



Deutsche Bank AG

## Notes, Securities or Warrants Linked to an Index and/or an Exchange Traded Fund, or a Basket of Indices and/or Exchange Traded Funds

Deutsche Bank AG may from time to time offer and sell notes or securities, as part of our Global Notes Program, Series A, or warrants (collectively, the **"securities"**), in each case, linked to one or more indices and/or exchange traded fund, or a basket of indices and/or exchange traded funds, or other underlying assets. This underlying supplement describes some of the potential indices and exchange traded funds to which the securities may be linked, as well as related matters concerning the relationship, if any, between Deutsche Bank AG and the sponsor or publisher of the index, indices and/or exchange traded fund(s), as applicable. Additional specific terms of any securities that we offer, including any additions or changes to the terms specified in the product supplement relating to your securities or the description of the index, indices and/or exchange traded fund(s) contained in this underlying supplement, will be described in a separate free writing prospectus, term sheet or pricing supplement, which we refer to generally as a **"pricing supplement."** Any relevant pricing supplement, including any free writing prospectus, should be read in connection with this underlying supplement, the relevant product supplement and the accompanying prospectus and notes prospectus supplement or warrants prospectus supplement, as applicable. If there is any inconsistency between the terms described in the relevant pricing supplement and those described in this underlying supplement or in the accompanying prospectus, prospectus supplement or product supplement, the terms described in the relevant pricing supplement will be controlling.

**Underlying Indices and Exchange Traded Funds:** The NYSE Arca Gold Miners Index, The Bloomberg Commodity Index<sup>SM</sup>, The CBOE S&P 500 BuyWrite Index<sup>SM</sup>, The CNX Nifty Index, The DAX<sup>®</sup> Index, The FTSE<sup>™</sup> 100 Index, The FTSE China 50 Index, The Hang Seng Indices, The JPX-Nikkei Index 400, The KOSPI 200 Index, The MSCI Indices, The NASDAQ-100<sup>®</sup> Index, The Nikkei 225 Index, The Russell Indices, The S&P Dow Jones Indices, The STOXX Indices, The Swiss Market Index ("SMI<sup>®</sup>"), The Tokyo Stock Price Index, The iShares<sup>®</sup> Exchange Traded Funds, The Market Vectors ETF Trust, The Market Vectors Oil Services ETF, The Market Vectors Gold Miners ETF, The PowerShares QQQ<sup>SM</sup>, The Select Sector SPDR Exchange Traded Funds, The SPDR<sup>®</sup> Exchange Traded Funds, the United States Oil Fund, LP and the Vanguard FTSE Emerging Markets ETF.

Investing in the securities involves risks not associated with an investment in conventional securities. See **"Risk Factors"** beginning on page 12 of the accompanying prospectus and page 5 of the accompanying prospectus supplement, **"Risk Factors"** in the relevant product supplement and **"Selected Risk Considerations"** in the relevant pricing supplement for risks related to an investment in the securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the securities or passed upon the adequacy or accuracy of this underlying supplement, the accompanying prospectus, prospectus supplement or warrants prospectus supplement, as applicable, product supplement or any relevant pricing supplement. Any representation to the contrary is a criminal offense.

The securities are not deposits or savings accounts and are not insured or guaranteed by the Federal Deposit Insurance Corporation or any other U.S. or foreign governmental agency or instrumentality.

August 17, 2015

## ADDITIONAL INFORMATION ABOUT THE SECURITIES

You should read this underlying supplement together with the prospectus dated July 31, 2015, as supplemented by the prospectus supplement dated July 31, 2015, relating to our Series A global notes, or the warrants prospectus supplement dated July 31, 2015, relating to our warrants, of which these securities are a part, and any relevant product supplement and pricing supplement that we may file with the SEC from time to time, which contains a description of the terms of particular categories of securities or the specific terms of your securities.

Our Central Index Key, or CIK, on the SEC website is 0001159508. As used in this underlying supplement, “**we**,” “**us**” or “**our**” refers to Deutsche Bank AG, including, as the context requires, acting through one of its branches.

You should carefully consider, among other things, the risk considerations set forth in accompanying prospectus and prospectus supplement and the relevant product supplement and pricing supplement, as the securities involve risks not associated with conventional debt securities. We urge you to consult your investment, legal, tax, accounting and other advisers before deciding to invest in the securities.

This underlying supplement describes some of the potential indices and/or exchange traded funds to which the securities may be linked and the relationship, if any, between Deutsche Bank AG and the sponsor or publisher of the indices or exchange traded funds. If there is any inconsistency between the terms described in the relevant pricing supplement and those described in this underlying supplement, the terms described in the relevant pricing supplement will be controlling. Any relevant pricing supplement should also be read in connection with this underlying supplement, the relevant product supplement, if any, and the accompanying prospectus and prospectus supplement.

In this underlying supplement, when we refer to the “**securities**,” we mean certain securities, notes or warrants that may be offered by Deutsche Bank AG from time to time linked to one or more indices, exchange traded funds or other underlying assets. Also, references to the “**accompanying prospectus**” and “**prospectus supplement**” mean, respectively, the accompanying prospectus, dated July 31, 2015, relating to our Series A global notes, or the warrants prospectus supplement dated July 31, 2015, relating to our warrants, as applicable, of Deutsche Bank AG and the prospectus supplement, dated July 31, 2015, of Deutsche Bank AG, and references to “**relevant product supplement**” refer to the relevant product supplement that we may file from time to time relating to the particular category of your securities. References to the “**relevant pricing supplement**” mean the pricing supplement and any free writing prospectus that describe the specific terms of your securities.

### **Specific Terms Will Be Described in Relevant Pricing Supplements**

The specific terms of your securities will be described in the relevant pricing supplement, including any additions or changes to the terms specified in the relevant product supplement or the description of the relevant index, indices or exchange traded fund(s) set forth in this underlying supplement.

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## INDICES

### The NYSE Arca Gold Miners Index

We have derived all information contained in this underlying supplement regarding the NYSE Arca Gold Miners Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, and we have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by, the NYSE Arca, Inc. (the “**NYSE ARCA**”). The NYSE Arca Gold Miners Index was developed by the NYSE Amex (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 NYSE Arca Gold Miners Index.

The NYSE Arca Gold Miners Index is reported by Bloomberg under the ticker symbol “GDM.”

#### General

The NYSE Arca Gold Miners Index is a modified market capitalization weighted index primarily composed of publicly traded companies involved in the mining of gold and silver. The NYSE Arca Gold Miners Index includes common stocks, ADRs and GDRs of selected companies that are involved in mining for gold and silver and that are listed for trading and electronically quoted on a major stock market that is accessible by foreign investors. Only companies with market capitalization greater than \$750 million, 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 NYSE Arca Gold Miners Index.

#### Index Calculation

The NYSE Arca Gold Miners Index is calculated using a modified market capitalization weighting methodology. The NYSE Arca 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 NYSE Arca Gold Miners Index:

- (1) the weight of any single component security may not account for more than 20% of the total value of the NYSE Arca Gold Miners Index;
- (2) the component securities are split into two subgroups — large and small, which are ranked by market capitalization weight in the NYSE Arca Gold Miners Index. Large stocks are defined as having a starting NYSE Arca Gold Miners Index weight greater than or equal to 5%. Small securities are defined as having a starting NYSE Arca Gold Miners Index weight below 5%. The large group and small group will represent 45% and 55%, respectively, of the NYSE Arca Gold Miners Index; and
- (3) the final aggregate weight of those component securities which individually represent more than 4.5% of the total value of the NYSE Arca Gold Miners Index may not account for more than 45% of the total NYSE Arca Gold Miners Index value.

At the time of the quarterly rebalance, the weights 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 security exceeds 20% of the total value of the NYSE Arca Gold Miners Index, then all stocks greater than 20% of the NYSE Arca Gold Miners Index are reduced to represent 20% of the value of the NYSE Arca Gold Miners Index. The aggregate amount by which all component securities 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.

*Diversification Rule 2:* The components are sorted into two groups, large are components with a starting index weight of 5% or greater and small are those that are under 5% (after any adjustments for Diversification Rule 1). If there are no components that classify as Large components after Diversification Rule 1 is run, then Diversification Rule 2 is not executed. Alternatively, 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 indeed executed, then the large group and small group in aggregate will represent 45% and 55%, respectively, of the final index weight. 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 NYSE Arca Gold Miners Index. If any large 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 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 small 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 4.5%. The redistribution of weight to the remaining stocks is repeated until the entire amount has been redistributed.

### **Index Maintenance**

The NYSE Arca 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 NYSE Arca Gold Miners Index during the quarterly review if (i) the market capitalization falls below \$450 million or, (ii) the average daily volume for the previous three months is lower than 30,000 shares and the average daily value traded for the previous three months is lower than \$600,000. In addition, the NYSE Arca Gold Miners Index is reviewed quarterly so that the NYSE Arca 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 NYSE Arca Gold Miners Index. Changes to the NYSE Arca Gold Miners Index compositions and/or the component share weights in the NYSE Arca 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. The share quantity of each component security 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 NYSE Arca 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 security of the NYSE Arca 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.

## The Bloomberg Commodity Index<sup>SM</sup>

We have derived all information contained in this underlying supplement regarding the Bloomberg Commodity Index<sup>SM</sup> (the “**BCOM Index**”), including, without limitation, its make-up, method of calculation and changes in its components from publicly available information, and we have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by, Bloomberg Finance L.P. Bloomberg Finance L.P. has no obligation to continue to publish the BCOM Index, and may discontinue publication of the BCOM Index at any time in its sole discretion.

On July 1, 2014, Bloomberg Finance L.P. became responsible for the governance, calculation, distribution and licensing of the BCOM Index. The BCOM Index was renamed from the Dow Jones–UBS Commodity Index<sup>SM</sup> to the Bloomberg Commodity Index<sup>SM</sup> and the ticker changed from “DJUBS” to “BCOM.” UBS Securities LLC has maintained its ownership, but will have no role in any aspect of index governance or calculation.

### General

The BCOM Index was established in July 1998 to provide a liquid and diversified benchmark for commodities. The BCOM Index is currently composed of futures contracts on 22 physical commodities. A commodity futures contract is an agreement that provides for the purchase and sale of a specified type and quantity of a commodity during a stated delivery month for a fixed price. The 22 commodities for 2015 that compose the BCOM Index (each an “**Index Commodity**” and collectively, the “**Index Commodities**”) are: Aluminum, Brent Crude Oil, Coffee, Copper, Corn, Cotton, Gold, Heating Oil, Lean Hogs, Live Cattle, Natural Gas, Nickel, Silver, Soybeans, Soybean Meal, Soybean Oil, Sugar, Unleaded Gasoline, Chicago Wheat, Kansas Wheat, WTI Crude Oil and Zinc. Futures contracts on the BCOM Index are currently listed for trading on the Chicago Board of Trade (the “**CBOT**”). The Index Commodities currently trade on United States exchanges, with the exception of aluminum, nickel and zinc, which trade on the London Metal Exchange.

The BCOM Index is calculated on an excess return basis and on a total return basis. The former reflects the return of underlying commodity futures price movements only, while the latter reflects the return on fully collateralized positions in the underlying commodity futures. The Bloomberg Commodity Index Excess Return<sup>SM</sup> and the Bloomberg Commodity Index Total Return<sup>SM</sup> are reported by Bloomberg Finance L.P. under the ticker symbols “BCOM” and “BCOMTR,” respectively.

### Methodology

The BCOM Index tracks what is known as a rolling futures position, which is a position where, on a periodic basis, futures contracts on physical commodities specifying delivery on a nearby date must be sold and futures contracts on physical commodities that have not yet reached the delivery period must be purchased. An investor with a rolling futures position is able to avoid delivering underlying physical commodities while maintaining exposure to those commodities. The rollover for each BCOM Index component occurs over a period of five BCOM Business Days each month according to a pre-determined schedule.

The methodology for determining the composition and weighting of the BCOM Index and for calculating its level is subject to modification by Bloomberg Finance L.P. at any time. Bloomberg Finance L.P. publishes a daily index closing level for the BCOM Index at approximately 5:00 p.m., New York City time, on each BCOM Business Day on the Bloomberg page set forth above.

A “**BCOM Business Day**” means a day on which the sum of the BCOM Index percentages (as described below under “—Annual Reweighting and Rebalancing of the BCOM Index”) for the Index Commodities that are open for trading is greater than 50%.

### *The BCOM Index was created using the following four main principles*

*Economic Significance:* To achieve a fair representation of a diversified group of commodities to the world economy, the BCOM Index uses both liquidity data and U.S. dollar-weighted production data in determining the relative quantities of included commodities. The BCOM Index primarily relies on liquidity data, or the relative amount of trading activity of a particular commodity, as an important indicator of the value placed on that commodity by financial and physical market participants. The BCOM Index also relies on production data as a useful measure of the importance of a commodity to the world economy.

**Diversification:** In order to avoid the BCOM Index being subjected to micro-economic shocks in one commodity or sector, diversification rules have been established and are applied annually on a price-percentage basis in order to maintain diversified commodities exposure over time.

**Continuity:** The BCOM Index is intended to provide a stable benchmark so that there is confidence that historical performance data is based on a structure that bears some resemblance to both the current and future composition of the BCOM Index.

**Liquidity:** The inclusion of liquidity as a weighting factor helps to ensure that the BCOM Index can accommodate substantial investment flows.

### **Designated Contracts for each Index Commodity**

A futures contract known as a designated contract is selected for each of the 24 commodities eligible for inclusion in the BCOM Index. With the exception of several LME contracts, crude oil and wheat, where there exists more than one futures contract with sufficient liquidity to be chosen as a designated contract for an eligible commodity, the futures contract that is traded in North America and denominated in United States dollars has been chosen. If more than one of those contracts exists, the most actively traded contract is chosen. Data concerning this designated contract will be used to calculate the BCOM Index. The termination or replacement of a futures contract on an established exchange occurs infrequently. If a designated contract were to be terminated or replaced, a comparable futures contract would be selected, if available, to replace that designated contract. The 24 commodities eligible for inclusion in the BCOM Index are traded on the LME, CBOT, the New York Board of Trade (“**NYBOT**”), the New York Commodities Exchange (“**COMEX**”), the Chicago Mercantile Exchange (“**CME**”), the New York Mercantile Exchange (the “**NYMEX**”) and the IntercontinentalExchange (“**ICE**”), and are as follows:

<b>Commodity</b>	<b>Designated Contract</b>	<b>Exchange</b>	<b>Units</b>	<b>Price quote</b>
Aluminum	High Grade Primary Aluminum	LME	25 metric tons	\$/metric ton
Brent Oil	Brent Crude Oil	ICE	1,000 barrels	\$/barrel
Cocoa	Cocoa	NYBOT	10 metric tons	\$/metric ton
Coffee	Coffee “C”	NYBOT	37,500 lbs	cents/pound
Copper	Copper	COMEX*	25,000 lbs	cents/pound
Corn	Corn	CBOT	5,000 bushels	cents/bushel
Cotton	Cotton	NYBOT	50,000 lbs	cents/pound
Gold	Gold	COMEX	100 troy oz.	\$/troy oz.
Heating Oil	Heating Oil	NYMEX	42,000 gallons	cents/gallon
Lead	Refined Standard Lead	LME	25 metric tons	\$/metric ton
Lean Hogs	Lean Hogs	CME	40,000 lbs	cents/pound
Live Cattle	Live Cattle	CME	40,000 lbs	cents/pound
Natural Gas	Henry Hub Natural Gas	NYMEX	10,000 mmbtu	\$/mmbtu
Nickel	Primary Nickel	LME	6 metric tons	\$/metric ton
Platinum	Platinum	NYMEX	50 troy oz.	\$/troy oz.
Silver	Silver	COMEX	5,000 troy oz.	cents/troy oz.
Soybeans	Soybeans	CBOT	5,000 bushels	cents/bushel
Soybean Meal	Soybean Meal	CBOT	100 short tons	\$/short ton
Soybean Oil	Soybean Oil	CBOT	60,000 lbs	cents/pound
Sugar	World Sugar No. 11	NYBOT	112,000 lbs	cents/pound
Tin	Refined Tin	LME	5 metric tons	\$/metric ton
Unleaded Gasoline	Reformulated Blendstock for Oxygen Blending	NYMEX	42,000 gal	cents/gallon
Chicago Wheat	Soft Wheat	CBOT	5,000 bushels	cents/bushel



Kansas Wheat	Hard Red Winter Wheat	CME**	5,000 bushels	cents/bushel
WTI Crude Oil	Light, Sweet Crude Oil	NYMEX	1,000 barrels	\$/barrel
Zinc	Special High Grade Zinc	LME	25 metric tons	\$/metric ton

\* The BCOM Index uses the High Grade Copper Contract traded on the COMEX division of the New York Mercantile Exchange for copper contract prices and LME volume data in determining the weighting for the BCOM Index.

\*\* On June 4, 2013 CME announced its acquisition of the Kansas City Board of Trade hard red winter wheat futures contracts. The hard red winter wheat futures contracts began trading on the CME on July 1, 2013.

### **Commodity Groups**

For purposes of applying the diversification rules discussed above and below, the commodities available for inclusion in the BCOM Index are assigned to "Commodity Groups." The Commodity Groups, and the commodities currently included in each Commodity Group, are as follows:

<b>Commodity Group: Commodities:</b>		<b>Commodity Group: Commodities:</b>	
Energy	Crude Oil (WTI and Brent) Heating Oil Natural Gas Unleaded Gasoline	Livestock	Live Cattle Lean Hogs
Industrial Metals	Aluminum Copper Nickel Zinc Lead*** Tin***	Precious Metals	Gold Silver Platinum***
Grains	Corn Soybeans Soybean Oil Wheat (Chicago and KC HRW)	Softs	Coffee Cotton Sugar Cocoa***

\*\*\* Out of the 24 commodities available for inclusion annually in the BCOM Index, only those four commodities marked in the table above with asterisks are currently not included in the BCOM Index.

### **Annual Reweighting and Rebalancing of the BCOM Index**

The BCOM Index is reweighted and rebalanced each year in January on a price-percentage basis. The annual weightings for the BCOM Index are determined each year in June or July. The annual weightings are announced in July and implemented the following January.

The relative weightings of the component commodities included in the BCOM Index are determined annually according to both liquidity and U.S. dollar-adjusted production data in two-thirds and one-third shares, respectively. For each commodity designated for potential inclusion in the BCOM Index, liquidity is measured by the commodity liquidity percentage (the "CLP") and production by the commodity production percentage (the "CPP"). The CLP for each commodity is determined by taking a five-year average of the product of the trading volume and the historic U.S. dollar value of the designated contract for that commodity, and dividing the result by the sum of the products for all commodities which were designated for potential inclusion in the BCOM Index. The CPP is determined for each commodity by taking a five-year average of annual world production figures, adjusted by the historic U.S. dollar value of the designated contract, and dividing the result by the sum of the production figures for all the commodities which were designated for potential inclusion in the BCOM Index. The CLP and CPP are then combined (using a ratio of 2:1) to establish the Commodity Index Percentage (the "CIP") for each commodity. The CIP is then adjusted in accordance with the diversification rules

described below in order to determine the commodities which will be included in the BCOM Index and their respective percentage weights.

To ensure that no single commodity or commodity sector dominates the BCOM Index, the following diversification rules are applied to the annual reweighting and rebalancing of the BCOM Index as of January of the applicable year:

- No related group of commodities (e.g., energy, precious metals, livestock or grains) may constitute more than 33% of the BCOM Index;
- No single commodity may constitute more than 15% of the BCOM Index;
- No single commodity, together with its derivatives (e.g., WTI Crude Oil and Brent Crude Oil, together with ULS diesel and unleaded gasoline), may constitute more than 25% of the BCOM Index; and
- No single commodity may constitute less than 2% of the BCOM Index.

Following the annual reweighting and rebalancing of the BCOM Index in January, the percentage of any single commodity or group of commodities at any time prior to the next reweighting or rebalancing will fluctuate and may exceed or be less than the percentages set forth above.

Following application of the diversification rules discussed above, the CIPs are incorporated into the BCOM Index by calculating the new unit weights for each Index Commodity. Near the beginning of each new calendar year, the CIPs, along with the settlement prices on that date for the BCOM Index components, are used to determine the commodity index multiplier (the “**CIM**”) for each Index Commodity. The CIM is used to achieve the percentage weightings of the Index Commodities, in dollar terms, indicated by their respective CIPs. After the CIMs are calculated, they remain fixed throughout the year. As a result, the observed price percentage of each Index Commodity will float throughout the year, until the CIMs are reset the following year based on new CIPs.

### ***Computation of the Bloomberg Commodity Index<sup>SM</sup>***

The BCOM Index is calculated by Bloomberg Finance L.P. by applying the impact of the changes to the prices of the BCOM Index components (based on their relative weightings). Once the CIMs are determined as discussed above, the calculation of the BCOM Index is a mathematical process whereby the CIMs for the BCOM Index components are multiplied by the prices for the BCOM Index components. These products are then summed. The percentage change in this sum is then applied to the prior level of the BCOM Index to calculate the current level of the BCOM Index level. The BCOM Index is calculated on an excess return and on a total return basis.

### ***Index Calculation Disruption Events***

From time to time, BCOM Market Disruption Events can occur in trading futures contracts on various commodity exchanges. “**BCOM Market Disruption Event**” means:

- (a) the termination or suspension of, or material limitation or disruption in the trading of any futures contract used in the calculation of the BCOM Index on that day;
- (b) the settlement price of any futures contract used in the calculation of the BCOM Index reflects the maximum permitted price change from the previous day’s settlement price;
- (c) the failure of an exchange to publish official settlement prices for any futures contract used in the calculation of the BCOM Index; or
- (d) with respect to any futures contract used in the calculation of the BCOM Index that trades on the LME, a BCOM Business Day on which the LME is not open for trading.

If a BCOM Market Disruption Event occurs during the “**Hedge Roll Period**” (defined herein as the fifth through the ninth BCOM Business Day of each month) in any month other than January affecting any Index Commodity, then the daily roll of the relevant designated contract for such Index Commodity will be postponed until the next available BCOM Business Day on which a BCOM Market Disruption Event does not occur, and the calculation of the BCOM Index will be adjusted to reflect this.

If a BCOM Market Disruption Event occurs during the Hedge Roll Period scheduled for January of each year affecting any Index Commodity, then the rolling or rebalancing of the relevant designated contract for such Index Commodity will occur in all cases over five BCOM Business Days on which no BCOM Market Disruption Event exists at a rate of 20% per day for every BCOM Business Day following a BCOM Market Disruption Event until the extended Hedge Roll Period is complete.

If a BCOM Market Disruption Event occurs on a determination date of the CIM in respect of any futures contract for an Index Commodity used in calculation of the CIMs, then the settlement prices used to calculate the CIMs for such year will be from the first prior BCOM Business Day on which a BCOM Market Disruption Event had not occurred in any such futures contracts.

## The CBOE S&P 500 BuyWrite Index<sup>SM</sup>

We have derived all information contained in this underlying supplement regarding the CBOE S&P 500 BuyWrite Index<sup>SM</sup> (the **"BXM Index"**), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by, the Chicago Board Options Exchange, Incorporated (the **"CBOE"**). The BXM Index was developed, and is calculated, maintained and published, by the CBOE. The CBOE has no obligation to continue to publish, and may discontinue publication of, the BXM Index.

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

### General

The BXM Index is a benchmark index designed to track the performance of a hypothetical buy-write strategy on the S&P 500<sup>®</sup> Index. Announced by the CBOE in April 2002, the BXM Index was developed by the CBOE in cooperation with Standard & Poor's (**"S&P"**). The BXM Index is a passive total return index based on (1) buying an S&P 500 stock index portfolio, and (2) "writing" (or selling) the near-term S&P 500<sup>®</sup> Index "covered" call option, generally on the third Friday of each month.

### Design of the BXM Index

The BXM Index measures the total rate of return of a hypothetical "covered call" strategy applied to the S&P 500<sup>®</sup> Index. This strategy, which the CBOE refers to as the "BXM covered call strategy," consists of a hypothetical portfolio consisting of a "long" position indexed to the S&P 500<sup>®</sup> Index on which are deemed sold a succession of one-month, at-the-money call options on the S&P 500<sup>®</sup> Index listed on the CBOE. The CBOE refers to this hypothetical portfolio as the "covered S&P 500<sup>®</sup> Index portfolio." The BXM Index provides a benchmark measure of the total return performance of this hypothetical portfolio. Dividends paid on the component stocks underlying the S&P 500<sup>®</sup> Index and the dollar value of option premium deemed received from the sold call options are functionally "re-invested" in the covered S&P 500<sup>®</sup> Index portfolio. The BXM Index is based on the cumulative gross rate of return of the covered S&P 500<sup>®</sup> Index portfolio since the inception of the BXM Index on June 30, 1986, when it was set to an initial value of 92.21.

The BXM covered call strategy requires that each S&P 500<sup>®</sup> Index call option in the hypothetical portfolio be held to maturity, which is generally the third Friday of each month. The call option is settled against the Special Opening Quotation (or **"SOQ,"** ticker "SET") of the S&P 500<sup>®</sup> Index used as the final settlement price of S&P 500<sup>®</sup> Index call options. The SOQ is a special calculation of the S&P 500<sup>®</sup> Index that is compiled from the opening prices of component stocks underlying the S&P 500<sup>®</sup> Index. The SOQ calculation is performed when all 500 stocks underlying the S&P 500<sup>®</sup> Index have opened for trading, and is usually determined before 11:00 a.m. EST. The final settlement price of the call option at maturity is the greater of zero and the difference between the SOQ minus the strike price of the expiring call option.

Subsequent to the settlement of the expiring call option, a new at-the-money call option expiring in the next month is then deemed written, or sold, a transaction commonly referred to as a "roll." The strike price of the new call option is the strike price of the S&P 500<sup>®</sup> Index call option listed on the CBOE with the closest strike price above the last value of the S&P 500<sup>®</sup> Index reported before 11:00 a.m. EST. For example, if the last S&P 500<sup>®</sup> Index value reported before 11:00 a.m. EST is 1,301.10 and the closest listed S&P 500<sup>®</sup> Index call option strike price above 1,301.10 is 1,305, then the 1,305 strike S&P 500<sup>®</sup> Index call option is selected as the new call option to be incorporated into the BXM Index. The long S&P 500<sup>®</sup> Index component and the short call option component are held in equal notional amounts, i.e., the short position in the call option is "covered" by the long S&P 500<sup>®</sup> Index component.

Once the strike price of the new call option has been identified, the new call option is deemed sold at a price equal to the volume-weighted average of the traded prices (**"VWAP"**) of the new call option during the two-hour period beginning at 11:30 a.m. EST. The CBOE calculates the VWAP in a two-step process: first, the CBOE excludes trades in the new call option between 11:30 a.m. and 1:30 p.m. EST that are identified as having been executed as part of a "spread," and then the CBOE calculates the weighted average of all remaining transaction prices of the new call option between 11:30 a.m. and 1:30 p.m. EST, with weights equal to the fraction of total non-spread volume transacted at each price during this period. The source of the transaction prices used in the calculation of the VWAP is CBOE's Market Data Retrieval (**"MDR"**) System. If no transactions occur in the new call option between 11:30 a.m. and 1:30 p.m. EST, then the new call option is deemed sold at the last bid price reported before 1:30 p.m. EST. The value of option premium deemed received from the new call option is functionally "re-invested" in the portfolio.

## Calculation of the BXM Index

The BXM Index is calculated by the CBOE once per day at the close of trading for the respective components of the covered S&P 500<sup>®</sup> Index portfolio. The BXM Index is a chained index, i.e., its value is equal to 100 times the cumulative product of gross daily rates of return of the covered S&P 500<sup>®</sup> Index portfolio since the inception date of the BXM Index. On any given day, the BXM Index is calculated as follows:

$$BXM_t = BXM_{t-1}(1+R_t)$$

where  $R_t$  is the daily rate of return of the covered S&P 500<sup>®</sup> Index portfolio. This rate includes ordinary cash dividends paid on the stocks underlying the S&P 500<sup>®</sup> Index that trade “ex-dividend” on that date.

On each trading day excluding roll dates, the daily gross rate of return of the BXM<sup>SM</sup> equals the change in the value of the components of the covered S&P 500<sup>®</sup> Index portfolio, including the value of ordinary cash dividends payable on component stocks underlying the S&P 500<sup>®</sup> Index that trade “ex-dividend” on that date, as measured from the close in trading on the preceding trading day. The gross daily rate of return is equal to:

$$1+R_t = (S_t + Div_t - C_t)/(S_{t-1} - C_{t-1}),$$

where,  $S_t$  is the closing value of the S&P 500<sup>®</sup> Index at date  $t$ ,  $Div_t$  represents the ordinary cash dividends payable on the component stocks underlying the S&P 500<sup>®</sup> Index that trade “ex-dividend” at date  $t$  expressed in S&P 500<sup>®</sup> Index points and  $C_t$  is the arithmetic average of the last bid and ask prices of the call option reported before 4:00 p.m. EST at date  $t$ .  $S_{t-1}$  is the closing value of the S&P 500<sup>®</sup> Index on the preceding trading day and  $C_{t-1}$  is the average of the last bid and ask prices of the call option reported before 4:00 p.m. EST on the preceding trading day.

On roll dates, the gross daily rate of return is compounded from three gross rates of return, the gross rate of return from the previous close to the time the SOQ is determined and the expiring call is settled; the gross rate of return from the SOQ to the initiation of the new call position and the gross rate of return from the time the new call option is deemed sold to the close of trading on the roll date, expressed as follows:

$$1+R_t = (1+R_a) \times (1+R_b) \times (1+R_c),$$

where:

$$1+R_a = (S^{SOQ} + Div_t - C_{settle})/(S_{t-1} - C_{t-1});$$

$$1+R_b = S^{VWAV} / S^{SOQ}; \text{ and}$$

$$1+R_c = (S_t - C_t)/(S^{VWAV} - C_{VWAP}).$$

In this equation,  $R_a$  is the rate of return of the covered S&P 500<sup>®</sup> Index portfolio from the previous close of trading through the settlement of the expiring call option.  $S^{SOQ}$  is the Special Opening Quotation used in determining the settlement price of the expiring call option. As previously defined,  $Div_t$  represents dividends on S&P 500<sup>®</sup> Index component stocks determined in the same manner as on non-roll dates and  $C_{settle}$  is the final settlement price of the expiring call option.  $S_{t-1}$  and  $C_{t-1}$  are determined in the same manner as on non-roll dates.

$R_b$  is the rate of return of the un-covered S&P 500<sup>®</sup> Index portfolio from the settlement of the expiring option to the time the new call option is deemed sold.  $S^{VWAV}$  is the volume-weighted average value of the S&P 500<sup>®</sup> Index based on the same time and weights used to calculate the VWAP in the new call option.

$R_c$  is the rate of return of the covered S&P 500<sup>®</sup> Index portfolio from the time the new call option is deemed sold to the close of trading on the roll date. As defined above,  $S^{VWAV}$  is the volume-weighted average value of the S&P 500<sup>®</sup> Index based on the same time and weights used to calculate the VWAP in the new call option.  $C_{VWAP}$  is the volume-weighted average trading price of the new call option between 11:30 a.m. and 12:00 p.m. EST, and  $C_t$  refers to the average bid/ask quote of the new call option reported before 4:00 p.m. EST on the roll date.

## The CNX Nifty Index

We have derived all information contained in this underlying supplement regarding the CNX Nifty Index (“**CNX Nifty**”), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by, the India Index Services and Products Ltd. (“**IISL**”). The CNX Nifty was developed, and is calculated, maintained and published, by the IISL. The IISL has no obligation to continue to publish, and may discontinue publication of, the CNX Nifty.

CNX Nifty is reported by Bloomberg L.P. under the ticker symbol “NIFTY.”

### General

CNX Nifty is a float-adjusted market-capitalization-weighted index for India and the headline index on the National Stock Exchange of India Ltd. (“**NSE**”). It includes 50 of the approximately 1,600 companies listed on the NSE, captures approximately 65% of its equity market capitalization and is intended to reflect the performance of the Indian stock market. CNX Nifty tracks the behavior of a portfolio of blue chip companies, the largest and most liquid Indian securities. It covers 21 sectors of the Indian economy and offers investment managers exposure to the Indian market in one efficient portfolio. The index has been trading since April of 1996 and is well suited for benchmarking, index funds, and index-based derivatives. The base period for CNX Nifty is November 3, 1995, which marked the completion of one year of operations of NSE’s Capital Market Segment. The base value of the index has been set at 1,000, and a base capital of Rupees 2.06 trillion.

### Standards for Listing and Maintenance

CNX Nifty is maintained by IISL’s Index Policy Committee. This Index Policy Committee is involved in the policy and guidelines for managing the CNX Nifty. Additionally, the IISL’s Index Maintenance Sub-Committee makes all decisions about additions. The CNX Nifty is reviewed semiannually with four weeks’ notice given to the market before making changes.

The criteria for index additions include:

- *Liquidity.* Each security should have traded at an average impact cost of 0.50% or less during the last six months for 90% of the observations (impact cost is the cost of executing a transaction in a security in proportion to its index weight);
- *Float-Adjusted Market Capitalization.* Each company must have at least twice the float-adjusted market capitalization of the current smallest index constituent;
- *Float.* Each company should have at least 10% of its stock available to investors (i.e. stock not held by the promoters and associated entities of such companies);
- *Domicile.* The company must be domiciled in India and trade on the NSE; and
- *Eligible Securities.* All common shares listed on the NSE (which are of an equity and not of a fixed income nature) are eligible for inclusion in CNX Nifty. Convertible stock, bonds, warrants, rights, and preferred stock that provide a guaranteed fixed return are not eligible.

In addition, a company which enters the market with an IPO, can be reviewed for inclusion in the index if it meets the above criteria for three months. Companies will be removed from CNX Nifty if they substantially violate one or more of the criteria for index inclusion or they are involved in a merger, acquisition or spin-off or significant restructuring such that they no longer meet the inclusion criteria.

**Rebalancing.** Index maintenance plays a crucial role in ensuring the stability of the index, as well as in meeting its objective of being a consistent benchmark of the Indian equity markets. IISL has constituted an Index Policy Committee, which is involved in the policy and guidelines for managing the CNX Nifty index. The Index Maintenance Subcommittee makes all decisions on additions/deletions of companies in the index.

Changes in the index level reflect changes in the total market capitalization of the index which are caused by stock price movements in the market. They do not reflect changes in the market capitalization of the index, or of the individual stocks, that are caused by corporate actions such as dividend payments, stock splits, distributions to shareholders, mergers, or acquisitions. When a stock is replaced by another stock in the index, the index divisor is adjusted so the change in index market value that results from the addition and deletion does not change the index level.

The index is calculated real-time on all days that the stock exchange is open.

**Corporate Actions.** Maintaining CNX Nifty includes monitoring and completing the adjustments for company additions and deletions, share changes, stock splits, stock dividends, and stock price adjustments due to restructurings or spin-offs. 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 index. Other corporate actions, such as share issuances, change the market value of an index and require a divisor adjustment to prevent the value of the index from changing.

Adjusting the divisor for a change in market value leaves the value of the index unaffected by the corporate action. This helps keep the value of the index accurate as a barometer of stock market performance, and ensures that the movement of the index does not reflect the corporate actions of the companies in it. Divisor adjustments are made after the close of trading and after the calculation of the closing value of the index. Any change in the index divisor also affects corresponding sub-indices and divisors. Each sub-index is maintained in the same manner as the headline index.

Corporate actions such as splits, stock dividends, spin-offs, rights offerings and share changes are applied on the ex-date.

