



Deutsche Bank AG

Warrants, Notes or Securities Linked to an Index

Deutsche Bank AG may from time to time offer and sell certain warrants, notes or securities linked to an index (collectively, the “**securities**”). This underlying supplement describes two of the potential indices 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 indices. 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 descriptions of the indices 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 also be read in connection with this underlying supplement, the relevant product supplement, if any, 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 warrants prospectus supplement, as applicable, or product supplement, the terms described in the relevant pricing supplement will be controlling.

<p>Underlying Indices: The Deutsche Bank Liquid Alpha USD 5 Total Return® Index and The Deutsche Bank Liquid Alpha USD 5 Excess Return® Index</p>
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Investing in the securities involves risks not associated with an investment in conventional securities. See “**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 other regulatory body has approved or disapproved of the securities or passed upon the adequacy or accuracy of this underlying supplement or the accompanying prospectus, prospectus supplement or warrants prospectus supplement, as applicable, or product supplement. Any representation to the contrary is a criminal offense.

The securities are not bank deposits and are not insured or guaranteed by the Federal Deposit Insurance Corporation or any other governmental agency.

Deutsche Bank AG

September 28, 2012

ADDITIONAL INFORMATION ABOUT THE SECURITIES

You should read this underlying supplement together with the prospectus dated September 28, 2012, as supplemented by the prospectus supplement dated September 28, 2012, relating to our Series A global notes, of which these securities are a part, and any relevant product supplement and pricing supplement that we may file with the Securities and Exchange Commission (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 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 potential indices to which the securities may be linked and the relationship, if any, between Deutsche Bank AG and the sponsor or publisher of the indices. 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 or other underlying assets. Also, references to the “**accompanying prospectus**” and “**prospectus supplement**” mean, respectively, the accompanying prospectus, dated September 28, 2012, of Deutsche Bank AG and the prospectus supplement, dated September 28, 2012, 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 indices set forth in this underlying supplement.

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THE DEUTSCHE BANK LIQUID ALPHA USD 5 TOTAL RETURN® INDEX AND THE DEUTSCHE BANK LIQUID ALPHA USD 5 EXCESS RETURN® INDEX

General Description

The Deutsche Bank Liquid Alpha USD 5 Total Return® Index (the “**Total Return Index**”) is intended to reflect the combined total return performance of a number of indices referred to as Index Constituents (as defined below) selected from among a pool of available indices referred to as Selection Pool Indices (as defined below).

The Deutsche Bank Liquid Alpha USD 5 Excess Return® Index (the “**Excess Return Index**”) is intended to reflect the performance of the Deutsche Bank Liquid Alpha USD 5 Total Return® Index relative to the performance of the Fed Funds Total Return Index (the “**Fed Funds Index**”).

THE DEUTSCHE BANK LIQUID ALPHA USD 5 TOTAL RETURN® INDEX

The Bloomberg page relating to the Total Return Index is DBLAUT5J or any successor to such page or service as selected by the Index Sponsor from time to time. Certain details as to Index Levels of the Total Return Index and adjustments made in respect of the Total Return Index may be made available on such page. A level in respect of the Total Return Index may also be published on the Fixing Page (as defined below).

The Selection Pool Indices (as defined below) are proprietary indices of Deutsche Bank or Standard & Poor's and are categorized into one of five asset classes: equity, rates, commodities, FX and cash. The Selection Pool Indices are described below.

As of April 17, 2008 certain of the Selection Pool Indices have involved a dynamic allocation to underlying reference assets reflecting an alpha investment strategy. In this case, “alpha” refers to the difference in the performance of an asset relative to a benchmark asset and an alpha investment strategy is a strategy that aims to generate returns without regard to the direction of the benchmark asset.

No representation (express or implied) is given as to the success or otherwise of any alpha investment strategy reflected in a Selection Pool Index, not all Selection Pool Indices reflect an alpha investment strategy and Selection Pool Indices may be replaced as set out below.

The Index Constituents comprising the Total Return Index and their weights are selected by a process involving Deutsche Bank AG, London Branch or any duly appointed successor as Index Sponsor using a computer-based model (the “**Model**”), designed, owned and controlled by Deutsche Bank AG, London Branch. The Model is intended, on each Index Selection Date (as defined below), to identify a historical optimum notional portfolio of the Selection Pool Indices that, if the Total Return Index had comprised such notional portfolio over the period of 60 Business Days immediately preceding the relevant Index Selection Date, would have generated the highest level of annualized return for the Total Return Index during such period at a predetermined level of volatility.

The Index Constituents comprising the Total Return Index as of September 18, 2012 are described below. The Total Return Index has been calculated on an actual basis from April 17, 2008 and, for the period prior to that date, has been retrospectively calculated from January 21, 1999 (the “**Index Commencement Date**”).

The Index Constituents are subject to rebalancing on a quarterly basis on each Index Selection Date and upon occurrence of a Return Trigger Event (as defined below). A reconstitution of the Total Return Index upon the occurrence of a Return Trigger Event is a stop-loss mechanism that is triggered if the 60 Business Day return of the Total Return Index is below the pre-determined Trigger Level (as defined below) which is negative four percent on three consecutive Business Days. There will be no more than eight reconstitutions of the Total Return Index in any four consecutive Relevant Quarter Periods (as defined below). Each of the Index Constituents is subject to a Minimum Theoretical Percentage Weight and a Maximum Theoretical Percentage Weight (each, as defined below) that spreads from ten percent to fifty percent for Index Constituents categorized as equity, rates, commodity or FX asset classes and from zero percent to sixty percent for the Index Constituent categorized as a cash asset class.

An Index Level has been or will be, subject as provided below, calculated in relation to each Business Day following the Index Commencement Date by the Index Sponsor using the relevant closing levels, weights and applicable costs of the relevant Index Constituents including the costs of hedging any exposure to each Index Constituent in the market. The Total Return Index is expressed in U.S. dollars.

The terms of the Total Return Index confer on the Index Sponsor the right to make determinations, calculations and adjustments in relation to the Total Return Index and the Model, which may involve, in certain circumstances, as set out in this document, a degree of discretion in order to ensure that the Total Return Index can, where reasonably practicable, continue to be calculated and determined notwithstanding the relevant circumstances or, failing that, to allow a delay or, in certain cases, a cancellation of the Total Return Index. The Index Sponsor will, as far as reasonably practicable, exercise any such discretion with the aim of preserving the overall methodology of the Total Return Index. In exercising its discretion in connection with the Total Return Index, the Index Sponsor will act in good faith and in a commercially reasonable manner.

The Model

Description of the Model

The Model is described below and has been designed to apply a Mean Variance Optimization (“**MVO**”) methodology, which is based on the portfolio theory of Markowitz on efficient asset allocation. The fundamental goal of an MVO model is to optimally allocate the investments between different assets under volatility constraints. MVO is a quantitative tool which is designed to allow this allocation to be made by considering the trade-off between the risk and return of each constituent representing an asset class included in the Total Return Index.

