constitutes (i) an offer to buy or sell any securities, participate in any transaction or adopt any investment linked to an Efficiente Plus Price Return Index or (ii) legal, tax, regulatory, financial or accounting advice. The Index Rules may change at any time without prior notice.

Neither the Index Calculation Agent nor any of its affiliates or subsidiaries or their respective directors, officers, employees, representatives, delegates or agents (each a “**Relevant Person**”) make any representation or warranty, whatsoever, express or implied, as to the results that may be obtained through the use of this document or any Efficiente Plus Price Return Index. Each Relevant Person hereby expressly disclaims, to the fullest extent permitted by law, all warranties of accuracy, completeness, merchantability, or fitness for a particular purpose with respect to any information contained in this document and no Relevant Person shall have any liability (direct or indirect, special, punitive, consequential or otherwise) to any person even if notified of the possibility of any such damages.

The Index Calculation Agent is under no obligation to continue the calculation, publication and dissemination of any Efficiente Plus Price Return Index or the Index Level.

During the course of their normal business, the Index Calculation Agent or any of the other Relevant Persons may (i) enter into or promote, offer or sell transactions or investments (structured or otherwise) linked to any Efficiente Plus Price Return Index and/or any of the Basket Constituents and/or (ii) act as an investment manager, investment advisor, administrator, custodian, prime broker or other service provider to any of the Basket Constituent. In addition, any Relevant Person may have, or may have had, interests or positions, or may buy, sell or otherwise trade positions in or relating to any Efficiente Plus Price Return Index or any of the Basket Constituents, or may invest or engage in transactions with other persons, or on behalf of such persons relating to any of these items. Such activity may or may not have an impact on the Index Level but all persons reading this document should be aware that a conflict of interest could arise where anyone is acting in more than one capacity, and such conflict may have an impact, positive or negative, on the Index Level. Neither the Index Calculation Agent nor any other Relevant Person has any duty to consider the circumstances of any person when participating in such transactions or to conduct themselves in a manner that is favorable to anyone with exposure to any Efficiente Plus Price Return Index.

The Index Rules have been developed with the possibility of the Index Calculation Agent or any of the other Relevant Persons entering into or promoting, offering or selling transactions or investments (structured or otherwise) linked to any Efficiente Plus Price Return Index and hedging such transactions or investments in any manner that they see fit. Accordingly it should be assumed that the Index Rules have and will be analyzed from this point of view.

As mentioned above, each Efficiente Plus Price Return Index is described as a notional basket because there is no actual portfolio of assets to which any person is entitled or in which any person has any ownership interest. Each Efficiente Plus Price Return Index merely identifies certain reference assets, the performance of which will be used as a reference point for calculating the Index Level.

No one may reproduce or disseminate the information contained in this document or the Index Level of any Efficiente Plus Price Return Index without the prior written consent of the Index Calculation Agent. This document is not intended for distribution to, or use by any person in, a jurisdiction where such distribution is prohibited by law or regulation.

The Index Rules shall be governed by and construed in accordance with the laws of New York.

## **Index Disclaimers**

### **JPMorgan Indices**

The JPMorgan Cash Index USD 3 Month (the “**Cash Constituent**”) is a widely used benchmark in the international capital markets and is determined, composed and calculated by J.P. Morgan Securities LLC (“**JPMS**”) without regard to the Efficiente Plus Price Return Index.

JPMS has no obligation to take into account the interests of prospective investors in instruments linked to the Efficiente Plus Price Return Index when determining, composing or calculating the Cash Constituent and can at any time and in its sole discretion, modify or change the method of calculating such index or cease its calculation, publication or dissemination. Accordingly, actions and omissions of JPMS may affect the value of the Cash Constituent and, consequently, the value of any instruments linked to the Efficiente Plus Price Return Index.

JPMS does not make any warranty or representation whatsoever, express or implied, as to the results to be obtained from the use of the Cash Constituent, or as to the performance and/or the value thereof at any time (past, present or future).

Neither JPMS nor the Index Calculation Agent (whether as a result of negligence or for any other reason) shall be liable to any investor in instruments linked to the Efficiente Plus Price Return Index for any error or omission in the calculation of the Cash Constituent or be under any obligation to advise any person of any error therein or to guarantee the performance and/or value of the Cash Constituent.