### Calculation of CNX Nifty

CNX Nifty ( $I_n$ ) is computed by dividing the total market capitalization of the index component securities as of current date ( $MC_n$ ) by the total market capitalization of the same securities as of initial date ( $MC_1$ ) multiplied by the index value as of initial date ( $I_1$ ):

$$I_n = (I_1 \times MC_n) / MC_1$$

where  $MC_n$  = Total index market capitalization as of the current date, and

$$MC_n = \sum_{i=1}^N P_i \times Q_i$$

where:

$Q_i$  = Number of shares outstanding (of the  $i^{th}$  issue) as of the current date;

$P_i$  = Security price of the  $i^{th}$  issue as of the current date; and

$N$  = Total number of component securities used in the index calculation.

### Index Governance

A professional team at IISL manages CNX Nifty. There is a three-tier governance structure comprising the board of directors of IISL, the Index Policy Committee and the Index Maintenance Subcommittee.

## The DAX<sup>®</sup> Index

We have derived all information contained in this underlying supplement regarding the DAX<sup>®</sup> Index (the “**DAX<sup>®</sup> Index**”), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. We have not participated in the preparation of, or verified, such information. Such information reflects the policies of, and is subject to change by, Deutsche Börse AG. The DAX<sup>®</sup> Index was developed, and is calculated, maintained and published by Deutsche Börse AG. Deutsche Börse AG has no obligation to continue to publish, and may discontinue publication of, the DAX<sup>®</sup> Index.

The DAX<sup>®</sup> Index (Price Return) is reported by Bloomberg L.P. under the ticker symbol “DAXK.”

### General

The DAX<sup>®</sup> Index is a stock index calculated, published and disseminated by Deutsche Börse AG that measures the composite price performance of the 30 largest and most actively traded companies listed on the FWB<sup>®</sup> Frankfurt Stock Exchange (the “**FWB**”). The DAX<sup>®</sup> Index has a base level of 1,000 as of December 30, 1987.

The DAX<sup>®</sup> Index is capital-weighted, meaning the weight of any individual issue is proportionate to its respective share in the overall capitalization of all index component issuers. The weight of any single company is capped at 10% of the capitalization of the DAX<sup>®</sup> Index, measured quarterly. The DAX<sup>®</sup> Index is a price index, which measures the actual price performance and is only adjusted for income from subscription rights and special distributions.

### Composition and Maintenance

The DAX<sup>®</sup> Index uses free float shares in the index calculation, which excludes shares held by 5% shareholders (other than (i) asset managers and trust companies, (ii) investment funds and pension funds and (iii) capital investment companies or foreign investment companies pursuing short-term investment strategies and whose shareholding does not exceed 25% of a company's share capital) and certain other shares that may be limited in their liquidity.

To be included or to remain in the DAX<sup>®</sup> Index, companies have to satisfy certain prerequisites. All classes of shares must:

- be listed in the “prime standard” segment of the FWB;
- be traded continuously on FWB's electronic trading system, Xetra<sup>®</sup>; and
- have a free float of at least 10% of the outstanding shares.

Moreover, the companies included in the DAX<sup>®</sup> Index must have their registered office or operational headquarters in Germany. A company's operating headquarters is defined as the location of management or company administration, in part or in full. Alternatively, a company must have the major share of its stock exchange turnover on the FWB and its juristic headquarters in the European Union or in an European Free Trade Association state.

If a company has its operating headquarters in Germany, but not its registered office, this must be publicly identified by the company. The primary trading turnover requirement is met if at least 33% of aggregate turnover over the last twelve months took place on the FWB, including Xetra<sup>®</sup>.

With the respective prerequisites being satisfied, component stocks are selected for the DAX<sup>®</sup> Index according to two quantitative criteria:

- order book turnover on Xetra<sup>®</sup> and in FWB's floor trading (within the preceding 12 months); and
- free float market capitalization on the last trading day of each month.

The market capitalization is determined using the average of the volume-weighted average price of the last 20 trading days prior to the last day of the month.

Ordinary adjustments to the DAX<sup>®</sup> Index are made once each year in September, based on the following criteria:

- Regular Exit (40/40 rule): an index component issue is removed from the DAX<sup>®</sup> Index if its ranking in either exchange turnover or market capitalization is worse than 40, provided that there is an advancing issue ranking 35 or better in both criteria.
- Regular Entry (30/30 rule): a company can be included in the DAX<sup>®</sup> Index if it ranks 30 or better in both exchange turnover and market capitalization, provided there is an index component with a ranking worse than 35 in at least one criterion.

Furthermore, under the “fast-entry” and “fast-exit” rules, which are applied in March, June, September and December:

- Fast Exit (45/45 rule): an index component issue is removed from the DAX<sup>®</sup> Index if its ranking in either exchange turnover or market capitalization is worse than 45, provided that an advancing issue ranks 35 or better in both criteria (35/35). If no such issue exists, the successor is determined by applying the criteria (35/40) and (35/45) successively. If no suitable issue can be found, no substitution will be carried out.



- Fast Entry (25/25 rule): a company can be included in the DAX<sup>®</sup> Index if it ranks 25 or better in both exchange turnover and market capitalization. In return, the index component issue with a ranking worse than 35 in one criterion and the lowest market capitalization is removed. Where no such issue exists, the respective component issue with the lowest market capitalization is removed from the DAX<sup>®</sup> Index instead.

Taking all these criteria into account, Deutsche Börse AG's working committee for equity indices submits proposals to the management board of Deutsche Börse AG to leave the current index composition unchanged, or to effect changes, as applicable. The final decision as to whether or not to replace an index component stock is taken by the management board of Deutsche Börse AG. Any replacements are publicly announced by Deutsche Börse AG.

Adjustments to the index composition are also made for extraordinary circumstances, such as insolvency or the weighting of a component stock exceeding 10% and its annualized 30-day volatility exceeding 250%.

#### Calculation

The DAX<sup>®</sup> Index is weighted by market capitalization; however, only freely available and tradable shares are taken into account. The DAX<sup>®</sup> Index is a price index, which measures the actual price performance and is only adjusted for income from subscription rights and special distributions.

The level of the DAX<sup>®</sup> Index is based on share prices reported in the Xetra<sup>®</sup> system. The level of the DAX<sup>®</sup> Index is calculated according to the Laspeyres formula, which measures the aggregate price changes in the component stocks against the initial December 30, 1987 level of 1,000. The weighting of any individual component stock within the DAX<sup>®</sup> Index is limited to 10%, measured quarterly.

## The FTSE™ 100 Index

We have derived all information contained in this underlying supplement regarding the FTSE™ 100 Index (the “**FTSE Index**”), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by, FTSE International Limited (“**FTSE**”), a company owned equally by the London Stock Exchange Group plc and The Financial Times Limited. The FTSE Index is calculated, maintained, and published by FTSE. FTSE has no obligation to continue to publish, and may discontinue publication of, the FTSE Index.

The FTSE Index is reported by Bloomberg L.P. under the ticker symbol “UKX.”

### General

The FTSE Index measures the composite price performance of stocks of the largest 100 companies (determined on the basis of market capitalization) traded on the London Stock Exchange (the “**LSE**”). The FTSE Index was first calculated on January 3, 1984 with an initial base level index value of 1,000 points. Publication of the FTSE Index began in February 1984.

### Composition of the FTSE Index

The FTSE Index is a free float adjusted index which measures the composite price performance of stocks of the largest 100 companies (determined on the basis of market capitalization) traded on the LSE. The 100 companies included in the FTSE Index (the “**FTSE Underlying Stocks**”) are selected from premium listed equity shares which have been admitted for trading on the LSE that have been assigned UK nationality by FTSE and meet a liquidity threshold based on public float, accuracy and reliability of prices, size and number of trading days. The FTSE Underlying Stocks are selected from this group by selecting the 100 companies with the largest market value. 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 is greater than 25% of the full market capitalization of the company's principal line and the secondary line satisfies the eligibility rules and screens in its own right in all respects. A list of the issuers of the FTSE Underlying Stocks is available from FTSE.

### Standards for Listing and Maintenance

The FTSE Index is overseen by the FTSE's Europe, Middle East and Africa Committee (the “**FTSE EMEA Committee**”), which is made up of senior market practitioners who are representative of appropriate sectors of the investment community. The FTSE EMEA Committee is also responsible for the index review process. The FTSE EMEA Committee reviews the FTSE Underlying Stocks quarterly in March, June, September and December in order to maintain continuity in the index level. FTSE prepares information regarding possible companies to be included or excluded from the FTSE Index using the close of business figures from the Tuesday before the first Friday of the review month. The review is then presented to the FTSE EMEA Committee for approval.

Changes to the constituents can be prompted by new listings on the exchange, corporate actions (e.g., mergers and acquisitions) or an increase or decrease in a market capitalization. The FTSE Underlying Stocks may be replaced, if necessary, in accordance with deletion/addition rules which provide generally for the removal and replacement of a stock from the FTSE Index if such stock is delisted or its issuer is subject to a takeover offer that has been declared wholly unconditional or it has ceased, in the opinion of the FTSE EMEA Committee, to be a viable component of the FTSE Index. To maintain continuity, a stock will be added at the quarterly review if it has risen to 90th place or above and a stock will be deleted if at the quarterly review it has fallen to 111th place or below, in each case ranked on the basis of market capitalization.

Where a greater number of companies qualify to be inserted in the FTSE Index than those qualifying to be deleted, the lowest ranking constituents presently included in the FTSE Index will be deleted to ensure that an equal number of companies are inserted and deleted at the periodic review. Likewise, where a greater number of companies qualify to be deleted than those qualifying to be inserted, the securities of the highest ranking companies which are presently not included in the index will be inserted to match the number of companies being deleted at the periodic review.

Companies that are large enough to be constituents of the FTSE Index but do not pass the liquidity test are excluded. At the next annual review the companies are re-tested against all eligibility screens.

## Calculation of the FTSE Index

The level of the FTSE Index is calculated by dividing the FTSE Aggregate Market Value on such day of calculation by the FTSE Index Divisor. The “**FTSE Aggregate Market Value**” is equal to the sum of each constituent stock’s total market capitalization, which is equal to the product of (i) the share price of such stock on such day of calculation, (ii) the number of shares of such stock outstanding and (iii) such stock’s free float factor (which is the proportion of shares tradeable within the market place for a given stock). The “**FTSE Index Divisor**” is equal to the FTSE Aggregate Market Value calculated on the starting date of the FTSE Index divided by 1,000 (the initial index level of the FTSE Index). The FTSE Index Divisor will be adjusted for certain capital changes in the index constituents (e.g., in the event of a corporate action or change in constituents) in order to prevent discontinuities. Because the FTSE Index is weighted based on its constituent stocks’ free float adjusted market capitalizations, movements in share prices of companies with relatively larger market capitalization will have a greater effect on the level of the entire FTSE Index than will movements in share prices of companies with relatively smaller market capitalization.

## The FTSE China 50 Index

We have derived all information contained in this underlying supplement regarding the FTSE China 50 Index, including, without limitation, their make-up, method of calculation and changes in its components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by FTSE International Limited (“**FTSE**”). FTSE China 50 Index is calculated, maintained and published by FTSE. FTSE has no obligation to continue to publish, and may discontinue publication of, the FTSE China 50 Index.

The FTSE China 50 Index is reported by Bloomberg L.P. under the ticker symbol “XINOI.”

### General

Originally launched in 2001 as the FTSE China 25, the index was expanded effective on September 22nd, 2014 to 50 stocks and renamed the FTSE China 50. The FTSE China 50 Index is designed to represent the performance of the mainland Chinese market that is available to international investors.

### Composition of the FTSE China 50 Index

The FTSE China 50 Index is currently based on the 50 largest and most liquid Chinese stocks (called “H” shares, “Red Chip” shares and “P Chip” shares), listed and trading on the Stock Exchange of Hong Kong Ltd. (“**HKSE**”). “H” shares are securities of companies incorporated in the People’s Republic of China and listed on the HKSE. “Red Chip” shares are securities of companies incorporated outside of the People’s Republic of China, which are substantially owned directly or indirectly by the Chinese government and have the majority of their business interests in mainland China. “P Chip” shares are securities of companies incorporated outside of the People’s Republic of China, but are controlled by Mainland China individuals, with the establishment and origins of the company in Mainland China and at least 50 percent of its revenue or assets derived from Mainland China.

### Standards for Listing and Maintenance

Currently, only H-shares, P-Shares and Red Chip shares are eligible for inclusion in the FTSE China 50 Index. All classes of equity in issue are eligible for inclusion in the FTSE China 50 Index, subject to certain restrictions, however, each constituent must also be a constituent of the FTSE All-World Index. Companies whose business is that of holding equity and other investments (e.g., Investment Trusts) are not eligible for inclusion.

Securities must be sufficiently liquid to be traded, therefore the following criteria, among others, are used to ensure that illiquid securities are excluded:

- *Price.* FTSE must be satisfied that an accurate and reliable price exists for the purposes of determining the market value of a company. The FTSE China 50 Index uses the last trade prices from the relevant stock exchanges, when available.
- *Liquidity.* Each security is tested for liquidity on a semi-annual basis in March and September by calculation of its median daily trading per month as part of the FTSE All-World Index review. When calculating the median of daily trades per month of any security, a minimum of 5 trading days in each month must exist, otherwise the month will be excluded from the test. The median trade is calculated by ranking each daily trade total and selecting the middle-ranking day. 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 test will be applied on a pro-rata basis where the testing period is less than 12 months.
- *New Issues.* New issues which 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 free float adjusted shares based on their median daily trade per month in each month since their listing.

The FTSE China 50 Index, like other indices of FTSE, is governed by an independent advisory committee, the FTSE Asia Pacific Regional Committee, that ensures that the FTSE China 50 Index is operated in accordance with its published ground rules, and that the rules remain relevant to the FTSE China 50 Index. The FTSE Asia Pacific Regional Committee is responsible for undertaking the review of the FTSE China 50 Index and for approving changes of constituents.

## Computation of the FTSE China 50 Index

The FTSE China 50 Index is calculated using the free float index calculation methodology of the FTSE Group. The FTSE China 50 Index is calculated using the following formula:

$$\sum_{i=1}^N \frac{(p_i \times e_i \times s_i \times f_i \times c_i)}{d}$$

where “N” is the number of securities in the FTSE China 50 Index, “p” is the latest trade price of the component security “i,” “e” is the exchange rate required to convert the security’s home currency into the FTSE China 50 Index’s base currency, “s” is the number of shares of the security in issue, “f” is the free float factor published by FTSE, to be applied to such security to allow amendments to its weighting, “c” is the capping factor published by FTSE at the most recent quarterly review of the FTSE China 50 Index, and “d” is the divisor, a figure that represents the total issued share capital of the FTSE China 50 Index at the base date, which may be adjusted to allow for changes in the issued share capital of individual securities without distorting the FTSE China 50 Index. The capping factor serves to limit the weight of any individual company to no more than 9% of the FTSE China 50 Index and to limit the aggregate weight of all companies that have a weight greater than 4.5% to no more than 38% of the FTSE China 50 Index.

The FTSE China 50 Index uses actual trade prices for securities with local stock exchange quotations and Reuters real-time spot currency rates for its calculations. Under this methodology, FTSE excludes from free floating shares: (i) shares held by public companies or by non-listed subsidiaries of public companies; (ii) shares held by founders, and by directors and/or their families; (iii) employee share plans; (iv) government holdings; (v) foreign ownership limits; and (vi) portfolio investments subject to lock-in clauses (for the duration of the clause).

Free float restrictions are calculated using available published information. For shares of companies 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 5% or below are not eligible for inclusion in the index. Following the application of an initial free float restriction, a constituent’s free float will only be changed if its rounded free float moves to more than 3 percentage points above or below the existing rounded float. Once a company’s actual free float moves about 99%, the free float will be rounded to a 100%. A constituent with a free float of 15% or below will not be subject to the 3 percentage points threshold.

Foreign ownership limits, if any, are applied after calculating the actual free float restriction. If the foreign ownership limit is more restrictive than the free float restriction, the precise foreign ownership limit is applied. If the foreign ownership limit is less restrictive or equal to the free float restriction, the free float restriction is applied.

The FTSE China 50 Index is periodically reviewed for changes in free float. These reviews coincide with the quarterly reviews undertaken of the FTSE China 50 Index. Implementation of any changes takes place at the close of trading on the third Friday in March, June, September and December. A stock’s free float is also reviewed and adjusted if necessary following certain corporate events. If the corporate event includes a corporate action which affects the FTSE China 50 Index, any change in free float is implemented at the same time as the corporate action. If there is no corporate action, the change in free float is applied as soon as practicable after the corporate event.

## The Hang Seng Indices

We have derived all information contained in this underlying supplement regarding the Hang Seng<sup>®</sup> Index and the Hang Seng China Enterprises Index, including, without limitation, its make-up, method of calculation and changes in its component securities, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by, Hang Seng Indexes Company Limited (formerly HSI Services Limited) (“**HSI**”), a wholly owned subsidiary of Hang Seng Bank. The Hang Seng<sup>®</sup> Index and the Hang Seng China Enterprises Index are calculated, maintained and published by HSI. HSI has no obligation to continue to publish, and may discontinue publication of, these indices.

### *The Hang Seng<sup>®</sup> Index*

The Hang Seng<sup>®</sup> Index is a free float adjusted market capitalization weighted index of selection of companies from The Stock Exchange of Hong Kong Ltd. (the “HKSE”). The components of the index are divided into four sub-indices: commerce and industry, finance, utilities, and properties. The index was developed with a base level of 100 as of July 31, 1964 and is designed to be an indicator of the performance of the Hong Kong stock market.

The Hang Seng<sup>®</sup> Index is reported by Bloomberg L.P. under the ticker symbol “HSI.”

### *Standards for Listing and Maintenance*

Only companies with a primary listing on the main board of the HKSE are eligible as constituents of the Hang Seng<sup>®</sup> Index. Mainland China enterprises that have an H-share listing in Hong Kong are eligible for inclusion in the Hang Seng<sup>®</sup> Index only if the company has no unlisted share capital.

To be eligible for selection, a company:

- must be among those companies that constitute the top 90% of the total market capitalization of all eligible shares listed on the HKSE (market capitalization is expressed as an average of the past 12 months);
- must be among those companies that constitute the top 90% of the total turnover of all eligible shares listed on the HKSE (turnover is aggregated and individually assessed for eight quarterly sub-periods over the past 24 months); and
- should normally have a listing history of at least 24 months on the HKSE or meet the requirements of the following guidelines: for newly listed large-cap stocks, the minimum listing time required for inclusion in the stock universe for the Hang Seng<sup>®</sup> Index review is as follows:

Average Market Capitalization Ranking at Time of Review	Minimum Listing History
Top 5.....	3 Months
6-15.....	6 Months
16-20.....	12 Months
21-25.....	18 Months
Below 25 .....	24 Months

Companies meeting all eligibility requirements will be considered for inclusion and their candidacy will be assessed on the following criteria:

- the market value and turnover ranking of the company;
- the representation of the sub-sectors within the Hang Seng<sup>®</sup> Index directly reflecting that of the market; and
- the financial performance of the company.

The number of constituents is fixed at 50.

A constituent of the Hang Seng Family of Indices will be removed from the relevant index if it has been suspended from trading for one month. Such a stock may be retained in the index only in exceptional circumstances if it is believed that it is highly likely that the stock will resume trading in the near future.

### *The Hang Seng China Enterprises Index*

The Hang Seng China Enterprises Index (the “**HSCE Index**”) was launched on August 8, 1994 as a free float adjusted market-capitalization weighted index consisting of 40 Hong Kong listed H-shares of Chinese enterprises. H-shares are Hong Kong listed shares, traded in Hong Kong dollars, of Chinese state-owned enterprises. With the launch of

the 200-stock Hang Seng Composite Index (the “**HSCI**”) on October 3, 2001, the HSCE Index became part of the Hang Seng Composite Index Series (the “**HSCI Series**”). Since then, constituents of the HSCE Index comprise only the largest H-share companies included in the HSCI.

The HSCE Index is reported by Bloomberg L.P. under the ticker symbol “HSCEI.”

### ***Standards for Listing and Maintenance***

All H-Share companies primarily listed on the main board of the **HKSE** are eligible to be included in the HSCE Index HSCEI, excluding stocks that are secondary listings, preference shares, debt securities, mutual funds and other derivatives. In addition, to be eligible for selection in the HSCE Index, a stock: (1) should be listed for at least one month by the review cut-off date; and (2) must satisfy the turnover screening requirements. In order to pass the turnover requirements, stocks that are already included in the Hang Seng China Enterprises Index must have a turnover velocity of at least 0.1% for at least 10 out of the past 12 months. In the case that an existing stock fails the turnover requirements, each failing month will be examined. If the aggregate turnover in a failing month is among the top 90% of the total market, the stock will nonetheless satisfy the turnover requirements for that particular month, and the month can be considered in determining if a stock passes the overall turnover requirements. To be added to the Hang Seng China Enterprises Index, a stock must have a turnover velocity of at least 0.1% for at least 10 out of the past 12 months and for each of the most recent three months. Turnover velocity is calculated by dividing the median of the daily trades shares during a specific calendar month by the free float adjusted issued shares at the end of that month.

The Hang Seng China Enterprises Index is reviewed quarterly with data cut-off dates as of the end of March, June, September and December each year. The number of constituent stocks is fixed at 40. From the eligible stocks, final selections are made using the following methodology:

- (1) all eligible stocks are ranked by (i) full market capitalization, in terms of average month-end market capitalization in the past 12 months and (ii) free float adjusted market capitalization, in terms of 12-month average market capitalization after free float adjustment;
- (2) the combined market capitalization ranking for each eligible stock is determined as the weighted average of the full market capitalization ranking and the free float adjusted market capitalization ranking, where each rank has a 50% weight; and
- (3) the 40 stocks that have the highest combined market capitalization ranking are selected as the constituents of the Hang Seng China Enterprises Index, subject to the following buffer zone rule. Existing constituents ranked 49th or lower will be removed from the Hang Seng China Enterprises Index while non-constituent stocks ranked 32nd or above will be included. In case the number of incoming stocks is greater than the number of outgoing constituents, constituents with the lowest combined market capitalization rank will be removed from the Hang Seng China Enterprises Index in order to maintain the number of constituents at 40. If the number of incoming stocks is smaller than the number of outgoing constituents, stocks with the highest combined market capitalization rank will be added to the Hang Seng China Enterprises Index in order to maintain the number of constituents at 40.
- (4) in the case that the weighted average calculated in (2) of two stocks is identical, a higher rank will be assigned to the stock with the greater full market capitalization.

Effective dates of constituent changes will be the next trading day after the first Friday of March, June, September and December. If that Friday falls on a public holiday, it will be postponed to the next Friday, subject to the final decision made by Hang Seng Indexes Company Limited. Under normal circumstances, at least seven trading days’ notice will be given for any constituent changes before the effective dates.

### ***Calculation of the Hang Seng Indices***

Both the Hang Seng<sup>®</sup> Index and the HSCE Index are calculated using a free float adjusted market capitalization weighted methodology with a 10% cap on individual stock weightings.

The formula for the index calculation is shown below:

$$\begin{aligned} \text{current index} &= \frac{\text{current aggregate free float adjusted market capitalization of constituents}}{\text{yesterday's aggregate free float adjusted market capitalization of constituents}} \times \text{yesterday's closing index} \\ &= \frac{\sum (P_t \times IS \times FAF \times CF)}{\sum (P_{t-1} \times IS \times FAF \times CF)} \times \text{yesterday's closing index} \end{aligned}$$

where:

- $P_t$  : current price at day t;
- $P_{t-1}$  : closing price at day t-1;
- IS : number of issued shares (in the case of H-share constituents, only the H-share portion is taken into calculation);
- FAF : free float adjusted factor, which is between 0 and 1; and
- CF : capping factor, which is between 0 and 1.

**Free float Adjustments.** Shares held by any entities (excluding custodians, trustees, mutual funds and investment companies) that control more than 5% of the shareholdings would be considered as non-free float and are excluded from the index calculation. These include strategic holdings (holdings by governments and affiliated entities or any other entities that hold substantial shares in the company would be considered as non-free float unless otherwise proved), directors' and management holdings (holdings by directors, members of the board committee, principal officers or founding members), corporate cross holdings (holdings by publicly traded companies or private firms or institutions) and lock-up shares (shareholdings with a publicly disclosed lock-up arrangement). Lock-up shares with trading restrictions are classified as non-free float, regardless of the shareholding percentage.

The free float adjusted factor represents the proportion of shares that is free floated as a percentage of the issued shares. The free float adjusted factor is rounded up to the nearest 1% if it is less than 10%; otherwise, it is rounded to the nearest 5%. For companies with more than one class of shares, the free float adjusted factor is calculated separately for each class of shares.

**Cap Factor.** A cap factor ("CF") is calculated quarterly, such that no individual constituent in an index will have a weighting exceeding a cap level of 10% on the index capping date.

**Index Rebalancing.** The update of the issued shares, adjustment of the free float adjusted factor and calculation of the cap factor are undertaken quarterly. In addition, the issued shares will be updated simultaneously with the index adjustment for corporate actions, such as bonus issues, rights issues, stock splits and stock consolidations. Ad hoc rebalancing will be conducted if a constituent's issued shares and/or free float adjusted factor is substantially different from the production data. The Hang Seng China Enterprises Index will also be recapped in the event of constituent changes if the newly added component weighs higher than the index cap level.



## The JPX-Nikkei Index 400

We have derived all information contained in this underlying supplement regarding the JPX-Nikkei Index 400, 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 Japan Exchange Group, Inc. (“**JPX**”), Tokyo Stock Exchange, Inc. (“**TSE**,” collectively, the “**JPX group**”) and Nikkei Inc. (“**Nikkei**,” and together with the JPX group, the “**Index Sponsor**”). The JPX-Nikkei Index 400 was developed by the Index Sponsor and is calculated, maintained and published by the Index Sponsor.

### General

The JPX-Nikkei Index 400 is composed of 400 Japanese common stocks listed on the TSE First Section, Second Section, Mothers (Market Of The High-growth and EmeRging Stocks) or JASDAQ market. As of August 29, 2014, 388 constituents were listed on the First Section, one was listed on the Second Section, one was listed on Mothers and 10 were listed on the JASDAQ market. Constituents are selected by the Index Sponsor based on market capitalization, trading value, return on equity and other factors.

Publication of the JPX-Nikkei Index 400 began on January 6, 2014, based on an initial index value of 10,000 on August 30, 2013.

The JPX-Nikkei Index 400 is calculated in both price return and total return versions and is calculated in yen. The notes are linked to the price return version of the JPX-Nikkei Index 400, which means that the level of the JPX-Nikkei Index 400 will not include any dividends paid on the stocks included in the JPX-Nikkei Index 400.

The level of the price return version of the JPX-Nikkei Index 400 is computed and published every second via TSE's Market Information System and is reported to securities companies across Japan and available worldwide through computerized information networks. The price return version of the JPX-Nikkei Index 400 is reported by Bloomberg L.P. under the ticker symbol “JPNK400.” Due to the time zone difference, on any normal trading day the TSE will close prior to the opening of business in New York City on the same calendar day. Therefore, the closing level of the JPX-Nikkei Index 400 on a trading day will generally be available in the United States by the opening of business on the same calendar day.

### Constituent Selection

The stocks composing the JPX-Nikkei Index 400 are reviewed annually based on the selection criteria applied as of the base selection date. The initial base selection date for the JPX-Nikkei Index 400 was June 28, 2013. For subsequent annual reviews, the base selection date will be the final business day of June of each year. The calculation of the JPX-Nikkei Index 400 using the new constituents will begin on the final business day of August. The selection process and criteria are as follows:

(1) In order to be eligible for the JPX-Nikkei Index 400, a stock must be a common stock whose main market is the TSE First Section, Second Section, Mothers or JASDAQ market as of the base selection date. Issues other than common stocks may be treated as eligible for inclusion in the JPX-Nikkei Index 400 if they are regarded as equivalent to common stocks and their inclusion is deemed necessary by the Index Sponsor. The JPX-Nikkei Index 400 does not currently include any non-common stocks. Stocks are excluded from selection if they fall under any of the following criteria:

- listed for less than three years;
- the company's liabilities are in excess of its assets during any of the past three fiscal years;
- the company has an operating loss in each of the past three fiscal years;
- the company has a net loss in each of the past three fiscal years;
- the company's financials have disclosed doubt regarding its ability to continue as a going concern;
- disclosure of insufficient internal controls;
- the stock has been designated as a security to be delisted or security on alert; or
- certain listing violations have occurred over the past year.

(2) To construct the JPX-Nikkei Index 400, the top 1,000 issues are selected in descending order from the 1,200 eligible issues which have the highest trading values in the three years from the base selection date, which are among the

1,200 eligible issues with the highest market capitalization. Where the number of issues selected does not reach 1,000, the remaining issues shall be selected on the basis of market capitalization from the 1,200 eligible issues with the highest trading value in the three years from the base selection date.

(3) Each stock is scored by (a) three-year average return on equity (weighted 40%), (b) three-year cumulative operating profit (weighted 40%) and (c) market capitalization on the base selection date (weighted 20%).

(4) 400 stocks are selected by the final ranking with the scores calculated above in (3) and the qualitative scores determined as of the base selection date using the following criteria: the appointment of at least two independent outside directors, releasing the most recent earnings report according to international financial reporting standards and the release of English language earnings information via TDnet. The final score for each stock equals the sum of the score calculated above in (3) plus the score from the qualitative factors. Stocks are ranked from highest to lowest based on their final scores, with the exception that stocks with negative three-year average return on equity and whose most recent return on equity are negative or that have negative three-year cumulative operating profit shall be ranked lowest. In the event of a tie in final scores, the stock with the higher market capitalization is ranked higher. The top 400 stocks based on their rankings are selected for inclusion in the JPX-Nikkei Index 400.

### Index Calculation

The JPX-Nikkei Index 400 is calculated using free float adjusted market value weighting and is denominated in points (as a decimal figure) rounded to the second decimal place. The JPX-Nikkei Index 400 is calculated by dividing the current free float adjusted market value (the “**Current Market Value**”) by the market value on the base date (the “**Base Market Value**”). The market value is the sum of the number of shares of each constituent multiplied by that constituent's stock price.

The calculation of the JPX-Nikkei Index 400 can be represented by the following formula:

$$\text{Index} = \frac{\text{Current Market Value}}{\text{Base Market Value}} \times \text{Base Point}$$

The number of shares of each constituent is determined by multiplying the total number of listed shares by the free float weight ratio following cap-adjustment. The weight of each constituent is capped at 1.5%, and if any constituent exceeds that weight, it is adjusted downwards at the time of the annual review. The free float weight is the percentage of listed shares deemed to be available for trading in the market. The free float weight is determined by excluding the estimated number of listed shares that are deemed not to be available for trading in the market, using publicly available documents. Among the shares that are treated as non-free float shares are, among others, shares held by specified types of major shareholders and shares held by board members and other representatives. The free float weights are reviewed annually for each index constituent, with the announcement and effective date for each index constituent occurring on a quarterly basis, depending upon the relevant company's earnings release schedule. In addition to this annual review, the Index Sponsor may also adjust a company's free float weight to reflect extraordinary events.

In order to maintain continuity, the Base Market Value is adjusted from time as a result of an increase or decrease in constituent issues, capital raising or similar events other than market fluctuations. Such events include, but are not limited to: new listings, delistings, new share issues either through public offerings or through rights offerings to shareholders, issuance of shares as a consequence of exercise of convertible bonds or warrants or mergers, acquisitions, consolidations, company splits or other similar changes in corporate structure.

## The KOSPI 200 Index

We have derived all information contained in this underlying supplement regarding the KOSPI 200 Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by, Korea Exchange (“**KRX**”), the publisher of the KOSPI 200 Index. The KOSPI 200 Index is calculated, maintained and published by KRX. KRX is under no obligation to continue to publish, and may discontinue publication of, the KOSPI 200 Index.

The KOSPI 200 Index is reported by Bloomberg L.P. under the ticker symbol “KOSPI2.”

### General

The KOSPI 200 Index is a capitalization-weighted index of 200 Korean blue-chip stocks that is intended to represent a high percentage of the total market capitalization of the Korea Stock Exchange (“**KSE**”). The KOSPI 200 is the underlying index for stock index futures and option trading related to the Korean market. The companies listed on the KOSPI 200 Index are classified into the following eight industry groups: (i) fisheries, (ii) mining, (iii) manufacturing, (iv) construction, (v) electricity and gas, (vi) services, (vii) post and communication and (viii) finance. All categories other than manufacturing are classified as non-manufacturing groups in the selection process described below. The constituent stocks are selected on the basis of market capitalization and liquidity.

### Standards for Listing and Maintenance

KRX chooses companies for inclusion in the KOSPI 200 Index with an aim of accurately representing overall market movement. KRX may from time to time, in its sole discretion, add companies to, or delete companies from, the KOSPI 200 Index to achieve this objective. The KOSPI 200 Index selects stocks of companies that belong to one of the eight industry groups, whose market capitalization is at least 1% of the total market capitalization. The capitalization requirement ensures the high percentage of market capitalization of KOSPI 200 constituent stocks against the total.

The KRX selects the constituent stocks of the KOSPI 200 on an annual basis (“regular realignment”) and from time to time in response to mergers, delistings or other administrative reviews affecting individual constituent stocks (“special realignment”). Regular realignment decisions are made on the basis of data collected from May of the previous year through April of the year of the realignment and are implemented immediately following the last trading day for June futures and options contracts on the KOSPI 200.

For purposes of the regular realignment, the KRX first ranks the stocks in the seven non-manufacturing industry groups by average daily market capitalization, and selects the number of stocks needed to include 70% of that industry group’s total market capitalization. That first process determines the number of stock that will be selected from each non-manufacturing industry group for the upcoming year. The companies in each non-manufacturing industry group are also ranked by their average daily trading value, as a measure of liquidity. If any of the stocks initially selected on the basis of market capitalization does not rank in the top 85% on the basis of average daily trading value, it is excluded from KOSPI 200 and the next highest ranked stock by market capitalization that also meets the 85% liquidity test is included.

The remaining constituents of the KOSPI 200—in number equal to the difference between 200 and the number of constituent stock so selected from the non-manufacturing groups—are selected, starting with the highest market capitalization ranking, from the manufacturing group stocks that also satisfy the liquidity test by being in the top 85% of the manufacturing group as ranked by average daily trading value.

In order to maintain the continuity of the KOSPI 200, a stock selected in accordance with the above criteria that is not currently in the KOSPI index must rank within the top 90% by market capitalization of those companies in its industry group in order to become a constituent of the KOSPI 200. Conversely, a current constituent of the KOSPI 200 that is not selected in accordance with the above criteria will, nevertheless, remain in the KOSPI 200 so long as its market capitalization would not rank below 110% of the market capitalization of those companies selected from its industry group through that year’s regular realignment process.

Any stock not selected for inclusion in the KOSPI 200 as the basis of the regular realignment methodology that is also among the 50 largest companies in the Korean market by market capitalization may be considered for inclusion by the KOSPI Maintenance Committee.

Stocks initially listed or relisted after May 1 of the year preceding the year of the periodic realignment review date, stocks designated as having an administrative issue as of the periodic realignment review date, stocks of securities

investment companies, issues of liquidation sale and stocks deemed unsuitable are ineligible to become constituent stocks of the KOSPI 200 Index.

Special realignment occurs from time to time when events such as a constituent stock's designation as administrative stock, or a merger or delisting occurs with respect to a constituent stock. Special realignment is carried out by choosing a stock from a replacement list prepared beforehand in a priority order by industry group. In the event that the replacement list includes no stock for a specific industry, a stock is chosen from the manufacturing industry group.