On the basis of three different inputs into the Model (the “**Model Inputs**”) which are: (i) historical data regarding each Selection Pool Index obtained by the Index Sponsor from publicly available information (the “**Model Constituent Data**”); (ii) Index Composition Restrictions, which are certain restrictions on the composition of the Total Return Index described more fully below under the heading “The Index Composition Restrictions;” and (iii) Annualized Target Volatility (as defined below), which is a target level of weighted average Annualized Volatility of Index Constituents, the Model is intended, on each Index Selection Date, to identify a historical optimum notional portfolio of the Selection Pool Indices that, if the Total Return Index had comprised such notional portfolio over the relevant period, would have generated the highest level of annualized return for the Total Return Index during such period at or below the Annualized Target Volatility.

The Model Constituent Data, in relation to any Index Selection Date, comprises the following information determined over a period of 60 Business Days immediately preceding such Index Selection Date:

- (A) the Annualized Returns of each of the Selection Pool Indices for such Index Selection Date;
- (B) the Annualized Volatility of each of the Selection Pool Indices for such Index Selection Date; and
- (C) the correlation between each of the Selection Pool Indices for such Index Selection Date.

The above information in items (A), (B) and (C) may be compiled on the basis of any provisional information of any Commodity Type Selection Pool Index (as defined below) as set forth under the heading “Index Calculation” below.

The Index Sponsor will, on each Index Selection Date, determine as model outputs (the “**Model Outputs**”) the weights for the Selection Pool Indices deriving from the Model (the “**Theoretical Percentage Weights**”) in the following way:

The Model provides Theoretical Percentage Weights in relation to each Index Selection Date, in each case on the basis of the Model Inputs.

On the basis of such information and the applicable mean-variance analysis methodology, the Model will analyze possible permutations of the Index Constituents and Theoretical Percentage Weights with the objective of identifying the permutation which, on the basis of the methodology applied over the immediately preceding period of 60 Business Days:

- (1) would have had a Weighted Average Annualized Volatility equal to or lower than the relevant Annualized Target Volatility; and
- (2) would have generated the highest Weighted Average Annualized Return over such period;

assuming in both cases that the relevant combination of Selection Pool Indices and Theoretical Percentage Weights had comprised the Total Return Index over the immediately preceding period of 60 Business Days.

As used above, in relation to Annualized Volatility and Annualized Return, “**Weighted Average**” means the Annualized Volatility or Annualized Return, as applicable, as determined in relation to each relevant Selection Pool Index, and the Weighted Average is the average value determined on the basis of each such value weighted in accordance with the Theoretical Percentage Weight of the relevant Selection Pool Index.

If no such permutations have a Weighted Average Annualized Volatility which is equal to or lower than the relevant Annualized Target Volatility, the Model will select the combination of Theoretical Percentage Weights with the lowest such Weighted Average Annualized Volatility, regardless of the effect on the Weighted Average Annualized Return. In all cases the Model will disregard any permutations which do not comply with the Index Composition Restrictions set out below under the heading "The Index Composition Restrictions."

For the purposes of the Model, the definitions of "**annualized volatility**" and "**annualized return**" in respect of any permutation of the Index Constituents have the same basic meaning as the definition of, respectively, "Annualized Volatility" and "Annualized Return" set forth herein.

The Total Return Index selection and reconstitution process will be as follows:

- 1) On the basis of the Theoretical Percentage Weights for each Selection Pool Index, the Index Sponsor will then determine the Percentage Weights for each Selection Pool Index selected as an Index Constituent (*i.e.*, for which the Theoretical Percentage Weight is greater than zero) as equal to the Theoretical Percentage Weights; *provided*, that where any Theoretical Percentage Weight (as defined below) of an Index Constituent (other than the Cash Index) is greater than that Index Constituent's Current Percentage Weight on the relevant Index Selection Date but, subject as provided below, represents an increase relative to the Current Percentage Weight (in absolute value) of less than five percent, the Percentage Weight of that Index Constituent will be fixed at such Current Percentage Weight and such increase instead applied to increasing the Percentage Weight of the Cash Index.
- 2) The five percent threshold may be adjusted by the Index Sponsor upon the occurrence of an event as described in item 4) of the definition of "Market Disruption Event" below. Upon the occurrence of such Market Disruption Event, any adjustment made by the Index Sponsor (which will act in a commercially reasonable manner and in good faith) will be made to ensure that the Total Return Index can, where reasonably practicable, continue to be calculated and determined notwithstanding the relevant circumstances. The Index Sponsor will, as far as reasonably practicable, exercise any such discretion with the aim of preserving the overall methodology of the Total Return Index.

On the basis of the Percentage Weights determined as described above the Index Sponsor will then determine the Unit Weights for each Index Constituent which is to comprise the Total Return Index with effect from the immediately following Index Reconstitution Day.

The Index Sponsor makes no representation (implied or otherwise) as to the performance of any Selection Pool Index, Index Constituent and/or the Total Return Index or that the annualized volatility of the Total Return Index will equal, or be close to, the Annualized Target Volatility.

Changes to the Model

The Index Sponsor, acting in good faith and in a commercially reasonable manner, may resolve to make amendments to the Model or replace the Model with an alternative model.

If in the determination of the Index Sponsor the Model is for any reason unavailable, lost, destroyed, corrupted or deemed unreliable, in such exceptional circumstances, the Index Sponsor will select such replacement model to be the Model, having regard to such factors as the methodology employed by the Model and such practices, models and/or methodologies from time to time employed, or generally accepted, by market participants in constructing, valuing or assessing the risk associated with portfolio-based products.

The Asset Allocation Process

Reconstitution following an Index Selection Date

As of the Index Reconstitution Day immediately following an Index Selection Date, the Index Sponsor will calculate the respective Unit Weights (as defined below) in relation to each Selection Pool Index. The Index Sponsor will then reconstitute the Total Return Index as of the Index Reconstitution Day to reflect the Index Constituents and their respective Unit Weights which will be in effect until the immediately following Index Reconstitution Day, subject to the provisions set forth under the heading "Index Calculation" below.

Reconstitution following a Return Trigger Determination Date

If, in the determination of the Index Sponsor and subject as provided below, on any Business Day (other than a day on which a Market Disruption Event or Additional Disruption Event (each, as defined below) exists or occurs) in any period (each a “**Relevant Quarter Period**”) from but excluding the third Business Day following the Index Commencement Date or any Scheduled Index Selection Date to but excluding the sixth Business Day immediately preceding the next Scheduled Index Selection Date, the Return Level, as defined below, has been below the Return Trigger Level on three consecutive Business Days ending on and including the relevant Business Day (such event a “**Return Trigger Event**” and such Business Day a “**Return Trigger Event Determination Date**”), the Business Day immediately following the Return Trigger Event Determination Date will be an Index Selection Date and then, in accordance with the process described above, the Index Sponsor will determine the new Percentage Weights of each Index Constituent to take effect on the immediately following Index Reconstitution Day.

Upon the occurrence of a Return Trigger Event in any Relevant Quarter Period, no further Return Trigger Event may occur during the Relevant Quarter Period.

For the avoidance of doubt, there will be no more than eight reconstitutions of the Total Return Index in any four consecutive Relevant Quarter Periods.

As of the Index Reconstitution Day immediately following the relevant Index Selection Date relating to the relevant Return Trigger Determination Date, the Index Sponsor will calculate the respective Unit Weights in relation to each Selection Pool Index. The Index Sponsor will then reconstitute the Total Return Index as of the Index Reconstitution Day to reflect the Index Constituents and their respective Unit Weights which will be in effect until the following Index Reconstitution Day.