Furthermore, JPMS does not make any representation or warranty, either express or implied, regarding any instruments linked to the Efficiente Plus Price Return Index, its performance (present or future) or suitability as an investment or any information supplied to any prospective investor in connection with it. JPMS shall not have any obligation or liability to any prospective investor (whether as a result of negligence or for any other reason) in connection with any instruments linked to the Efficiente Plus Price Return Index, including without limitation the administration, marketing or trading thereof.

Investors in any instruments linked to the Efficiente Plus Price Return Index should also be aware that any entity within the JPMorgan Chase & Co. group (JPMorgan) is or may be, in respect of the securities comprised in the Cash Constituent, engaged in securities trading, securities brokerage and financing activities, as well as providing investment banking and financial advisory services. Accordingly, JPMorgan may at any time hold long or short positions, and may trade or otherwise effect transactions, for its own account or the accounts of its customers.

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Part B

PARAMETERS FOR EACH OF THE EFFICIENTE PLUS PRICE RETURN INDICES IN THE J.P. MORGAN EFFICIENTE PLUS PRICE RETURN INDEX SERIES

MODULE B1: J.P. MORGAN EFFICIENTE PLUS 5 INDEX (GROSS EXCESS PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus 5 Index (Gross Excess Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLS5PB
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	113.289468237067
<b>Target Volatility</b>	5.00%
<b>Exposure on the Start Date</b>	100.00 %
<b>Daily Series Applicability</b>	Not Applicable
<b>Return Type</b>	Excess Price Return
<b>Fee</b>	0.00% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p>

	<p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup> U.S. Preferred Stock ETF and the iShares<sup>®</sup> J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors<sup>®</sup> Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares<sup>®</sup> Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B2: J.P. MORGAN EFFICIENTE PLUS 5 INDEX (NET EXCESS PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus 5 Index (Net Excess Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLS5PE
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	111.253717653642
<b>Target Volatility</b>	5.00%
<b>Exposure on the Start Date</b>	100.00%
<b>Daily Series Applicability</b>	Not Applicable
<b>Return Type</b>	Excess Price Return
<b>Fee</b>	0.85% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup></p>

	<p>U.S. Preferred Stock ETF and the iShares® J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors® Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares® 20+ Year Treasury Bond ETF, the iShares® 7-10 Year Treasury Bond ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF, the iShares® TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B3: J.P. MORGAN EFFICIENTE PLUS DS 5 INDEX (GROSS EXCESS PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus DS 5 Index (Gross Excess Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLS5PG
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	109.427776960745
<b>Target Volatility</b>	5.00%
<b>Exposure on the Start Date</b>	48.8519135622006%
<b>Daily Series Applicability</b>	Applicable
<b>Return Type</b>	Excess Price Return
<b>Fee</b>	0.00% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup></p>

	<p>U.S. Preferred Stock ETF and the iShares® J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors® Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares® 20+ Year Treasury Bond ETF, the iShares® 7-10 Year Treasury Bond ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF, the iShares® TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B4: J.P. MORGAN EFFICIENTE PLUS DS 5 INDEX (NET EXCESS PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus DS 5 Index (Net Excess Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLS5PD
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	107.461267615949
<b>Target Volatility</b>	5.00%
<b>Exposure on the Start Date</b>	48.8519135622006%
<b>Daily Series Applicability</b>	Applicable
<b>Return Type</b>	Excess Price Return
<b>Fee</b>	0.85% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup></p>

	<p>U.S. Preferred Stock ETF and the iShares® J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors® Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares® 20+ Year Treasury Bond ETF, the iShares® 7-10 Year Treasury Bond ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF, the iShares® TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B5: J.P. MORGAN EFFICIENTE PLUS 5 INDEX (GROSS PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus 5 Index (Gross Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLUS5P
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	114.165921097448
<b>Target Volatility</b>	5.00%
<b>Exposure on the Start Date</b>	100.00%
<b>Daily Series Applicability</b>	Not Applicable
<b>Return Type</b>	Price Return
<b>Fee</b>	0.00% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup></p>