In cases where there is an initial listing of a stock that is deemed to have high liquidity and is worthy in terms of its impact on the KOSPI 200 Index, a constituent stock is merged into non-constituent stock or consolidation occurs among constituent stocks, it is possible to select the stock of that firm or acquired firm as a constituent of KOSPI 200 even before the regular realignment day. Such stocks are included in the index on the trading day following the last trading day of the most recent month for contracts for both futures and options, which comes to 30 trading days after the listing date of such stocks. At this time, the stock with the smallest market capitalization on recent regular realignment date, regardless of industry, it is removed and becomes first in line as a replacement stock for that industry.

### **Calculation of the KOSPI 200 Index**

The KOSPI 200 Index is computed by multiplying (i) the market capitalization as of the calculation time divided by the market capitalization as of the base date (the "**KOSPI 200 Base Market Capitalization**"), by (ii) 100. The base date of the KOSPI 200 is January 3, 1990 with a base index of 100. Market capitalization is obtained by multiplying the number of listed common shares of the constituents, the price of the concerned common shares, and the free float rate of the concerned common shares. If the number of listed shares increases due to rights offering, bonus offering and stock dividend, which accompany ex-right or ex-dividend, such increase is included in the number of listed shares on the ex-right date or ex-dividend date.

Share prices refer to the market price established during the regular trading session. If no trading took place on such day, quotation price is used and if no quotation price is available, the closing price of the most recent trading day is used.

In order to maintain the consistency of the KOSPI 200 Index, the market capitalization and the KOSPI 200 Base Market Capitalization can be readjusted. Readjustment includes changing the KOSPI 200 Base Market Capitalization when there is an event, such as a distribution of rights or dividends, that affects the stock price, in order to equalize the stock price index on the day before the event and the stock price index on the day of the event.

### **Index Governance**

The Futures and Options Index Maintenance Committee (the "**KOSPI Committee**") is charged with reviewing matters relating to calculation and management of the KOSPI 200 Index. The KOSPI Committee is composed of 10 members who are chosen as representatives of institutional investors and securities related institutions, legal and accounting professions, and professors and researchers. The KOSPI Committee is responsible for matters relating to the calculation method of the KOSPI 200 Index; matters relating to selection and realignment of the KOSPI constituent stocks; matters relating to establishment, amendment and abolishment of the criteria for selection of the KOSPI 200 constituent stocks; and any other matters that are requested by the chief executive officer of the KSE.

Regular meetings of the KOSPI Committee are held in May of each year for the purpose of realigning the constituent stocks, but a special meeting can be called if need arises.

## **The MSCI Indices**

We have derived all information contained in this underlying supplement regarding the MSCI Emerging Markets Index<sup>SM</sup>, the MSCI EAFE<sup>®</sup> Index, the MSCI Brazil Index, the MSCI Singapore Index, the MSCI Taiwan Index<sup>SM</sup>, the MSCI AC (All Country) Far East ex Japan Index and the MSCI Daily Total Return Net World USD Index (each an “**MSCI Index**”, and together, the “**MSCI Indices**”), including, without limitation, the make-up, method of calculation and changes in each MSCI Index’s components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by, MSCI. The MSCI Indices are calculated, maintained and published by MSCI. MSCI has no obligation to continue to publish, and may discontinue publication of, any of the MSCI Indices.

The current index calculation methodology used to formulate the MSCI Indices (and which is also used to formulate the indices included in the MSCI Global Index Series) (the “MSCI Global Investable Market Indices Methodology”) was implemented as of June 1, 2008.

For a discussion on the construction of the MSCI Indices, see below under “Constructing the MSCI Indices.”

### ***The MSCI EAFE<sup>®</sup> Index***

The MSCI EAFE<sup>®</sup> Index is a free float adjusted market capitalization index intended to measure the equity market performance of developed markets outside of North America. The MSCI EAFE<sup>®</sup> Index is calculated daily in U.S. dollars and published in real time every 60 seconds during market trading hours. The MSCI EAFE<sup>®</sup> Index includes components from all countries in Europe, Australasia and the Far East that are designated by MSCI as Developed Markets (“**DMs**”). As of June 30, 2015, the MSCI EAFE<sup>®</sup> Index consisted of the following 21 developed market country indices: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland and the United Kingdom.

The MSCI EAFE<sup>®</sup> Index is reported by Bloomberg L.P. under the ticker symbol “MXEA.”

### ***The MSCI Emerging Markets Index<sup>SM</sup>***

The MSCI Emerging Markets Index<sup>SM</sup> (the “**MSCI EM Index**”) is a free float adjusted market capitalization index that is designed to measure equity market performance of global emerging markets. The MSCI EM Index is calculated daily in U.S. dollars and published in real time every 60 seconds during market trading hours. As of June 30, 2015, the MSCI EM Index consisted of the following 23 emerging market country indices: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, South Korea, Taiwan, Thailand, Turkey and the United Arab Emirates.

The MSCI EM Index includes components from all countries covered by the MSCI International Equity Indices that are designated by MSCI as Emerging Markets (“**EMs**”). Each of the emerging markets component country indices is a sampling of equity securities across industry groups in such country’s equity markets. In order to maintain the representativeness of the MSCI EM Index, structural changes to the MSCI EM Index as a whole may be made by adding or deleting emerging markets component country indices and the related emerging markets component securities.

The MSCI EM Index is reported by Bloomberg L.P. under the ticker symbol “MXEF.”

### ***MSCI Brazil Index***

The MSCI Brazil Index is a free float adjusted market capitalization index of securities listed on the São Paulo Stock Exchange. The MSCI Brazil Index is calculated daily in the local currency and published in real time every 60 seconds during market trading hours. The MSCI Brazil Index is intended to provide performance benchmarks of the large and mid cap segments of the Brazilian equity market.

The MSCI Brazil Index is reported by Bloomberg L.P. under the ticker symbol “MXBR.”

### ***MSCI Brazil 25/50 Index***

The MSCI Brazil 20/50 Index is a free float adjusted market capitalization index of securities listed on the São Paulo Stock Exchange. The MSCI Brazil Index is calculated daily in the local currency and published in real time every 60 seconds during market trading hours. The MSCI Brazil Index is intended to provide performance benchmarks of the large- and mid-cap segments of the Brazilian equity market and replicates certain investment limits that are imposed on regulated investment companies under the current U.S. Internal Revenue Code by applying a capping methodology that

limits the weight of any single issuer to a maximum of 25% of the MSCI Brazil 25/50 Index and limiting the sum of the weights of all issuers representing more than 5% of the MSCI Brazil 25/50 Index to a maximum of 50% of the weight of the MSCI Brazil 25/50 Index in the aggregate. The MSCI Brazil 25/50 Index aims to capture approximately 85% of the free float adjusted market capitalization in Brazil.

The MSCI Brazil 25/50 Index is reported by Bloomberg L.P. under the ticker symbol “MXBR2550.”

#### ***MSCI Singapore Index***

The MSCI Singapore Index<sup>SM</sup> is a free float adjusted market capitalization index intended to reflect the sectoral diversity of the Singaporean equity market and to represent Singaporean companies that are available to investors worldwide. Securities listed on the Singapore Stock Exchange are eligible for inclusion in the MSCI Singapore Index. The MSCI Singapore Index was developed with a base value of 100 as of December 31, 1969.

The MSCI Singapore Index is reported by Bloomberg under ticker symbol “MXSG.”

#### ***MSCI Taiwan Index<sup>SM</sup>***

The MSCI Taiwan Index<sup>SM</sup> is a free float adjusted market capitalization weighted index that is designed to track the equity market performance of Taiwanese securities listed on the Taiwan Stock Exchange and the GreTai Securities Market. The MSCI Taiwan Index is constructed based on the MSCI Global Investable Market Indices Methodology, targeting a free float market capitalization coverage of 85%. The MSCI Taiwan Index has a base date of December 31, 1987.

The MSCI Taiwan Index is reported by Bloomberg Financial Markets under ticker symbol “MXTW.”

#### ***MSCI AC (All Country) Far East ex Japan Index***

The MSCI AC Far East ex Japan Index is a free float adjusted market capitalization weighted index that is designed to measure the equity market performance of the Far East, excluding Japan. As of June 30, 2015, the MSCI AC Far East ex Japan Index consisted of the following developed and emerging market country indices: China, Hong Kong, Indonesia, Malaysia, Philippines, Singapore, South Korea Taiwan and Thailand.

The MSCI AC Far East ex Japan Index is reported by Bloomberg under the ticker symbol “MXFEJ.”

#### ***MSCI Daily Total Return Net World USD Index***

The MSCI Daily Total Return Net World USD Index is a free float adjusted market capitalization weighted index that is designed to measure the performance of certain developed equity markets in U.S. dollar values. As of June 30, 2015, the MSCI Daily Total Return Net World USD Index consists of large and mid cap equity securities from the following 23 developed equity markets: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom and the United States.

The Index is a total return index whose index level reflects net dividends, meaning that it measures the market performance in terms of both price performance and income from dividend payments, net of certain withholding taxes. MSCI calculates withholding taxes using the highest applicable withholding tax rate applicable to non-resident institutional investors who do not benefit from double taxation treaties. Under such methodology, dividends, net the amount withheld, are notionally reinvested in the MSCI Daily Total Return Net World USD Index on the day the relevant security is quoted ex-dividend. The amount reinvested does not include tax credits.

The MSCI Daily Total Return Net World USD Index is reported by Bloomberg under the ticker symbol “NDDUWI.”

### **Constructing the MSCI Indices**

Each MSCI Index is a member of the MSCI Global Investable Market Index family, calculated, maintained and published by MSCI. The current index calculation methodology used to formulate each MSCI Index (the “**MSCI Global Investable Market Indices Methodology**”) was implemented as of June 1, 2008. The MSCI Global Investable Market Indices Methodology involves the following steps:

- (i) *Defining the Equity Universe.* MSCI begins with securities listed in countries included in the MSCI Global Investable Market Indices. As of the date of this underlying supplement, 23 countries are classified as developed markets and 23 countries as emerging markets. All listed equity securities, including real estate

investment trusts 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. Each company and its securities are classified in only one country.

- (ii) *Determining the Market Investable Equity Universe for Each Market.* The equity universe in each market is derived by applying certain investability screens, such as minimum market capitalization, free float, liquidity, permitted foreign holding, length of trading and, for securities subject to a foreign ownership limit, proportion of shares still available to foreign investors relative to the maximum allowed (referred to as “foreign room”), to individual companies and securities in the equity universe of that market. Some investability requirements are applied at the individual security level and some at the overall company level, represented by the aggregation of individual securities of the company. As a result, the inclusion or exclusion of one security does not imply the automatic inclusion or exclusion of other securities of the same company. MSCI announced on January 15, 2015 that, effective with the November 2015 semi-annual index review, securities traded outside of their issuer’s country of classification (i.e., “foreign listings”) may become eligible for inclusion in certain MSCI Country Investable Market Indices within the MSCI Global Investable Market Indices. A MSCI Country Investable Market Index is eligible to include foreign listings if it meets the Foreign Listing Materiality Requirement. To meet the “Foreign Listing Materiality Requirement,” the aggregate market capitalization of all securities represented by foreign listings should represent at least (i) 5% of the free float adjusted market capitalization of the relevant MSCI Country Investable Market Index and (ii) 0.05% of the free float adjusted market capitalization of the MSCI All Country World Index Investable Market Index. MSCI expects that for the November 2015 semi-annual index review, Hong Kong, which is covered by the MSCI EAFE® Index, and China, Peru and Russia (but only selected listings in London and New York), which are covered by the MSCI Emerging Markets Index, will meet the Foreign Listing Materiality Requirement.
- (iii) *Determining Market Capitalization Size-Segments for Each Market.* In each market, MSCI creates an Investable Market Index, Standard Index, Large Cap Index, Mid Cap Index and Small Cap Index (the “Size-Segment Indices”). The Standard Index is the aggregation of the Large Cap Index and the Mid Cap Index. The Investable Market Index is the aggregation of the Standard Index and the Small Cap Index. In order to create size components that can be meaningfully aggregated into composites, individual market size segments balance the following two objectives:
  - (a) Achieving global size integrity by ensuring that companies of comparable and relevant sizes are included in a given size segment across all markets in the composite universe.
  - (b) Achieving consistent market coverage by ensuring that each market’s size segment is represented in its proportional weight in the composite universe.
- (iv) *Applying Final Size-Segment Investability Requirements.* In order to enhance the replicability of Size-Segment Indices, additional size-segment investability requirements are set for the Investable Market Indices and the Standard Indices. These investability requirements include minimum free float market capitalization and minimum foreign room. Companies that do not meet these investability screens are not included in any of the indices within the MSCI Global Investable Market Index family.
- (v) *Applying Index Continuity Rules for the Standard Index.* 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 developed market Standard Index and a minimum number of three constituents will be maintained for an emerging market Standard Index.

Each MSCI Index is market capitalization weighted adjusted by free float, meaning that each component security is included in the index at the value of their free public float, as measured based on its foreign inclusion factor (the “Foreign Inclusion Factor”). In cases where other foreign investment restrictions exist that materially limit the ability of international investors to freely invest in a particular equity market, sector or security, a limited investability factor may also be applied to the free float to insure that the investability objectives of the indices can be achieved.

MSCI defines the Foreign Inclusion Factor of a security as the proportion of shares outstanding that are deemed to be available for purchase in the public equity markets by international investors. To determine the Foreign Inclusion Factor of a security, MSCI considers the limitations on the investment opportunities for international investors including: strategic stakes in a company held by private or public shareholders whose investment objective indicates that the shares held are not likely to be available in the market, limits on the proportion of a security’s share capital authorized for

purchase by non-domestic investors or other foreign investment restrictions which materially limit the ability of foreign investors to freely invest in a particular equity market, sector or security.

A component security's Foreign Inclusion Factor is (i) rounded up to the closest 5% for component securities with free float equal to or exceeding 15% or (ii) rounded up to the closest 1% for component securities with free float less than 15%. For example, a component security with a free float of 23.2% will be included in the index at 25% of its market capitalization. Typically, securities with a Foreign Inclusion Factor of 15% or less will not be eligible for inclusion in MSCI's indices.

For a security that is subject to a foreign ownership limit to be included in an MSCI index at its entire free float adjusted market capitalization, the proportion of shares still available to foreign investors relative to the maximum allowed, the foreign room, must be at least 25%. If a security's foreign room is less than 25% and equal to or higher than 15%, the foreign inclusion factor for that security will be adjusted downward. Securities will not be eligible for inclusion in the equity universe if the foreign room is less than 15%.

Once the Foreign Inclusion Factor has been determined for a security, the security's total market capitalization is then adjusted by such Foreign Inclusion Factor, resulting in the free float adjusted market capitalization figure for the security. Market capitalization weighting, combined with a consistent target of capturing 99% of free float adjusted market capitalization, aims to ensure that each country's weight in the index approximates its weight in the total universe of developed markets and emerging markets.

### **Index Maintenance**

The MSCI Global Investable Market Indices are maintained with the objective of reflecting, on a timely basis, the evolution of the underlying equity markets. In maintaining the MSCI Global Investable Market Indices, emphasis is also placed on its continuity, replicability and minimizing index turnover. Among other things, maintaining the MSCI Global Investable Market Indices involves making: additions to and deletions from the index, changes in number of shares and changes in Foreign Inclusion Factors as a result of updated free float estimates.

MSCI classifies index maintenance in three broad categories. The first consists of ongoing event-related changes, such as mergers and acquisitions, which are generally implemented in the indices at the time of event. The second category consists of quarterly index reviews, aimed at promptly reflecting other significant market events. The third category consists of semi-annual full index reviews that systematically re-assess the various dimensions of the equity universe for all markets simultaneously and are conducted on a fixed semi-annual timetable.

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 are reflected in the MSCI Global Investable Market Indices at the time of the event. All changes resulting from corporate events are announced prior to their implementation, provided all necessary information on the event is available.

The quarterly index review process is designed to ensure that the indices continue to be an accurate reflection of evolving equity markets. 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 semi-annual index review. Quarterly index reviews may result in additions or deletions due to migration to another Size Segment Index, additions of new investable companies to the Standard Index, deletions of companies from the Investable Market Indices due to low liquidity and changes in Foreign Inclusion Factor and in number of shares. Changes in the number of shares are generally small and result from, for example, exercise of options or warrants, conversion of convertible bonds or other instruments or share buybacks. The implementation of changes resulting from quarterly index reviews occurs as of the close of the last business day of each February and August. The results of the quarterly index reviews are announced at least two weeks prior to their implementation.

The objective of the semi-annual index review is to systematically reassess the various dimensions of the equity universe for all markets simultaneously. During each semi-annual index review, the equity universe is updated and the minimum size guidelines are recalculated for each segment market. Then, the following index maintenance activities are undertaken for each market: updating the market investable equity universe; recalculating the global minimum size references and global minimum size ranges; reassessing the number of companies in each segment and the market size-segment cutoffs; assigning companies to the size-segments; and assessing conformity with the final size-segment investability requirements. The results of the semi-annual index reviews 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.



## **Market Reclassifications**

During an annual market classification review, MSCI analyzes and seeks feedback on those markets it has placed under review for potential market reclassification, based on extensive discussions with the investment community. MSCI examines each country's economic development, size, liquidity and market accessibility in order to be classified in a given investment market (i.e. stand-alone, frontier, emerging or developed market). Each June, MSCI communicates its conclusions from discussions with the investment community on the list of countries under review and announces the new list of countries, if any, under review for potential market reclassification in the upcoming cycle.

## The NASDAQ-100<sup>®</sup> Index

We have derived all information contained in this underlying supplement regarding the NASDAQ-100<sup>®</sup> Index (the “**NASDAQ Index**”), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. The NASDAQ Index was developed by, and is calculated, maintained and published by The NASDAQ OMX GROUP, Inc. (“**NASDAQ OMX**”). NASDAQ OMX has no obligation to continue to publish, and may discontinue publication of, the NASDAQ Index.

The NASDAQ-100<sup>®</sup> Index is reported by Bloomberg L.P. under the ticker symbol “NDX.”

### General

The NASDAQ Index includes 100 of the largest domestic and international non-financial securities listed on the NASDAQ Stock Market (the “**NASDAQ**”) based on market capitalization. The index reflects companies across major industry groups that may include computer hardware and software, telecommunications, retail/wholesale trade and biotechnology. It does not contain securities of financial companies including investment companies.

The NASDAQ Index was launched on January 31, 1985, with a base index value of 250.00. On January 1, 1994, the base index value was reset to 125.00. Current information regarding the market value of the NASDAQ Index is available from NASDAQ OMX.

The NASDAQ Index share weights of the component securities of the NASDAQ Index at any time are based upon the total shares outstanding in each of those component securities and are additionally subject, in certain cases, to rebalancing. Accordingly, each underlying stock’s influence on the level of the NASDAQ Index is directly proportional to the value of its NASDAQ Index share weight.

### Standards for Listing and Maintenance

#### *Initial Eligibility Criteria*

To be eligible for initial inclusion in the NASDAQ Index, a security must be listed on the NASDAQ and meet the following criteria:

- the issuer of the security’s primary U.S. listing must be exclusively on the NASDAQ Global Select Market or the NASDAQ Global Market (unless the security was dually listed on another U.S. market prior to January 1, 2004 and has continuously maintained that listing);
- the security must be of a non-financial company;
- the security may not be issued by an issuer currently in bankruptcy proceedings;
- the security must have an average daily trading volume on the NASDAQ of at least 200,000 shares (measured annually during the ranking review process);
- if the issuer of the security is organized under the laws of a jurisdiction outside the U.S., then such security must have listed options on a recognized options market in the U.S. or be eligible for listed-options trading on a recognized options market in the U.S. (as measured annually during the ranking review process);
- the issuer of the security may not have entered into a definitive agreement or other arrangement which would result in the security no longer being NASDAQ Index eligible;
- the issuer of the security may not have annual financial statements with an audit opinion that is currently withdrawn; and
- the security must have “seasoned” on the NASDAQ, NYSE or NYSE Amex (generally, a company is considered to be seasoned if it has been listed on a market for at least three full months, excluding the first month of the initial listing).

Beginning in December 2014, NASDAQ OMX modified the NASDAQ Index methodology to allow for inclusion of all an issuer’s share classes that meet the initial eligibility criteria.

### ***Continued Eligibility Criteria***

In addition, to be eligible for continued inclusion in the NASDAQ Index, the following criteria apply:

- the issuer of the security's primary U.S. listing must be exclusively on the NASDAQ Global Select Market or NASDAQ Global Market (unless the security was dually listed on another U.S. market prior to January 1, 2004 and has continuously maintained that listing);
- the security must be issued by a non-financial company;
- the security may not be issued by an issuer currently in bankruptcy proceedings;
- the security must have an average daily trading volume of at least 200,000 shares in the previous three month trading period (measured annually during the ranking review process);
- if the issuer of the security is organized under the laws of a jurisdiction outside the U.S., then such security must have listed options on a recognized options market in the U.S. or be eligible for listed-options trading on a recognized options market in the U.S.;
- the issuer must have an adjusted market capitalization equal to or exceeding 0.10% of the aggregate adjusted market capitalization of the NASDAQ Index at each month end. In the event a company does not meet this criterion for two consecutive month ends, it will be removed from the NASDAQ Index effective after the close of trading on the third Friday of the following month; and
- the issuer of the security may not have annual financial statements with an audit opinion that is currently withdrawn.

These NASDAQ Index eligibility criteria may be revised from time to time by NASDAQ OMX without regard to the securities.

### ***Annual Ranking Review***

The NASDAQ Index securities are evaluated on an annual basis, except under extraordinary circumstances which may result in an interim evaluation, as follows (this evaluation is referred to herein as the "**Ranking Review**"). Securities listed on the NASDAQ which meet the applicable eligibility criteria are ranked by market value. NASDAQ Index-eligible securities which are already in the NASDAQ Index and which are ranked in the top 100 eligible securities (based on market capitalization) are retained in the NASDAQ Index. A security that is ranked 101 to 125 is also retained, provided that such security was ranked in the top 100 eligible securities as of the previous Ranking Review or was added to the NASDAQ Index subsequent to the previous Ranking Review. Securities not meeting such criteria are replaced. The replacement securities chosen are those NASDAQ Index-eligible securities not currently in the NASDAQ Index that have the largest market capitalization. The data used in the ranking includes end of October NASDAQ market data and is updated for total shares outstanding submitted in a publicly filed SEC document via EDGAR through the end of November.

Generally, the list of annual additions and deletions is publicly announced via a press release in the early part of December, and replacements are made effective after the close of trading on the third Friday in December. Moreover, if at any time during the year a NASDAQ Index security no longer meets the continued eligibility criteria, or is otherwise determined by NASDAQ OMX to become ineligible for continued inclusion in the NASDAQ Index, the security will be replaced with the largest market capitalization security not currently in the NASDAQ Index and meeting the NASDAQ Index eligibility criteria listed above.

In addition to the Ranking Review, NASDAQ OMX has adopted the following weight adjustment procedures with respect to certain corporate actions. Changes arising from stock splits, stock dividends and certain spin-offs and rights offerings are made effective in the NASDAQ Index on the ex-date of such corporate action. If the change in total shares outstanding arising from other corporate actions is greater than or equal to 10%, the change will be made as soon as practicable. Otherwise, if the change in total shares outstanding is less than 10%, then all such changes are accumulated and made effective at one time on a quarterly basis after the close of trading on the third Friday in each of March, June, September and December. In any case, the index share weights for such NASDAQ Index securities are adjusted by the same percentage amount by which the total shares outstanding have changed in such NASDAQ Index securities.

## Calculation of the NASDAQ Index

The NASDAQ Index is a modified market capitalization weighted index. The value of the NASDAQ Index equals the aggregate value of the NASDAQ Index share weights of each of the NASDAQ Index securities multiplied by each such security's last sale price on the NASDAQ, which may be the NASDAQ official closing price (the "**Last Sale Price**"), and divided by the divisor of the NASDAQ Index. The divisor serves the purpose of scaling such aggregate value to a lower order of magnitude which is more desirable for NASDAQ Index reporting purposes. If trading in a NASDAQ Index security is halted on its primary listing market, the most recent Last Sale Price for that security is used for all index computations until trading on such market resumes. Likewise, the most recent Last Sale Price is used if trading in a security is halted on its primary listing market before the market is open.

The formula for index value is as follows:

Aggregate Adjusted Market Value/Divisor

The formula for the divisor is as follows:

Start of Day Aggregate Adjusted Market Value/Previous Day Index Value

Three versions of the NASDAQ Index are calculated – a price return index, a total return index and a notional net total return index.

- The price return index (NASDAQ: NDX) is calculated without regard to ordinary cash dividends on NASDAQ Index securities.
- The total return index (NASDAQ: XNDX) reinvests ordinary cash dividends on the ex-date. The total return index was synchronized to the value of the price return index at the close on March 4, 1999.
- The notional net total return index (NASDAQ: XNDXNNR) is designed to reflect a net total return index reinvesting 70% of cash dividends, and factors in a deduction based on an indicative 30% tax rate. The notional net total return index was synchronized to the value of the total return index at the close on October 7, 2011.

All three versions of the NASDAQ Index reflect extraordinary cash distributions.

The NASDAQ Index is calculated during the trading day based on the Last Sale Price and are disseminated once per second from 09:30:01 to 17:16:00 Eastern Time (ET). The closing value of the NASDAQ Index may change up until 17:15:00 ET due to corrections to the Last Sale Price of the NASDAQ Index securities.

## Rebalancing of the NASDAQ Index

On a quarterly basis, coinciding with the quarterly scheduled Index Share adjustment procedures, the NASDAQ Index will be rebalanced if it is determined that: (1) the current weight of the single largest market capitalization NASDAQ Index security is greater than 24% and (2) the "collective weight" of those NASDAQ Index securities whose individual current weights are in excess of 4.5%, when added together, exceed 48% of the NASDAQ Index. In addition, a special rebalancing of the NASDAQ Index may be conducted at any time if it is determined necessary to maintain the integrity of the NASDAQ Index.

If either one or both of these weight distribution requirements are met upon quarterly review or it is determined that a special rebalancing is required, a weight rebalancing will be performed.

First, relating to weight distribution requirement (1) above, if the current weight of the single largest NASDAQ Index security exceeds 24%, then the weights of all stocks greater than 1% (each, a "**Large Stock**") will be scaled down proportionately towards 1% by enough for the adjusted weight of the single largest NASDAQ Index security to be set to 20%.

Second, relating to weight distribution requirement (2) above, for those NASDAQ Index securities whose individual current weights or adjusted weights in accordance with the preceding step are in excess of 4.5%, if their "collective weight" exceeds 48%, then the weights of all Large Stocks will be scaled down proportionately towards 1% by just enough for the "collective weight," so adjusted, to be set to 40%.

The aggregate weight reduction among the Large Stocks resulting from either or both of the above rescalings will then be redistributed to those stocks less than or equal to 1% (each, a "**Small Stock**") in the following iterative manner.

In the first iteration, the weight of the largest Small Stock will be scaled upwards by a factor which sets it equal to the average NASDAQ Index weight of 1%. The weights of each of the smaller remaining Small Stocks will be scaled up by the same factor reduced in relation to each stock's relative ranking among the Small Stocks such that the smaller the NASDAQ Index security in the ranking, the less the scale-up of its weight. This is intended to reduce the market impact of the weight rebalancing on the smallest component securities in the NASDAQ Index.

In the second iteration, the weight of the second largest Small Stock, already adjusted in the first iteration, will be scaled upwards by a factor which sets it equal to the average NASDAQ Index weight of 1%. The weights of each of the smaller remaining Small Stocks will be scaled up by this same factor reduced in relation to each stock's relative ranking among the Small Stocks such that, once again, the smaller the stock in the ranking, the less the scale-up of its weight.

Additional iterations will be performed until the accumulated increase in weight among the Small Stocks exactly equals the aggregate weight reduction among the Large Stocks from rebalancing in accordance with weight distribution requirement (1) and/or weight distribution requirement (2).

Then, to complete the rebalancing procedure, once the final percent weights of each NASDAQ Index security are set, the NASDAQ Index share weights will be determined anew based upon the last sale prices and aggregate capitalization of the NASDAQ Index at the close of trading on the last day in February, May, August and November. Changes to the NASDAQ Index share weights will be made effective after the close of trading on the third Friday in March, June, September and December and an adjustment to the NASDAQ Index divisor is made to ensure continuity of the NASDAQ Index.

Ordinarily, new rebalanced weights will be determined by applying the above procedures to the current NASDAQ Index share weights. However, NASDAQ OMX may from time to time determine rebalanced weights, if necessary, by applying the above procedure to the actual current market capitalization of the NASDAQ Index components. In such instances, NASDAQ OMX would announce the different basis for rebalancing prior to its implementation.

During the quarterly rebalancing, data is cutoff as of the previous month end and no changes are made to the NASDAQ Index from that cutoff until the quarterly share change effective date with the single exception for corporate actions with an ex-date.

NASDAQ OMX may, from time to time, exercise reasonable discretion as it deems appropriate in making adjustments to ensure NASDAQ Index integrity.

## The Nikkei 225 Index

We have derived all information contained in this underlying supplement regarding the Nikkei 225 Index (the “**Nikkei Index**”), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by Nikkei Inc. (known as Nihon Keizai Shimbun, Inc. prior to January 1, 2007). The Nikkei Index was developed, and is calculated, maintained and published, by Nikkei Inc. Nikkei Inc. has no obligation to continue to publish, and may discontinue publication of, the Nikkei Index.

The Nikkei Index is reported by Bloomberg L.P. under the ticker symbol “NKY.”

### General

The Nikkei Index measures the composite price performance of selected Japanese stocks. As of the date of this underlying supplement, the Nikkei Index is based on 225 underlying stocks trading on the Tokyo Stock Exchange (“**TSE**”) representing a broad cross-section of Japanese industries. All 225 underlying stocks are stocks listed in the First Section of the TSE. Stocks listed in the First Section of the TSE are among the most actively traded stocks on the TSE. Nikkei Inc. rules require that the 75 most liquid issues (one-third of the component count of the Nikkei Index) be included in the Nikkei Index.

### Composition of the Nikkei Index

The 225 companies included in the Nikkei Index are divided into six sector categories: Technology, Financials, Consumer Goods, Materials, Capital Goods/Others and Transportation and Utilities. These six sector categories are further divided into 36 industrial classifications as follows:

- Technology—Pharmaceuticals, Electrical Machinery, Automobiles and Auto Parts, Precision Machinery, Telecommunications;
- Financials—Banking, Other Financial Services, Securities, Insurance;
- Consumer Goods—Fishery, Food, Retail, Services;
- Materials—Mining, Textiles and Apparel, Paper and Pulp, Chemicals, Petroleum, Rubber, Glass and Ceramics, Steel, Nonferrous Metals, Trading Companies;
- Capital Goods/Others—Construction, Machinery, Shipbuilding, Transportation Equipment, Other Manufacturing, Real Estate; and
- Transportation and Utilities—Railroads and Buses, Land Transport, Marine Transport, Air Transport, Warehousing, Electric Power, Gas.

### Standards for Listing and Maintenance

A Nikkei Underlying Stock may be deleted or added by Nikkei Inc. Any stock becoming ineligible for listing in the First Section of the TSE due to any of the following reasons will be deleted from the underlying stocks: (i) designated to “securities to be delisted” or delisted due to bankruptcy, (ii) delisted due to corporate restructuring such as a merger, share exchange or share transfer, (iii) designated to “securities to be delisted” (i.e. “Seiri” Meigara”) or delisted due to excess debt or other reasons or (iv) transfer of such stock to the Second Section. In addition, a component stock transferred to the “Kanri Meigara” (Posts for stocks under supervision) is in principle a candidate for deletion. underlying stocks with relatively low liquidity, based on trading value and rate of price fluctuation over the past five years, may be deleted by Nikkei. Upon deletion of a stock from the Nikkei Index, Nikkei Inc. will select a replacement for such deleted underlying stocks in accordance with certain criteria. In an exceptional case, a newly listed stock in the First Section of the TSE that is recognized by Nikkei Inc. to be representative of a market may be added to the underlying stocks. In such a case, an existing Underlying Stock with low trading volume and deemed not to be representative of a market will be deleted by Nikkei Inc.

A list of the issuers of the underlying stocks constituting the Nikkei Index is available from the Nikkei Economic Electronic Databank System and from the Stock Market Indices Data Book published by Nikkei Inc. Nikkei Inc. may delete, add or substitute any stock underlying the Nikkei Index. Nikkei Inc. first calculated and published the Nikkei Index in 1970.

## Calculation of the Nikkei Index

The Nikkei Index is a modified price-weighted index (i.e., a stock's weight in the Nikkei Index is based on its price per share rather than the total market capitalization of the issuer) where the sum of the constituent stock prices, adjusted by the presumed par value, is divided by a divisor. It is calculated by (i) converting the component stocks that do not have a par value of 50 yen to 50 yen par value, as described below, (ii) calculating the sum of the share prices of each component stock and (iii) dividing such sum by a divisor. Most listed companies in Japan have a par value of 50 yen. All companies included in the Nikkei Index are given an equal weighting based on a par value of 50 yen. Stocks with irregular par values are modified to reflect a 50 yen par value. For example, a stock with a 500 yen par value will have its share price divided by 10 to give a 50 yen par value price. Since January 5, 2010, the level of the Nikkei Index has been calculated every 15 seconds during TSE trading hours.

In order to maintain continuity in the Nikkei Index in the event of certain changes due to non-market factors affecting the underlying stocks, such as the addition or deletion of stocks, substitution of stocks, stock splits or distributions of assets to stockholders, the divisor used in calculating the Nikkei Index is adjusted in a manner designed to prevent any instantaneous change or discontinuity in the level of the Nikkei Index. Thereafter, the divisor remains at the new value until a further adjustment is necessary as the result of another change. As a result of such change affecting any Nikkei Underlying Stock, the divisor is adjusted in such a way that the sum of all share prices immediately after such change multiplied by the applicable weight factor and divided by the new divisor (i.e., the level of the Nikkei Index immediately after such change) will be equal to the level of the Nikkei Index immediately prior to the change.

## The Russell Indices

We have derived all information contained in this underlying supplement regarding the Russell 3000<sup>®</sup> Index, Russell 3000<sup>®</sup> Growth Index, Russell 3000<sup>®</sup> Value Index, Russell 2000<sup>®</sup> Index, Russell 2000<sup>®</sup> Growth Index, Russell 2000<sup>®</sup> Value Index, Russell 1000<sup>®</sup> Index, Russell 1000<sup>®</sup> Growth Index and the Russell 1000<sup>®</sup> Value Index (each a “**Russell Index**”, and together, the “**Russell Indices**”), including, without limitation, their make-up, method of calculation and changes in their components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by, Russell Investments (“**Russell**”). The Russell Indices were developed by Russell Investment Group (formerly, Frank Russell Company) and are calculated, maintained and published by Russell, a subsidiary of Russell Investment Group. Russell has no obligation to publish, and may discontinue the publication of, the Russell Indices.

For a discussion on the construction and methodology of the Russell Indices, see below under “Russell U.S. Equity Indices Construction and Methodology.”

### The Russell 3000<sup>®</sup> Index

The Russell 3000<sup>®</sup> Index measures the performance of the largest 3,000 U.S. companies representing approximately 98% of the investable U.S. equity market. The Russell 3000<sup>®</sup> Index is intended to provide a comprehensive, unbiased and stable barometer of the broad market and is completely reconstituted annually to ensure new and growing equities are reflected.

The Russell 3000<sup>®</sup> Index is reported by Bloomberg L.P. under the ticker symbol “RAY.”

### The Russell 3000<sup>®</sup> Growth Index

The Russell 3000<sup>®</sup> Growth Index measures the performance of the broad growth segment of the U.S. equity universe. It includes those Russell 3000 companies with higher price-to-book ratios and higher forecasted growth values. All component stocks of the Russell 3000<sup>®</sup> Growth Index are traded on a major U.S. stock exchange. The index is reconstituted annually to ensure new and growing equities are included and that the represented companies continue to reflect growth characteristics.