Composition of Total Return Index as of the Index Commencement Date

As of three Trading Days before the Index Commencement Date, the Index Sponsor determined, in accordance with the Model, the initial Theoretical Percentage Weights, the Percentage Weights and the Unit Weights for the Index Constituents to constitute the Total Return Index with effect from the Index Commencement Date.

The Index Constituents as of September 18, 2012 and their relevant Unit Weights are shown below.

Index Constituent	Unit Weight as of September 18, 2012
Fed Funds Total Return Index	9.881670996
Deutsche Bank Balanced Currency Harvest (USD-Funded) Index	0.872413596
Deutsche Bank SMART USD Index.....	1.280470163
Deutsche Bank Commodity Harvest USD Total Return Index.....	1.072647257
S&P X-Alpha USD Total Return Strategy Index	1.099078497

The Selection Pool Indices

Types

Each Selection Pool Index is categorized into one of five types (each a “**Selection Pool Index Type**” or “**Type**”). The five Selection Pool Index Types are:

- 1) Equity
- 2) Commodity
- 3) FX
- 4) Rates
- 5) Cash

References in this document to a Selection Pool Index being an “Equity Type”, “Rates Type”, “Commodity Type”, “FX Type” and “Cash Type” are to a Selection Pool Index which has been categorized by the Index Sponsor into the corresponding Selection Pool Index Type.

The determination by the Index Sponsor as to the Selection Pool Index Type applicable to any Selection Pool Index will be conclusive and binding in the absence of manifest error.

The Selection Pool Indices

The indices comprising the Selection Pool Indices on the Index Commencement Date, together with details of their Selection Pool Index Type, are set out below.

Index Constituents	Selection Pool Index Type	Bloomberg Code
S&P X-Alpha USD Total Return Strategy Index	Equity	SPXADT
Deutsche Bank Commodity Harvest USD Total Return Index.....	Commodity	DBCMHLTU
Deutsche Bank Balanced Currency Harvest (USD-Funded) Index	FX	DBHVBUSF
Deutsche Bank SMART USD Index.....	Rates	DBSMARTD
Fed Funds Total Return Index	Cash	DBMMFED1

Further information relating to each of the initial Selection Pool Indices is set out below.

Adjustments to a Selection Pool Index

(1) Successor Index Sponsor Calculates and Reports a Selection Pool Index

If a Selection Pool Index is (A) not calculated and announced by the Selection Pool Index Sponsor (as defined below) but is calculated and announced by a successor sponsor acceptable to the Index Sponsor, or (B) replaced by a successor index using, in the determination of the Index Sponsor, the same or a substantially similar formula for and method of calculation as used in the calculation of that Selection Pool Index, then in each case that index (the “**Successor Index**”) will be deemed to be the Selection Pool Index.

(2) Adjustments to or replacement of a Selection Pool Index

Subject as provided below, the Index Sponsor acting in good faith and in a commercially reasonable manner, may make such determinations and/or adjustments in relation to a Selection Pool Index (each an “**Affected Selection Pool Index**”) as it considers necessary to ensure that the Total Return Index can, where reasonably practicable, continue to be calculated and determined notwithstanding the relevant circumstances and with the aim of preserving the overall methodology of the Total Return Index if at any time:

- (i) a Selection Pool Index ceases to be calculated and announced by its sponsor and no successor index exists (however described and including any relevant index calculation entity, the “**Selection Pool Index Sponsor**”); or
- (ii) in the determination of the Index Sponsor, a Selection Pool Index Sponsor makes a material change in the formula for or the method of calculating a Selection Pool Index or in any other way materially modifies a Selection Pool Index; or
- (iii) the Selection Pool Index Sponsor fails to calculate and announce the relevant Selection Pool Index on a Trading Day;

and the Index Sponsor determines that, in relation to (i), (ii) or (iii) above, it is not possible to make any appropriate determinations and/or adjustment. In such a case, the Index Sponsor will replace the Affected Selection Pool Index with a successor Selection Pool Index selected on the following basis:

- (i) the successor Selection Pool Index will be of the same Selection Pool Index Type as the Affected Selection Pool Index and will have the same reference currency (that is, the currency in which the value of the relevant index is published or with which the index is mostly associated) as the Reference Currency of the Affected Selection Pool Index; and
- (ii) in making any such selection pursuant to (i) above the Index Sponsor will have regard to such factors as it may consider in its reasonable discretion appropriate (which may, to the extent relevant, include, without limitation, the underlying securities or other assets comprising the Affected Selection Pool Index immediately prior to such cessation or material change, the currency in which the underlying securities or assets or other reference bases comprising the Affected Selection Pool Index were denominated, the jurisdictions of the issuers, if any, of such underlying securities or assets and the stated objectives and historical performance of such Affected Selection Pool Index). The Index Sponsor may also make such determinations and/or adjustments in relation to the calculation of the Total Return Index to take account of any such substitution as it determines appropriate acting in good faith and a commercially reasonable manner; and

- (iii) it is a precondition to any replacement of an Affected Selection Pool Index that: (a) the Index Sponsor is satisfied that closing levels can be determined in respect of the replacement Selection Pool Index for each scheduled trading day or calculation day for such index falling in the period of three years ending on the date of replacement other than where a Market Disruption Event or Additional Disruption Event occurred (provided that any such Market Disruption Event or Additional Disruption Event did not continue for a period any longer than 30 consecutive calendar days); (b) the Index Sponsor must be satisfied that the inclusion in the Total Return Index of the replacement Selection Pool Index can be directly or indirectly hedged by market participants in respect of any Index Investment, based on the ability of market participants to trade in the constituents of such replacement Selection Pool Index and/or derivative instruments relating to such replacement Selection Pool Index; (c) the replacement Selection Pool Index must be Published; and (d) such replacement does not cause a breach of any of the Index Composition Restrictions, as described below.

The Index Composition Restrictions

Each New Index Constituent and its Theoretical Percentage Weight and Percentage Weight determined as described under the heading “Excess Return Index Level Calculation—Excess Return Index Level” below must at the relevant Index Reconstitution Day comply with the following restrictions (the “**Index Composition Restrictions**”) (to the extent applicable to such New Index Constituent):

- (A) The Type Composition Restrictions; and
- (B) The Overall Composition Restrictions.

Upon the occurrence of a Market Disruption Event or Additional Disruption Event, the Index Sponsor may, as described below under the heading “Index Calculation,” amend or remove any of the Index Composition Restrictions described herein or add further restrictions thereto, in each case if the Index Sponsor determines appropriate, taking into account: (a) any liquidity constraints, (b) market conditions; or (c) relevant costs applicable in relation to any hedging arrangements of Deutsche Bank AG (or any other relevant obligor) in respect of any relevant Index Investment.