	<p>U.S. Preferred Stock ETF and the iShares® J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors® Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares® 20+ Year Treasury Bond ETF, the iShares® 7-10 Year Treasury Bond ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF, the iShares® TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B6: J.P. MORGAN EFFICIENTE PLUS 5 INDEX (NET PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus 5 Index (Net Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLS5PN
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	112.114461372802
<b>Target Volatility</b>	5.00%
<b>Exposure on the Start Date</b>	100.00%
<b>Daily Series Applicability</b>	Not Applicable
<b>Return Type</b>	Price Return
<b>Fee</b>	0.85% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup></p>

	<p>U.S. Preferred Stock ETF and the iShares® J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors® Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares® 20+ Year Treasury Bond ETF, the iShares® 7-10 Year Treasury Bond ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF, the iShares® TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B7: J.P. MORGAN EFFICIENTE PLUS 8 INDEX (GROSS EXCESS PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus 8 Index (Gross Excess Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLS8PB
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	120.815718529760
<b>Target Volatility</b>	8.00%
<b>Exposure on the Start Date</b>	100.00%
<b>Daily Series Applicability</b>	Not Applicable
<b>Return Type</b>	Excess Price Return
<b>Fee</b>	0.00% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup></p>

	<p>U.S. Preferred Stock ETF and the iShares® J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors® Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares® 20+ Year Treasury Bond ETF, the iShares® 7-10 Year Treasury Bond ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF, the iShares® TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B8: J.P. MORGAN EFFICIENTE PLUS 8 INDEX (NET EXCESS PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus 8 Index (Net Excess Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLS8PE
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	118.644858631772
<b>Target Volatility</b>	8.00%
<b>Exposure on the Start Date</b>	100.00%
<b>Daily Series Applicability</b>	Not Applicable
<b>Return Type</b>	Excess Price Return
<b>Fee</b>	0.85% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup></p>

	<p>U.S. Preferred Stock ETF and the iShares® J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors® Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares® 20+ Year Treasury Bond ETF, the iShares® 7-10 Year Treasury Bond ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF, the iShares® TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B9: J.P. MORGAN EFFICIENTE DS 8 INDEX (GROSS EXCESS PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus DS 8 Index (Gross Excess Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLS8PG
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	116.633965483948
<b>Target Volatility</b>	8.00%
<b>Exposure on the Start Date</b>	76.132414803559%
<b>Daily Series Applicability</b>	Applicable
<b>Return Type</b>	Excess Price Return
<b>Fee</b>	0.00% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup></p>

	<p>U.S. Preferred Stock ETF and the iShares® J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors® Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares® 20+ Year Treasury Bond ETF, the iShares® 7-10 Year Treasury Bond ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF, the iShares® TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B10: J.P. MORGAN EFFICIENTE PLUS DS 8 INDEX (NET EXCESS PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus DS 8 Index (Net Excess Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLS8PD
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	114.538089145091
<b>Target Volatility</b>	8.00%
<b>Exposure on the Start Date</b>	76.132414803559%
<b>Daily Series Applicability</b>	Applicable
<b>Return Type</b>	Excess Price Return
<b>Fee</b>	0.85% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup></p>

	<p>U.S. Preferred Stock ETF and the iShares® J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors® Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares® 20+ Year Treasury Bond ETF, the iShares® 7-10 Year Treasury Bond ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF, the iShares® TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B11: J.P. MORGAN EFFICIENTE PLUS 8 INDEX (GROSS PRICE RETURN )

<b>Name</b>	<b>J.P. Morgan Efficiente Plus 8 Index (Gross Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLUS8P
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	121.750327556162
<b>Target Volatility</b>	8.00%
<b>Exposure on the Start Date</b>	100.00%
<b>Daily Series Applicability</b>	Not Applicable
<b>Return Type</b>	Price Return
<b>Fee</b>	0.00% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup></p>