The Russell 3000<sup>®</sup> Growth Index is reported by Bloomberg L.P. under the ticker symbol “RAG.”

### The Russell 3000<sup>®</sup> Value Index

The Russell 3000<sup>®</sup> Value Index measures the performance of the broad value segment of U.S. equity value universe. It includes those Russell 3000 companies with lower price-to-book ratios and lower forecasted growth values. All component stocks of the Russell 3000<sup>®</sup> Value Index are traded on a major U.S. stock exchange. The index is reconstituted annually to ensure new and growing equities are included and that the represented companies continue to reflect value characteristics.

The Russell 3000<sup>®</sup> Value Index is reported by Bloomberg L.P. under the ticker symbol “RAV.”

### The Russell 2000<sup>®</sup> Index

The Russell 2000<sup>®</sup> Index measures the performance of the small-cap segment of the U.S. equity universe. The Russell 2000<sup>®</sup> Index is a subset of the Russell 3000<sup>®</sup> Index representing approximately 10% of the total market capitalization of that index. It includes approximately 2000 of the smallest securities based on a combination of their market capitalization and current index membership. The Russell 2000<sup>®</sup> Index is reconstituted annually to ensure larger stocks do not distort the performance and characteristics of the true small-cap opportunity set.

The Russell 2000<sup>®</sup> Index is reported by Bloomberg L.P. under the ticker symbol “RTY.”

### The Russell 2000<sup>®</sup> Growth Index

The Russell 2000<sup>®</sup> Growth Index measures the performance of the small-cap growth segment of the U.S. equity universe. It includes those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values. All component stocks of the Russell 2000<sup>®</sup> Growth Index are traded on a major U.S. stock exchange. The index is reconstituted annually to ensure larger stocks do not distort the performance and characteristics of the true small-cap opportunity set and that the represented companies continue to reflect growth characteristics.



The Russell 2000® Growth Index is reported by Bloomberg L.P. under the ticker symbol “RUO.”

### **The Russell 2000® Value Index**

The Russell 2000® Value Index measures the performance of small-cap value segment of the U.S. equity universe. It includes those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values. All component stocks of the Russell 2000® Value Index are traded on a major U.S. stock exchange. The index is reconstituted annually to ensure larger stocks do not distort the performance and characteristics of the true small-cap opportunity set and that the represented companies continue to reflect value characteristics.

The Russell 2000® Value Index is reported by Bloomberg L.P. under the ticker symbol “RUJ.”

### **The Russell 1000® Index**

The Russell 1000® Index measures the performance of the large-cap segment of the U.S. equity universe. It is a subset of the Russell 3000® Index and includes approximately 1,000 of the largest securities based on a combination of their market cap and current index membership. The Russell 1000 represents approximately 92% of the U.S. market. The Russell 1000® Index is reconstituted annually to ensure new and growing equities are reflected.

The Russell 1000® Index is reported by Bloomberg L.P. under the ticker symbol “RIY.”

### **The Russell 1000® Growth Index**

The Russell 1000® Growth Index measures the performance of the large-cap growth segment of the U.S. equity universe. It includes those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values. All component stocks of the Russell 1000® Growth Index are traded on a major U.S. stock exchange. The index is reconstituted annually to ensure new and growing equities are included and that the represented companies continue to reflect growth characteristics.

The Russell 1000® Growth Index is reported by Bloomberg L.P. under the ticker symbol “RLG.”

### **The Russell 1000® Value Index**

The Russell 1000® Value Index measures the performance of the large-cap value segment of the U.S. equity universe. It includes those Russell 1000 companies with lower price-to-book ratios and lower expected growth values. All component stocks of the Russell 1000® Value Index are traded on a major U.S. stock exchange. The index is reconstituted annually to ensure new and growing equities are included and that the represented companies continue to reflect value characteristics.

The Russell 1000® Value Index is reported by Bloomberg L.P. under the ticker symbol “RLV.”

## **Russell U.S. Equity Indices Construction and Methodology**

All Russell U.S. equity indices are subsets of the Russell 3000E™ Index, the broadest U.S. index that contains the largest 4,000 companies by market capitalization incorporated in the U.S. and its territories. Sub-indices in the Russell 3000E™ Index are broken out by market capitalization and style. The members of the Russell 3000E™ Index and its subsets are determined each year during annual reconstitution and enhanced quarterly with the addition of initial public offerings (“IPOs”).

### ***Quarterly Initial Public Offerings***

Eligible IPOs are added to Russell U.S. Indices at the end of each calendar quarter. IPOs are added each quarter to make sure new additions to the investing opportunity set are reflected in Russell’s representative indexes. Russell focuses on IPOs each quarter because they were not available at reconstitution, and it is important to reflect market additions between reconstitution periods. Companies filing an initial public offering registration statement (or local equivalent if outside of the U.S.) and listing within the same quarter on an eligible US exchange, regardless of previous trading activity, are reviewed for eligibility.

### ***Security Inclusion Criteria***

**U.S. Incorporated Companies and U.S. Benefit-Driven Incorporated Companies.** U.S. companies are eligible for inclusion in the Russell 3000E™ Index and, consequently, the Russell Indices. Russell uses the following method for determining whether a company is a U.S. company. If a company incorporates in, has a stated headquarters location in,

and also trades in the same country (ADRs and ADSs are not eligible), the company is assigned to its country of incorporation. If any of the three do not match, Russell then defines 3 Home Country Indicators (“HCIs”). The HCIs are as follows:

- country of incorporation;
- country of headquarters; and
- country of the most liquid exchange as defined by 2-year average daily dollar trading volume (ADDTV) from all exchanges within a country.

After the HCIs are defined, the next step in the country assignment involves an analysis of assets by location. Russell cross-compares the primary location of the company's assets with the three HCIs. If the primary location of assets matches any of the HCIs, then the company is assigned to its primary asset location.

If there is not enough information to determine a company's primary country of assets, Russell uses the primary location of the company's revenue for the same cross-comparison and assigns the company to the appropriate country in a similar fashion. Russell uses an average of two years of assets or revenues data for analysis to reduce potential turnover.

If conclusive country details cannot be derived from assets or revenue, Russell assigns the company to the country where its headquarters are located, unless the country is a Benefit Driven Incorporation (BDI) country. If the country in which its headquarters are located is a BDI country, the company is assigned to the country of its most liquid stock exchange. The BDI countries are: Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Bonaire, British Virgin Islands, Cayman Islands, Channel Islands, Cook Islands, Curacao, Faroe Islands, Gibraltar, Isle of Man, Liberia, Marshall Islands, Panama, Saba, Sint Eustatius, Sint Maarten, and Turks and Caicos Islands.

**Trading Requirements.** All securities eligible for inclusion in Russell indices must trade on a major U.S. exchange. Bulletin board, pink sheet or OTC traded securities are not eligible for inclusion. FINRA Alternative Display Facility pricing is not recognized.

**Minimum Closing Price.** Stocks must have a close price at or above \$1.00 (on its primary exchange or an eligible secondary exchange) on the last trading day in May to be considered eligible for inclusion. In order to reduce unnecessary turnover, if an existing member's closing price is less than \$1.00 on the last day of May, it will be considered eligible if the average of the daily closing prices (from its primary exchange) during the month of May is equal to or greater than \$1.00. If an existing index member does not trade on the last trading day in May, it must price at \$1.00 or above on another eligible U.S. exchange to remain eligible. Quarterly IPO additions must have a close price on its primary exchange or an eligible security exchange at or above \$1.00 on the last day of the IPO eligibility period in order to qualify for index inclusion.

**Minimum Total Market Capitalization.** Companies with a total market capitalization less than \$30 Million are not eligible for the Russell U.S. Indices.

**Minimum Available Shares/Float Requirement.** Companies with only a small portion of their shares available in the marketplace are not eligible for the Russell Indices. Companies with 5% or less will be removed from eligibility. When unavailable shares are determined to be 94.5% or greater, this figure will be rounded to 95%.

**Company Structure.** Companies structured in the following ways are excluded from inclusion in Russell indices: royalty trusts, U.S. limited liability companies, closed-end investment companies (business development companies are no longer eligible effective July 2014), blank check companies, special purpose acquisition companies (“SPACs”), and limited partnerships.

**Shares Excluded.** Because Russell indices are meant to capture performance of each company's primary equity vehicle, the following share types are not eligible for inclusion: preferred and convertible preferred stock, redeemable shares, participating preferred stock, warrants, rights, and trust receipts.

**Deadline for Inclusion.** Stocks must be listed on the last trading day in May and Russell must have access to documentation on that date supporting the company's eligibility for inclusion. This includes corporate description, verification of incorporation, number of shares outstanding and other information needed to determine eligibility. IPOs will be considered for inclusion on a quarterly basis.

### **Defining Membership by Size (Market Capitalization)**

Russell calculates the total market capitalization of each security to determine whether it is large enough for inclusion in one or more of the Russell Indices. Total market capitalization is determined by multiplying total outstanding shares by the market price as of the last trading day in May for those securities being considered at annual reconstitution. IPO eligibility is determined each quarter.

**Determining Total Shares Outstanding.** Common stock, non-restricted exchangeable shares and membership interests (in certain cases) are used to calculate a company's total market capitalization. Exchangeable Shares are shares which may be exchanged any time, at the holder's option, on a one-for-one basis for common stock. Membership or partnership units/interests represent an economic interest in a limited liability company or limited partnership. In certain cases, publicly listed companies are structured as holding companies whose sole asset is its ownership of membership interests in a limited liability company. In these cases, total market capitalization will be calculated based on 100% of the value of all membership interests.

Any other form of shares – such as preferred or convertible preferred stock, redeemable shares, participating preferred stock, warrants and rights or trust receipts – are excluded from the calculation. If multiple share classes of common stock exist, they are combined. In cases where the common stock share classes act independently of each other (e.g., tracking stocks), each class is considered for inclusion separately.

**Determining Price.** During annual reconstitution, the last price traded on the last trading day in May on the primary exchange is used to determine market capitalization. If a security does not trade on its primary exchange, the lowest price above \$1.00 from another eligible U.S. exchange is used.

**Primary Trading Vehicle.** If an eligible company trades under multiple share classes, Russell will review each share class independently for U.S. index inclusion. Share classes in addition to the primary share class (primary vehicle) that meet minimum size, liquidity and float requirements will also be eligible. If the additional share class does not meet the requirements, the shares will be aggregated with the primary share class (primary vehicle) to maintain a representative index weight for the company. For reconstitution ranking purposes, all share classes for a company, including unlisted shares will be aggregated and total market cap will be based on the primary vehicle's closing price. Rank will be determined based on cumulative market capitalization. For companies with multiple share classes, the primary vehicle will be designated as the share class with the highest two-year trading volume as of the last trading day in May. In the absence of two years' worth of data, all available data will be used in the determination. If the difference between trading volumes for each share class is less than 20%, the share class with the most available shares outstanding will be used as the primary vehicle.

**Initial Public Offerings.** IPOs are added to Russell's U.S. index family on the basis of total market capitalization ranking within the market-adjusted capitalization breaks established during the most recent reconstitution. Country assignment determination is made using data provided in prospectuses or other filings. Market adjustments to the capitalization breaks will be made using the returns of the broad market Russell 3000E™ Index. Eligible IPOs will be added to the Russell growth/value indexes using their industry's average style probability established at the latest reconstitution. All IPOs are assigned as 100% dynamic for the Stability indexes.

In order to be added during a quarter outside of reconstitution, IPOs must meet all Russell U.S. index eligibility requirements. Additionally, IPOs must meet the following criteria on the final trading day of the month prior to quarter-end: (1) it is priced and traded; and (2) rank larger in total market capitalization than the market-adjusted smallest company in the Russell 3000E™ Index as of the latest June reconstitution.

**Determining Index Membership.** Once the market capitalization for each security is determined by use of total shares and price (as described above), each security is placed in the appropriate Russell market capitalization-based index. The largest 4,000 securities become members of the Russell 3000E™ Index. If eligible securities total less than 4,000, the Russell 3000E™ and Russell Microcap® Index will include all eligible securities. The other index capitalization breaks remain unchanged. All remaining indices are a subset of this index. A market capitalization breakpoint is determined by the break between the companies below.

Index	Companies Included (based on descending total market capitalization)
Russell 3000E™ Index .....	Companies #1 – 4,000 or 100% of the eligible securities
Russell 3000® Index .....	Companies #1 – 3,000
Russell Top 50 Mega Cap Index	Companies #1 – 50
Russell Top 200® Index .....	Companies #1 – 200
Russell 1000® Index .....	Companies #1 – 1,000

Index	Companies Included (based on descending total market capitalization)
Russell Midcap <sup>®</sup> Index .....	Companies #201 – 1,000
Russell 2000 <sup>®</sup> Index .....	Companies #1,001 – 3,000
Russell 2500 <sup>®</sup> Index .....	Companies #501 – 3,000
Russell Microcap <sup>®</sup> Index .....	Companies #2,001 – 4,000

After the initial market capitalization breakpoints are determined by the ranges listed above, new members are assigned on the basis of the breakpoints and existing members are reviewed to determine if they fall within a cumulative 5% market cap range around these new market capitalization breakpoints. If an existing member's market cap falls within this cumulative 5% of the market capitalization breakpoint, it will remain in its current index rather than be moved to a different market capitalization-based Russell index. Companies that fall on the edge of market capitalization breakpoints are often still within the manager's opportunity set, since they have not significantly grown or declined in market capitalization.

Exceptions: There will be no percentile banding at the bottom of the Russell 3000<sup>®</sup> Index (stock 3000) or the Russell 3000E<sup>™</sup> Index (stock 4000). In addition, due to the small market cap percentage, the Russell Microcap<sup>®</sup> Index will be banded at 1% around stock 2000.

Steps in calculating percentile ranges of the new index:

- Sort the Russell 3000E<sup>™</sup> Index members in descending order by total market capitalization.
- Calculate the total market capitalization of the Russell 3000E<sup>™</sup> Index by summing all members' total market capitalizations.
- Calculate percentiles for each company in the Russell 3000E<sup>™</sup> Index by dividing the cumulative market cap associated with each member by the total market cap of the Russell 3000E<sup>™</sup> index.
- Calculate a range of five percentiles around the newly determined market cap breakpoints, by subtracting, and then adding, 2.5% from/to the calculated percentile of the market cap breakpoint.

#### ***Adjustments to Members' Shares Outstanding (Float)***

After membership is determined, a security's shares are adjusted to include only those shares available to the public. This is often referred to as "free float." The purpose of this adjustment is to exclude from market calculations the capitalization that is not available for purchase and is not part of the investable opportunity set. Stocks in the Russell U.S. Indexes are weighted by their available (also called float-adjusted) market capitalization, which is calculated by multiplying the primary closing price by the available shares. Adjustments to shares are reviewed at reconstitution and for major corporate actions such as mergers.

**Capitalization Adjustments.** The following types of shares are removed from total market capitalization to arrive at free float or available market capitalization. Adjustments are based on information recorded in SEC corporate filings or other reliable sources in the event of missing or questionable data:

- Cross-ownership by another Russell 3000E<sup>™</sup> Index or Russell Global Index member: Shares held by another member of a Russell index (including Russell global indexes) is considered cross-ownership, and all shares will be adjusted regardless of percentage held.
- Large corporate and private holdings: Shares held by another listed company (non-member) or by private individuals will be adjusted if they are greater than 10% of shares outstanding. Share percentage is determined by those shares held by either an individual or a group of individuals acting together. For example, officers' and directors' holdings would be summed together to determine whether they exceed 10%. Not included in this class, however, are institutional holdings, including investment companies, partnerships, insurance companies, mutual funds, banks or venture capital firms unless these firms have a direct relationship to the company, such as board representation. In that case, they are considered strategic holdings and are included with the officers/directors group.
- ESOP or LESOP shares that comprise 10% or more of the shares outstanding are adjusted.
- Unlisted share classes: Classes of common stock that are not traded on a U.S. exchange are adjusted.
- IPO lock-ups: Shares locked up during an initial public offering are not available to the public and will be excluded from the market value at the time the IPO enters the index.
- Government Holdings: (i) Direct government holders: Those holdings listed as "government of" are considered unavailable and will be removed entirely from available shares. (ii) Indirect government holders: Shares held by government investment boards and/or investment arms will be treated similar to large private holdings and

removed if the holding is greater than 10%. (iii) Government pensions: Any holding by a government pension plan is considered institutional holdings and will not be removed from available shares.

### **Determining Style**

Russell uses a non-linear probability method to assign stocks to the growth and value style indices. The term probability is used to indicate the degree of certainty that a stock is value or growth, based on its relative book-to-price (“B/P”) ratio, I/B/E/S forecast medium-term growth (2 year) and sales per share historical growth (5 year). This method allows stocks to be represented as having both growth and value characteristics, while preserving the additive nature of the indices.

The process for assigning growth and value weights is applied separately to the stocks in the Russell 1000<sup>®</sup> Index and Russell 2000<sup>®</sup> Index and to the smallest 1,000 stocks in the Russell Microcap<sup>®</sup> indices. Russell believes that treating the Russell 1000, Russell 2000 and smallest Russell Microcap stocks separately prevents the possible distortion to relative valuations that may occur if the Russell 3000E<sup>™</sup> Index is used as the base index.

For each base index (the Russell 1000<sup>®</sup> and Russell 2000<sup>®</sup>, and the smallest 1000 in Russell Microcap<sup>®</sup>), stocks are ranked by their adjusted B/P ratio, their I/B/E/S forecast medium-term growth (2 year) and sales per share historical growth (5 year). These rankings are converted to standardized units, where the value variable represents 50% of the score and the two growth variables represent the remaining 50%. They are then combined to produce a composite value score (“CVS”). Stocks are then ranked by their CVSs, and a probability algorithm is applied to the CVS distribution to assign growth and value weights to each stock. In general, a stock with a lower CVS is considered growth, a stock with a higher CVS is considered value and a stock with a CVS in the middle range is considered to have both growth and value characteristics, and is weighted proportionately in the growth and value index. Stocks are always fully represented by the combination of their growth and value weights; e.g., a stock that is given a 20% weight in a Russell value index will have an 80% weight in the same Russell growth index.

**The 5% Rule.** Roughly 70% of the available market capitalization is classified as all-growth or all-value. The remaining 30% of stocks have some portion of their market value in either the value or growth index, depending on their relative distance from the median value score. Since the percentage of capitalization between the first quartile and the third quartile is 50%, 50% of the capitalization would be found in both indices. The source for the disappearance of the 20% is Russell’s decision to institute a small position cutoff rule. If a stock’s weight is more than 95% in one style index, Russell increases its weight to 100% in that index. This rule eliminates many small weightings and makes passive management easier.

**Banding Rule.** In an effort to mitigate unnecessary turnover, Russell implements a banding methodology at the CVS level of the growth and value style algorithm. If a company’s CVS change from the previous year is less than or equal to +/- 0.10 and if the company remains in the same core index (Russell 1000 or Russell 2000), then the CVS remains unchanged during the next reconstitution process. Keeping the CVS static for these companies does not mean the probability (growth/value) will remain unchanged in all cases due to the relation of a CVS score to the overall index. However, this banding methodology has proved to reduce turnover caused by smaller, less meaningful movements while continuing to allow the larger, more meaningful changes to occur, signaling a true change in a company’s relation to the market.

**Market Capitalization of Growth and Value Indices.** The market capitalization of the growth and value style indexes may not each equal 50% of their base index. At first this seems counterintuitive, since the methodology uses capitalization-weighted medians and quartiles, which in turn implies that 50% of the capitalization is above and below the median. However, asymmetry in the capitalization distributions within the second and third quartiles results in a skewed distribution of CVS. When CVS is normally distributed, 50% will be in each index.

**Missing Values, Negative Values or Low Coverage.** Stocks with missing or negative values for B/P, or missing values for Institutional Brokers’ Estimate System (“I/B/E/S”) long-term growth mean (negative I/B/E/S medium-term growth is valid), or missing sales per share historical growth (5 yr) (6 years of quarterly numbers are required) are allocated by using the mean value score of the base index (Russell 1000, Russell 2000, Russell Microcap Small) industry, subsector, or sector group into which the company falls. Each missing (or negative BP) variable is substituted with the industry, subsector or sector group independently. An industry must have five members or the substitution reverts to the subsector, and so forth to the sector. Russell believes this method produces the fewest distortions. In addition, a weighted value score is calculated for securities with low analyst coverage for I/B/E/S medium-term growth. For securities with coverage by a single analyst, 2/3 of the industry, subsector or sector group value score is weighted with 1/3 of the security’s independent value score. For those securities with coverage by 2 analysts, 2/3 of the independent security’s value score

is used and only 1/3 of the industry, subsector or sector group is weighted. For those securities with at least three analysts contributing to the I/B/E/S medium-term growth, 100% of the independent security's value score is used.

**Book Value Adjustments.** Correct book value is critical in determining book to price (B/P) measures. Therefore, the following method is used to estimate the proper adjustments to B/P and book value. A company's reported book value is adjusted to reflect write-offs stemming from the Financial Accounting Standards Board (FASB) – issued Statement of Financial Accounting Standards numbers 106 and 109 (FAS 106 & 109) since June 30, 1993. Assuming that each company amortized the FAS 106 & 109 transition obligations over a 20-year period beginning with year of adoption, the unamortized portion of the write-off is added back to the reported book value. During reconstitution 2007, Russell also made an adjustment to book value for FASB 158. The date companies were required to be compliant left non-comparable book values across companies for reconstitution in June. However, in 2008, all companies were required to comply with the standard making companies evenly compared and the adjustment unnecessary. The adjusted book-to-price ratio is calculated by use of this adjusted book value; the adjusted ratio is used in place of reported book-to-price when ranking companies for style.

### ***Corporate Action-Driven Changes***

Russell applies corporate actions to the indexes on a daily basis, both to reflect the evolution of securities and to assure that the indexes remain highly representative of the U.S. equity market. A company's index membership and its weight in the index can be impacted by these corporate actions. Russell uses a variety of reliable public sources to determine when an action is final, including a company's press releases and regulatory filings; local exchange notifications; and official updates from other data providers Russell deems trustworthy.

Prior to the completion of an action, Russell estimates the effective date of the corporate action on the basis of the same above sources. As new information becomes available, Russell may revise the anticipated effective date and terms of the corporate action, before ultimately confirming its effective date.

Depending upon the time an action is determined to be final, Russell will either apply the action before the open on the ex-date, or apply the action providing appropriate notice, referred to as a "delayed action." The timing of when corporate actions are applied is critical for accurate market representation, and it impacts the tracking for passive managers. The impact of the action and the effective date will be communicated to clients on a regular schedule, via the daily cumulative change files and the corporate action calendar.

**"No Replacement" Rule.** Securities that leave an index for any reason (e.g., mergers, acquisitions or other similar corporate activities) are not replaced. Thus, the number of securities in the indices over the year will fluctuate according to corporate activity.

**Mergers and Acquisitions ("M&A").** M&As may result in changes to index membership as well as to the shares included in the Russell Index and a company's style probabilities. M&A activity is applied to the index after the action is determined to be final, providing appropriate notice. To avoid unnecessary delays, Russell may consider M&A transactions 'final', prior to shareholder approval, or prior to a delisting notice. Russell will consider prevailing shareholder sentiment, board/director recommendations, exchange notification, and stock price versus deal value when making this decision.

In the event a merger or acquisition occurs between members of the Russell 3000E™ Index or the Russell Global Index, the acquired company is deleted and its market capitalization simultaneously moves to the acquiring company's stock, according to the merger terms. Cross-ownership and style of the surviving entity is determined by a weighted average (by market value) of the cross-ownership and style probabilities of the two (or more) previous companies prior to the merger. Market values the day before the Russell effective date are used for this determination. Given sufficient market hours after the confirmation of the M&A, Russell effects the action after the close on the last day of trade of the target company.

If Russell is able to determine the status of the action to be final prior to 1:00pm Eastern Time, these actions will be applied after the close of the current day. If Russell is able to determine the status of the action to be final after 1:00pm Eastern Time, these actions will be deemed a "delayed action" and will be applied after the close of the following day. A synthetic position of the company will remain in the index for one day, and a calculated closing price for the acquired entity or merged entity will be established. The calculated price is determined by the terms of the action and based on the last traded price of the acquiring company.

A merger or acquisition between one member of the Russell 3000E™ Index and one non-member (a company that is not a member of the Russell 3000E™ Index or the Russell Global Index) can take two forms: (1) The acquiring company is a member of the Russell 3000E™ Index and the target company is not; or (2) The acquiring company is not a member, but

the target company is a member. If the target company is the index member, it is deleted from the index after the action is determined as final. If the acquiring company is the index member, its shares are adjusted by adding the target company's market capitalization through a month-end share adjustment (if the increase in shares is greater than 5%).

In the event of a merger or acquisition in which the acquiring company and the target company are in different countries, Russell applies the action when the transaction is determined as final. The target company is deleted from its local country index and the company's market capitalization moves to the acquiring stock according to the transaction terms. Cumulative market capitalization of the acquiring company increases, while the cumulative market capitalization of the target company decreases by the same amount.

When a Russell 3000E™ Index member is acquired or merged with a private, non-publicly traded company or OTC company, Russell will review the action to determine whether it is considered a reverse merger. A reverse merger is defined as a transaction that results in a publicly traded company that meets all requirements for inclusion in a Russell index. If it is determined that an action is a reverse merger, the following rules will be applied:

- The newly formed entity will be placed in the appropriate market capitalization index after the close of the first day's trade following the completion of the merger. Index placement will be determined by using the market-adjusted breakpoints from the last reconstitution.
- The acquired company will be simultaneously removed from the current index, capturing synthetic performance for the day of the delay.
- The growth/value of the surviving entity is determined by the industry average.
- Cross-ownership will be determined on the basis of the most recent SEC filings.

The acquired company is deleted after the action is final.

**Re-incorporations.** Members of the index that are reincorporated to another country are analyzed for country assignment the following year during reconstitution, as long as they continue to trade in the United States. Companies that reincorporate and no longer trade in the United States are immediately deleted from the U.S. indexes and placed in the appropriate country within the Russell Global Index. Those that reincorporate to the U.S. during the year will be assessed during reconstitution for membership.

**Reclassifications of Shares (Primary Vehicles).** Primary vehicles will not be assessed or changed outside of a reconstitution period unless the existing class ceases to exist. In the event of extenuating circumstances signaling a necessary primary vehicle change, proper notification will be made.

**Rights Offerings.** Russell will not apply poison pill rights or entitlements that give shareholders the right to purchase ineligible securities such as convertible debt. Russell will only adjust the index to account for a right if the subscription price of the right is at a discount to the market price of the stock. Provided Russell has been alerted to the rights offer prior to the ex-date, a price adjustment will be applied before the open on the ex-date to account for the value of the rights, and shares increased according to the terms of the offering. The treatment is consistent for both transferable and non-transferable rights. If Russell is unable to provide prior notice, the price adjustment and share increase will be delayed until appropriate notice is given. In these circumstances, the price of the stock involved is adjusted to delay the performance due to the rights issue.

**Changes to Shares Outstanding.** Changes to shares outstanding due to buybacks (including Dutch auctions), secondary offerings, and other potential changes are updated at the end of each month. For a change in shares to occur, the cumulative change to available shares must be greater than 5%. Share changes that are confirmed by our vendors and verified by Russell by use of an SEC filing at least six days prior to month end are implemented and communicated to clients who subscribe at the Premier level five trading days prior to month end. The float factor last determined is applied to the new shares. If the float factor has been updated since reconstitution due to the implementation of a corporate action, the updated float factor will be used. If any new shares issued are unavailable according to the filing, that portion will not be added to the index.

Changes to available shares outstanding due to merger activity between index and non-index members will be implemented if the availability of the newly issued shares can be confirmed within the appropriate filings or press releases. When the new shares are partially available, Russell will increase shares per the available amount if the cumulative change to available shares outstanding is greater than 5%. When the availability of new shares cannot be confirmed with an appropriate source, Russell will defer any increase to the next reconstitution, allowing for further information to be announced. This applies to mergers with both publicly listed and privately held non-index members.

November and December month-end share changes will be processed as one event after the close on the third Friday of each December along with fourth quarter IPO additions. This date is used rather than December month end due to low liquidity in the financial markets at year end and the proximity of a separate November month-end process. Because annual reconstitution occurs in June, month-end share changes are not scheduled for the month of June. Residual changes to shares outstanding that are not addressed as part of the annual reconstitution process are rolled into the following July month-end process.

**Spin-offs.** For domestic spin-offs, spin-off companies are added to the Russell Indices at the time they are spun-off from their parent company, subject to the following rules. The spun-off company must meet all index eligibility requirements and its market cap must be larger than the market adjusted total market cap of the smallest company in the Russell 3000E at the latest reconstitution. The newly formed entity will be placed in the parent's index on the completion date and the spun-off company's style index is determined by the style index membership of the parent entity. The parent company's market value will be reduced simultaneously on the Russell effective date.

A spun-off company may be assigned to a different country from the parent, if any of its home country indicators differ from those of the parent. Consequently, the spin-off company may become a member of the Russell Global Index. Otherwise, the same rules apply between domestic or cross-border spin-off additions.

**Tender Offers.** In the case of a cash tender offer, the target company will be removed from the index when (a) the offer period completes (initial, extension or subsequent); and (b) shareholders have validly tendered, not withdrawn, and the shares have been accepted for payment; and (c) all regulatory requirements have been fulfilled; and (d) the acquiring company is able to finalize the acquisition via short-form merger, top-up option or other compulsory mechanism.

If the requirements have been fulfilled, with the exception being that the acquirer is unable to finalize the acquisition through a compulsory mechanism, an adjustment will be applied to the target company's float-adjusted shares if they have decreased by 30% or more, and the tender offer has fully completed and closed. If the acquiring company is issuing stock as part of the tender offer, the float-adjusted shares of that company will be increased concurrently with the decrease in the target company's float-adjusted shares. Any adjustment will occur on a date pre-announced by Russell.

**Voluntary Exchange Offers.** A publicly traded company may offer to exchange or split-off some or all of its ownership in a separate publicly traded company. Shareholders are given the option to retain their shares; or to exchange them, in full or in part, for shares of the 'split-off' company. Once the offer expires, Russell will decrease the available shares in the offering company, and increase the available shares of the 'split-off' company, based on the results of the offering. Russell will effect this change based on, but not limited to, preliminary results, company filings, and exchange notices.

**Delisting.** Only companies listed on U.S. exchanges are included in the Russell U.S. indices. Therefore, when a company is delisted from a U.S. exchange and moved to OTC, the company is removed from the Russell Indices. When this occurs, the company is removed either at the close of the current day at the last traded price, or the following day, using the closing OTC price.

**Bankruptcy and Voluntary Liquidations.** Companies filing for Chapter 7 bankruptcy or have filed a liquidation plan will be removed from the Russell U.S. indices at the time of filing. Companies filing for Chapter 11 reorganization bankruptcy will remain members of the index, unless the companies are delisted from the primary exchange. In that case, normal delisting rules will apply.

**Stock Distributions.** Stock distributions can take two forms: (1) a stated amount of stock distributed on the ex-date, or (2) an undetermined amount of stock based on earnings and profits to be distributed at a future date. In both cases, a price adjustment is done on the ex-date of the distribution. Shares are increased on the ex-date for category (1) and on the pay-date for category (2).

**Dividends.** Gross dividends are included in the daily total return calculation of the indexes on the basis of their ex-dates. The ex-date is used rather than the pay-date, because the marketplace price adjustment for the dividend occurs on the ex-date. Monthly, quarterly and annual total returns are calculated by compounding the reinvestment of dividends daily. The reinvestment and compounding is at the total index level, not at the security level. For special cash dividends, the price of the stock is adjusted to deduct the dividend amount before the open on the ex-date. A dividend will be deemed as special if the distributing company describes it as such. However, on occasions where 'special' dividends are paid in a regular pattern or amount, the dividend will be treated as regular.

**Halted Securities.** Halted securities are not removed from the Russell Indices until the time they are actually delisted from the exchange. If a security is halted, it remains in the index at the last traded price from the primary exchange until the time the security resumes trading or is officially delisted.



## The S&P Dow Jones Indices

We have derived all information contained in this underlying supplement regarding the Dow Jones Industrial Average<sup>SM</sup>, the Dow Jones U.S. Financials Index, the Dow Jones U.S. Real Estate Index, the Dow Jones U.S. Select Regional Banks Index, The Dow Jones-UBS Commodity Index<sup>SM</sup>, S&P Composite 1500 Index, the S&P SmallCap 600 Index, S&P 500<sup>®</sup> Index, the S&P MidCap 400<sup>®</sup> Index, the S&P 100 Index, the S&P U.S. Carbon Efficient Index, the S&P Select Industry Indices, the S&P Select Sector Indices, the S&P/ASX 200 Index and the S&P GSCI<sup>®</sup> Commodity Indices (each an “**S&P Dow Jones Index**,” and together, the “**S&P Dow Jones Indices**”), including, without limitation, their make-up, method of calculation and changes in their components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information.

Such information reflects the policies of, and is subject to change by, Standard and Poor's (“**S&P**”), a division of The McGraw-Hill Companies, Inc. or Dow Jones & Company, Inc. (“**Dow Jones**”), as applicable. The Dow Jones Industrial Average<sup>SM</sup>, the Dow Jones U.S. Financials Index, the Dow Jones U.S. Real Estate Index and the Dow Jones U.S. Select Regional Banks Index are calculated, maintained and published by Dow Jones. S&P Composite 1500 Index, the S&P SmallCap 600 Index, S&P 500<sup>®</sup> Index, the S&P MidCap 400<sup>®</sup> Index, the S&P 100<sup>®</sup> Index, the S&P U.S. Carbon Efficient Index, the S&P Select Industry Indices, the S&P Select Sector Indices, the S&P/ASX 200 Index and the S&P GSCI<sup>®</sup> Commodity Indices were developed, and are calculated, maintained and published by S&P. S&P and Dow Jones have no obligation to continue to publish, and may discontinue publication of, these indices.

On July 2, 2012, the McGraw-Hill Companies and CME Group announced the launch of S&P Dow Jones Indices, a joint venture that combines S&P Indices and Dow Jones Indices. McGraw-Hill owns 73 percent of S&P Dow Jones Indices, CME Group owns 24.4 percent through its affiliates, and Dow Jones & Company, Inc. indirectly owns 2.5 percent. The new company will be part of the new McGraw-Hill Financial Company, following the separation of The McGraw-Hill Companies into two public companies.

## The Dow Jones Indices

### *The Dow Jones Industrial Average<sup>SM</sup>*

The Dow Jones Industrial Average<sup>SM</sup> is a price-weighted index comprised of 30 common stocks selected at the discretion of the editors of The Wall Street Journal (the “WSJ”), which is published by Dow Jones, as representative of the broad market of U.S. industry.

There are no pre-determined criteria for selection of a component stock except that component companies represented by the Dow Jones Industrial Average<sup>SM</sup> should be established U.S. companies that are leaders in their industries. The Dow Jones Industrial Average<sup>SM</sup> serves as an indicator that reflects the performance of the entire U.S. market, including such sectors as financial services, technology, retail, entertainment and consumer goods, and is not limited to traditionally defined industrial stocks. It does not include the transportation and utilities sectors. While stock selection is not governed by quantitative rules, a stock is typically added only if the company is deemed to have a strong reputation, demonstrates sustained growth and is of interest to a large number of investors. Maintaining adequate sector representation within the index is also a consideration.

The Dow Jones is maintained by the “**Averages Committee**”, which is comprised of the Managing Editor of *The Wall Street Journal*, the head of Dow Jones Indexes research and the head of CME Group research. The Averages Committee was created in 2010, when Dow Jones Indexes became part of CME Group Index Services, LLC, a joint venture company owned 90% by CME Group Inc. and 10% by Dow Jones & Company.