The Type Composition Restrictions

The Index Composition Restrictions that apply to each Selection Pool Index are as follows:

In relation to each Index Constituent of a Type, the Theoretical Percentage Weight, after rounding to the nearest one percent with 0.5 percent being rounded upwards, if applicable, must be equal to or greater than the Minimum Theoretical Percentage Weight and equal to or lower than the Maximum Theoretical Percentage Weight, as specified in the table below:

Selection Pool Index Type	Minimum Theoretical Percentage Weight	Maximum Theoretical Percentage Weight
Equity	10%	50%
Commodity	10%	50%
FX	10%	50%
Rates	10%	50%
Cash	0%	60%

The Overall Composition Restrictions

- 1) The Index Sponsor must be satisfied that closing levels can be determined in respect of each Index Constituent for each scheduled trading day falling in the period of three years ending on the relevant Index Selection Date other than where a Market Disruption Event or Additional Disruption Event occurred (provided that any such Market Disruption Event or Additional Disruption Event did not continue for a period of any longer than 30 consecutive calendar days);
- 2) The Index Sponsor must be satisfied that the relevant Percentage Weight allocated to any New Index Constituent can be directly or indirectly hedged by market participants in respect of any Index Investment (as defined below), based on the ability of market participants to trade in the constituents and/or derivative instruments relating to such Index Investment;
- 3) Each Index Constituent or New Index Constituent (as defined below) within each Type must be Published;
- 4) The total number of Index Constituents, on any day, may not exceed five;

- 5) Subject to the applicable Minimum Theoretical Percentage Weight and Maximum Theoretical Percentage Weight, no Index Constituent may be allocated a Percentage Weight which is lower than zero (i.e. the Total Return Index cannot reflect a short position in any Index Constituent) or greater than 60 percent; and
- 6) The sum of the Percentage Weights of the Index Constituents composing the Total Return Index will be at all times equal to 100 percent (i.e., the Total Return Index cannot reflect a position that would require any borrowing).

Index Calculation

Index Level

"**Index Level**" means, in respect of any Business Day, an amount expressed in the Index Currency equal to the sum of, in respect of each Index Constituent, the products of (1) and (2), where:

- (1) is the Unit Weight for such Index Constituent on such Business Day; and
- (2) is the Index Constituent Level of such Index Constituent on such Business Day or, if such day is not a Trading Day for such Index Constituent, the immediately preceding Trading Day for such Index Constituent.

The Index Level is always rounded to the nearest two decimal places with 0.005 being rounded upwards. The Index Level at the Index Commencement Date equaled 1,000. On any Index Reconstitution Day the Index Level is determined by reference to all Previous Index Constituents and their respective Unit Weights. The Index Level is subject to the adjustment provisions set out below.

Consequences of Disruption and Other Adjustments

Index Model Calculation in case of a Market Disruption Event or Additional Disruption Event

Generally

- (1) Upon the occurrence of a Market Disruption Event, or Additional Disruption Event in relation to any Selection Pool Index or Index Constituent (an "**Affected Constituent**") on any relevant day (a "**Disrupted Day**") where no Closing Level (or, in the case of the Deutsche Bank SMART USD Index, no official closing level) is published in relation to the Affected Constituent, the Index Sponsor (i) will not calculate and publish the Index Level and/or (ii) if relevant, may make such adjustments to the provisions described above under the heading "The Model" to account for such non-availability as it determines appropriate; *provided*, that (in the case of (i)) if the Market Disruption Event or Additional Disruption Event continues for a period of eight Business Days then the Index Sponsor will calculate the Index Level having regard to the then prevailing market conditions, the last reported official closing levels of the relevant Affected Constituent and such other factor(s) and condition(s) that the Index Sponsor considers relevant.
- (2) Upon the occurrence of a Market Disruption Event or Additional Disruption Event in relation to any Affected Constituent(s) on any Disrupted Day where, notwithstanding the Market Disruption Event or Additional Disruption Event, a Closing Level (or, in the case of the Deutsche Bank SMART USD Index, an official closing level) is published in relation to each Affected Constituent, the Index Sponsor will calculate the Index Level on the basis of the Closing Level(s) so published in respect of each Affected Constituent on such Disrupted Day.

Where an Index Level is published on a Disrupted Day, (a) such Index Level may not be a level by reference to which any Index Investment may be traded and (b) the Index Investment may be subject to certain disruption or adjustment procedures as a result.

The Index Sponsor may, where an Index Level has been published on a Disrupted Day, calculate and publish a fixing level of the Total Return Index on the Fixing Page after cessation of the relevant Market Disruption Event or Additional Disruption Event calculated in the same manner as the Index Level but on the basis of the Unit Weights and Closing Levels of the unaffected Index Constituents on the Disrupted Day, and any relevant adjusted or fixing level of the Affected Constituent(s) for the Disrupted Day published after cessation of the relevant Market Disruption Event or Additional Disruption Event. Such fixing level of the Total Return Index published on the Fixing Page is not an Index Level and will not amend or replace the Index Level published on the Disrupted Day but may be relevant for the purposes of trading of Index Investments.

On an Index Reconstitution Day

- 1) If a Market Disruption Event or an Additional Disruption Event occurs on any Index Reconstitution Day notwithstanding any publication of a Closing Level (or, in the case of the Deutsche Bank SMART USD Index, an official closing level) of an Affected Constituent in respect of such Index Reconstitution Day, the Index Sponsor will not calculate and publish an Index Level on such Index Reconstitution Day and will postpone such Index Reconstitution Day. Subject as set out below, the Index Sponsor will only determine the Unit Weights of each New Index Constituent (both Affected Constituents and non-Affected Constituents) in respect of such Index Reconstitution Day on the later to occur of (i) the first Trading Day in respect of each Affected Constituent immediately following such scheduled Index Reconstitution Day on which each Market Disruption Event or Additional Disruption Event has ceased and a Closing Level (or, in the case of the Deutsche Bank SMART USD Index, an official closing level) of each Affected Constituent is published and (ii) if the Commodity Harvest USD Total Return Index is an Affected Constituent, a Closing Level is published for the originally scheduled Index Reconstitution Day in respect of such Affected Constituent on the Fixing Page (the “**Fixing Day**”). Subject as set out below, as of the Fixing Day the Index Sponsor will (i) calculate and publish an Index Level in respect of the originally scheduled Index Reconstitution Day on the basis of Closing Level(s) of non Affected Constituent(s) as of the originally scheduled Index Reconstitution Day and the Closing Level(s) of each Affected Constituent(s) on the Fixing Day or, in the case of the Commodity Harvest USD Total Return Index, the Closing Level published on the Fixing Page for the originally scheduled Index Reconstitution Day, (ii) determine the Unit Weights of each New Index Constituent on the basis of such Index Level and Closing Levels determined in (i) above (other than in the case of the Commodity Harvest USD Total Return Index where the Closing Level as of the Fixing Day will be used) and (iii) publish the Index Level for each Disrupted Day following the originally scheduled Index Reconstitution Day following the provisions of under the sub section “Index Model Calculation in case of a Market Disruption Event or Additional Disruption Event—Generally” above; *provided*, that if a Market Disruption Event or Additional Disruption Event continues for a period of eight Business Days, then the Index Sponsor will calculate the Index Level and determine the Unit Weights of each New Index Constituent, in each case, in respect of such eighth Business Day as though such day was the Fixing Day having regard to the then prevailing market conditions, the last reported official closing levels of the relevant Affected Constituents and such other factor(s) and condition(s) that the Index Sponsor considers relevant.
- 2) If, in the determination of the Index Sponsor, any adjustment provided in (1) above in respect of a Disrupted Day could result in an obligor in respect of an Index Investment being unable to effectively and fully hedge its obligations in respect of an Index Investment, the Index Sponsor may make such determinations and/or adjustments as it, in its reasonable discretion, considers appropriate to determine the Index Level Unit Weights and/or such Closing Level on such day and/or make such other adjustments to the Total Return Index, in each case by reference to such factor(s) and condition(s) as it considers appropriate.