	<p>U.S. Preferred Stock ETF and the iShares® J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors® Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares® 20+ Year Treasury Bond ETF, the iShares® 7-10 Year Treasury Bond ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF, the iShares® TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B12: J.P. MORGAN EFFICIENTE PLUS 8 INDEX (NET PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus 8 Index (Net Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLS8PN
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	119.562717184117
<b>Target Volatility</b>	8.00%
<b>Exposure on the Start Date</b>	100.00%
<b>Daily Series Applicability</b>	Not Applicable
<b>Return Type</b>	Price Return
<b>Fee</b>	0.85% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup></p>

	<p>U.S. Preferred Stock ETF and the iShares® J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors® Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares® 20+ Year Treasury Bond ETF, the iShares® 7-10 Year Treasury Bond ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF, the iShares® TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B13: J.P. MORGAN EFFICIENTE PLUS 10 INDEX (GROSS EXCESS PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus 10 Index (Gross Excess Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLSTPB
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	120.762968736385
<b>Target Volatility</b>	10.00%
<b>Exposure on the Start Date</b>	100.00%
<b>Daily Series Applicability</b>	Not Applicable
<b>Return Type</b>	Excess Price Return
<b>Fee</b>	0.00% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup></p>

	<p>U.S. Preferred Stock ETF and the iShares® J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors® Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares® 20+ Year Treasury Bond ETF, the iShares® 7-10 Year Treasury Bond ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF, the iShares® TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B14: J.P. MORGAN EFFICIENTE PLUS 10 INDEX (NET EXCESS PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus 10 Index (Net Excess Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLSTPE
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	118.593043105119
<b>Target Volatility</b>	10.00%
<b>Exposure on the Start Date</b>	100.00%
<b>Daily Series Applicability</b>	Not Applicable
<b>Return Type</b>	Excess Price Return
<b>Fee</b>	0.85% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup></p>

	<p>U.S. Preferred Stock ETF and the iShares® J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors® Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares® 20+ Year Treasury Bond ETF, the iShares® 7-10 Year Treasury Bond ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF, the iShares® TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B15: J.P. MORGAN EFFICIENTE PLUS DS 10 INDEX (GROSS EXCESS PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus DS 10 Index (Gross Excess Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLSTPG
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	119.455574571627
<b>Target Volatility</b>	10.00%
<b>Exposure on the Start Date</b>	95.1655185044487%
<b>Daily Series Applicability</b>	Applicable
<b>Return Type</b>	Excess Price Return
<b>Fee</b>	0.00% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup></p>

	<p>U.S. Preferred Stock ETF and the iShares® J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors® Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares® 20+ Year Treasury Bond ETF, the iShares® 7-10 Year Treasury Bond ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF, the iShares® TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B16: J.P. MORGAN EFFICIENTE PLUS DS 10 INDEX (NET EXCESS PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus DS 10 Index (Net Excess Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLSTPD
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	117.309086175663
<b>Target Volatility</b>	10.00%
<b>Exposure on the Start Date</b>	95.1655185044487%
<b>Daily Series Applicability</b>	Applicable
<b>Return Type</b>	Excess Price Return
<b>Fee</b>	0.85% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup></p>

	<p>U.S. Preferred Stock ETF and the iShares® J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors® Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares® 20+ Year Treasury Bond ETF, the iShares® 7-10 Year Treasury Bond ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF, the iShares® TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B17: J.P. MORGAN EFFICIENTE PLUS 10 INDEX (GROSS PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus 10 Index (Gross Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLUSTP
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	121.697175733489
<b>Target Volatility</b>	10.00%
<b>Exposure on the Start Date</b>	100.00%
<b>Daily Series Applicability</b>	Not Applicable
<b>Return Type</b>	Price Return
<b>Fee</b>	0.00% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup></p>

	<p>U.S. Preferred Stock ETF and the iShares® J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors® Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares® Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares® 20+ Year Treasury Bond ETF, the iShares® 7-10 Year Treasury Bond ETF, the iShares® iBoxx \$ Investment Grade Corporate Bond ETF, the iShares® TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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MODULE B18: J.P. MORGAN EFFICIENTE PLUS 10 INDEX (NET PRICE RETURN)