Changes in the composition of the Dow Jones Industrial Average<sup>SM</sup> are made entirely by the Averages Committee without consultation with the component companies represented in the Dow Jones Industrial Average<sup>SM</sup>, any stock exchange, any official agency or us. In order to maintain continuity, changes to the component stocks included in the Dow Jones Industrial Average<sup>SM</sup> tend to be rare and generally occur only after corporate acquisitions or other dramatic shifts in a component company's core business. When one component stock is replaced, the entire index is reviewed. As a result, multiple component changes may be implemented simultaneously. The component stocks of the Dow Jones Industrial Average<sup>SM</sup> may be changed at any time for any reason.

The Dow Jones Industrial Average<sup>SM</sup> is price-weighted rather than market capitalization-weighted. Therefore, the component stock weightings are affected only by changes in the stocks' prices, in contrast with the weightings of other indices that are affected by both price changes and changes in the number of shares outstanding. The value of the Dow Jones Industrial Average<sup>SM</sup> is the sum of the primary exchange prices of each of the 30 common stocks included in the Dow Jones Industrial Average<sup>SM</sup>, divided by a divisor. The divisor is changed in accordance with a mathematical formula to adjust for stock dividends, splits, spin-offs and other corporate actions such as rights offerings and extraordinary dividends. Normal cash dividends are not taken into account in the calculation of the Dow Jones Industrial Average<sup>SM</sup>. The current divisor of the Dow Jones Industrial Average<sup>SM</sup> is published daily in the WSJ and other publications. While this methodology reflects the current practice in calculating the Dow Jones Industrial Average<sup>SM</sup>, no assurance can be given that Dow Jones will not modify or change this methodology.

### *The Dow Jones U.S. Financials Index*

The Dow Jones U.S. Financials Index measures the performance of the financial industry portion of the United States equity market. Dow Jones U.S. Financials Index components are drawn from the Banking, Insurance and Financial Services (including Real Estate) supersectors. The Dow Jones U.S. Financials Index is a subset of the Dow Jones U.S. Index which in turn is a subset of the Dow Jones Global Index, a benchmark family that follows stocks from 48 countries.

### *The Dow Jones U.S. Real Estate Index*

The Dow Jones U.S. Real Estate Index measures the performance of the real estate sector of the United States equity market. Component companies include those that invest directly or indirectly through development, management or ownership of properties, and Real Estate Investment Trusts (REITs). REITs are passive investment vehicles that invest primarily in income-producing real estate or real estate related loans and interests.

The Dow Jones U.S. Real Estate Index is one of the 19 supersector indices that make up the Dow Jones U.S. Index (formerly known as the Dow Jones U.S. Total Market Index). The Dow Jones U.S. Real Estate Index is a subset of the Dow Jones U.S. Financials Index, which in turn is a subset of the Dow Jones U.S. Index. The Dow Jones U.S. Index is part of the Dow Jones Global Index, a benchmark family that targets 95% coverage of markets open to foreign investment, and tracks 48 countries.

## ***The Dow Jones U.S. Select Regional Banks Index***

The Dow Jones U.S. Select Regional Banks Index measures the performance of the regional bank sector of the United States equity market. The Dow Jones U.S. Select Regional Banks Index is a subset of the Dow Jones U.S. Bank Index. Small and mid-size banks are selected for inclusion based on their relative three-year average total assets as a percentage of the three-year average total assets held by all banks in the Dow Jones U.S. Bank Index.

The Dow Jones U.S. Select Regional Banks Index is one of the 19 supersector indices that make up the Dow Jones U.S. Index (formerly known as the Dow Jones U.S. Total Market Index). The Dow Jones U.S. Index is part of the Dow Jones Global Index, a benchmark family that targets 95% coverage of markets open to foreign investment, and tracks 48 countries.

### **Methodology of the Dow Jones U.S. Indices**

The Dow Jones U.S. Financials Index, The Dow Jones U.S. Real Estate Index, and The Dow Jones U.S. Select Regional Banks Index, (the “**Dow Jones U.S. Indices**”) are market capitalization-weighted indices in which only the shares of each company that are readily available to investors – the “float” – are counted. Dow Jones Index component candidates must be common shares or other securities that have the characteristics of common equities. All classes of common shares, both fully and partially paid, are eligible. Fixed-dividend shares and securities such as convertible notes, warrants, rights, mutual funds, unit investment trusts, closed-end fund shares, shares in limited partnerships and business development companies are not eligible. Temporary issues arising from corporate actions, such as “when-issued” shares, are considered on a case-by-case basis when necessary to maintain continuity in a company’s index membership. REITs, listed property trusts and similar real-property-owning pass-through structures taxed as REITs by their domiciles are eligible; however, income-participating securities, which combine stock and debt ownership, are not eligible. Multiple classes of shares are included if each issue, on its own merit, meets the other eligibility criteria. Securities that have had more than ten non-trading days during the past quarter are excluded. Stocks in the top 95% of the index universe by free float market capitalization are selected as components of the U.S. Index, skipping stocks that fall within the bottom 1% of the universe by free float market capitalization and within the bottom 0.01% of the universe by turnover.

To be included in the Dow Jones U.S. Financials Index, the issuer of the component securities must be classified in the financials industry as maintained by the Global Industry Classification Standard (“**GICS**”). To be included in the Dow Jones U.S. Real Estate Index, the issuer of the component securities must be classified in the real estate sector as maintained by the GICS.

To be included in the Dow Jones U.S. Select Regional Banks Index, the issuer of the component securities must be classified in the regional banks subsector as maintained by the GICS.

The Dow Jones U.S. Indices are reconstituted annually in September. The process includes the review of all component stocks and their respective markets to determine eligibility according to the existing criteria. Component changes are implemented at the opening of trading on the Monday following the third Friday of September.

The shares outstanding in the Dow Jones U.S. Indices are also reviewed on a quarterly basis. Shares outstanding totals for component stocks are updated during the quarterly review, unless changes in shares outstanding are 5% or greater. However, changes in shares outstanding due to stock dividends, splits and certain other corporate actions also are applied after the close of trading on the day prior to the ex-date. Quarterly reviews are implemented during March, June, September and December. Similar to component changes, share changes become effective at the opening on the first Monday after the third Friday of the review month.

In addition to the scheduled annual and quarterly reviews, the Dow Jones U.S. Indices are reviewed on an ongoing basis. Changes in index composition and related weight adjustments are necessary whenever there are extraordinary events such as delistings, bankruptcies, mergers or takeovers involving index components. In these cases, each event will be taken into account as soon as it is effective. Whenever possible, the changes in the index components will be announced at least two business days prior to their implementation date. In the event that a component no longer meets the eligibility requirements, it will be removed from the Dow Jones U.S. Indices.

### **Background on the Global Industry Classification Standard**

Standard & Poor’s and MSCI Barra jointly developed the Global Industry Classification Standard (GICS®) to establish a global standard for categorizing companies into sectors and industries. GICS was developed and is maintained by two leading global index providers. It has been specifically designed to classify companies globally – in both developed and developing economies. The GICS methodology has been commonly accepted as an industry analysis framework for investment research, portfolio management and asset allocation. The GICS classification system currently

consists of 10 sectors, 24 industry groups, 68 industries and 154 sub-industries. The GICS sectors are: Consumer Discretionary, Consumer Staples, Energy, Financials, Health Care, Industrials, Information Technology, Materials, Telecommunication Services and Utilities. GICS was designed to classify a company according to its principal business activity. To make this determination, Standard & Poor's and MSCI Barra use revenues as a key measure of a company's business activity. Earnings and market perception, however, are also recognized as important and relevant information for classification purposes and are taken into account during the review process.

## Calculation and Adjustments

**Input Data Sources.** Real-time stock prices are provided by Reuters, with the latest trading price used for index calculation. The number of shares is determined separately for each class of stock. This information is obtained from regulatory filings and a variety of data vendors or from the companies themselves. Corporate actions are sourced from public news services, regulatory filings, data vendors and the companies themselves. Float data are obtained from a variety of sources including data vendors, exchanges, regulators and the companies themselves.

**Index Formula.** Most of the S&P Dow Jones U.S. Indices are capitalization-weighted indices. Such indices are computed as follows:

$$Index_t = \frac{\sum_{i=1}^n (p_{i,t} \times q_{i,t})}{C_t \times \sum_{i=1}^n (p_{i,0} \times q_{i,0})} \times Base\ Index\ Value = \frac{M_t}{B_t} \times Base\ Index\ Value,$$

which can be simplified as

$$Index_t = \frac{M_t}{D_t} \quad D_t = \frac{B_t}{Base\ Index\ Value},$$

where:

- $D_t$  is the divisor at time  $t$ ;
- $n$  is the number of stocks in the index;
- $p_{i,0}$  is the closing level of stock  $i$  at the base date (December 31, 1991);
- $q_{i,0}$  is the number of shares of company  $i$  at the base date (December 31, 1991);
- $p_{i,t}$  is the price of stock  $i$  at time  $t$ ;
- $q_{i,t}$  is the number of shares of company  $i$  at time  $t$ ;
- $C_t$  is the adjustment factor for the base date market capitalization;
- $t$  is the time the index is computed;
- $M_t$  is the market capitalization of the index at time  $t$ ;
- $B_t$  is the adjusted base date market capitalization of the index at time  $t$ .

Dividend payments are not taken into account in the price index, whereas dividend payments are reinvested in the index sample of the total return index. Any dividend considered a special dividend requires a divisor adjustment. The adjustment protects the index from the effects of changes in index composition and the impact of corporate actions.

**Divisor Adjustments.** Corporate actions affect the share capital of component stocks and therefore trigger increases or decreases in the index. To avoid distortion, the divisor of the index is adjusted accordingly. Changes in the index's market capitalization due to changes in the composition (additions, deletions or replacements), weighting (following quarterly reviews or changes of more than 5% in a single component's share number) or corporate actions (mergers, spinoffs, rights offerings, repurchase of shares, public offerings, return of capital, or special cash or stock distributions of other stocks) result in a divisor change to maintain the index's continuity. By adjusting the divisor, the index value retains its continuity before and after the event.

The following formula will be used for divisor adjustments. (Note: No divisor adjustments are necessary for stock splits, since market capitalization does not change and the share number and share price are adjusted prior to the opening of trading on the split's ex-date.)

$$D_{t+1} = D_t \times \frac{\sum (p_{it} \times q_{it}) \pm \Delta MC_{t+1}}{\sum (p_{it} \times q_{it})}$$

where:

- $D_t$  is the divisor at time  $t$ ;
- $D_{t+1}$  is the divisor at time  $t+1$ ;
- $p_{i,t}$  is the stock price of company  $i$  at time  $t$ ;
- $q_{i,t}$  is the number of shares of company  $i$  at time  $t$ ;
- $\Delta MC_{t+1}$  is the new component's market capitalization and adjusted market capitalization (calculated with adjusted closing levels and shares effective at time  $t+1$ ) or the market capitalization of companies to be deleted (calculated with closing levels and shares at time  $t$ ). If the current trading price of an issue is unavailable, the previous trading session's closing level is used. However, if the issue is affected by any corporate action that requires an adjustment, then the adjusted price is used.

**Adjustments for Corporate Actions.** An index divisor may decrease (▽) or increase (Δ) or keep constant (■) when corporate actions occur for a component stock. Assuming shareholders receive “*B*” new shares for every “*A*” share held for the following corporate actions:

Divisor	Corporate Action	Adjustment Formula
▽	Cash dividend (applied for total return index only)	$adjusted\ price = closing\ level - dividend\ announced\ by\ company$
Δ	Special Cash dividend (applied for price and total return index)	$adjusted\ price = closing\ level - dividend\ announced\ by\ company$
■	Split and Reverse Split	$adjusted\ price = closing\ level \times A/B$ $new\ number\ of\ shares = old\ number\ of\ shares \times B/A$
Δ	Rights Offering	$adjusted\ price = (closing\ level \times A + subscription\ price \times B)/(A + B)$ $new\ number\ of\ shares = old\ number\ of\ shares \times (A + B)/A$
■	Stock Dividend	$adjusted\ price = closing\ level \times A/(A + B)$ $new\ number\ of\ shares = old\ number\ of\ shares \times (A + B)/A$
▽	Stock Dividend of a Different Company Security	$adjusted\ price = (closing\ level \times A - price\ of\ different\ company\ security \times B)/A$
▽	Return of Capital and Share Consolidation	$adjusted\ price = [closing\ level - dividend\ announced\ by\ company \times (1 - withholding\ tax)] \times A/B$ $new\ number\ of\ shares = old\ number\ of\ shares \times B/A$
▽	Repurchase Shares-Self-Tender	$adjusted\ price = (closing\ level - dividend\ announced\ by\ company) \times A/B$ $new\ number\ of\ shares = old\ number\ of\ shares \times B/A$ $adjusted\ price = \frac{(price\ before\ tender \times old\ number\ of\ shares) - (tender\ price \times number\ of\ tendered\ shares)}{new\ number\ of\ shares}$ $new\ number\ of\ shares = old\ number\ of\ shares - number\ of\ tendered\ shares$
▽	Spinoff	$adjusted\ price = (closing\ level \times A - price\ of\ spun - off\ shares \times B)/A$
Δ	Combination Stock Distribution (Dividend or Split) and Rights Offering	<p>Shareholders receive <i>B</i> new shares from the distribution and <i>C</i> new shares from the rights offering for every <i>A</i> shares held: if rights are applicable after stock distribution (one action applicable to other):</p> $adjusted\ price = \frac{closing\ level \times A + subscription\ price \times C \times (1 + B/A)}{(A + B) \times (1 + C/A)}$ $new\ number\ of\ shares = old\ number\ of\ shares \times [(A + B) \times (1 + C/A)]/A$ <p>if stock distribution is applicable after rights (one action applicable to other):</p> $adjusted\ price = \frac{closing\ level \times A + subscription\ price \times C}{(A + C) \times (1 + B/A)}$ $new\ number\ of\ shares = old\ number\ of\ shares \times [(A + C) \times (1 + B/A)]$
Δ	Stock Distribution and Rights (not mutually applicable)	$adjusted\ price = \frac{closing\ level \times A + subscription\ price \times C}{A + B + C}$ $new\ number\ of\ shares = old\ number\ of\ shares \times (A + B + C)$

**Computation Precision.** The Dow Jones U.S. Indices values are rounded to two decimal places and divisors are rounded to integers. Any values derived by the index calculation engine from a corporate action used for the divisor adjustments and index computations are rounded to seven decimal places.

## **The S&P U.S. Indices**

### ***The S&P Composite 1500 Index***

The S&P Composite 1500 Index is intended to provide a benchmark for performance measurement of the large capitalization, medium capitalization and small capitalization segments of the U.S. equity markets. The S&P Composite 1500 Index combines the S&P 500<sup>®</sup> Index, the S&P MidCap 400<sup>®</sup> Index and the S&P SmallCap 600 Index (each of which are described below).

To be eligible for inclusion in the S&P Composite 1500 Index, a company must be a U.S. company with a market capitalization consistent with the ranges defined for the S&P 500<sup>®</sup>, the S&P MidCap 400<sup>®</sup> and the S&P SmallCap 600. Moreover, the company must have four consecutive quarters of positive as-reported earnings and maintain a public float of at least 50%. In addition, the ratio of annual dollar value traded to float adjusted market capitalization for the company should be 1.0 or greater and the company should trade a minimum of 250,000 shares in each of the six months leading up to the evaluation date. The Index Committee is responsible for evaluating and updating the sector representation in the S&P Composite 1500 Index based on activity in the U.S. economy.

### ***The S&P SmallCap 600 Index***

The S&P SmallCap 600 Index is intended to provide a benchmark for performance measurement of the small capitalization segment of the U.S. equity markets. It tracks the stock price movement of 600 companies with smaller sized market capitalizations, primarily ranging from \$400 million to \$1.8 billion. S&P chooses companies for inclusion in the S&P SmallCap 600 Index with an aim of achieving a distribution by broad industry grouping that approximates the distribution of these groupings in the common stock population of the small capitalization segment of the U.S. equity market. Relevant criteria employed by S&P 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.

To be eligible for inclusion in the S&P SmallCap 600 Index, a company must be a U.S. company with a market capitalization in the range of \$400 million to \$1.8 billion. Moreover, the company must have four consecutive quarters of positive as-reported earnings and maintain a public float of at least 50%. In addition, the ratio of annual dollar value traded to float adjusted market capitalization for the company should be 1.0 or greater and the company should trade a minimum of 250,000 shares in each of the six months leading up to the evaluation date.

### ***The S&P 500<sup>®</sup> Index***

The S&P 500<sup>®</sup> Index is intended to provide a performance benchmark for the U.S. equity markets. The calculation of the level of the S&P 500<sup>®</sup> Index (discussed below in further detail) is based on the relative value of the aggregate market value of the common stocks of 500 companies 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. The "market value" of any S&P 500 component stock is the product of the market price per share and the number of the then outstanding shares of such S&P 500 component stock.

The 500 companies are not the 500 largest companies listed on the New York Stock Exchange and not all 500 companies are listed on such exchange. S&P chooses companies for inclusion in the S&P 500<sup>®</sup> Index with an aim 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 may from time to time, in its sole discretion, add companies to, or delete companies from, the S&P 500<sup>®</sup> Index to achieve the objectives stated above. Relevant criteria employed by S&P 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.

To be eligible for inclusion in the S&P 500<sup>®</sup> Index, a company must be a U.S. company with a market capitalization in excess of \$5.3 billion. Moreover, the company must have four consecutive quarters of positive as-reported earnings and maintain a public float of at least 50%. In addition, the ratio of annual dollar value traded to float adjusted market capitalization for the company should be 1.0 or greater and the company should trade a minimum of 250,000 shares in each of the six months leading up to the evaluation date.

### ***The S&P 500® Total Return Index***

The S&P 500® Total Return Index is the total return version of the S&P 500® Index and is calculated in the same manner as the S&P 500® Index as described above; however, while the S&P 500® Index reflects changes in the prices of its underlying stocks, the S&P 500® Total Return Index reflects changes in both movements in stock prices and the reinvestment of the dividend income from its underlying stocks.

In calculating the S&P 500® Total Return Index, ordinary cash dividends are applied on the ex-dividend date. “Special dividends” are those dividends that are outside of the normal payment pattern established historically by the issuing corporation. These may be described by the corporation as “special,” “extra,” “year-end,” or “return of capital.” Whether a dividend is funded from operating earnings or from other sources of cash does not affect the determination of whether it is ordinary or special. “Special dividends” are treated as corporate actions with offsetting price and divisor adjustments; the S&P 500® Total Return Index reflects both ordinary and special dividends. The S&P 500® Total Return Index represents the total return earned in a portfolio that tracks S&P 500® Index and reinvests dividend income in the S&P 500® Total Return Index, not in the specific stock paying the dividend.

### ***The S&P MidCap 400® Index***

The S&P MidCap 400® Index is intended to provide a benchmark for performance measurement of the medium capitalization segment of the U.S. equity markets. It tracks the stock price movement of 400 companies with mid-sized market capitalizations, primarily ranging from \$1.4 billion to \$5.9 billion. S&P chooses companies for inclusion in the S&P MidCap 400® Index with an aim of achieving a distribution by broad industry grouping that approximates the distribution of these groupings in the common stock population of the medium capitalization segment of the U.S. equity market. Relevant criteria employed by S&P 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.

To be eligible for inclusion in the S&P MidCap 400® Index, a company must be a U.S. company with a market capitalization in the range of \$1.4 billion to \$5.9 billion. Moreover, the company must have four consecutive quarters of positive as-reported earnings and maintain a public float of at least 50%. In addition, the ratio of annual dollar value traded to float adjusted market capitalization for the company should be 1.0 or greater and the company should trade a minimum of 250,000 shares in each of the six months leading up to the evaluation date.

### ***The S&P 100® Index***

The S&P 100® Index is a subset of the S&P 500® Index and is comprised of 100 leading U.S. stocks with exchange-listed options. Because the S&P 100® Index is derived from the S&P 500® Index, the S&P 100® Index stocks are also subject to the published S&P 500® criteria for additions and deletions. In addition, only companies included in the S&P 500® Index are eligible for inclusion in the S&P 100® Index. All stocks added to the S&P 100® Index must maintain exchange-listed options. Sector balance is considered in the selection of companies for the S&P 100® Index. S&P may from time to time, in its sole discretion, add companies to, or delete companies from, the S&P 100® Index to achieve the objectives stated above. Relevant criteria employed by S&P 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. S&P may remove a company that substantially violates one or more of the criteria for index inclusion from the S&P 100® Index.

### ***The S&P U.S. Carbon Efficient Index***

The S&P U.S. Carbon Efficient Index (the “**Carbon Efficient Index**”) is designed to measure the performance of no more than 375 S&P 500® component companies with relatively lower carbon emissions, while seeking to closely track the return of the S&P 500® Index, its parent index.

#### ***Eligibility Criteria***

The Carbon Efficient Index constituents are members of the S&P 500® Index, have been assigned a recent Carbon Footprint (as defined below) and are not among the 100 S&P 500® Index component companies with the highest Carbon Footprint, the exclusion of which will not reduce the relevant sector weight of the S&P 500® by more than 50%. A stock that meets the screening criteria, at each rebalancing reference date, will be eligible to be included in the Carbon Efficient Index. Each stock must be a member of the S&P 500.



## ***Carbon Footprint***

The “**Carbon Footprint**” is calculated by Trucost plc (“**Trucost**”) and is defined as a company’s annual greenhouse gas (“**GHG**”) emission assessment, expressed as tons of carbon dioxide equivalent (“**CO2e**”) divided by its annual revenues. Trucost is an environmental research organization that collects and provides environmental data on companies and sectors in financial terms that measure the environmental impacts associated with their operations, supply chains and investment portfolios. Trucost reviews companies’ annual reports, environmental and sustainability reports, public disclosures and corporate websites to make calculations of companies’ Carbon Footprints. To make calculations for companies that have no such public disclosures, Trucost employs its proprietary Input-Output model that maps the GHG impacts of business activities in 464 sectors. Six GHGs are included in Trucost’s analysis, all of which are defined by the Kyoto Protocol. The GHGs are calculated for each company and converted into tons of CO2e based on the appropriate factors in the Global Warming Potential (“**GWP**”) index published by the Intergovernmental Panel on Climate Change. The Global Warming Potential index assesses the effect of the emissions of different gases over a 100-year time period, relative to the emission of an equal mass of carbon dioxide. GWP allows all the GHGs to be expressed in terms of CO2e. The smaller the Carbon Efficient Index constituents’ Carbon Footprints are, the less their activities contribute to climate change and the lower the Carbon Efficient Index’s exposure is to the rising costs of emitting carbon dioxide. The Carbon Footprint of a company is updated annually, approximately eight months following the company’s fiscal year end. Any updates to a company’s Carbon Footprint will be applied to the screening process described below at the next quarterly rebalancing. S&P 500<sup>®</sup> component companies that are not assigned a Carbon Footprint are not eligible for inclusion in the Carbon Efficient Index.

## ***Index Construction***

Only S&P 500<sup>®</sup> component companies assigned a Carbon Footprint by Trucost are eligible for inclusion in the Carbon Efficient Index. All such eligible companies must go through a two-fold screening process for their ultimate selection, the first focusing on Carbon Footprints and the second on tracking optimization relative to the S&P 500<sup>®</sup> Index.

- First, the 100 companies with the highest Carbon Footprints that do not reduce an individual GICS sector weight of S&P 500<sup>®</sup> by more than 50% are excluded. If the next company to be excluded reduces the sector weight beyond the 50% threshold, but not more than 55%, that company will be excluded. If the next company to be excluded is in a sector which has already exceeded the 50% reduction threshold, or takes the sector reduction beyond 55%, it remains eligible for inclusion.
- Second, once the initial selection is completed, the qualifying companies are optimized using Northfield Information Service’s optimization and risk model data to generate a final list of no more than 375 companies, with assigned weights, that reduces the tracking error with respect to the S&P 500<sup>®</sup> Index to the minimum. This second step may result in the removal of companies whose weight is de minimis.

## ***Index Rebalancing***

Rebalancing of the Carbon Efficient Index occurs quarterly after the market close on the third Friday of March, June, September and December. The rebalancing reference date for making additions or deletions to the Carbon Efficient Index is the second Friday of those months. S&P 500<sup>®</sup> constituent level data used in the rebalancing process will include shares of the S&P 500<sup>®</sup> component companies that have been announced as part of the S&P 500<sup>®</sup> quarterly share rebalancing.

At its sole discretion, the index sponsor may elect to rebalance the Carbon Efficient Index between quarters if it determines that sufficient changes have occurred to the S&P 500<sup>®</sup> Index that require a rebalancing of the Carbon Efficient Index in order to minimize the tracking error with respect to the S&P 500<sup>®</sup> Index.

## ***Additions and Deletions***

Except for major corporate actions undertaken by S&P 500<sup>®</sup> component companies, such as mergers and acquisitions, new companies can only be added to the Carbon Efficient Index at the quarterly rebalancing. The changes will be implemented after the close of trading on the rebalancing effective date. All companies not already in the Carbon Efficient Index that meet the eligibility criteria on the rebalancing reference date will be added to the Carbon Efficient Index at the close of the rebalancing effective date.

A Carbon Efficient Index component company will be deleted from the Carbon Efficient Index when it is deleted from the S&P 500® Index. A company may also be deleted from the Carbon Efficient Index at the quarterly rebalancing when it does not meet the eligibility criteria on the rebalancing reference date.

Corporate actions (such as stock splits, stock dividends, spin-offs and rights offerings) are applied after the close of trading on the day prior to the ex-date.

If two Carbon Efficient Index component companies merge, or if a Carbon Efficient Index component company acquires a non-Carbon Efficient Index component company, and the post-merger combined entity remains within the S&P 500® Index, such post-merger company will remain in the Carbon Efficient Index until the next rebalancing when it will be reviewed according to the standard inclusion criteria. If a Carbon Efficient Index component company is acquired by a non-Carbon Efficient Index component company, the Carbon Efficient Index component company will be deleted from the Carbon Efficient Index and the post-merger company will not be included in the Carbon Efficient Index. The acquiring company may be added to the Carbon Efficient Index at the next rebalancing if it meets the inclusion criteria.

With respect to a post-merger company that will be included in the Carbon Efficient Index, if both pre-merger companies were Carbon Efficient Index component companies, the post-merger Carbon Efficient Index component company will be assigned the weight of the company deemed the acquirer by S&P. If only one of the pre-merger companies was a Carbon Efficient Index component company, the post-merger Carbon Efficient Index component company will be assigned the same weight as the pre-merger company that was previously in the Carbon Efficient Index.

If a Carbon Efficient Index component company spins off another company, the Carbon Efficient Index component company will remain in the Carbon Efficient Index as long as it remains in the S&P 500® Index. If the spun-off company is a member of the S&P 500® Index, it will be reviewed for inclusion in the Carbon Efficient Index at the next rebalancing.

### ***Price Return and Total Return***

While the price return version of the Carbon Efficient Index reflects changes in the prices of its underlying stocks, the total return version of the Carbon Efficient Index reflects changes in both movements in stock prices and the reinvestment of the dividend income from its underlying stocks.

### **The S&P U.S. Index Methodology**

The S&P Composite 1500 Index, the S&P SmallCap 600 Index, the S&P 500® Index, the S&P MidCap 400® Index, the S&P 100® Index, and the S&P U.S. Carbon Efficient Index (the “**S&P U.S. Indices**”) based on a float-adjusted formula.

Under float adjustment, the goal is to distinguish between strategic shareholders and those shareholders whose investment depends on the stock's price. The share counts used in calculating the S&P U.S. Indices reflect only those shares that are available to investor shareholders whose investments depend on the stock's price as opposed to strategic (control) shareholders. Therefore, the float does not include all of a company's outstanding shares. Shareholders generally concerned with control include: officers and directors, private equity, venture capital & special equity firms, shares held for control by another publicly traded company, strategic partners, holders of restricted shares, ESOPs, employee and family trusts, foundations associated with the company, holders of unlisted share classes of stock, government entities at all levels (except government retirement or pension funds) and any individual person who controls a 5% or greater stake in a company as reported in regulatory filings.

Generally, however, treasury stock, stock options, restricted shares, equity participation units, warrants, preferred stock, convertible stock and rights are not part of the float. Mutual funds, investment advisory firms, pension funds or foundations not associated with the company and investment funds in insurance companies, shares of a United States company traded in Canada as “exchangeable” shares, shares that trust beneficiaries may buy or sell without difficulty or significant additional expense beyond typical brokerage fees, and, if a company has multiple classes of stock outstanding, shares in an unlisted or non-traded class if such shares are convertible by shareholders to a listed class without undue delay and cost, are also part of the float.

For each stock, an investable weight factor (“**IWF**”) is calculated by dividing the available float shares, defined as the total shares outstanding less shares held by the shareholders listed above where the group holdings exceed 5% of the outstanding shares, by the total shares outstanding. For companies with multiple classes of stock, the treatment varies across S&P Dow Jones indices depending on local market custom and conditions. In those indices which include multiple

classes of stock, S&P will calculate the weighted average IWF for each stock using the proportion of the total company market capitalization of each share class as the weights. The result is reviewed to assure that when the weighted average IWF is applied to the class included in the S&P U.S. Indices, the shares to be purchased are not significantly larger than the available float for the included class.

S&P has announced that it expects to transition the S&P U.S. Indices and the S&P® Total Market Index to multiple share class structure, effective with the September 2015 rebalancing. Under current S&P U.S. Indices methodology, companies that have more than one class of common stock outstanding are represented only once in an index. Under the new methodology, all eligible trading lines for a company that meet certain liquidity and materiality thresholds will be included in the index. For companies that issue a second publicly traded share class to index share class holders between the announcement and September 2015, multiple class lines will be considered for inclusion if the event is mandatory and the market capitalization of the distributed class is not considered to be *de minimis*. This change will result in the S&P 500 Index having more than 500 share lines in the index but the index will continue to have only 500 companies.

The S&P U.S. Indices are calculated using a base-weighted aggregate methodology: the level of the relevant S&P Index reflects the total market value of all component stocks relative to such S&P Index's 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 daily calculation of the S&P U.S. Indices is computed by dividing the sum of the IWF multiplied by both the price and the total shares outstanding for each stock (*i.e.*, the aggregate market value) by the index divisor. By itself, the index divisor is an arbitrary number. However, in the context of the calculation of the S&P U.S. Indices, it is the only link to the original base period level of the S&P U.S. Indices. The index divisor keeps the S&P U.S. Indices comparable over time and is the manipulation point for all adjustments to the S&P U.S. Indices.

Index maintenance includes monitoring and completing the adjustments for company additions and deletions, rights issues, share buybacks and issuances and spinoffs. Changes to the S&P U.S. Indices are made on an as-needed basis. There is no annual or semi-annual reconstitution. Rather, changes in response to corporate actions and market developments can be made at any time. Constituent changes are typically announced one to five days before they are scheduled to be implemented.

To prevent the level of the S&P U.S. Indices from changing due to corporate actions, all corporate actions which affect the total market value of the S&P U.S. Indices require an index divisor adjustment. By adjusting the index divisor for the change in total market value, the level of the S&P U.S. Indices remains constant. This helps maintain the level of the S&P U.S. Indices as an accurate barometer of stock market performance and ensures that the movement of the S&P U.S. Indices does not reflect the corporate actions of individual companies in the S&P U.S. Indices. All the index divisor adjustments are made after the close of trading and after the calculation of the S&P U.S. Indices. 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 U.S. Indices and do not require index divisor adjustments.

The table below summarizes the types of the S&P Index maintenance adjustments and indicates whether or not an index divisor adjustment is required.

<b><u>Type of Corporate Action</u></b>	<b><u>Adjustment Factor</u></b>	<b><u>Divisor Adjustment</u></b>
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 due to a corporate action or a purchase or sale by an inside holder	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
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 of the S&P U.S. Indices, because following a split or dividend both the stock price and number of shares outstanding are adjusted by S&P so that there is no change in the market value of the S&P component stock. Corporate actions (such as stock splits, stock dividends, spin-offs and rights offerings) are implemented after the close of trading on the day prior to the ex-date. Share changes resulting from exchange offers are made on 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 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 companies included in each S&P Index. Four times a year, on a Friday close to the end of each calendar quarter, the share totals of companies in the S&P U.S. Indices 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 index. In addition, changes in a company's total shares outstanding of 5% or more due to public offerings, tender offers, Dutch auctions or exchange offers are made as soon as reasonably possible. Other changes of 5% or more (for example, due to company stock repurchases, private placements, an acquisition of a privately held company, redemptions, exercise of options, warrants, conversion of preferred stock, notes, debt, equity participations, at-the-market stock offerings or other recapitalizations) are made weekly, and are announced on Fridays for implementation after the close of trading the following Friday (one week later). If an exchange holiday/closure falls on a Friday, the weekly share change announcement will be made the day before the exchange holiday/closure.

## The S&P Select Industry Indices

Each of the S&P Homebuilders Index, S&P Metals & Mining Index, and the S&P Regional Banks Index (each, a **“Select Industry Index”** and together the **“Select Industry Indices”**) comprises companies included in the S&P 500 Index and selected based on a company’s GICS classification, as well as a company’s float-adjusted liquidity ratio (FALR), float-adjusted market capitalization and domicile.

### *The S&P® Homebuilders Select Industry™ Index*

The S&P® Homebuilders Select Industry™ Index (the **“S&P Homebuilders Index”**) is an equal-weighted index that is designed to measure the performance of the homebuilders sub-industry portion of the S&P® Total Market Index (the **“S&P TMI”**), a benchmark that measures the performance of the U.S. equity market. The S&P TMI offers broad market exposure to companies of all market capitalization, including all U.S. common equities listed on the NYSE (including NYSE Arca), the NYSE MKT, the NASDAQ Global Select Market, the NASDAQ Select Market and the NASDAQ Capital Market. Only U.S. companies are eligible for inclusion in the S&P TMI. The S&P Homebuilders Index includes companies in the following sub-industries: homebuilding, building products, home furnishings, home improvement retail, home furnishing retail and household appliances. Each of the component stocks in the S&P Homebuilders Index is a constituent company within the homebuilding sub-industry of the S&P TMI. The S&P Homebuilders Index is reported by Bloomberg under ticker symbol “SPSIHO.” For information concerning the methodology of the S&P Homebuilders Index, please refer to “Methodology of the Select Industry Indices” below.

### *The S&P® Metals & Mining Select Industry™ Index*

The S&P® Metals & Mining Select Industry™ Index (the **“S&P Metals & Mining Index”**) is an equal weighted index that is designed to measure the performance of the metals and mining sub-industry portion of the S&P TMI, a benchmark that measures the performance of the U.S. equity market. The S&P TMI offers broad market exposure to companies of all market capitalization, including all U.S. common equities listed on the NYSE (including NYSE Arca), the NYSE MKT, the NASDAQ Global Select Market, the NASDAQ Select Market and the NASDAQ Capital Market. Only U.S. companies are eligible for inclusion in the S&P TMI. The S&P Metals and Mining Index includes companies in the following sub-industries: aluminum, coal & consumable fuels, diversified metals & mining, gold, precious metals & minerals, silver and steel. Each of the component stocks in the S&P Metals & Mining Index is a constituent company within the metals and mining sub-industry of the S&P TMI. The S&P Metals & Mining Index is reported by Bloomberg under ticker symbol “SPSIMM.” For information concerning the methodology of the S&P Metals & Mining Index, please refer to “Methodology of the Select Industry Indices” below.