Index Calculation—Change in Methodology

The Index Sponsor will employ the methodology described above and in each case its application of such methodology will be conclusive and binding. While the Index Sponsor currently employs the above described methodology to compose and calculate the Total Return Index, no assurance can be given that regulatory, juridical, fiscal or other circumstances will not arise that would, in the view of the Index Sponsor, necessitate a modification or change of such methodology or the Model itself and the Index Sponsor will be entitled to make such necessary modifications or changes in order to ensure that the Total Return Index can, where reasonably practicable, continue to be calculated and determined notwithstanding the relevant circumstances. The Index Sponsor will as far as reasonably practicable, exercise any such discretion with the aim of preserving the overall Index Methodology.

Definitions

“**Additional Disruption Event**” means, in relation to a Commodity Type Index Constituent or Commodity Type Selection Pool Index, the occurrence or existence on any Trading Day of a Price Source Disruption, a Trading Suspension, Trading Limitation, the Disappearance of any Instrument, a Material Change in Formula, or a Settlement Disruption in relation to any such Index Constituent or Selection Pool Index or any constituent or sub-constituent of any such Index Constituent or Selection Pool Index, where:

- (i) “**Price Source Disruption**” means that any Price Source or any other information necessary to determine the relevant level or value of any such Index Constituent or Selection Pool Index or constituent or sub-constituent is temporarily or permanently discontinued, unavailable or not announced or published;
- (ii) “**Trading Suspension**” means the material suspension of trading in any Instrument or the inability of the Index Sponsor to realize, recover or remit the proceeds of any transaction in any such Instrument;

- (iii) **"Trading Limitation"** means the material limitation or reduction in the liquidity in the market imposed on trading for any Instrument;
- (iv) **"Disappearance of any Instrument"** means the failure of trading to commence, or the permanent discontinuation of trading in any Instrument;
- (v) **"Material Change in Formula"** means the occurrence of a material change in the formula for or the method of calculating any Index Constituent or Selection Pool Index or Instrument;
- (vi) **"Settlement Disruption"** means that trading or settlement in respect of any Instrument is subject to any material disruption temporarily or permanently;
- (vii) **"Instrument"** means a transaction, contract, instrument or other asset which could be used to hedge exposure to an Index Constituent or Selection Pool Index, including, without limitation, any constituent or sub-constituent of any such Index Constituent or Selection Pool Index; and
- (viii) **"Price Source"** means any market price information relating to any relevant index or Instrument (including any relevant screen page) or any information service or source including but not limited to (i) Reuters, Bloomberg and any other such provider, and/or (ii) any proprietary information, published or unpublished, of the Index Sponsor or any of its Affiliates relevant to determining the price of any relevant index or Instrument, in each case as applicable, as determined by the Index Sponsor,

if, in the determination of the Index Sponsor, any of the foregoing is material and, in determining what is "material", the Index Sponsor may have regard to such circumstances as it in its reasonable discretion deems appropriate;

"Annualized Return" means, in relation to a Selection Pool Index and an Index Selection Date an amount (expressed as a percentage) equal to (1) minus (2), where:

- (1) equals the quotient of (i) and (ii), to the power of (iii), where:
 - (i) equals the Index Constituent Level for such Selection Pool Index on such Index Selection Date or, if such day is not a Trading Day in relation to the relevant Selection Pool Index, the immediately preceding Trading Day in relation to the relevant Selection Pool Index (as numerator);
 - (ii) equals the Index Constituent Level on the 60th Business Day preceding the relevant Index Selection Date or, if such day is not a Trading Day in relation to the relevant Selection Pool Index, the immediately preceding Trading Day in relation to the relevant Selection Pool Index (as denominator); and
 - (iii) equals the quotient of a) and b), where:
 - a) equals 365 (as numerator); and
 - b) equals (as denominator) the number of calendar days from and excluding the 60th Business Day preceding the relevant Index Selection Date up to and including the relevant Index Selection Date; and
- (2) equals one.

"Annualized Target Volatility" means 5 percent;

"Annualized Volatility" means, in relation to a Selection Pool Index and an Index Selection Date, the volatility of returns of such Selection Pool Index over the period comprising each Business Day from and excluding the 60th Business Day preceding such Index Selection Date up to and including such Index Selection Date, as calculated by the Index Sponsor and expressed as a percentage on an annualized basis.

"Business Day" means a day (other than a Saturday or Sunday) on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in London;

"Closing Level" means in relation to any Trading Day and an Index Constituent or Selection Pool Index:

- (a) other than in the case of the Deutsche Bank SMART USD Index, the official closing level of such Index Constituent or Selection Pool Index on such day, such closing level to be deemed to be expressed as an amount in U.S. dollars where the Reference Currency for such Index Constituent or Selection Pool Index is U.S. dollars or where the Reference Currency for such Index Constituent or Selection Pool Index is not U.S. dollars, an amount in such Reference Currency converted into U.S. dollars using the applicable Exchange Rate on such Trading Day; and

- (b) in the case of the Deutsche Bank SMART USD Index, an amount equal to the product of (1) and (2), where:
- 1) is the Closing Level of the Deutsche Bank SMART USD Index on the immediately preceding Index Reconstitution Day or the Index Commencement Date (if no Index Reconstitution Day has occurred) or if any such day is not a Trading Day for the Deutsche Bank SMART USD Index, the immediately preceding Trading Day for the Deutsche Bank SMART USD Index;
 - 2) is the sum of (i), (ii) and (iii), where:
 - (i) is one;
 - (ii) is y) minus z), where:
 - (y) is the quotient of the Closing Level of the Fed Funds Total Return Index determined in accordance with paragraph (a) above on such Trading Day (as numerator) and the Closing Level of the Fed Funds Total Return Index determined in accordance with paragraph (a) above on the immediately preceding Index Reconstitution Day or the Index Commencement Date (if no Index Reconstitution Day has occurred) or if any such day is not a Trading Day for the Fed Funds Total Return Index, the immediately preceding Trading Day for the Fed Funds Total Return Index (as denominator);
 - (z) is one;
 - (iii) is the product of (y) and (z), where:
 - (y) is five; and
 - (z) is (aa) minus (bb) where:
 - (aa) is the quotient of the official closing level of the Deutsche Bank SMART USD Index determined in accordance with (a) above on such Trading Day (as numerator) and the official closing level of the Deutsche Bank SMART USD Index determined in accordance with (a) above on the immediately preceding Index Reconstitution Day or the Index Commencement Date (if no Index Reconstitution Day has occurred) or if any such day is not a Trading Day for the Deutsche Bank SMART USD Index, the immediately preceding Trading Day for the Deutsche Bank SMART USD Index (as denominator); and
 - (bb) is one.