<b>Name</b>	<b>J.P. Morgan Efficiente Plus 10 Index (Net Price Return)</b>
<b>Bloomberg Ticker</b>	EFPLSTPN
<b>Start Date</b>	March 31, 2015
<b>Index Level on the Start Date</b>	119.510506729009
<b>Target Volatility</b>	10.00%
<b>Exposure on the Start Date</b>	100.00%
<b>Daily Series Applicability</b>	Not Applicable
<b>Return Type</b>	Price Return
<b>Fee</b>	0.85% per annum
<b>Monthly Re-weighting Selection Date</b>	For any Monthly Re-weighting Period, the day that is two Index Business Days immediately preceding the first scheduled Monthly Re-weighting Date in such Monthly Re-weighting Period
<b>Monthly Re-weighting Dates</b>	For any Monthly Re-weighting Period, the period of five consecutive Index Business Days from and including the fifth Index Business Day of each calendar month
<b>Weighting Constraints</b>	<p>(i) The minimum possible Monthly Basket Constituent Weight assigned to any Basket Constituent is zero percent (0%);</p> <p>(ii) The Monthly Basket Constituent Weight assigned to each Basket Constituent is an integral multiple of five percent (5%);</p> <p>(iii) The maximum possible Monthly Basket Constituent Weight assigned to (x) the Cash Constituent is fifty percent (50%), (y) each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) is twenty percent (20%), and (z) any other Basket Constituent is ten percent (10%);</p> <p>(iv) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 1 through 5 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard S&amp;P 500 ETF, the Vanguard Small-Cap ETF, the Vanguard FTSE Developed Markets ETF, the iShares<sup>®</sup> MSCI EAFE Small-Cap ETF and the Vanguard FTSE Emerging Markets ETF shall not be greater than fifty percent (50%);</p> <p>(v) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF and the Vanguard Short-Term Corporate Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vi) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 11 through 15 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the SPDR<sup>®</sup> Barclays High Yield Bond ETF, the PIMCO 0-5 Year High Yield</p>

	<p>Corporate Bond Index ETF, the PowerShares Senior Loan Portfolio, the iShares<sup>®</sup> U.S. Preferred Stock ETF and the iShares<sup>®</sup> J.P. Morgan USD Emerging Markets Bond ETF shall not be greater than fifty per cent (50%);</p> <p>(vii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 16 through 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) shall not be greater than fifty per cent (50%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the Vanguard REIT ETF, the Market Vectors<sup>®</sup> Gold Miners ETF, the ETRACS Alerian MLP Infrastructure Index ETN, the PowerShares DB Commodity Index Tracking Fund and the iShares<sup>®</sup> Gold Trust shall not be greater than fifty per cent (50%);</p> <p>(viii) The sum of the Monthly Basket Constituent Weights assigned to the Basket Constituents numbered 6 through 10 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) and the Monthly Basket Constituent Weight assigned to the Cash Constituent shall not be greater than seventy-five per cent (75%). For the avoidance of doubt, the sum of the Monthly Basket Constituent Weights assigned to the iShares<sup>®</sup> 20+ Year Treasury Bond ETF, the iShares<sup>®</sup> 7-10 Year Treasury Bond ETF, the iShares<sup>®</sup> iBoxx \$ Investment Grade Corporate Bond ETF, the iShares<sup>®</sup> TIPS Bond ETF, the Vanguard Short-Term Corporate Bond ETF and the Cash Constituent shall not be greater than seventy-five per cent (75%); and</p> <p>(ix) The sum of the Monthly Basket Constituent Weights assigned to all the Basket Constituents shall be equal to one hundred per cent (100%).</p> <p>Consequently, as long as Weighting Constraints (i) through (ix) above are satisfied, (a) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 1, 3, 5, 6, 7, 8, 11 or 17 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) in an Eligible Portfolio may be any of 0%, 5%, 10%, 15% or 20%; (b) the Monthly Basket Constituent Weight assigned to each Basket Constituent numbered 2, 4, 9, 10, 12, 13, 14, 15, 16, 18, 19 or 20 in Table 1 (in Section 6 (<i>The Basket Constituents</i>) of Part A) may be any of 0%, 5% or 10%; and (c) the Monthly Basket Constituent Weight assigned to the Cash Constituent may be any of 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45% or 50%.</p>
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