### *The S&P® Oil & Gas Exploration & Production Select Industry™ Index*

The S&P® Oil & Gas Exploration & Production Select Industry™ Index (the **“S&P Oil & Gas Exploration & Production Index”**) is an equally weighted index that is designed to measure the performance of the oil and gas exploration and production sub-industry portion of the S&P TMI, a benchmark that measures the performance of the U.S. equity market. The S&P TMI offers broad market exposure to companies of all market capitalization, including all common equities listed on the NYSE (including NYSE Arca), the NYSE MKT, the NASDAQ Global Select Market, the NASDAQ Select Market and the NASDAQ Capital Market. Only U.S. companies are eligible for inclusion in the S&P TMI. Each of the component stocks in the S&P Oil & Gas Exploration & Production Index is a constituent company within the oil and gas sub-industry portion of the S&P TMI. The S&P Oil & Gas Exploration & Production Index is reported by Bloomberg under the ticker symbol “SPSIOP.” For information concerning the methodology of the S&P Oil & Gas Exploration & Production Index, please refer to “Methodology of the Select Industry Indices” below.

### *The S&P® Regional Banks Select Industry Index*

The S&P® Regional Banks Select Industry™ Index (the **“S&P Regional Banks Index”**) is an equal weighted index that is designed to measure the performance of the regional banks sub-industry group of the S&P TMI, a benchmark that measures the performance of the U.S. equity market. The S&P TMI offers broad market exposure to companies of all market capitalization, including all U.S. common equities listed on the NYSE (including NYSE Arca), the NYSE MKT, the NASDAQ Global Select Market, the NASDAQ Select Market and the NASDAQ Capital Market. Only U.S. companies are eligible for inclusion in the S&P TMI. Each of the component stocks in the S&P Regional Banks Index is a constituent company within the regional banks sub-industry group of the S&P TMI. For information concerning the methodology of the S&P Regional Banks Index, please refer to “Methodology of the Select Industry Indices” below.

## Methodology of the Select Industry Indices

To be eligible for a Select Industry Index, companies must be in the S&P TMI and must satisfy one of the two following combined size and liquidity criteria:

- Float-adjusted market capitalization above \$500 million *and* FALR above 90%.
- Float-adjusted market capitalization above \$400 million *and* FALR above 150%.

Some of the S&P Select Industry Indices have different market capitalization and float-adjusted liquidity ratio requirements. All companies satisfying the above market capitalization and FALR requirements are included in the applicable Select Industry Index. The total number of companies in each Select Industry Index should be at least 35. If there are fewer than 35 stocks in a Select Industry Index, stocks from a supplementary list of highly correlated sub-industries, that meet the market capitalization and liquidity thresholds above, are included in order of their float-adjusted market capitalization to reach 35 constituents. Minimum market capitalization requirements may be relaxed to ensure there are at least 22 companies in each Select Industry Index as of each rebalancing effective date. Existing index constituents are removed at the quarterly rebalancing effective date if either their float-adjusted market capitalization falls below \$300 million or their FALR falls below 50%.

**Market Capitalization.** Float-adjusted market capitalization should be at least \$400 million for index inclusion. Existing index components must have a float-adjusted market capitalization of \$300 million to remain in the index at each rebalancing. If a Select Industry Index still does not have enough stocks that meet the criteria for inclusion, the minimum market capitalization requirements may be relaxed until the other requirements have been satisfied.

**Liquidity.** The liquidity measurement used is a liquidity ratio, defined by dollar value traded over the previous 12 months divided by float-adjusted market capitalization as of the index-rebalancing date. Stocks having a float-adjusted market capitalization above \$500 million must have a liquidity ratio greater than 90% to be eligible for addition to a Select Industry Index. Stocks having a float-adjusted market capitalization between \$400 and \$500 million must have a liquidity ratio greater than 150% to be eligible for addition to a Select Industry Index. Existing index constituents must have a liquidity ratio greater than 50% to remain in a Select Industry Index at the quarterly rebalancing. The length of time to evaluate liquidity is reduced to the available trading period for IPOs or spin-offs that do not have 12 months of trading history.

**Domicile.** Only U.S. companies are eligible for inclusion in the Select Industry Indices.

**Takeover Restrictions.** At the discretion of S&P Dow Jones, constituents with shareholder ownership restrictions defined in company bylaws may be deemed ineligible for inclusion in the relevant Select Industry Index. Ownership restrictions preventing entities from replicating the index weight of a company may be excluded from the eligible universe or removed from the relevant Select Industry Index.

**Turnover.** At times a company may appear to temporarily violate one or more of the addition criteria. However, the addition criteria are for addition to the Select Industry Index, not for continued membership. As a result, an index constituent that appears to violate criteria for addition to the Select Industry Index will not be deleted unless ongoing conditions warrant an index change.

**Timing of Changes.** Index rebalancings occur after the closing on the third Friday of the quarter ending month. The reference date for additions and deletions is after the closing of the last trading date of the previous month.

**Additions.** Companies are added between rebalancings only if a deletion in the Select Industry Index causes the stock count to fall below 22. In those cases, each stock deletion is accompanied with a stock addition. The new company will be added to the Select Industry Index at the weight of the deleted constituent.

**Deletions.** A company is deleted from a Select Industry Index if the S&P TMI drops the company. If a company deletion causes the number of companies in the relevant index to fall below 22, each company deletion is accompanied with a corresponding company addition. In case of GICS changes, where a company does not belong to a qualifying sub-industry after the classification change, it is removed from the relevant index at the next rebalancing.

### **Select Industry Index Construction and Calculations**

The Select Industry Indices are equal-weighted and calculated by the divisor methodology. The initial divisors of the S&P Homebuilders Index and the S&P Metals and Mining Index are set to have a base index value of 1000 and a

base date of December 17, 1999. The initial divisor of the S&P Regional Banks Index is set to have a base value of 1000 with a base date of June 20, 2003. The index value is simply the index market value divided by the index divisor:

$$\text{Index Value} = (\text{Index Market Value}) / \text{Divisor}$$

In order to maintain index series continuity, it is also necessary to adjust the divisor at each rebalancing.

$$(\text{Index Value})_{\text{before rebalance}} = (\text{Index Value})_{\text{after rebalance}}$$

Therefore,

$$(\text{Divisor})_{\text{after rebalance}} = (\text{Index Market Value})_{\text{after rebalance}} / (\text{Index Value})_{\text{before rebalance}}$$

At each quarterly rebalancing, companies are initially equally weighted, using closing prices as of the second Friday of the last month of the quarter as the reference price. Adjustments are then made to ensure that there are no stocks whose weight in the index is more than can be traded in a single day for a \$500 million portfolio. S&P calculates a maximum basket liquidity weight for each stock in the index using the ratio of its three-month average daily value traded to \$500 million. Each stock's weight in the index is then compared to its maximum basket liquidity weight and is set to the lesser of its maximum basket liquidity weight and its initial equal weight. All excess weight is redistributed across the index to the uncapped stocks. If necessary, a final adjustment is made to ensure that no stock in the index has a weight greater than 4.5%. This step of the iterative weighting process may force the weight of those stocks limited to their maximum basket liquidity weight to exceed that weight. In such cases, S&P will make no further adjustments. If any of the Select Industry Indices contains exactly 22 companies as of the rebalancing effective date, the index will be equally weighted without basket liquidity constraints.

### Select Industry Index Maintenance

The membership of an S&P Select Industry Index is reviewed quarterly. Rebalancing occurs after the closing on the third Friday of the quarter ending month. The reference date for additions and deletions is after the closing of the last trading date of the previous month. Generally, no companies are added between rebalancings. However, a company will be deleted from a Select Industry Index if the S&P TMI drops the constituent. Unless a constituent deletion causes the number of companies in a Select Industry Index to fall below 22, no addition will be made to such Select Industry Index until the next rebalancing. At that time, the entire such Select Industry Index will be rebalanced based on all eligibility criteria, including the minimum number of companies. In case of GICS changes, where a company does not belong to the homebuilding sub-industry after the classification change, it is removed from such Select Industry Index at the next rebalancing.

The table below summarizes the types of index maintenance adjustments and indicates whether an index adjustment is required.

<u>S&amp;P TMI Action</u>	<u>Adjustment Made to Index</u>	<u>Divisor Adjustment?</u>
Constituent deletion	If the constituent is a member of the applicable Select Industry Index, it is dropped.	Yes
Constituent addition	Only in cases where the deletion causes the component count to fall below 22 stocks, then the drop is accompanied by an add assuming the weight of the dropped company.  If a company is removed from an index at a price of \$0.00, the company's replacement will be added to the index at the weight using the previous day's closing value, or the most immediate prior business day that the deleted stock was not valued at \$0.00.	No, except in the case of stocks removed at \$0.00

GICS change	None. If, after the GICS change, a company no longer qualifies to belong to the applicable Select Industry Index, it is removed at the next rebalancing.	No
<b>Corporate Action</b>	<b>Adjustment Made to Index</b>	<b>Divisor Adjustment?</b>
Spin-off	In general, both the parent company and spin-off companies will remain in the index until the next index rebalancing, regardless of whether they conform to the theme of the index. When there is no market-determined price available for the spin, the spin is added to the index at zero price at the close of the day before the ex-date.	No
Rights Offering	The price is adjusted to the Price of the Parent Company minus (the Price of the Rights Subscription/Rights Ratio). The Index Shares change so that the company's weight remains the same as its weight before the rights offering.	No
Stock Dividend, Stock Split or Reverse Stock Split	The Index Shares are multiplied by and price is divided by the split factor.	No
Share Issuance or Share Repurchase	None.	No
Special Dividends	Price of the stock making the special dividend payment is reduced by the per share special dividend amount after the close of trading on the day before the dividend ex-date.	Yes

### Total Return

Each Select Industry Index will have a total return counterpart, which assumes dividends are reinvested in the applicable Select Industry Index after the close on the ex-date. On any given date  $t$ :

$$\text{Total Return Multiplier}_t = [(\text{Total Return Index Value}_{t-1}) + (\text{Index Dividend Points}_t)] / (\text{Index Value}_{t-1})$$

$$\text{Total Return Index Value}_t = (\text{Total Return Index Value}_{t-1}) \times (\text{Total Return Multiplier}_t)$$

$$\text{Index Dividend Points}_t = \sum (\text{Index Shares})_{i,t} \times (\text{Ex-dividends})_{i,t} / \text{Divisor}_t$$



## **The S&P Select Sector Indices**

Each of the Consumer Discretionary Select Sector Index, the Consumer Staples Select Sector Index, the Energy Select Sector Index, the Financials Select Sector Index, the Health Care Select Sector Index, the Industrials Select Sector Index, the Materials Select Sector Index, the Technology Select Sector Index and the Utilities Select Sector Index (an **“Select Sector Index,”** and together, the **“Select Sector Indices”**) is derived from the S&P 500<sup>®</sup> Index. The stocks included in each Select Sector Index are selected by Bank of America Merrill Lynch acting as the index compilation agent in consultation with S&P, from the universe of companies represented by the S&P 500<sup>®</sup> Index based on their GICS classification.

### ***The Consumer Discretionary Select Sector Index***

The Consumer Discretionary Select Sector Index is intended to give investors an efficient, modified market capitalization-based way to track the movements of certain public companies that are components of the S&P 500<sup>®</sup> Index and are involved in the development and production of consumer discretionary products. Consumer discretionary products include automobiles and components, consumer durables and apparel, consumer services, media and retailing.

### ***The Consumer Staples Select Sector Index***

The Consumer Staples Select Sector Index is intended to give investors an efficient, modified market capitalization-based way to track the movements of certain public companies that are components of the S&P 500<sup>®</sup> Index and are involved in the development and production of consumer products. Consumer Staples include food & staples retailing, food, beverage & tobacco and household & personal products.

### ***The Energy Select Sector Index***

The Energy Select Sector Index is intended to give investors an efficient, modified market capitalization-based way to track the movements of certain public companies that are components of the S&P 500<sup>®</sup> Index and are involved in the development and production of energy products. Energy companies in the index develop and produce crude oil and natural gas and provide drilling and other energy related services; as well as airlines, marine, road and rail and transportation infrastructure companies.

### ***The Financials Select Sector Index***

The Financials Select Sector Index is intended to give investors an efficient, modified market capitalization-based way to track the movements of certain public companies that are components of the S&P 500<sup>®</sup> Index and are involved in the development and production of financial products. Companies in the index include a wide array of diversified financial services firms whose business lines range from investment management to commercial and business banking.

### ***The Health Care Select Sector Index***

The Health Care Select Sector Index is intended to give investors an efficient, modified market capitalization-based way to track the movements of certain public companies that are components of the S&P 500<sup>®</sup> Index and are health care related firms. The Health Care Select Sector Index will only include companies involved in the health care equipment & services industry and the pharmaceuticals, biotechnology & life sciences industry.

### ***The Industrials Select Sector Index***

The Industrials Select Sector Index is intended to give investors an efficient, modified market capitalization-based way to track the movements of certain public companies that are components of the S&P 500<sup>®</sup> Index and are industrials. Industrials include electrical equipment, construction equipment and building products, waste management services, aerospace and defense, and industrial machinery products.

### ***The Materials Select Sector Index***

The Materials Select Sector Index is intended to give investors an efficient, modified market capitalization-based way to track the movements of certain public companies that are components of the S&P 500<sup>®</sup> Index and are in basic industries. Basic industries include integrated steel products, construction materials, fibers, paper and gold.

### ***The Technology Select Sector Index***

The Technology Select Sector Index is intended to give investors an efficient, modified market capitalization-based way to track the movements of certain public companies that are components of the S&P 500<sup>®</sup> Index and are involved in

the development and production of technology products. Technology products include computers and peripherals, semiconductor equipment and products, telecommunications equipment, microcomputer components, integrated computer circuits and process monitoring systems.

### ***The Utilities Select Sector Index***

The Utilities Select Sector Index is intended to give investors an efficient, modified market capitalization-based way to track the movements of certain public companies that are components of the S&P 500® Index and are in the utilities industry. Utilities include electric, gas, water and multi-utility providers.

#### **Selection Criteria**

The Select Sector Indices are modified market capitalization-based indices intended to track the movements of companies that are components of the S&P 500® Index. The Select Sector Indices were all established with a value of 250 on June 30, 1998.

Each Select Sector Index was developed and is maintained in accordance with the following criteria:

- Each of the component stocks in an Select Sector Index is a constituent company of the S&P 500® Index.
- The nine Select Sector Indices together will include all of the companies represented in the S&P 500® Index and each of the stocks in the S&P 500® Index will be allocated to one and only one of the Select Sector Indices.
- S&P Dow Jones Indices, in consultation with the "Index Compilation Agent", assigns each constituent stock of the S&P 500® Index to a Select Sector Index based on the constituent's classification under the GICS.
- Each Select Sector Index is weighted based on the market capitalization of each of the component stocks, subject to the following asset diversification requirements: (i) the market capitalization-based weighted value of any single component stock measured on the last day of a calendar quarter may not exceed 24.99% of the total value of its respective Select Sector Index; and (ii) with respect to 50% of the total value of the Select Sector Index, the market capitalization-based weighted value of the component stocks must be diversified so that no single component stock measured on the last day of a calendar quarter represents more than 4.99% of the total value of its respective Select Sector Index.

If shortly prior to the last business day of any calendar quarter (a "**Quarterly Qualification Date**"), a component stock (or two or more component stocks) approaches the maximum allowable value limits set forth above (the "**Asset Diversification Limits**"), the percentage that such component stock (or component stocks) represents in the Select Sector Index will be reduced and the market capitalization-based weighted value of such component stock (or component stocks) will be redistributed across the component stocks that do not closely approach the Asset Diversification Limits in accordance with the following methodology.

First, each component stock that exceeds 24% of the total value of the Select Sector Index will be reduced to 23% of the total value of the Select Sector Index and the aggregate amount by which all component stocks exceed 24% will be redistributed equally across the remaining component stocks that represent less than 23% of the total value of the Select Sector Index. If as a result of this redistribution, another component stock then exceeds 24%, the redistribution will be repeated as necessary.

Second, with respect to the 50% of the value of the Select Sector Index accounted for by the lowest weighted component stocks, each component stock that exceeds 4.8% of the total value of the Select Sector Index will be reduced to 4.6% and the aggregate amount by which all component stocks exceed 4.8% will be distributed equally across all remaining component stocks that represent less than 4.6% of the total value of the Select Sector Index. If as a result of this redistribution another component stock that did not previously exceed 4.8% of the Select Sector Index value then exceeds 4.8%, the redistribution will be repeated as necessary until at least 50% of the value of the Select Sector Index is accounted for by component stocks representing no more than 4.8% of the total value of the Select Sector Index.

Each Select Sector Index is calculated using the same methodology utilized by S&P in calculating the S&P 500® Index, using a base-weighted aggregate methodology. See "The S&P Index Methodology" and "The S&P 500® Index" above. The daily calculation of each Select Sector Index is computed by dividing the total market value of the companies in the Select Sector Index by a number called the index divisor.

Component stocks removed from and added to the S&P 500® Index will be deleted from and added to the appropriate Select Sector Index on the same schedule used by S&P for additions and deletions from the S&P 500® Index insofar as practicable.

## The S&P/ASX 200 Index

The S&P/ASX 200 Index is designed to be the primary gauge for the Australian equity market. It is recognized as an investable benchmark in Australia. Upon its introduction in April 2000, the S&P/ASX 200 replaced the All Ordinaries index as the primary gauge for the Australian equity market. The S&P/ASX 200 measures the performance of the 200 largest index-eligible stocks listed on the Australian Securities Exchange (the “**ASX**”) by float-adjusted market capitalization, and is widely considered Australia’s benchmark index. The index is float-adjusted, covering approximately 80% of Australian equity market capitalization.

The S&P/ASX 200 Index is maintained by the S&P Australian Index Committee (the “**S&P/ASX Committee**”), a team of five members representing both S&P Dow Jones Indices and the Australian Stock Exchange.

### Composition of the S&P/ASX 200 Index

The S&P/ASX 200 Index weights companies according to the GICS®, which creates uniform ground rules for replicable, custom-tailored, industry-focused portfolios. It also enables meaningful comparisons of sectors and industries across regions. Sector indices are available for the S&P/ASX 200 Index.

### Standards for Listing and Maintenance

The Index Committee reviews constituents and rebalances them quarterly to ensure adequate market capitalization and liquidity. Both market capitalization and liquidity are assessed using the previous six months’ worth of data. Quarterly review changes take effect the third Friday of March, June, September and December. The weighting of constituents in the S&P/ASX 200 Index is determined by the free float assigned to each stock by the Index Committee. Every index constituents’ float adjustment is reviewed as part of the September quarterly review, unless an event alters the float of a security in excess of 5%. In such cases, the change will be implemented as soon as practicable.

The criteria for index additions include:

- *Listing.* Only securities listed in the ASX are considered for inclusion in any of the S&P/ASX indices;
- *Market Capitalization.* Companies are assessed based on the average of their previous 6-month day-end float-adjusted market capitalization;
- *Eligible Securities.* All common and equity preferred stocks are eligible for inclusion (convertible stock, bonds, warrants, and preferred stock that provide a guaranteed fixed return are not eligible).
- *Public Float.* There must be public float of at least 30% for a stock to warrant inclusion in the S&P/ASX indices; and
- *Liquidity.* Only securities that are actively and regularly traded are eligible for inclusion in any S&P/ASX indices.

Companies will be removed from the S&P/ASX 200 Index if they substantially violate one or more of the criteria for index inclusion or they are involved in merger, acquisition or significant restructuring such that they no longer meet the inclusion criteria.

**Rebalancing.** Rebalancing of the S&P/ASX index series occurs on a regular basis. Both market capitalization and liquidity are assessed using the previous six months’ worth of data to determine index eligibility. Shares and Investable Weight Factors (“**IWFs**”) updates are also applied regularly.

**Share Updates.** The share count for all index constituents are updated quarterly and are rounded to the nearest thousand (‘000) for all Australian indices. The update to the number of issued shares will be considered if the outstanding shares differ from total index shares by at least 5% or a market capitalization of \$ 100 million Australian dollars (“**A\$**”). Intra quarter share changes are implemented at the effective date or as soon as reliable information is available; however, they will only take place in the following circumstances:

- Changes in a company’s float-adjusted shares of 5% or more due to market-wide shares issuance;
- Rights issues, bonus issues and other major corporate actions and;
- Share issues resulting from index companies merging and major off-market buybacks.

Share changes due to mergers or acquisitions are implemented when the transaction occurs, even if both of the companies are not in the same index and regardless of the size of the change. Notification of intra quarter changes to the number of issued shares will generally take place three business days prior to the index implementation date.

### **Calculation of the S&P/ASX 200 Index**

The S&P/ASX 200 Index is calculated using a base-weighted aggregate methodology so that the level of an index reflects the total market value of all the component stocks relative to a particular base period. The total market value of a company is determined by multiplying the price of its stock by the number of shares available after float (IWF) adjustment. An indexed number is used to represent the result of this calculation in order to make the value easier to work with and track over time. It is much easier to graph a chart based on indexed values than one based on actual market values.

**Investable Weight Factor (IWF).** A stock's weight in an index is determined by the float-adjusted market capitalization of the stock. This is a function of current index shares, the latest available stock price and the IWF. The IWF represents the float-adjusted portion of a stock's equity capital. Therefore any strategic holdings that are classified as either corporate, private or government holdings reduce the IWF which, in turn, results in a reduction in the float-adjusted market capital. Shares owned by founders, directors of the company, trusts, venture capitalists and other companies are also excluded. These are also deemed strategic holders, and are considered long-term holders of a stock's equity. Any strategic shareholdings that are greater than 5% of total issued shares are excluded from the relevant float.

On any given day, the index value is the quotient of the total available market capitalization of the index's constituents and its divisor. Continuity in index values is maintained by adjusting the divisor for all changes in the constituents' share capital after the base date. This includes additions and deletions to the index, rights issues, share buybacks and issuances, spin-offs, and adjustments in availability. The divisor's time series is, in effect, a chronological summary of all changes affecting the base capital of the index. The divisor is adjusted such that the index value at an instant just prior to a change in base capital equals the index value at an instant immediately following that change.

### **Index Governance**

**Index Committee.** Each of the S&P global indices is the responsibility of an Index Committee that monitors overall policy guidelines and methodologies, as well as additions to and deletions from these indices. S&P chairs the S&P/ASX Index Committee, which is comprised of 5 members representing both S&P and the ASX.

Decisions made by the Index Committee includes all matters relating to index construction and maintenance. The Index Committee meets regularly to review market developments and convenes as needed to address major corporate actions. It is the sole responsibility of the Index Committee to decide on all matters relating to methodology, maintenance, constituent selection and index procedures. The Index Committee makes decisions based on all publicly available information and discussions are kept confidential to avoid any unnecessary impact on market trading.

## The S&P GSCI® Commodity Indices

The S&P GSCI® is the parent index of the GSCI® Sector Indices and the GSCI® Component Indices. We refer to the S&P GSCI®, the GSCI® Sector Indices and the GSCI® Component Indices collectively as the “**GSCI® Indices.**” The methodology for compiling the S&P GSCI® Sector Indices and GSCI® Component Indices is consistent with the methodology for compiling the S&P GSCI®.

The S&P GSCI® is designed as a benchmark for investment in the commodity markets and as a measure of commodity market performance over time. It is also designed as a tradable index that is readily accessible to market participants. In order to accomplish these objectives, the S&P GSCI® is calculated primarily on a world production-weighted basis and comprises the principal physical commodities that are the subject of active, liquid futures markets. There is no limit on the number of contracts that may be included in the S&P GSCI®; any contract that satisfies the eligibility criteria and the other conditions specified in the methodology are included. This feature enhances the suitability of the S&P GSCI® as a benchmark for commodity market performance and to reflect general levels of price movements and inflation in the world economy.

In order to reflect the performance of a total return investment in commodities, four separate but related indices have been developed based on the S&P GSCI® — (1) the S&P GSCI® Spot Index (referred to as the Price Return Index herein), which is based on price levels of the contracts included in the S&P GSCI; (2) the S&P GSCI® Excess Return Index, which incorporates the returns of the S&P GSCI® Spot Index as well as the discount or premium obtained by “rolling” hypothetical positions in such contracts forward as they approach delivery; and (3) the S&P GSCI® Total Return Index, which incorporates the returns of the S&P GSCI® Excess Return Index and interest earned on hypothetical fully collateralized contract positions on the commodities included in the S&P GSCI®. S&P Dow Jones also calculates a number of sub-indices including the GSCI® Sector Indices and the GSCI® Component Indices.

Goldman Sachs first began publishing the S&P GSCI®, as well as the related indices, in 1991. In addition, although the S&P GSCI® was not published prior to that time, Goldman Sachs has calculated the historical value of the S&P GSCI® and related indices beginning on January 2, 1970, based on actual prices from that date forward and the selection criteria, methodology and procedures in effect during the applicable periods of calculation (or, in the case of all calculation periods prior to 1991, based on the selection criteria, methodology and procedures adopted in 1991). The S&P GSCI® has been normalized to a value of 100 on January 2, 1970, in order to permit comparisons of the value of the S&P GSCI® to be made over time. S&P Dow Jones Indices acquired the indices in February 2007. The former name of the S&P GSCI® was the Goldman Sachs Commodity Index, or GSCI®.

S&P Dow Jones Indices calculates and publishes the closing levels of the S&P GSCI® Price Return, Excess Return and Total Return Indices under the ticker symbols “SPGCCl,” “SPGCCIP” and “SPGCCITR,” respectively, as well as each of the sub-indices, continuously on each business day.

## ***The S&P GSCI® Sector Indices***

### ***The S&P GSCI® Agriculture Index***

The S&P GSCI® Agriculture Index is a world production-weighted index of certain agricultural commodities in the world economy and, as of the date hereof, includes futures contracts for Wheat (Chicago Wheat), Red Wheat (Kansas Wheat), Corn, Soybeans, Cotton, Sugar, Coffee and Cocoa. The S&P GSCI® Agriculture Index excludes all other futures contracts included in the S&P GSCI®. The closing levels of the S&P GSCI® Agriculture Index Price Return, Excess Return and Total Return are reported by Bloomberg under the ticker symbols “SPGCAG,” “SPGCAGP” and “SPGCAGTR,” respectively.

### ***S&P GSCI® Energy Index***

The S&P GSCI® Energy Index is a world production-weighted index of certain energy commodities in the world economy and, as of the date hereof, includes futures contracts for WTI Crude Oil, Brent Crude Oil, RBOB Gasoline, Heating Oil, Gas Oil and Natural Gas. The S&P GSCI® Energy Index excludes all other futures contracts included in the S&P GSCI®. The closing levels of the S&P GSCI® Energy Index Price Return, Excess Return and Total Return are reported by Bloomberg under the ticker symbols “SPGCEN,” “SPGCENP” and “SPGCENR,” respectively.

### ***S&P GSCI® Grains Index***

The S&P GSCI® Grains Index is a world production-weighted index of certain grain commodities in the world economy and, as of the date hereof, includes futures contracts for Wheat (Chicago Wheat), Red Wheat (Kansas Wheat), Corn and Soybeans. The S&P GSCI® Grains Index excludes all other futures contracts included in the S&P GSCI®. The closing levels of the S&P GSCI® Grains Index Price Return, Excess Return and Total Return are reported by Bloomberg under the ticker symbols “SPGCGR,” “SPGCGRP,” and “SPGCGRTR,” respectively.

### ***S&P GSCI® Industrial Metals Index***

The S&P GSCI® Industrial Metals Index is a world production-weighted index of certain industrial metals commodities in the world economy and, as of the date hereof, includes futures contracts for High Grade Primary Aluminum, Copper, Standard Lead, Primary Nickel and Special High Grade Zinc. The S&P GSCI® Industrial Metals Index excludes all other futures contracts included in the S&P GSCI®. The closing levels of the S&P GSCI® Industrial Metals Index Price Return, Excess Return and Total Return are reported by Bloomberg under the ticker symbols “SPGCIN,” “SPGCINP” and “SPGCINTR,” respectively.

### ***S&P GSCI® Livestock Index***

The S&P GSCI® Livestock Index is a world production-weighted index of certain livestock commodities in the world economy and, as of the date hereof, includes futures contracts for Live Cattle, Lean Hogs and Feeder Cattle. The S&P GSCI® Livestock Index excludes all other futures contracts included in the S&P GSCI®. The closing levels of the S&P GSCI® Livestock Index Price Return, Excess Return and Total Return are reported by Bloomberg under the ticker symbols “SPGCLV,” “SPGCLVP” and “SPGCLVTR,” respectively.

### ***S&P GSCI® Non-Energy Index***

The S&P GSCI® Non-Energy Index is a world production-weighted index of certain non-energy commodities in the world economy, and, as of the date hereof, includes futures contracts for all of the commodities included in the S&P GSCI® except those for WTI crude oil, Brent Crude Oil, RBOB Gasoline, Heating Oil, Gas Oil and Natural Gas. The S&P GSCI® Non-Energy Index includes all other futures contracts included in the S&P GSCI®. The closing levels of the S&P GSCI® Non-Energy Index Price Return, Excess Return and Total Return are reported by Bloomberg under the ticker symbols “SPGCNE,” “SPGCNEP” and “SPGCNETR,” respectively.

### ***S&P GSCI® Precious Metals Index***

The S&P GSCI® Precious Metals Index is a world production-weighted index consisting of two precious metals commodities in the world economy and, as of the date hereof, includes futures contracts for Gold and Silver. The S&P GSCI® Precious Metals Index excludes all other futures contracts included in the S&P GSCI®. The closing levels of the S&P GSCI® Precious Metals Index Price Return, Excess Return and Total Return are reported by Bloomberg under the ticker symbols “SPGCPM,” “SPGCPMP” and “SPGCPMTR,” respectively.

## ***The S&P GSCI® Component Indices***

### ***S&P GSCI® Brent Crude Index***

The S&P GSCI® Brent Crude Index is composed entirely of Brent crude oil futures contracts. The S&P GSCI® Brent Crude Index excludes all other futures contracts included in the S&P GSCI®. The closing levels of the S&P GSCI® Brent Crude Index Price Return, Excess Return and Total Return are reported by Bloomberg under the ticker symbols “SPGCBR,” “SPGCBRP” and “SPGCBRTR,” respectively.

### ***S&P GSCI® Copper Index***

The S&P GSCI® Copper Index is composed entirely of copper futures contracts. The S&P GSCI® Copper Index excludes all other futures contracts included in the S&P GSCI®. The closing levels of the S&P GSCI® Copper Index Price Return, Excess Return and Total Return are reported by Bloomberg under the ticker symbols “SPGCIC,” “SPGCICP” and “SPGCICTR,” respectively.

### ***S&P GSCI® Crude Oil Index***

The S&P GSCI® Crude Oil Index is composed entirely of WTI crude oil futures contracts. The S&P GSCI® Crude Oil Index excludes all other futures contracts included in the S&P GSCI®. The closing levels of the S&P GSCI® Crude Oil Index Price Return, Excess Return and Total Return are reported by Bloomberg under the ticker symbols “SPGCCL,” “SPGCCLP” and “SPGCCLTR,” respectively.

### ***S&P GSCI® Gold Index***

The S&P GSCI® Gold Index is composed entirely of gold futures contracts. The S&P GSCI® Gold Index excludes all other futures contracts included in the S&P GSCI®. The closing levels of the S&P GSCI® Gold Index Price Return, Excess Return and Total Return are reported by Bloomberg under the ticker symbols “SPGCGC,” “SPGCGCP” and “SPGCGCTR,” respectively.

### ***S&P GSCI® Natural Gas Index***

The S&P GSCI® Natural Gas Index is composed entirely of natural gas futures contracts. The S&P GSCI® Natural Gas Index excludes all other futures contracts included in the S&P GSCI®. The closing levels of the S&P GSCI® Natural Gas Index Price Return, Excess Return and Total Return are reported by Bloomberg under the ticker symbols “SPGCNG,” “SPGCNGP” and “SPGCNGTR,” respectively.

### ***S&P GSCI® Palladium Index***

The S&P GSCI® Palladium Index is composed entirely of palladium futures contracts. The S&P GSCI® Palladium Index excludes all other futures contracts included in the S&P GSCI®. The closing levels of the S&P GSCI® Palladium Index Price Return, Excess Return and Total Return are reported by Bloomberg under the ticker symbols “SPGCPA,” “SPGCPAP” and “SPGCPATR,” respectively.

### ***S&P GSCI® Platinum Index***

The S&P GSCI® Platinum Index is composed entirely of platinum futures contracts. The S&P GSCI® Platinum Index excludes all other futures contracts included in the S&P GSCI®. The closing levels of the S&P GSCI® Platinum Index Price Return, Excess Return and Total Return are reported by Bloomberg under the ticker symbols “SPGCPL,” “SPGCPLP,” and “SPGCPLTR,” respectively.

### ***S&P GSCI® Silver Index***

The S&P GSCI® Silver Index is composed entirely of silver futures contracts. The S&P GSCI® Silver Index excludes all other futures contracts included in the S&P GSCI®. The closing levels of the S&P GSCI® Silver Index Price Return, Excess Return and Total Return are reported by Bloomberg under the ticker symbols “SPGCSI,” “SPGCSIP” and “SPGCSITR,” respectively.

## **Description of the GSCI® Indices**

Set forth below is a summary of the methodology used to calculate the GSCI® Indices. The GSCI® Indices are calculated in the same manner as the S&P GSCI®, except that (i) the daily contract reference price, contract production weights (“CPW”) and roll weights (each as discussed below) used in such calculations are limited to those of the

commodities included in the applicable index and (ii) each index has a separate normalizing constant (discussed below). The methodology for determining the composition and weighting of the GSCI® Indices and for calculating their value is subject to modification in a manner consistent with the purposes of the GSCI® Indices, as described below.

### **The Index Committee and the Index Advisory Panel**

S&P Dow Jones has established an index committee (the “**Index Committee**”) to oversee the daily management and operations of the S&P GSCI®, and is responsible for all analytical methods and calculation in the indices. The Index Committee is comprised of full-time professional members of S&P Dow Jones staff. At each meeting, the Index Committee reviews any issues that may affect index constituents, statistics comparing the composition of the indices to the market, commodities that are being considered as candidates for addition to an index, and any significant market events. In addition, the Index Committee may revise index policy covering rules for selecting commodities, or other matters.

S&P Dow Jones considers information about changes to its indices and related matters to be potentially market moving and material. Therefore, all Index Committee discussions are confidential.

S&P Dow Jones Indices has established a commodity index advisory panel (the “**Panel**”) to assist it in connection with the operation of the S&P GSCI®. The Panel meets on an annual basis and at other times at the request of the Index Committee. The principal purpose of the Panel is to advise the Index Committee with respect to, among other things, the calculation of the S&P GSCI®, the effectiveness of the S&P GSCI® as a measure of commodity futures market performance and the need for changes in the composition or methodology of the S&P GSCI®. The Panel acts solely in an advisory and consultative capacity; the Index Committee makes all decisions with respect to the composition, calculation and operation of the S&P GSCI®.

In order to be included in the S&P GSCI®, a contract must satisfy the following general eligibility criteria:

- The contract must be in respect of a physical commodity and not a financial commodity.
- In addition, the contract must:
  - have a specified expiration or term or provide in some other manner for delivery or settlement at a specified time, or within a specified time period, in the future; and
  - at any given point in time, be available for trading at least five months prior to its expiration or such other date or time period specified for delivery or settlement.

The trading facility (as defined below) on which the contract trades must allow market participants to execute spread transactions, through a single order entry, between the pairs of contract expirations (defined below) included in the S&P GSCI® that, at any given point in time, will be involved in the rolls to be effected in the next three roll periods (defined below).

The commodity must be the subject of a contract that:

- is denominated in U.S. dollars; and
- is traded on or through an exchange, facility or other platform (referred to as a “trading facility”) that has its principal place of business or operations in a country that is a member of the Organization for Economic Cooperation and Development during the relevant annual calculation period or interim calculation period and that:
  - makes price quotations generally available to its members or participants (and to S&P Dow Jones) in a manner and with a frequency that is sufficient to provide reasonably reliable indications of the level of the relevant market at any given point in time;
  - makes reliable trading volume information available to S&P Dow Jones with at least the frequency required by S&P Dow Jones to make the monthly determinations;
  - accepts bids and offers from multiple participants or price providers; and
  - is accessible by a sufficiently broad range of participants.