Expressed as a formula:

$$ICL_{Smart,t} = ICL_{Smart,r-1} \times \left(1 + \left(\frac{ICL_{FEDFUND,t}}{ICL_{FEDFUND,r-1}} - 1 \right) + M \times \left(\frac{CL_{Smart,t}}{CL_{Smart,r-1}} - 1 \right) \right)$$

where:

- $ICL_{Smart,t}$ = the Closing Level of the Deutsche Bank SMART USD Index on day t.
- $ICL_{Smart,r-1}$ = the Closing Level of the Deutsche Bank SMART USD Index on the immediately preceding Index Reconstitution Day r-1 or the Index Commencement Date (if no Index Reconstitution Day has occurred) or if any such day is not a Trading Day for the Deutsche Bank SMART USD Index, the immediately preceding Trading Day for the Deutsche Bank SMART USD Index.
- $ICL_{FEDFUND,t}$ = the Closing Level of the Fed Funds Total Return Index on day t.
- $ICL_{FEDFUND,r-1}$ = the Closing Level of the Fed Funds Total Return Index on the immediately preceding Index Reconstitution Day r-1 or the Index Commencement Date (if no Index Reconstitution Day has occurred) or if any such day is not a Trading Day for the Fed Funds Total Return Index, the immediately preceding Trading Day for the Fed Funds Total Return Index.
- $CL_{Smart,t}$ = the official closing level of the Deutsche Bank SMART USD Index on day t.
- $CL_{Smart,r-1}$ = the official closing level of the Deutsche Bank SMART USD Index on the immediately preceding Index Reconstitution Day r-1 or the Index Commencement Date (if no Index Reconstitution Day has occurred) or if any such day is not a Trading Day for the Deutsche Bank SMART USD Index, the immediately preceding Trading Day for the Deutsche Bank SMART USD Index.
- M = five.

For the purposes of paragraph (b) above the Closing Level of the Deutsche Bank SMART USD Index as of the Index Commencement Date equaled 1,000.

If in respect of any Trading Day and without prejudice to the provisions set forth above under the heading “Index Calculation” the official closing level of an Index Constituent or Selection Pool Index is subsequently corrected and the correction published by the sponsor of that Index Constituent or Selection Pool Index on any day prior to the Index Reconstitution Day next following such Trading Day, the Closing Level in respect of such Trading Day and such Index Constituent or Selection Pool Index will be amended accordingly (but any currency conversion as described above will be effected at the Exchange Rate on the original Trading Day in respect of which such correction is made). The Index Sponsor will, if it determines appropriate, adjust any provision of the Total Return Index to take account of any such retrospective adjustment in such manner as it may determine appropriate acting in good faith in a commercially reasonable manner;

“**Current Percentage Weight**” means, in relation to any Business Day t and with respect to each Previous Index Constituent which is also a New Index Constituent, a percentage amount equal to the product of (i) and (ii), where:

- i) is the Unit Weight of such Previous Index Constituent as determined on the immediately preceding Index Reconstitution Day;
- ii) is the quotient of (a) the relevant Index Constituent Level of such Index Constituent on such Business Day (or, if that is not a Trading Day the immediately preceding Trading Day) (as numerator) and b) the Index Level as determined by the Index Sponsor on such Business Day t (as denominator).

Expressed as a formula:

$$PWC_{i,t} = W_{i,t} \times \frac{ICL_{i,t}}{IL_{i,t}}$$

where:

$PWC_{i,t}$ = Current Percentage Weight of Index Constituent i on Business Day t

$W_{i,t}$ = Unit Weight of Index Constituent i on the immediately preceding Index Reconstitution Day i

$ICL_{i,t}$ = Index Constituent Level of Index Constituent i on Business Day t or, if that is not a Trading Day the immediately preceding Trading Day

$IL_{i,t}$ = Index Level on Business Day t

“**Exchange**” means, in relation to an Index Constituent or Selection Pool Index, each exchange, quotation system or trading system (if any) for the time being selected by the Index Sponsor which, in the opinion of the Index Sponsor, reflects or allows investors to obtain exposure to all or part of the price, performance or value of each security, asset or other reference basis comprised within that the relevant Index Constituent or Selection Pool Index and, without prejudice to the generality of the foregoing, will include:

- (1) in relation to any Index Constituent or Selection Pool Index, which is an Equity Type, the primary exchange on which each security constituting such Index Constituent or Selection Pool Index (as the case may be) is listed or traded or any successor to such exchange, as determined by the Index Sponsor; and
- (2) in relation to any other Index Constituent or Selection Pool Index, the exchange, quotation system or trading system (if any) reflecting the price or value of each security, asset or other reference basis constituting such Index Constituent or Selection Pool Index (as the case may be) or any successor to such exchange, quotation system or trading system as determined by the Index Sponsor;

“**Exchange Rate**” means, in respect of a date and an index for which the Reference Currency is not U.S. dollars, the Reference Currency-Index Currency spot exchange rate as determined by the Index Sponsor at approximately 4:00 pm (London time) on such date (or such time approximate thereto as the Index Sponsor determines practicable) by reference to such source(s) as it may reasonably deem appropriate. The Exchange Rate is expressed as the number of units (or fractions thereof) of the Reference Currency required to buy one unit of the Index Currency;

“**Fixing Page**” means, the web page <http://index.db.com/indexfixing> or any successor page or service details of which are published as described above (no information found at this website is incorporated by reference into this document);

“Index Commencement Date” means January 21, 1999;

“Index Composition Restrictions” has the meaning ascribed to that term under the heading “The Index Composition Restrictions” above;

“Index Constituent” means each of the Selection Pool Indices that constitutes the Total Return Index from time to time. The term “Index Constituent” will on an Index Reconstitution Day include each Previous Index Constituent and each New Index Constituent;

“Index Constituent Hedging Cost” means: (a) in relation to the Selection Pool Indices as of September 13, 2012, the amount expressed as a percentage opposite the name of each Selection Pool Index under the column headed “Index Constituent Hedging Cost” in the following table and (b) in relation to any other Selection Pool Index added to the Total Return Index pursuant to the provisions set forth under the heading “The Selection Pool Indices—Adjustments to a Selection Pool Index,” such Index Constituent Hedging Cost (expressed as a percentage) which the Index Sponsor reasonably determines reflects the costs of hedging exposure to such index determined on a substantively similar basis to the Index Constituent Hedging Costs referred to in (a) in each case subject to any adjustment thereto by the Index Sponsor on any Index Selection Date as the Index Sponsor may reasonably determine appropriate to take into account: (i) any liquidity constraints (ii) market conditions or (iii) relevant costs applicable in relation to any hedging arrangements of Deutsche Bank AG (or any other relevant obligor) in respect of any relevant Index Investment;

Index Constituent	Index Constituent Hedging Cost
S&P X-Alpha USD Total Return Strategy Index	0.75%
Deutsche Bank Commodity Harvest USD Total Return Index	0.50%
Deutsche Bank Balanced Currency Harvest (USD-Funded) Index.....	0.00%
Deutsche Bank SMART USD Index	0.25%
Fed Funds Total Return Index.....	0.00%

“Index Constituent Level” means, in relation to an Index Constituent or a Selection Pool Index on any relevant Trading Day, an amount equal to the product of (1), (2) and (3) where:

- (1) is the quotient of (i) and (ii), where:
 - (i) is the Closing Level of such Index Constituent or Selection Pool Index on such day; and
 - (ii) is the Closing Level of such Index Constituent or Selection Pool Index on the last Business Day of the calendar month immediately preceding the calendar month in which such day falls or if such day is not a Trading Day in relation to the relevant Index Constituent or Selection Pool Index, the immediately preceding Trading Day in relation to the relevant Index Constituent or Selection Pool Index; and
- (2) is the Index Constituent Level of such Index Constituent on the last Business Day of the calendar month immediately preceding the calendar month in which such day falls or if such day is not a Trading Day in relation to the relevant Index Constituent or Selection Pool Index, the immediately preceding Trading Day in relation to the relevant Index Constituent or Selection Pool Index; and
- (3) is (i) minus (ii), where:
 - (i) is 1; and
 - (ii) is the Index Hedging Cost of such Index Constituent or Selection Pool Index on such day;

all in accordance with the following formula:

$$ICL_{i,t} = \frac{CL_{i,t}}{CL_{i,M}} \times ICL_{i,M} \times (1 - IHC_{i,t})$$

where:

$ICL_{i,t}$ = Index Constituent Level of Index Constituent i or Selection Pool Index i on day t;

$CL_{i,t}$ = Closing Level of Index Constituent i or Selection Pool Index i on day t;

- $CL_{i,M}$ = Closing Level of Index Constituent i or Selection Pool Index i on the last Business Day of the calendar month immediately preceding the calendar month in which day t falls or if such day is not a Trading Day in relation to the relevant Index Constituent or Selection Pool Index, the immediately preceding Trading Day in relation to the relevant Index Constituent or Selection Pool Index;
- $ICL_{i,M}$ = Index Constituent Level of Index Constituent i on the last Business Day of the calendar month immediately preceding the calendar month in which day t falls or if such day is not a Trading Day in relation to the relevant Index Constituent or Selection Pool Index, the immediately preceding Trading Day in relation to the relevant Index Constituent or Selection Pool Index;
- $IHC_{i,t}$ = Index Hedging Cost of Index Constituent i or Selection Pool Index i on day t;

The Index Constituent Level of each Selection Pool Index as of the Index Commencement Date is set out below under the heading “Further Information relating to the initial Selection Pool Indices and the Total Return Index.”

“Index Constituent Reconstitution Cost” means: (a) in relation to a Selection Pool Index as of the Index Commencement Date, the amount expressed as a percentage set out opposite the name of each Selection Pool Index under the column headed “Index Constituent Reconstitution Cost” in the following table and (b) in relation to any other Selection Pool Index added to the Selection Pool Index pursuant to the provisions set forth above under the heading “The Selection Pool Indices—Adjustments to a Selection Pool Index” such Index Constituent Reconstitution Cost (expressed as a percentage) which the Index Sponsor reasonably determines reflects the costs (to Deutsche Bank AG and/or any other relevant obligor hedging exposure to Index Investments) of hedging exposure to the rebalancing of such index determined on a substantively similar basis to the Index Constituent Reconstitution Cost referred to in (a), in each case subject to any adjustment thereto by the Index Sponsor on any Index Selection Date or if such day is not a Trading Day in relation to the relevant Index Constituent or Selection Pool Index, the immediately preceding Trading Day in relation to the relevant Index Constituent or Selection Pool Index;

Index Constituent	Index Constituent Reconstitution Cost
S&P X-Alpha USD Total Return Strategy Index	0.00%
Deutsche Bank Commodity Harvest USD Total Return Index	0.20%
Deutsche Bank Balanced Currency Harvest (USD-Funded) Index	0.00%
Deutsche Bank SMART USD Index	0.00%
Fed Funds Total Return Index	0.00%

“Index Currency” means United States dollar (“**U.S.\$**”);

“Index Hedging Cost” means, in relation to an Index Constituent i or Selection Pool Index i on day t, a percentage amount calculated as follows:

$$IHC_{i,t} = HC_{i,t} \times \frac{d_{i,M}}{365}$$

where:

- $IHC_{i,t}$ = Index Hedging Cost of Index Constituent i or Selection Pool Index i on day t;
- $HC_{i,t}$ = Index Constituent Hedging Cost of Index Constituent i on day t;
- $d_{i,M}$ = number of calendar days from (and including) the last Business Day of the calendar month immediately preceding the calendar month in which day t falls up to but excluding day t;

“Index Investment” means any investment or instrument the return on which is linked in whole or in part to the performance of the Total Return Index;

“Index Reconstitution Day” means, in relation to an Index Selection Date, and subject to the provisions set forth above under the heading “Index Calculation,” the third Business Day following such Index Selection Date or, if such day is not a Trading Day in respect of each Previous Index Constituent and each New Index Constituent, the immediately following Business Day which is a Trading Day in respect of each Previous Index Constituent and each New Index Constituent;

“Index Selection Date” means each of (a) the 15th calendar day of January, April, July and October in each year or if any such day is not a Business Day the next following Business Day (each a **“Scheduled Index Selection Date”**) and (b) each additional Index Selection Date determined pursuant to the provisions set forth above under the heading **“The Asset Allocation Process—Reconstitution following a Return Trigger Determination Date;”**

“Index Sponsor” means Deutsche Bank AG London Branch or any successor in its capacity as Index Sponsor of the Total Return Index;

“Market Disruption Event” means, in relation to an Index Constituent or Selection Pool Index:

- 1) the occurrence or existence on any Trading Day of any suspension of or limitation imposed on trading (by reason of movements in price exceeding limits permitted by the relevant Exchange or otherwise):
 - i) on the relevant Exchange as a whole; or
 - ii) on any exchange on which options contracts or futures contracts on the Total Return Index, the relevant Index Constituent or Selection Pool Index or any security, asset or other reference basis constituting the relevant Index Constituent or Selection Pool Index are traded, of options contracts or futures contracts on or relating to the Total Return Index, the relevant Index Constituent or Selection Pool Index or any security, asset or other reference basis constituting the relevant Index Constituent or Selection Pool Index; or
 - iii) on any exchange on which any security, asset or other reference basis constituting the relevant Index Constituent or Selection Pool Index is listed, of such security, asset or other reference basis; or
- 2) a general moratorium is declared in respect of banking activities in the country in which a relevant Exchange is located; or
- 3) where the reference source for the relevant Index Constituent or Selection Pool Index or any security, asset or other reference basis comprising the relevant Index Constituent or Selection Pool Index is not an exchange, a quotation system or a trading system, the occurrence or existence of a situation where it is not possible or it is not reasonably practicable for the Index Sponsor to determine the price or value (or an element of such price or value) of the relevant Index Constituent or Selection Pool Index or any security, asset or other reference basis comprising the relevant Index Constituent or Selection Pool Index by reference to such reference source; or
- 4) the occurrence or existence on any Trading Day of exceptional market conditions significantly affecting the liquidity of transactions relating to: (i) any Selection Pool Index or Index Constituent, and/or (ii) components of such Selection Pool Index or Index Constituent that represent 20 percent or more of the Closing Level of such Selection Pool Index or Index Constituent, as applicable, as determined by the Index Sponsor (acting in good faith and in a reasonably commercial manner), taking into account the trade volumes (when available, and as obtained from publicly available sources) of transactions relating to such Selection Pool Index or Index Constituent, or their respective components, the ability of market participants to trade transactions relating to such Selection Pool Index or Index Constituent, or their respective components and/or in derivative instruments relating to such Selection Pool Index or Index Constituent, or their respective components; or
- 5) The Closing Level for the relevant Index Constituent or Selection Pool Index (or, in the case of the Deutsche Bank SMART USD Index, the official closing level) is not Published or otherwise available for any reason,

if, in the determination of the Index Sponsor, any of the foregoing is material and, in determining what is “material”, the Index Sponsor may have regard to such circumstances as it in its reasonable discretion deems appropriate. For the purpose of this definition, a limitation on the hours and number of days of trading will not constitute a Market Disruption Event if it results from an announced change in the regular business hours of the relevant Exchange or any related exchange as referred to above, but a limitation on trading imposed during the course of the day by reason of movements in price otherwise exceeding levels permitted by such exchange may, if material, constitute a Market Disruption Event;