With respect to inclusion in each of the GSCI® Indices, a contract must be in respect to the physical commodity or commodities that are described by that specific index.

The price of the relevant contract that is used as a reference or benchmark by market participants (referred to as the “daily contract reference price”) generally must have been available on a continuous basis for at least two years prior to



the proposed date of inclusion in the S&P GSCI<sup>®</sup>. In appropriate circumstances, however, S&P Dow Jones may determine that a shorter time period is sufficient or that historical daily contract reference prices for such contract may be derived from daily contract reference prices for a similar or related contract. The daily contract reference price may be (but is not required to be) the settlement price or other similar price published by the relevant trading facility for purposes of margining transactions or for other purposes.

At and after the time a contract is included in the S&P GSCI<sup>®</sup>, the daily contract reference price for such contract must be published between 10:00 a.m. and 4:00 p.m., New York City time, on each business day relating to such contract by the trading facility on or through which it is traded and must generally be available to all members of, or participants in, such facility (and to S&P Dow Jones) on the same day from the trading facility or through a recognized third-party data vendor. Such publication must include, at all times, daily contract reference prices for at least one expiration or settlement date that is five months or more from the date the determination is made, as well as for all expiration or settlement dates during such five-month period.

For a contract to be eligible for inclusion in the S&P GSCI<sup>®</sup>, volume data with respect to such contract must be available for at least the three months immediately preceding the date on which the determination is made. The following eligibility criteria apply:

- A contract that is not included in the S&P GSCI<sup>®</sup> at the time of determination and that is based on a commodity that is not represented in the S&P GSCI<sup>®</sup> at such time must, in order to be added to the S&P GSCI<sup>®</sup> at such time, have an annualized total dollar value traded over the relevant period of at least \$15 billion. The annualized total dollar value traded is equal to the total annualized quantity traded in the relevant contract over the period for which the calculation is made, expressed in physical units, multiplied by the average of the daily contract reference prices on the last day of each month during such period.
- A contract that is already included in the S&P GSCI<sup>®</sup> at the time of determination and that is the only contract on the relevant commodity included in the S&P GSCI<sup>®</sup> must, in order to continue to be included in the S&P GSCI<sup>®</sup> after such time, have an annualized total dollar value traded over the relevant period of at least \$5 billion and at least \$10 billion during at least one of the three most recent annual periods used in making the determination.
- A contract that is not included in the S&P GSCI<sup>®</sup> at the time of determination and that is based on a commodity on which there are one or more contracts already included in the S&P GSCI<sup>®</sup> at such time must, in order to be added to the S&P GSCI<sup>®</sup> at such time, have an annualized total dollar value traded over the relevant period of at least \$30 billion.
- A contract that is already included in the S&P GSCI<sup>®</sup> at the time of determination and that is based on a commodity on which there are one or more contracts already included in the S&P GSCI<sup>®</sup> at such time must, in order to continue to be included in the S&P GSCI<sup>®</sup> after such time, have an annualized total dollar value traded over the relevant period of at least \$10 billion and at least \$20 billion during at least one of the three most recent annual periods used in making the determination.

In addition:

- A contract that is already included in the S&P GSCI<sup>®</sup> at the time of determination must, in order to continue to be included after such time, have a reference percentage dollar weight of at least 0.10%. The reference percentage dollar weight is determined by dividing the reference dollar weight of such contract by the sum of the reference dollar weights of all designated contracts. The reference dollar weight of a contract is determined by multiplying the CPW (defined above) of a contract by the average of its daily contract reference prices on the last day of each month during the relevant period. These reference percentage dollar weight amounts are summed for all contracts included in the S&P GSCI<sup>®</sup> and each contract's percentage of the total is then determined.
- A contract that is not included in the S&P GSCI<sup>®</sup> at the time of determination must, in order to be added to the S&P GSCI<sup>®</sup> at such time, have a reference percentage dollar weight of at least 1.0%.
- In the event that two or more contracts on the same commodity satisfy the eligibility criteria, such contracts will be included in the S&P GSCI<sup>®</sup> in the order of their respective total quantity traded during the relevant period (determined as the total quantity of the commodity underlying transactions in the relevant contract), with the contract having the highest total quantity traded being included first, except that no further contracts will be included if such inclusion would result in the portion of the S&P GSCI<sup>®</sup> attributable to such commodity exceeding a particular level.
- If additional contracts could be included with respect to several commodities at the same time, that procedure is first applied with respect to the commodity that has the smallest portion of the S&P GSCI<sup>®</sup> attributable to it at the time of determination. Subject to the other eligibility criteria relating to the composition of the S&P GSCI<sup>®</sup>, the contract with the highest total quantity traded on such commodity will be included. Before any additional

contracts on the same commodity or on any other commodity are included, the portion of the S&P GSCI® attributable to all commodities is recalculated. The selection procedure described above is then repeated with respect to the contracts on the commodity that then has the smallest portion of the S&P GSCI® attributable to it.

The contracts currently included in the S&P GSCI® are all futures contracts traded on the New York Mercantile Exchange, Inc. ("NYMEX"), ICE Futures Europe ("ICE-Europe"), ICE Futures U.S. ("ICE-US"), the Chicago Mercantile Exchange ("CME"), the Chicago Board of Trade ("CBOT"), the Commodities Exchange, Inc. ("COMEX") and the London Metal Exchange ("LME").

### Contract Expirations

Because the S&P GSCI® tracks actively traded contracts with scheduled expirations, it can only be calculated by reference to the prices of contracts for specified expiration, delivery or settlement periods, referred to as "contract expirations." The contract expirations included in the S&P GSCI® for each commodity during a given year are designated by S&P Dow Jones, *provided* that each such contract must be an "active contract." An "active contract" for this purpose is a liquid, actively traded contract expiration, as defined or identified by the relevant trading facility or, if no such definition or identification is provided by the relevant trading facility, as defined by standard custom and practice in the industry.

If a trading facility deletes one or more contract expirations, the S&P GSCI® will be calculated during the remainder of the year in which such deletion occurs on the basis of the remaining contract expirations designated by S&P Dow Jones. If a trading facility ceases trading in all contract expirations relating to a particular contract, S&P Dow Jones may designate a replacement contract on the commodity. The replacement contract must satisfy the eligibility criteria for inclusion in the S&P GSCI®. To the extent practicable, the replacement will be effected during the next monthly review of the composition of the S&P GSCI®. If that timing is not practicable, S&P Dow Jones will determine the date of the replacement and will consider a number of factors, including the differences between the existing contract and the replacement contract with respect to contractual specifications and contract expirations.

### Value of the S&P GSCI®

The commodity futures contracts included in the S&P GSCI® change on a monthly basis because the futures contracts included in the S&P GSCI® at any given time are required to be the commodity futures contracts traded on the related exchange with the closest expiration date (the "front-month contract"). The S&P GSCI® incorporates a methodology for rolling the current futures contract into the futures contract with the next closest expiration date (the "next-month contract") each month. Assuming that markets are not disrupted or the limitations that regulate the amount of fluctuation in options futures contract prices that may occur during a trading day have not been reached, the S&P GSCI® gradually reduces the weighting of the front-month contract and increases the weighting of the next-month contract over a five S&P GSCI® business day period commencing on the fifth S&P GSCI® business day of the month, so that on the first S&P GSCI® business day of the roll-over the front-month contract represents 80% and the next-month contract represents 20% of the S&P GSCI®, and on the fifth S&P GSCI® business day of the roll-over period (*i.e.*, the ninth S&P GSCI® business day of the month) the next-month contract represents 100% of the S&P GSCI®. An "S&P GSCI® business day" is a day on which the S&P GSCI® Indices are calculated, as determined by the NYSE Euronext Holiday & Hours schedule.

The value of the S&P GSCI® on any given day is equal to the total dollar weight of the S&P GSCI® divided by a normalizing constant that assures the continuity of the S&P GSCI® over time. The total dollar weight of the S&P GSCI® is the sum of the dollar weight of each of the underlying commodities. The dollar weight of each such commodity on any given day is equal to:

- the "daily contract reference price" (as discussed below),
- multiplied by the appropriate CPWs, and
- during a roll period, the appropriate "roll weights" (as discussed below).

The normalizing constant is recalculated on the fourth S&P GSCI® business day of the calendar month in which new CPWs first become effective (*i.e.*, January or any other month in which a reweighting of the S&P GSCI® is implemented). The new normalizing constant is equal to the previous normalizing constant multiplied by the "total dollar weight ratio." The numerator of the "total dollar weight ratio" is the sum of the products obtained by multiplying (a) the new CPW for each underlying commodity *times* (b) the daily contract reference price for such underlying commodity on such day. The denominator of the "total dollar weight ratio" is the sum of the products obtained by multiplying (a) the previous CPW for each underlying commodity *times* (b) the daily contract reference price for such underlying commodity on such day. The same "rolling" procedure used to roll the front-month contract into the next-month contract, described above, is used to implement the new normalizing constant and the new CPWs.

The daily contract reference price used in calculating the dollar weight of each commodity on any given day is the most recent daily contract reference price made available by the relevant trading facility, except that the daily contract reference price for the most recent prior day will be used if the exchange is closed or otherwise fails to publish a daily contract reference price on that day. In addition, if the trading facility fails to make a daily contract reference price available or publishes a daily contract reference price that, in the reasonable judgment of S&P Dow Jones, reflects manifest error, the relevant calculation will be delayed until the price is made available or corrected; *provided*, that, if the price is not made available or corrected by 4:00 p.m., New York City time, S&P Dow Jones may, if it deems such action to be appropriate under the circumstances, determine the appropriate daily contract reference price for the applicable futures contract in its reasonable judgment for purposes of the relevant S&P GSCI<sup>®</sup> calculation.

### **Contract Daily Return**

The contract daily return on any given S&P GSCI<sup>®</sup> business day is equal to (a) the “total dollar weight obtained” on such day, divided by (b) the “total dollar weight invested” of the S&P GSCI<sup>®</sup> on the preceding day, (c) minus one, which calculation represents the percentage change in the total dollar weight of the S&P GSCI<sup>®</sup>. The “total dollar weight obtained” is calculated as the total dollar weight of the S&P GSCI<sup>®</sup> for such S&P GSCI<sup>®</sup> business day using the CPWs and contract roll weights in effect on the preceding S&P GSCI<sup>®</sup> business day and the daily contract reference prices used to calculate the S&P GSCI<sup>®</sup> on the S&P GSCI<sup>®</sup> business day on which the calculation is made. The “total dollar weight invested” on any given S&P GSCI<sup>®</sup> business day is equal to the total dollar weight of the S&P GSCI<sup>®</sup> on the preceding day.

The “roll weight” of each commodity reflects the fact that the positions in contracts must be liquidated or rolled forward into more distant contract expirations as they approach expiration. If actual positions in the relevant markets were rolled forward, the roll would likely need to take place over a period of days. Since the S&P GSCI<sup>®</sup> is designed to replicate the performance of actual investments in the underlying contracts, the rolling process incorporated in the S&P GSCI<sup>®</sup> also takes place over a period of days at the beginning of each month (referred to as the “roll period”). On each day of the roll period, the “roll weights” of the first nearby contract expiration on a particular commodity and the more distant contract expiration into which it is rolled are adjusted, so that the hypothetical position in the contract on the commodity that is included in the S&P GSCI<sup>®</sup> is gradually shifted from the first nearby contract expiration to the more distant contract expiration.

If on any day during a roll period any of the following conditions exists, the portion of the roll that would have taken place on that day is deferred until the next day on which such conditions do not exist:

- no daily contract reference price is available for a given contract expiration;
- any such price represents the maximum or minimum price for such contract month, based on exchange price limits (referred to as a “Limit Price”);
- the daily contract reference price published by the relevant trading facility reflects manifest error, or such price is not published by 4:00 p.m., New York City time—in that event, S&P Dow Jones may, but is not required to, determine a daily contract reference price and complete the relevant portion of the roll based on such price; except that if the trading facility publishes a price before the opening of trading on the next day, S&P Dow Jones will revise the portion of the roll accordingly; or
- trading in the relevant contract terminates prior to its scheduled closing time.

If any of these conditions exist throughout the roll period, the roll with respect to the affected contract will be effected in its entirety on the next day on which such conditions no longer exist.

## The STOXX Indices

We have derived all information contained in this underlying supplement regarding the EURO STOXX 50<sup>®</sup> Index and the EURO STOXX<sup>®</sup> Banks Index (each, a “**STOXX Index**”), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by STOXX Limited. The EURO STOXX 50<sup>®</sup> Index is calculated, maintained and published by STOXX Limited. STOXX Limited has no obligation to continue to publish, and may discontinue publication of, the STOXX Index.

### The EURO STOXX 50<sup>®</sup> Index

The EURO STOXX 50 Index (the “**STOXX 50 Index**”) was created by STOXX Limited, which is owned by Deutsche Boerse AG and SIX Group AG. Publication of the STOXX 50 Index began on February 28, 1998, based on an initial index value of 1,000 on December 31, 1991. The STOXX 50 Index is published in *The Wall Street Journal* and disseminated on the STOXX Limited website. On March 1, 2010, STOXX Limited announced the removal of the “Dow Jones” prefix from all of its indices, including the EURO STOXX 50<sup>®</sup> Index.

The STOXX 50 Index is composed of 50 component stocks of market sector leaders from within the 19 EURO STOXX<sup>®</sup> Supersector indices, which represent the Eurozone portion of the STOXX Europe 600<sup>®</sup> Supersector indices. The STOXX Europe 600<sup>®</sup> Supersector indices contain the 600 largest stocks traded on the major exchanges of 18 European countries. The 50 stocks currently in the STOXX 50 Index come from 12 Eurozone countries; Austria, Belgium, Finland, France, Germany, Greece, Finland, Italy, Luxemburg, the Netherlands, Portugal and Spain. The component stocks have a high degree of liquidity and represent the largest companies across all market sectors. The STOXX 50 Index is calculated in euros. The STOXX 50 Index can be calculated as both a price return index and a total return index.

The composition of the STOXX 50 Index is reviewed annually, based on the closing stock data on the last trading day in August. The component stocks are announced the first trading day in September. Changes to the component stocks are implemented on the third Friday in September and are effective the following trading day. Changes in the composition of the STOXX 50 Index are made to ensure that the STOXX 50 Index includes the 50 market sector leaders from within the Euro STOXX Index.

The free float factors for each component stock used to calculate the STOXX 50 Index, as described below, are reviewed, calculated and implemented on a quarterly basis and are fixed until the next quarterly review. Each component's weight is capped at 10% of the index's total free float market capitalization.

The STOXX 50 Index is also reviewed on an ongoing basis. Corporate actions (including initial public offerings, mergers and takeovers, spin-offs, delistings and bankruptcy) that affect the STOXX 50 Index composition are immediately reviewed. Any changes are announced, implemented and effective in line with the type of corporate action and the magnitude of the effect.

The STOXX 50 Index is reported by Bloomberg L.P. under the ticker symbol “SX5E.”

### The EURO STOXX<sup>®</sup> Banks Index

The EURO STOXX<sup>®</sup> Banks Index (the “**Banks Index**”) was created by STOXX Limited. Publication of the STOXX Index began on June 15, 1998, based on an initial index value of 100 on December 31, 1991. The Banks Index is disseminated on the STOXX Limited website. On March 1, 2010, STOXX Limited announced the removal of the “Dow Jones” prefix from all of its indices, including the Banks Index.

The Banks Index is one of 19 EURO STOXX<sup>®</sup> Supersector indices that compose the STOXX<sup>®</sup> Europe 600 Index. The STOXX<sup>®</sup> Europe 600 Index contains the 600 largest European stocks by free float market capitalization. Each of the 19 EURO STOXX<sup>®</sup> Supersector indices contain the companies within the Eurozone subset of the STOXX<sup>®</sup> Europe 600 Index that fall within the relevant supersector, determined by reference to the Industry Classification Benchmark (“ICB”), an international system for categorizing companies that is maintained by FTSE International Limited. The Banks Index includes companies in the banks supersector, which tracks companies providing a broad range of financial services, including retail banking, loans and money transmissions. The Banks Index currently includes 28 stocks of banks that are market sector leaders from twelve countries in the Eurozone. The Eurozone includes: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain. The composition of the Banks Index is reviewed quarterly. The component stocks are announced the fourth Tuesday of the month immediately prior to the

review implementation month. Changes to the component stocks are implemented on the third Friday in each of March, June, September and December and are effective the following trading day.

The free float factors and weighting cap factors for each component stock used to calculate the EURO STOXX® Supersector indices, as described below, are reviewed, calculated and implemented on a quarterly basis and are fixed until the next quarterly review. All components of the Banks Index are subject to a 30% capping for the largest company and a 15% capping for the second-largest company.

The Banks Index is also reviewed on an ongoing basis. Corporate actions (including initial public offerings, mergers and takeovers, spin-offs, delistings and bankruptcy) that affect the Banks Index composition are immediately reviewed. Any changes are announced, implemented and effective in line with the type of corporate action and the magnitude of the effect.

The Bank Index is reported by Bloomberg L.P. under the ticker symbol “SX7E.”

### **Calculation of the STOXX Index**

The STOXX Index is calculated with the Laspeyres formula, which measures the aggregate price changes in the component stocks against a fixed base quantity weight. The formula for calculating the STOXX Index value at any time can be expressed as follows:

$$\text{Index} = \frac{\text{free float market capitalization of the STOXX Index}}{\text{Divisor}}$$

The “free float market capitalization of the STOXX Index” is equal to the sum of the products of the closing price, number of shares, free float factor and weighting cap factor for each component stock as of the time the STOXX Index is being calculated.

The divisor for the STOXX Index is adjusted to maintain the continuity of the STOXX Index values across changes due to corporate actions. The following is a summary of the adjustments to any component stock made for corporate actions and the effect of such adjustment on the divisor, where an index divisor may decrease (∇) or increase (Δ) or keep constant (■) when corporate actions occur for a component stock. Assuming shareholders receive “B” new shares for every “A” share held for the following corporate actions:

<b>Divisor</b>	<b>Corporate Action</b>	<b>Adjustment Formula</b>
∇	Cash dividend (applied for return index only)	$\text{adjusted price} = \text{closing price} - \text{dividend announced by company} \times (1 - \text{withholding tax})$
∇	Special Cash dividend (applied for price return index only)	$\text{adjusted price} = \text{closing price} - \text{dividend announced by company} \times (1 - \text{withholding tax})$
■	Split and Reverse Split	$\text{adjusted price} = \text{closing price} \times A/B$ $\text{new number of shares} = \text{old number of shares} \times B/A$
Δ	Rights Offering	If the subscription price is not available or equal to or greater than the closing price on the day before the effective date, then no adjustment is made. In case the share increase is larger or equal to 100% ( $B/A \geq 1$ ) the adjustment of the shares and weightfactors are delayed until the new shares are listed.

Divisor	Corporate Action	Adjustment Formula
		$\text{adjusted price} = (\text{closing price} \times A + \text{subscription price} \times B) / (A + B)$ $\text{new number of shares} = \text{old number of shares} \times (A + B) / A$
■	Stock Dividend	$\text{adjusted price} = \text{closing price} \times A / (A + B)$ $\text{new number of shares} = \text{old number of shares} \times (A + B) / A$
▽	Stock Dividend (From Treasury Stock)	<p>Stock dividends from treasury stocks will be adjusted as cash dividends.</p> <p>If treated as regular cash dividend, only the return indices are adjusted. If treated as extraordinary dividend, the price and the return indices are adjusted.</p> $\text{adjusted close} = \text{close} - \text{close} \times B / (A + B)$
▽	Stock Dividend of a Different Company Security	$\text{adjusted price} = (\text{closing price} \times A - \text{price of different company security} \times B) / A$
▽	Return of Capital and Share Consolidation	$\text{adjusted price} = [\text{closing price} - \text{dividend announced by company} \times (1 - \text{withholding tax})] \times A / B$ $\text{new number of shares} = \text{old number of shares} \times B / A$
▽	Repurchase Shares/Self-Tender	$\text{adjusted price} = \frac{(\text{price before tender} \times \text{old number of shares}) - (\text{tender price} \times \text{number of tendered shares})}{\text{new number of shares}}$ $\text{new number of shares} = \text{old number of shares} - \text{number of tendered shares}$
▽	Spinoff	$\text{adjusted price} = (\text{closing price} \times A - \text{price of spun-off shares} \times B) / A$
Δ	Combination Stock Distribution (Dividend or Split) and Rights Offering	<p>Shareholders receive <math>B</math> new shares from the distribution and <math>C</math> new shares from the rights offering for every <math>A</math> shares held. If <math>A</math> is not equal to one, all of the following new number of shares formulas need to be divided by <math>A</math>.</p> <p>If rights are applicable after stock distribution (one action applicable to other):</p> $\text{adjusted price} = \frac{\text{closing price} \times A + \text{subscription price} \times C \times (1 + B/A)}{(A + B) \times (1 + C/A)}$ $\text{new number of shares} = \text{old number of shares} \times [(A + B) \times (1 + C/A)] / A$ <p>If stock distribution is applicable after rights (one action applicable to other):</p> $\text{adjusted price} = \frac{\text{closing price} \times A + \text{subscription price} \times C}{(A + C) \times (1 + B/A)}$ $\text{new number of shares} = \text{old number of shares} \times [(A + C) \times (1 + B/A)]$
Δ	Stock Distribution and Rights (not mutually applicable)	$\text{adjusted price} = \frac{\text{closing price} \times A + \text{subscription price} \times C}{A + B + C}$ $\text{new number of shares} = \text{old number of shares} \times (A + B + C) / A$

## The Swiss Market Index (“SMI<sup>®</sup>”)

We have derived all information contained in this underlying supplement regarding the Swiss Market Index (“SMI<sup>®</sup>”), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by SIX Swiss Exchange Ltd (“SSE”). The SMI<sup>®</sup> is calculated, maintained and published by SSE. SSE has no obligation to continue to publish, and may discontinue publication of, the SMI<sup>®</sup>.

SMI<sup>®</sup> is reported by Bloomberg L.P. under the ticker symbol “SMI.”

### General

The SMI<sup>®</sup> represents approximately 85% of the free float capitalization of the Swiss equity market. The SMI<sup>®</sup> comprises the 20 largest and most liquid equities of the Swiss Performance Index<sup>®</sup> (“SPI<sup>®</sup>”). The SMI<sup>®</sup> was standardized on June 30, 1988 with an initial baseline value of 1,500 points. The SMI<sup>®</sup> is updated in real time after each transaction. The shortest interval is one second.

### Standards for Admission and Exclusion

The composition of the SMI<sup>®</sup> is reviewed annually, and in order to ensure a high degree of continuity in the composition of the SMI<sup>®</sup>, the component stocks are subject to a special procedure for adding them to the SMI<sup>®</sup> or removing them based on free float market capitalization and liquidity. The resulting adjustments to the index are made regularly once a year.

Admission to and exclusion from the index composition will be made once a year after prior notice of at least two months on the third Friday in September after close of trading. The number of securities and free float shares are adjusted on four ordinary adjustment dates a year: the third Friday in March (after close of trading), the third Friday in June (after close of trading), the third Friday in September (after close of trading) and the third Friday in December (after close of trading).

### Calculation of the SMI<sup>®</sup>

The SMI<sup>®</sup> is calculated according to the Laspeyres formula with the weighted arithmetic mean of a defined number of securities issues. The index level is calculated by dividing the market capitalizations of all securities included in the index by a divisor:

$$I_s = \frac{\sum_{i=1}^M p_{i,s} \cdot x_{i,t} \cdot f_{i,t} \cdot r_s}{D_t}$$

where  $t$  is current day;  $s$  is current time on day  $t$ ;  $I_s$  is the current index level at time  $s$ ;  $D_t$  is the divisor on day  $t$ ;  $M$  is the number of issues in index;  $p_{i,s}$  is the last-paid price of security  $i$ ;  $x_{i,t}$  is the number of shares of security  $i$  on day  $t$ ;  $f_{i,t}$  is the free float for security  $i$  on day  $t$ ; and  $r_s$  is the current CHF exchange rate at time  $s$ .

Market capitalization is calculated on the basis of freely tradable shares and is adjusted to take account of current block ownership. The divisor is recalculated each time the market capitalization changes due to a capital event (e.g., a capital increase or a change in number of shares). The new divisor is calculated on the eve of the effective date of the capital event to prevent the index level from being changed by a capital event. A dividend payment does not lead to any adjustment of the divisor. Capital repayments made instead of dividend payments are, as a rule, treated as normal dividend payments for the index calculation and do not lead to an adjustment of the divisor. However, if the amount of a capital repayment, made instead of a dividend distribution, is larger than the dividend for the previous year, the difference is regarded as a capital event and the divisor is adjusted accordingly.

## The Tokyo Stock Price Index

We have derived all information contained in this underlying supplement regarding the Tokyo Stock Price Index (the “**TOPIX**”), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by Tokyo Stock Exchange, Inc. (“**TSE**”). The TOPIX was developed and is calculated, maintained and published by the TSE. The TSE has no obligation to continue to publish, and may discontinue publication of, the TOPIX.

The TOPIX is reported by Bloomberg L.P. under the ticker symbol “TPX.”

### General

The TOPIX is a free float adjusted capitalization weighted index developed by TSE. Publication of the TOPIX began on July 1, 1969, based on a base index value of 100 as of January 4, 1968. The TOPIX is computed and published every second via TSE’s Market Information System, and is reported to securities companies across Japan and available worldwide through computerized information networks.

The component stocks of the TOPIX consist of all domestic common stocks listed on the TSE First Section. The TOPIX measures changes in the aggregate market value of these stocks. The TSE domestic stock market is divided into two sections: the First Section and the Second Section. Listings of stocks on the TSE are divided between these two sections, with stocks listed on the First Section typically being limited to larger, longer established and more actively traded issues and the Second Section to smaller and newly listed companies. The component stocks of the TOPIX are determined based on market capitalization and liquidity. Review and selection of component stocks is conducted semiannually, based on market data as of the base date for selection.

### Standards for Listing and Maintenance

TSE is responsible for maintaining the TOPIX, and can add, delete or substitute the stocks underlying the TOPIX or make other methodological changes that could change the value of the TOPIX Index. The underlying the stocks may be removed, if necessary, in accordance with deletion/addition rules which provide generally for the deletion of a stock from the TOPIX if such stock ceases to meet the criteria for inclusion. Stocks listed on the TSE Second Section may be transferred to the First Section if they satisfy applicable criteria. Such criteria include average monthly trading volume, among others. Similarly, when a First Section stock falls within the coverage of TSE rules prescribing reassignment thereof to the Second Section, such stock will be removed from the First Section.

### Calculation of the TOPIX

The TOPIX Index is a free float adjusted market capitalization weighted index, with the market price of each component stock multiplied by the number of shares listed (as adjusted by multiplying the Free float Weight (“**FFW**”) to take into account only the listed shares deemed to be available for trading in the market).

The TOPIX Index is not expressed in Japanese Yen, but is presented in terms of points (as a decimal figure) rounded off to the nearest one-hundredth. The TOPIX Index is calculated by multiplying 100 by the figure obtained by dividing the current free float adjusted market value (the current market price per share at the time of the index calculation multiplied by the number of common shares listed on the First Section of the TSE at the same instance (as adjusted by multiplying the FFW)) (the “**CMV**”) by the base market value (i.e., the TOPIX Current Market Value on the base date) (the “**BMV**”).

The calculation of the TOPIX Index can be represented by the following formula:

$$\text{Index} = \frac{\text{CMV}}{\text{BMV}} \times 100$$

In order to maintain continuity, the BMV is adjusted from time to time to ensure that it reflects only price movements resulting from reasons other than fluctuations in the stock market such as public offerings or changes in the number of constituents, and to eliminate the effects of other factors and prevent any instantaneous change or discontinuity in the level of the TOPIX. Such factors include, without limitation: new listings; delistings; new share issues either through public offerings or through rights offerings to shareholders; issuance of shares as a consequence of exercise of convertible bonds or warrants; and transfer of listed securities from the First Section to the Second Section of the TSE.



The formula for the adjustment is as follows:

$$\frac{\text{Adjusted Market Value on Adjustment Date}}{\text{BMV before Adjustment}} = \frac{\text{Adjusted Market Value on Adjustment Date} \pm \text{Adjustment Amount}}{\text{BMV Value after Adjustment}}$$

$$\text{Adjustment Amount} = \text{Changes in the Number of Shares for Index Calculation} \times \text{Price Used for Adjustment}$$

Therefore,

$$\text{New BMV} = \text{Old BMV} \times \frac{\text{Adjusted Market Value on Adjustment Date} \pm \text{Adjustment Amount}}{\text{Adjusted Market Value on Adjustment Date}}$$

The TOPIX Base Market Value remains at the new value until a further adjustment is necessary as a result of another change. As a result of such change affecting the TOPIX Current Market Value or any stock underlying the TOPIX, the TOPIX Base Market Value is adjusted in such a way that the new value of the TOPIX will equal the level of the TOPIX Index immediately prior to such change. No adjustment is made to the TOPIX Base Market Value, however, in the case of events such as stock splits or decreases in capital without compensation, which theoretically do not affect market value.

## EXCHANGE TRADED FUNDS

### The iShares Exchange Traded Funds

We have derived all information contained in this underlying supplement regarding the iShares<sup>®</sup> U.S. Financials ETF, the iShares<sup>®</sup> U.S. Real Estate ETF, iShares<sup>®</sup> FTSE China Large-Cap ETF, iShares<sup>®</sup> MSCI Brazil Capped ETF, the iShares<sup>®</sup> MSCI Emerging Markets ETF and the iShares<sup>®</sup> MSCI EAFE<sup>®</sup> ETF (each an “iShares ETF,” and together, the “iShares ETFs”), including, without limitation, their make-up, method of calculation and changes in their components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by, iShares, Inc. (“iShares”), iShares Trust, BlackRock Institutional Trust Company, N.A., (“BTC”), and BlackRock Fund Advisors (“BFA”). Prior to December 1, 2009, BTC was known as Barclays Global Investors, N.A. The iShares ETFs are investment portfolios maintained and managed by iShares. BFA is the investment advisor to the iShares ETFs.

iShares Trust is a registered investment company that consists of numerous separate investment portfolios, including the iShares ETFs. Information provided to or filed with the SEC by iShares pursuant to the Securities Act of 1933 and the Investment Company Act of 1940 can be located by reference to SEC file numbers 033-97598 and 811-09102, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding iShares, BFA, BTC and the iShares ETFs, please see each iShares ETFs’ prospectus.

#### iShares<sup>®</sup> U.S. Financials ETF

The iShares<sup>®</sup> U.S. Financials ETF seeks to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of the financial and economic sectors of the U.S. equity market, as represented by the Dow Jones U.S. Financials Index. The Dow Jones U.S. Financials Index measures the performance of the financial sector of the U.S. equity market, including companies from the following industries: banks, nonlife insurance, real estate and general finance. The index is a subset of the Dow Jones U.S. Index and is capitalization-weighted. Component companies are adjusted for available float and must meet objective criteria for inclusion to the index. Index reconstitution is quarterly.

The iShares<sup>®</sup> U.S. Financials ETF is an exchange traded fund that trades on the NYSE Arca under the ticker symbol “IYF.”

For information about the Dow Jones U.S. Financials Index, see “The S&P Dow Jones Indices” above.

#### iShares<sup>®</sup> U.S. Real Estate ETF

The iShares<sup>®</sup> U.S. Real Estate ETF seeks to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of publicly traded securities in the real estate sector of the U.S. equity market, as measured by the Dow Jones U.S. Real Estate Index. The Dow Jones U.S. Real Estate Index measures the performance of the real estate industry of the U.S. equity market, including real estate holding and developing and real estate investment trusts (REITS) subsectors. The index is a subset of the Dow Jones U.S. Index and is capitalization-weighted. Component companies are adjusted for available float and must meet objective criteria for inclusion to the index. Index reconstitution is quarterly.

The iShares<sup>®</sup> Real Estate ETF is an exchange traded fund that trades on the NYSE Arca under the ticker symbol “IYR.”

For information about the Dow Jones U.S. Real Estate Index, see “The S&P Dow Jones Indices” above.

#### iShares<sup>®</sup> China Large-Cap ETF

The iShares<sup>®</sup> China Large-Cap ETF seeks to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of the FTSE China 50 Index. The FTSE China 50 Index is designed to represent the performance of the largest companies in the China equity market that are available to international investors. The FTSE China 50 Index consists of 50 of the largest and most liquid Chinese companies. Securities in the FTSE China 50 Index are weighted based on the total market value of their shares, so that securities with higher total market values generally have a higher representation in the index. Each security in the FTSE China 50 Index is a current constituent of the FTSE All-World Index. All of the securities in the FTSE China 50 Index trade on the Hong Kong Stock Exchange.

The iShares® China Large-Cap ETF is an exchange traded fund that trades on the NYSE Arca under the ticker symbol “FXI.”

For information about the FTSE China 50 Index, see “The FTSE China 50 Index” above.

### **iShares® MSCI Brazil Capped ETF**

The iShares® MSCI Brazil Capped ETF seeks to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of publicly traded securities in the Brazilian market, as measured by the MSCI Brazil 25/50 Index. The MSCI Brazil 25/50 Index seeks to measure the performance of the large- and mid-sized companies in Brazil and replicates certain investment limits that are imposed on regulated investment companies under the current U.S. Internal Revenue Code by applying a capping methodology that limits the weight of any single issuer to a maximum of 25% of the MSCI Brazil 25/50 Index and limiting the sum of the weights of all issuers representing more than 5% of the MSCI Brazil 25/50 Index to a maximum of 50% of the weight of the MSCI Brazil 25/50 Index in the aggregate. It is a capitalization-weighted index that aims to capture 85% of the free float adjusted market capitalization. Component companies are adjusted for available float and must meet objective criteria for inclusion to the index, taking into consideration unavailable strategic shareholdings and limitations to foreign ownership. MSCI reviews its indices quarterly.

The iShares® MSCI Brazil Capped ETF is an exchange traded fund that trades on the NYSE Arca under the ticker symbol “EWZ.”

For information about the MSCI Brazil 25/50 Index, see “The MSCI Indices” above.

### **iShares® MSCI Emerging Markets ETF**

The iShares® MSCI Emerging Markets ETF seeks to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of publicly traded securities in emerging markets, as represented by the MSCI Emerging Markets Index<sup>SM</sup>. The MSCI Emerging Markets Index<sup>SM</sup> was developed by MSCI Inc. as an equity benchmark for emerging market stock performance. It is a capitalization-weighted index that aims to capture 85% of the free float adjusted market capitalization. Component companies are adjusted for available float and must meet objective criteria for inclusion to the index, taking into consideration unavailable strategic shareholdings and limitations to foreign ownership. MSCI reviews its indices quarterly.

The iShares® MSCI Emerging Markets ETF is an exchange traded fund that trades on the NYSE Arca under the ticker symbol “EEM.”

For information about the MSCI Emerging Markets Index<sup>SM</sup>, see “The MSCI Indices” above.

### **iShares® MSCI EAFE ETF**

The iShares® MSCI EAFE ETF seeks to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of publicly traded securities in the European, Australasian and Far Eastern markets, as measured by the MSCI EAFE® Index. The MSCI EAFE® Index has been developed by MSCI Inc. as an equity benchmark for large- and mid-capitalization developed market equities, excluding the U.S. and Canada. It is a capitalization-weighted index that aims to capture 85% of the free float adjusted market capitalization. Component companies are adjusted for available float and must meet objective criteria for inclusion to the index, taking into consideration unavailable strategic shareholdings and limitations to foreign ownership. MSCI reviews its indices quarterly.

The iShares® MSCI EAFE ETF is an exchange traded fund that trades on the NYSE Arca under the ticker symbol “EFA.”

For information about the MSCI EAFE® Index, see “The MSCI Indices” above.

### **iShares® Russell 2000® ETF**

The iShares® Russell 2000® ETF seeks to provide investment results that correspond generally to the price and yield performance, before fees and expenses, of the small capitalization sector of the U.S. equity market as measured by the Russell 2000® Index. The Russell 2000® Index was developed by Russell as an equity benchmark representing the approximately 2,000 smallest companies in the Russell 3000® Index. The Russell 2000® Index represents approximately 10% of the total market capitalization of the Russell 3000® Index. The Russell 3000® Index is composed of the 3,000 largest U.S. companies as determined by market capitalization and represents approximately 98% of the U.S. equity

market. Component companies are adjusted for available float and must meet objective criteria for inclusion to the index. Index reconstitution is annual.

The iShares<sup>®</sup> Russell 2000<sup>®</sup> ETF is an exchange traded fund that trades on the NYSE Arca under the ticker symbol "IWM."

For information about the Russell 2000<sup>®</sup> Index , see "The Russell Indices" above.

## Market Vectors ETF Trust

We have derived all information contained in this underlying supplement regarding the Market Vectors Oil Services ETF and Market Vectors Gold Miners ETF (each a “**Market Vectors ETF**,” and together, the “**Market Vectors ETFs**”), including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. We have not participated in the preparation of, or verified, such available information. Such information reflects the policies of, and is subject to change by, Market Vectors ETF Trust and Van Eck Associates Corporation (“**Van Eck**”). Van Eck is the investment adviser to the Market Vectors ETFs.

The Market Vectors ETF Trust is a registered investment company that consists of numerous separate investment portfolios, including the Market Vectors ETFs. Information provided to or filed with the SEC by the Market Vectors ETFs pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to the SEC file numbers 333-123257 and 811-10325, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding the Market Vectors ETF Trust, Van Eck and the Market Vectors ETFs, please see each Market Vectors ETF’s prospectus.

### Market Vectors Oil Services ETF

The Market Vectors Oil Services ETF seeks to replicate as closely as possible, before fees and expenses, the price and yield performance of the Market Vectors US Listed Oil Services 25 Index. The Market Vectors US Listed Oil Services 25 Index (the “**Oil Service Index**”) is a rules based index intended to track the overall performance of 25 of the largest U.S. listed, publicly traded oil services companies. The Oil Service Index is comprised of common stocks and depositary receipts of U.S. exchange-listed companies in the oil services sector. Such companies may include foreign companies that are listed on a U.S. exchange. Companies are considered to be in the oil services sector if they derive at least 50% of their revenues from oil services, which include oil equipment, oil services or oil drilling. Of the largest 50 stocks in the oil services sector by full market capitalization, the top 25 by free float market capitalization (e.g., includes only shares that are readily available for trading in the market) and three month average daily trading volume are included in the Oil Services Index.

The Market Vectors Oil Services ETF is an exchange traded fund that trades on the NYSE Arca under the ticker symbol “OIH.”

### Market Vectors Gold Miners ETF

The Market Vectors<sup>®</sup> Gold Miners ETF seeks to provide investment results that replicate as closely as possible the price and yield performance, before fees and expenses, of the NYSE Arca Gold Miners Index. The NYSE Arca Gold Miners Index is a modified market capitalization weighted index primarily composed of publicly traded companies involved in mining for gold and silver. The NYSE Arca 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 and electronically quoted on a major stock market that is accessible by foreign investors. Only companies with market capitalization greater than \$750 million, 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 NYSE Arca Gold Miners Index. For more information about the NYSE Arca Gold Miners Index, see “The NYSE Arca Gold Miners Index” below.

The Market Vectors Gold Miners ETF trades on the NYSE Arca under the ticker symbol “GDX.”

## PowerShares QQQ™

We have obtained all information regarding the PowerShares QQQ™ (the “**QQQ**”) contained in this underlying supplement, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. We have not participated in the preparation of, or verified, such available information. Such information reflects the policies of, and is subject to change by, PowerShares QQQ Trust<sup>SM</sup>, Series 1 (the “**QQQ Trust**”) and Invesco PowerShares Capital Management LLC (“**Invesco**”). Invesco is the sponsor of QQQ.

The QQQ Trust is a unit investment trust designed to generally correspond to the price and yield performance of the Nasdaq-100 Index<sup>®</sup>. Information filed by the QQQ Trust with the SEC pursuant to the Securities Act of 1933, as amended, and the Investment Company Act of 1940, as amended, can be located by reference to the SEC file numbers 333-61001 and 811-8947, respectively on the SEC's website at <http://www.sec.gov>. For additional information regarding the QQQ Trust and QQQ, please see QQQ Trust's prospectus.

QQQ is based on the Nasdaq-100 Index<sup>®</sup>. QQQ will, under most circumstances consist of all the stocks in the Nasdaq-100 Index<sup>®</sup>. The Nasdaq-100 Index<sup>®</sup> includes 100 of the largest domestic and international nonfinancial companies listed on the NASDAQ Stock Market based on the market capitalization. QQQ and the Nasdaq-100 Index<sup>®</sup> are rebalanced quarterly and reconstituted annually.

The QQQ is traded on the NASDAQ Stock Market under the ticker symbol “QQQ”.

For information about the Nasdaq<sup>®</sup>-100 Index, see “The Nasdaq<sup>®</sup>-100 Index” above.

## **The Select Sector SPDR Exchange Traded Funds**

We have derived all information contained in this underlying supplement regarding the Energy Select Sector SPDR<sup>®</sup> Fund, the Financials Select Sector SPDR<sup>®</sup> Fund, the Health Care Select Sector SPDR<sup>®</sup> Fund, the Materials Select Sector SPDR<sup>®</sup> Fund and the Technology Select Sector SPDR<sup>®</sup> Fund (each a **"Select Sector SPDR ETF,"** and together, the **"Select Sector SPDR ETFs"**), including, without limitation, their make-up, method of calculation and changes in its components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by SSgA Funds Management, Inc. (**"SSFM"**). The Select Sector SPDR ETFs are investment portfolios maintained and managed by SSFM. SSFM is the investment advisor to the Select Sector SPDR ETFs.

The Select Sector SPDR<sup>®</sup> Trust (the **"Trust"**) is a registered investment company that consists of nine separate investment portfolios, including the Select Sector SPDR ETFs. Information provided to or filed with the SEC (the **"Commission"**) by the Trust pursuant to the Securities Act of 1933 and the Investment Company Act of 1940 can be located by reference to Commission file numbers 333-57791 and 811-08837, respectively, through the Commission's website at <http://www.sec.gov>. For additional information regarding the Trust, SSFM and the Select Sector SPDR ETFs, please see the Select Sector SPDR ETFs' Prospectus.

### **The Energy Select Sector SPDR<sup>®</sup> Fund**

The Energy Select Sector SPDR<sup>®</sup> Fund seeks investment results that correspond generally to the level and yield performance, before fees and expenses, of the Energy Select Sector Index. The Energy Select Sector Index measures the performance of the energy sector of the U.S. equity market. The Energy Select Sector Index includes companies from the following industries: oil, gas, consumable fuels, energy equipment and services.

The Energy Select Sector SPDR<sup>®</sup> Fund is an exchange traded fund that trades on the NYSE Arca under the ticker symbol "XLE."

For information about the Energy Select Sector Index, see "The S&P Select Sector Indices" above.

### **The Financials Select Sector SPDR<sup>®</sup> Fund**

The Financials Select Sector SPDR<sup>®</sup> Fund seeks investment results that correspond generally to the level and yield performance, before fees and expenses, of the Financials Select Sector Index. The Financials Select Sector Index measures the performance of the financial services sector of the U.S. equity market. The Financials Select Sector Index includes companies in the following sub-sectors: banking, mortgage finance, consumer finance, specialized finance, investment banking and brokerage, asset management and custody, corporate lending, insurance and financial investment and real estate, including REITs.

The Financials Select Sector SPDR<sup>®</sup> Fund is an exchange traded fund that trades on the NYSE Arca under the ticker symbol "XLF."

For information about the Financials Select Sector Index, see "The S&P Select Sector Indices" above.

### **The Health Care Select Sector SPDR<sup>®</sup> Fund**

The Health Care Select Sector SPDR<sup>®</sup> Fund seeks investment results that correspond generally to the level and yield performance, before fees and expenses, of the Health Care Select Sector Index. The Health Care Select Sector Index measures the performance of the health care sector of the U.S. equity market. The Health Care Select Sector Index includes companies from the following industries: pharmaceuticals, health care providers and services, health care equipment and supplies, biotechnology, life sciences tools and services and health care technology.

The Health Care Select Sector SPDR<sup>®</sup> Fund is an exchange traded fund that trades on the NYSE Arca under the ticker symbol "XLV."

For information about the Health Care Select Sector Index, see "The S&P Select Sector Indices" above.

### **The Materials Select Sector SPDR<sup>®</sup> Fund**

The Materials Select Sector SPDR<sup>®</sup> Fund seeks investment results that correspond generally to the level and yield performance, before fees and expenses, of the Materials Select Sector Index. The Materials Select Sector Index

measures the performance of the materials sector of the U.S. equity market. The Materials Select Sector Index includes companies from the following industries: chemicals, construction materials, containers and packaging, metals and mining and paper and forest products.

The Materials Select Sector SPDR<sup>®</sup> Fund is an exchange traded fund that trades on the NYSE Arca under the ticker symbol "XLB."

For information about the Materials Select Sector Index, see "The S&P Select Sector Indices" above.

### **The Technology Select Sector SPDR<sup>®</sup> Fund**

The Technology Select Sector SPDR<sup>®</sup> Fund seeks investment results that correspond generally to the level and yield performance, before fees and expenses, of The Technology Select Sector Index. The Technology Select Sector Index measures the performance of the technology sector of the U.S. equity market. The Technology Select Sector Index includes companies from the following industries: internet software and services, IT services, software, communications equipment, computers and peripherals, electronic equipment and instruments, office electronics, semiconductors and semiconductor equipment, diversified telecommunication services and wireless telecommunication services.

The Technology Select Sector SPDR<sup>®</sup> Fund is an exchange traded fund that trades on the NYSE Arca under the ticker symbol "XLK."

For information about the Materials Select Sector Index, see "The S&P Select Sector Indices" above.



## **The Select Industry SPDR Exchange Traded Funds**

We have derived all information contained in this underlying supplement regarding the SPDR® S&P® Homebuilders ETF, SPDR® S&P® Oil & Gas Exploration and Production ETF and the SPDR® S&P® Regional Banking ETF (the “**Select Industry SPDR ETFs**”), including, without limitation, their make-up, method of calculation and changes in their respective components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by SPDR® Series Trust and SSgA Funds Management, Inc. (“**SSFM**”). The Select Industry SPDR ETFs are investment portfolios maintained and managed by SSFM. SSFM is the investment adviser to the Select Industry SPDR ETFs.

SPDR® Series Trust is a registered investment company that consists of numerous separate investment portfolios, including the Select Industry SPDR ETFs. Information provided to or filed with the SEC by 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 SPDR® Series Trust, SSFM and the Select Industry SPDR ETFs, please see the SPDR® Series Trust’s prospectus.

### **The SPDR® S&P® Homebuilders ETF**

The SPDR® S&P® Homebuilders ETF seeks to provide investment results that, before fees and expenses, correspond generally to the total return performance of the S&P® Homebuilders Select Industry™ Index, which measures the performance of the homebuilding industry of the U.S. equity market. The companies included in each Select Industry Index are selected on the basis of GICS® and liquidity and market cap requirements from a universe of companies defined by the S&P® Total Market Index, a U.S. total market composite index. The SPDR® S&P® Homebuilders ETF is comprised of the companies in the S&P® Homebuilders Select Industry™ Index and includes companies in the following sub-industries: homebuilding, home improvement retail and home furnishings.

The SPDR® S&P® Homebuilders ETF is an exchange-traded fund that trades on the NYSE Arca under the ticker symbol “XHB”. The inception date of the SPDR® S&P® Homebuilders ETF is January 31, 2006. Prior to January 8, 2007 the SPDR® S&P® Homebuilders ETF was known as the SPDR® Homebuilders ETF.

For information about the S&P® Homebuilders Select Industry™ Index, see “The S&P® Homebuilders Select Industry™ Index” above.

### **The SPDR® S&P® Oil & Gas Exploration and Production ETF**

The SPDR® S&P® Oil & Gas Exploration and Production ETF seeks to provide investment results that correspond generally to the total return performance, before fees and expenses, of the S&P® Oil & Gas Exploration & Production Select Industry™ Index, which represents the oil and gas exploration and production sub-industry portion of the U.S. equity market. The companies included in each Select Industry Index are selected on the basis of Global Industry Classification Standard and liquidity and market cap requirements from a universe of companies defined by the S&P® Total Market Index. The SPDR® S&P® Oil & Gas Exploration and Production ETF is comprised of the companies in the S&P® Oil & Gas Exploration & Production Select Industry Index and includes companies in the following sub-industries: exploration and production of oil and gas.

The SPDR® S&P® Oil & Gas Exploration and Production ETF is an exchange traded fund that trades on the NYSE Arca under the ticker symbol “XOP.”

For information about the S&P® Oil & Gas Exploration & Production Select Industry™ Index, see “The S&P® Homebuilders Select Industry™ Index” above.

### **The SPDR® S&P® Regional Banking ETF**

The SPDR® S&P® Regional Banking ETF seeks investment results that, before fees and expenses, correspond generally to the total return performance of the S&P® Regional Banks Select Industry Index. The S&P® Regional Banks Select Industry Index measures the performance of the regional banking segment of the U.S. equity market. The S&P® Regional Banks Select Industry Index is a modified equal-weighted index of geographically diverse companies representing regional banking institutions listed on U.S. stock markets.

The SPDR® S&P® Regional Banking ETF is an exchange traded fund that trades on the NYSE Arca under the ticker symbol “KRE.”

For information about the S&P® Regional Banks Select Industry Index, see “The S&P® Regional Banks Select Industry Index.”

## The SPDR® S&P 500® ETF Trust

We have derived all information relating to the SPDR® S&P 500® ETF Trust, including, without limitation, its makeup, performance, method of calculation and changes in its components from publicly available sources, and we have not participated in the preparation of, or independently verified, such information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by State Street Bank and Trust Company, as trustee (“SSBTC”), and PDR Services, LLC, as sponsor.

The SPDR® S&P 500® ETF Trust is a unit investment trust registered under the Investment Company Act of 1940 that is designed to generally correspond, before expenses, to the price and yield performance of the S&P 500® Index. Information provided to or filed with the SEC regarding the SPDR® S&P 500® 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 033-46080 and 811-06125, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding SPDR® S&P 500® ETF Trust, SSBTC and PDR Services, LLC, please see the SPDR® S&P 500® ETF Trust’s prospectus.

The SPDR® S&P 500® ETF Trust is organized under New York law and is governed by an amended and restated trust agreement between SSBTC and PDR Services, LLC. The SPDR® S&P 500® ETF Trust was created to provide investors with the opportunity to purchase a security representing a proportionate undivided interest in a portfolio of securities consisting of substantially all of the component common stocks, in substantially the same weighting, which comprise the S&P 500® Index. In January 2010, the name of the fund was changed from “Standard and Poor’s Depository Receipts®” to “SPDR® S&P 500® ETF Trust.”

The SPDR® S&P 500® ETF Trust’s objective is to provide investment results that, before expenses, generally correspond to the price and yield performance of the S&P 500® Index. The SPDR® S&P 500® ETF Trust holds stocks and cash and is not actively managed by traditional methods, which typically involve effecting changes in the holdings of stocks and cash on the basis of judgments made relating to economic, financial and market considerations. To maintain the correspondence between the composition and weightings of the stocks held by the SPDR® S&P 500® ETF Trust and the component stocks of the S&P 500® Index, SSBTC adjusts the holdings of the SPDR® S&P 500® ETF Trust from time to time to conform to periodic changes in the identity and/or relative weightings of the component stocks of the S&P 500® Index. SSBTC aggregates certain of these adjustments and makes changes to the holdings of the SPDR® S&P 500® ETF Trust at least monthly, or more frequently in the case of significant changes to the S&P 500® Index. Any change in the identity or weighting of a component stock will result in a corresponding adjustment to the prescribed holdings of the SPDR® S&P 500® ETF Trust effective on any day that the NYSE is open for business following the day on which the change to the S&P 500® Index takes effect after the close of the market.

The SPDR® S&P 500® ETF Trust is listed on the NYSE Arca under the ticker symbol “SPY.”

For information about the S&P 500® Index, see “The S&P 500® Index” above.

## The SPDR® S&P MidCap 400® ETF Trust

We have derived all information relating to the SPDR® S&P MidCap 400® ETF Trust, including, without limitation, its make-up, performance, method of calculation and changes in its components from publicly available sources. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by The Bank of New York Mellon, formerly The Bank of New York, as trustee (“BNYM”) and PDR Services, LLC, as sponsor.

The SPDR® S&P MidCap 400® ETF Trust is a unit investment trust registered under the Investment Company Act of 1940 that is designed to generally correspond, before expenses, to the price and yield performance of the S&P MidCap 400® Index. Information provided to or filed with the SEC regarding the SPDR® S&P MidCap 400® 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 033-89088 and 811-8972, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding SPDR® S&P MidCap 400® ETF Trust, BNYM and PDR Services, LLC, please see the SPDR® S&P MidCap 400® ETF Trust’s prospectus.

The SPDR® S&P MidCap 400® ETF Trust is organized under New York law and is governed by a trust agreement between BNYM and PDR Services, LLC. The SPDR® S&P MidCap 400® ETF Trust was created to provide investors with the opportunity to purchase a Unit representing a proportionate undivided ownership interest in a portfolio of securities consisting of substantially all of the common stocks, in substantially the same weighting, which comprise the S&P MidCap® 400 Index.

The SPDR® S&P MidCap 400® ETF Trust holds common stocks (the “**Portfolio**”) and cash and is not actively “managed” by traditional methods, which typically involve effecting changes in the Portfolio on the basis of judgments made relating to economic, financial and market considerations. The SPDR® S&P MidCap 400® ETF Trust pursues an indexing strategy of “replication” in attempting to approximate the performance of the S&P MidCap 400® Index. At any time, the SPDR® S&P MidCap 400® ETF Trust will consist of as many underlying index component stocks as practicable. It is anticipated that cash will not constitute a substantial portion of the net assets of the SPDR® S&P MidCap 400® ETF Trust. To maintain the correspondence between the composition and weightings of the Portfolio and component stocks of the S&P MidCap 400® Index, BNYM adjusts the Portfolio from time to time to conform to periodic changes in the identity and/or relative weightings of the component stocks of the S&P MidCap 400® Index. BNYM aggregates certain of these adjustments and makes changes to the Portfolio at least monthly, or more frequently in the case of significant changes to the S&P MidCap 400® Index.

The SPDR® S&P MidCap 400® ETF Trust is listed on the NYSE Arca under the ticker symbol “MDY.”

For information about the S&P MidCap 400® Index, see “The S&P MidCap 400® Index” above.

## United States Oil Fund, LP

We have derived all information contained in this underlying supplement regarding the United States Oil Fund, LP, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information, and we have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by, United States Commodity Funds, LLC (formerly known as Victoria Bay Asset Management, LLC) (“**USCF**”). The United States Oil Fund, LP is an investment portfolio managed and controlled by USCF. USCF is a single member limited liability company formed in Delaware on May 10, 2005, that is registered as a commodity pool operator with the Commodity Futures Trading Commission and is a member of the National Futures Association. The General Partner is the investment advisor to the United States Oil Fund, LP.

Information provided to or filed with the SEC by the United States Oil Fund, LP pursuant to the Securities Act of 1933 and the Securities Exchange Act of 1934 can be located by reference to SEC file numbers 333-153310 and 001-32834, respectively, through the SEC’s website at <http://www.sec.gov>. The United States Oil Fund, LP is not a mutual fund or any other type of investment company within the meaning of the Investment Company Act of 1940, as amended, and is not subject to regulation thereunder. For additional information regarding the United States Oil Fund, LP and USCF, please see the United States Oil Fund, LP’s prospectus. In addition, information about the United States Oil Fund, LP may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents, and we have not participated in the preparation of, or verified, such publicly available information.

The United States Oil Fund, LP is designed to track the movements of West Texas Intermediate (“**WTI**”) light, sweet crude oil. The investment objective of the United States Oil Fund, LP is for the daily changes in percentage terms of its units’ net asset value to reflect the daily changes in percentage terms of the spot price of light, sweet crude oil delivered to Cushing, Oklahoma, as measured by the changes in the price of the futures contract for light, sweet crude oil traded on the New York Mercantile Exchange (the “**Benchmark Oil Futures Contract**”) that is the near month contract to expire, except when the near month contract is within two weeks of expiration, in which case it will be measured by the futures contract that is the next month contract to expire, less the United States Oil Fund, LP’s expenses. The United States Oil Fund, LP invests in futures contracts for light, sweet crude oil, other types of crude oil, heating oil, gasoline, natural gas and other petroleum-based fuels that are traded on the NYMEX, ICE Futures or other U.S. and foreign exchanges (collectively, “**Oil Futures Contracts**”) and other oil interests such as cash-settled options on Oil Futures Contracts, forward contracts for oil, cleared swap contracts and over-the-counter transactions that are based on the price of crude oil, other petroleum-based fuels, Oil Futures Contracts and indices based on the foregoing (collectively, “**Other Oil-Related Investments**”). The United States Oil Fund, LP seeks to achieve its investment objective by investing in a combination of Oil Futures Contracts and Other Oil-Related Investments such that daily changes in its per unit net asset value, measured in percentage terms, will closely track the daily changes in the price of the Benchmark Oil Futures Contract, also measured in percentage terms. The General Partner believes the daily changes in the price of the Benchmark Oil Futures Contract have historically exhibited a close correlation with the daily changes in the spot price of light, sweet crude oil. The General Partner is responsible for investing the assets of the United States Oil Fund, LP in accordance with the objectives and policies of the United States Oil Fund, LP.

The United States Oil Fund, LP trades on the New York Stock Exchange Arca under the ticker symbol “USO.”

## Vanguard FTSE Emerging Markets ETF

We have derived all information contained in this underlying supplement regarding the Vanguard FTSE Emerging Markets ETF, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. We have not participated in the preparation of, or verified, such publicly available information. Such information reflects the policies of, and is subject to change by The Vanguard International Equity Index Funds (the “**Vanguard Trust**”) and The Vanguard Group, Inc. (“**VGI**”). The Vanguard FTSE Emerging Markets ETF is an investment portfolio maintained and managed by VGI. VGI is the investment adviser to the Vanguard FTSE Emerging Markets ETF.

The Vanguard 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 the 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 033-32548 and 811-05972, respectively, through the SEC’s website at <http://www.sec.gov>. For additional information regarding the Vanguard Trust, VGI and the Vanguard FTSE Emerging Markets ETF, please see the Vanguard FTSE Emerging Markets ETF’s prospectus. In addition, information may be obtained from other sources including, but not limited to, press releases, newspaper articles and other publicly disseminated documents, and we have not participated in the preparation of, or verified, such publicly available information.

The Vanguard FTSE Emerging Markets ETF is an exchange traded fund that trades on the NYSE Arca under the ticker symbol “VWO.”

The Vanguard FTSE Emerging Markets ETF seeks to replicate as closely as possible, before fees and expenses, the performance of the FTSE Emerging Index (the “**Tracked Index**”) that measures the investment return of stocks issued by companies located in emerging market countries. 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 Tracked Index (while employing a form of sampling strategy to reduce risk). The Vanguard FTSE Emerging Markets ETF recently transitioned from tracking the performance of the FTSE Emerging Transition Index (the “**FTSE Transition Index**”) to tracking the performance of the Tracked Index.

Historically, the Vanguard FTSE Emerging Markets ETF sought to track the performance of the MSCI Emerging Markets Index (the “**MXEA**”). However, in October 2012, it was announced that the Vanguard FTSE Emerging Markets ETF would switch to tracking the performance of the Tracked Index. Because MXEA includes exposure to equities in South Korea but the Tracked Index does not, the Vanguard FTSE Emerging Markets ETF began tracking the performance of the FTSE Transition Index in January 2013 to gradually eliminate its South Korean equities holdings in order to reduce the impact on its existing fund shareholders. The FTSE Transition Index was a “dynamic” index that represented the components of the Tracked Index plus the equity of companies located in South Korea. The Vanguard FTSE Emerging Markets ETF followed the FTSE Transition Index as it gradually reduced its South Korean equity exposure by approximately 4% each week over a period of 25 weeks while proportionately adding exposure to stocks of companies located in other countries based on their weightings in the Tracked Index. In July 2013, the Vanguard FTSE Emerging Markets ETF finished its transition and began tracking the performance of the Tracked Index.

In May 2015, VGI announced that the Vanguard FTSE Emerging Markets ETF will transition to tracking a new index, the FTSE Emerging Markets All Cap China A Inclusion Index (the “**Target Index**”), which will include small capitalization stocks and China A-shares, with such A-shares being quota-adjusted by FTSE to take into account the quota amount allocated to foreign investors by the Chinese regulators. China A-shares, which are securities of Chinese incorporated companies that are quoted in Renminbi, can only be traded by either residents of the People’s Republic of China or under the qualified foreign institutional investor (“**QFII**”) rules and stock connect schemes. In the third or fourth quarter of 2015, the Vanguard FTSE Emerging Markets ETF is expected to replace the Tracked Index with the FTSE Emerging Markets All Cap China A Inclusion Transition Index (the “**China Transition Index**”), an interim index that will gradually add, and increase exposure to, small-capitalization stocks and China A-shares while proportionally reducing exposure to other stocks based on their weightings in the Target Index. The gradual changes in the China Transition Index over the course of a year are expected to result in the China Transition Index eventually replicating the Target Index. At such time, the Vanguard FTSE Emerging Markets ETF will switch from tracking the China Transition Index to the Target Index. To avoid “front running” by traders, the exact timing of the switch to tracking the new indices will not be disclosed.

The FTSE Transition Index, Tracked Index, China Transition Index and Target Index were each developed by FTSE International Limited (“**FTSE**”) and are calculated, maintained and published by FTSE. FTSE is under no obligation to continue to publish, and may discontinue or suspend the publication of these indices at any time.

## **The FTSE Emerging Index**

The Tracked Index is a market-capitalization weighted index representing the performance of large and mid-cap companies in emerging markets. The Tracked Index was launched on June 30, 2000, with a base date of December 31, 1986 and a base value of 100.

### ***Eligibility Countries***

On an annual basis, using a range of criteria, FTSE classifies countries into one of four categories: Developed, Advanced Emerging, Secondary Emerging and Frontier. FTSE assesses each country based on a quality of markets assessment matrix, which includes the following criteria:

- the World Bank’s Gross National Income per capita rating in the immediately preceding year;
- credit worthiness;
- the market and regulatory environment (e.g., whether there are formal stock market regulatory authorities that actively monitor the market, an assessment of whether there is fair and non-prejudicial treatment of minority shareholders and whether there are foreign ownership restrictions);
- custody and settlement framework;
- dealing landscape (e.g., whether there is sufficient competition to ensure high quality broker services, whether there is sufficient broad market liquidity to support sizeable global investment);
- whether there is a developed derivatives market; and
- size of market.

The minimum standards for inclusion increase from Frontier to Secondary Emerging, Secondary Emerging to Advanced Emerging and Advanced Emerging to Developed. A country will be classified under the category with the highest standards which it meets. The Tracked Index will include the equity securities of companies in countries classified as Advanced Emerging and Secondary Emerging.

Once a country has met the required standards, the stocks of companies from such country will be eligible for inclusion. However, for stocks from an eligible country to be included, such eligible country must have a minimum of 3 companies which pass the securities eligibility criteria and screens to be included in the Tracked Index. A country already represented in the Target Index will remain while any eligible companies representing the country remain within the Target Index. On the deletion of the last constituent company, the country will continue to be eligible, but the country will be immediately removed from the Tracked Index and will only be reconsidered for inclusion if it meets the minimum requirement of 3 eligible companies.

### ***Security Inclusion Criteria***

Most types of equity securities are eligible for the Tracked Index. Companies in the business of holding equity and other investments (e.g., investment trusts) which are assumed by the Industry Classification Benchmark as subsector equity investment instruments and non-equity investment instruments which are assumed by the Industry Classification Benchmark as subsector non-equity investment instruments are not eligible for inclusion. Limited liability partnerships, limited partnerships, limited liability companies and business development companies are not eligible for inclusion. Where a stapled unit comprises an eligible equity and a non-eligible security (such as non-equity or an investment trust structure), it will not be eligible for inclusion. Convertible preference shares and loan stocks are excluded until converted. If a company does not list all of its shares in an eligible class, or does not list an entire class, the unlisted shares are not eligible for the Tracked Index, but they may be included in the review universe for the purpose of ranking companies by their full market capitalization.

### ***Determining Company 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, the company will be allocated to that country. In all other circumstances, FTSE will refer the company to the FTSE Nationality Advisory Committee, which will recommend the appropriate nationality for the company. If a company is incorporated in a country, has a listing in that country and listings in other countries, FTSE will normally assign

the company to the country of incorporation. If a company is incorporated in a country, and is listed only in countries other than the country of incorporation, FTSE 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 recognized as having a low taxation status that has been approved by FTSE.

### ***Multiple Share Classes***

Where there are multiple classes of equity capital in a company, all classes are included and priced separately, provided that:

- the secondary class'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 class and the secondary class satisfies the eligibility rules and screens in its own right in all respects; and
- 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.

### ***Adjustments Applied to Eligible Securities***

Eligible companies may be subject to adjustment for free float restrictions. Free float restrictions include:

- shares directly owned by state, regional, municipal and local governments (excluding shares held by independently managed pension plans 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 provision (for the duration of that provision);
- shares held for publicly announced strategic reasons, including shares held by several holders acting in concert; and
- shares that are subject to on-going contractual agreements (such as swaps) where they would ordinarily be treated as restricted.

**Initial Weighting.** Free float restrictions will be calculated using available published information. For equity shares of companies 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 excluded from the Tracked Index.

**Percentage Point Thresholds.** Following the application of an initial free float restriction, a constituent's free float will only be changed if its rounded free float moves to more than 3 percentage points above or below the existing rounded free float. Where a company's actual free float moved to above 99%, it will not be subject to the 3 percentage points threshold and will be rounded to 100%. A constituent with a free float of 15% or below will not be subject to the 3 percentage points threshold.

**Changes in Free Float.** A constituent's free float will also be reviewed on publication of further information on restricted shareholdings. Where a change is not corporate event driven, the update in free float will be applied after the close of business on the third Friday of March, June, September and December, whichever comes first.

**Foreign Ownership Restrictions.** The Tracked Index's methodology takes into account the restrictions placed on the equity holdings of foreigners in a company where they have been imposed by a government, regulatory authority or the company's constitution. Where the presence of a foreign ownership restriction creates a limit on foreign ownership ("FOL") that is more restrictive than the calculated free float for a company, the precise FOL is used in place of the free float for the purposes of calculating the company's investability weight.



**Minimum Foreign Headroom Requirement.** FTSE will apply minimum and maximum foreign headroom requirements for constituents to be eligible for inclusion in the index and, in certain circumstances, will also adjust a constituent's investability weight. Foreign headroom is the percentage of shares available to foreign investors as a proportion of the underlying investability weight.

### ***Liquidity of Constituents***

Each constituent 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 each daily trading volume and selecting the middle ranking day if there is an odd number of days and the mean of the middle two 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 median trade of zero.

An existing constituent which does not turnover at least 0.04% of its shares in issue (after the application of any free float weightings) based on its median daily trading volume per month for at least eight of the twelve months prior to a full market review will be removed from the Tracked Index.

A non-constituent which does not turnover at least 0.05% of its shares in issue (after the application of any free float weightings) based on its median daily trading volume per month for at least ten of the twelve months prior to a full market review will not be eligible for inclusion in the Tracked Index.

New issues which 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 shares in issue (after the application of any free float weightings) based on their median daily trading volume per month in each month, on a pro-rata basis since their listing.

In assessing liquidity, data will be aggregated from trading volume in the country in which the company is classified by FTSE and from any other trading venues, as approved by FTSE, operating in a similar time zone. If a company fails the liquidity test based on its underlying shares, its Depositary Receipts ("DRs") may be considered for inclusion in the Tracked Index 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 DRs and underlying shares listed, both securities will be tested separately for liquidity. The underlying shares will be included if they pass the liquidity test in their own right. The DRs will only be eligible for inclusion if the underlying shares fail the liquidity test and the DRs pass in their own right. Where the DRs have been included, it will remain in the Tracked Index until such DRs either fail the liquidity test or the underlying shares pass a future liquidity test with greater liquidity than the DRs. In the event that the underlying shares fail the liquidity test and the DRs trade in a different time zone, but pass the test in their own right, the underlying shares will be included as long as the DRs are fully fungible (i.e., the DRs can be converted into underlying shares and the underlying shares can be converted into DRs).

### ***Calculation of the Tracked Index***

Actual closing mid-market or last trade prices are used, where available, for constituent securities with local securities exchange quotations. The number of shares outstanding for each constituent security is expressed to the nearest share. To prevent a large number of insignificant weighting changes, the number of shares outstanding for each constituent security is amended only when the total outstanding shares included in 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 performance of the Tracked Index on a given day is determined by calculating the percentage difference between (1) the Tracked Index's market capitalization as at the close of that day and (2) 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.

### **The FTSE Emerging Markets All Cap China A Inclusion Transition Index**

The China Transition Index was created to help funds, such as the Vanguard FTSE Emerging Markets ETF, transition to the Target Index. The China Transition Index will be calculated over twelve months and at the start of the transition will only contain constituents of the Tracked Index. On a monthly basis, a proportion of small-capitalization and China A-share companies will be added until at the end of the year-long transition, the composition is aligned with the Target Index. The weight of China A-shares and small-capitalization companies will be adjusted after the third Friday of each month using a factor approach. At the start of the index calculation, China A-shares and small-capitalization companies will have a factor of 0 applied to their free float adjusted market capitalizations. Each month, the factor will be increased by 8.33%.

The constituents' weights in the China Transition Index are neutralized between transition reviews when a corporate event leads to a rise/fall in index weighting for a constituent that could potentially be reversed at the next monthly transition review. This may cause FTSE to adjust the factor applied to an index constituent's market capitalization.

The China Transition Index is reviewed in line with the Tracked Index.

### **The FTSE Emerging Markets All Cap China A Inclusion Index**

The Target Index is a market-capitalization weighted index representing the performance of large, mid and small-cap companies in emerging markets. The Target Index was launched on June 5, 2015, with a base date of December 31, 2005 and a base value of 1,000.

The Target Index will apply the same methodology as the Tracked Index, except the Target Index will include small capitalization stocks and China A-shares at a weighting equivalent to the aggregate QFII and/or Renminbi QFII ("RQFII") approved quota for international investors. The China A-shares weighting will increase as total QFII and RQFII allocations increase. A built in mechanism ensures that the allocation of China A-shares is adjusted proportional to the changes in the approved quota and is in line with the accessibility available to international investors.

## License Agreements

We have entered into an agreement with the sponsor of each third-party index described in this underlying supplement, providing us and certain of our affiliates or subsidiaries with a non-exclusive license and, for a fee, with the right to use such index, which is owned and published by the sponsor, in connection with certain securities, including these securities offered by Deutsche Bank AG, London Branch. For the securities linked to a specific index, the general terms of such license agreement are as follows:

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