“New Index Constituent” means, in relation to any Index Reconstitution Day, each Index Constituent which will comprise the Total Return Index following that Index Reconstitution Day as determined pursuant to the provisions set forth above under the heading **“The Asset Allocation Process;”**

“Percentage Weight” means, in relation to an Index Reconstitution Day and with respect to each New Index Constituent, the relevant Percentage Weight determined in relation thereto as described above under the heading **“The Model—Description of the Model;”**

“Previous Index Constituent” means, in relation to any Index Reconstitution Day, each Index Constituent which will comprise the Total Return Index up to and including that Index Reconstitution Day as determined pursuant to the provisions set forth above under the heading “The Asset Allocation Process;”

“Published” means, in relation to an index, that the index level for such index is published in electronic form on a web site or other financial information database available (whether by subscription or otherwise) to banks and financial institutions generally including, without limitation, Bridge’s Telerate service, the Bloomberg service or the Reuters Money 3000 service or any successor thereto;

“Reference Currency,” in relation to an index, means the currency in which the level or value of such index is determined or otherwise the currency most closely associated with such index as determined by the Index Sponsor;

“Return Level” means, in relation to the Total Return Index and any Business Day t, the rolling 60 Business Day return of the Total Return Index, expressed as a percentage;

“Return Trigger Level” means, in respect of any Business Day, a percentage amount equal to negative 4 percent;

“Selection Pool Index” means each index specified as such under the heading “The Selection Pool Indices” above, subject to any addition or removal of a Selection Pool Index from time to time as described under such heading;

“Trading Day” means, in relation to an Index Constituent or Selection Pool Index, a day that is (or, but for the occurrence of a Market Disruption Event, would have been):

- 1) a trading day on all the Exchanges (if any) relating to the relevant Index Constituent or Selection Pool Index other than a day on which trading on any such Exchange is scheduled to close prior to its regular week day closing time;
- 2) a day (i) on which the Trans-European Automated Real-time Gross settlement Express Transfer (TARGET) system is open; and (ii) on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in London, Frankfurt, and New York City; and
- 3) a day on which the Closing Level of the relevant Index Constituent or Selection Pool Index (or, in the case of the Deutsche Bank SMART USD Index, the official closing level) is or, but for a Market Disruption Event or Additional Disruption Event, would have been) calculated and published,

in each case if and to the extent the Index Sponsor determines the same is material and in determining what is “material” the Index Sponsor may have regard to such circumstances as it in its reasonable discretion deems appropriate and provided a Trading Day in relation to the Deutsche Bank SMART USD Index is required to also be a Trading Day in relation to the Fed Funds Total Return Index. Whether or not any day is a “Trading Day” in relation to an Index Constituent or Selection Pool Index for any purpose herein will be determined conclusively by the Index Sponsor;

“Unit Weight” means in respect of each Index Constituent:

- 1) on the Index Commencement Date a percentage equal to the product of (i) and (ii) where:
 - i) is the Percentage Weight of such Index Constituent as specified above;
 - ii) is the quotient of (a) 1,000 (the Index Level on the Index Commencement Date) (as numerator); and (b) the Index Constituent Level of such Index Constituent as determined by the Index Sponsor on the Index Commencement Date (as denominator);
- 2) for any day which is an Index Reconstitution Day and in relation to any Previous Index Constituent which is also a New Index Constituent whose new Percentage Weight as determined pursuant to the provisions set forth above under the heading “The Model—Description of the Model” is equal to or lower than its Current Percentage Weight as of the Index Reconstitution Day the product of (i) and (ii) where:
 - (i) is such new Percentage Weight as determined pursuant to the provisions set forth above under the heading “The Model—Description of the Model”; and
 - (ii) is the quotient of a) the relevant Index Level on the Index Reconstitution Day (determined by reference to all Previous Index Constituents) (as numerator) and b) the Index Constituent Level of such Index Constituent as determined by the Index Sponsor on the Index Reconstitution Day (as denominator).

Expressed as a formula:

$$W_{i,r} = PW_{i,r} \times \frac{IL_r}{ICL_{i,r}}$$

where:

$W_{i,r}$ = Unit Weight of Index Constituent i on an Index Reconstitution Day r

$ICL_{i,r}$ = Index Constituent Level of Index Constituent i on an Index Reconstitution Day r

IL_r = Index Level on an Index Reconstitution Day r

$PW_{i,r}$ = new Percentage Weight of Index Constituent i on an Index Reconstitution Day r as determined pursuant to the provisions set forth above under the heading "The Model—Description of the Model"; and

3) for any day which is an Index Reconstitution Day and in relation to any New Index Constituent other than a Previous Index Constituent to which section (2) above applies, the quotient of (i) (as numerator) and (ii) (as denominator) where:

(i) is the product of (a) and (b), where:

(a) is the relevant Index Level on the Index Reconstitution Day (determined by reference to all Previous Index Constituents); and

(b) is the sum of (A) and (B) where:

(A) is the Current Percentage Weight of the Index Constituent i on the Index Reconstitution Day r; and

(B) is the product of (aa) and (bb), where:

(aa) is the Percentage Weight of such New Index Constituent minus the Current Percentage Weight of Index Constituent i on Index Reconstitution Day r; and

(bb) is the quotient of (i) one (as numerator) and (ii) one plus the Index Constituent Reconstitution Cost for such Index Constituent (as denominator);

ii) is the Index Constituent Level of Index Constituent i on the Index Reconstitution Day.

Expressed as a formula:

$$W_{i,r} = \frac{IL_r \times \left[PW_{i,r} + (PW_{i,r} - PW_{i,r}) \times \frac{1}{1 + ICRC_i} \right]}{ICL_{i,r}}$$

where:

$W_{i,r}$ = Unit Weight of Index Constituent i on an Index Reconstitution Day r

$ICL_{i,r}$ = Index Constituent Level of Index Constituent i on an Index Reconstitution Day r

IL_r = Index Level on an Index Reconstitution Day r

$PW_{i,r}$ = Current Percentage Weight of Index Constituent i on an Index Reconstitution Day r

$PW_{i,r}$ = Percentage Weight of Index Constituent i on an Index Reconstitution Day r

$ICRC_i$ = Index Constituent Reconstitution Cost of Index Constituent on Index Reconstitution Day r as described above under the heading "The Index Composition Restrictions"

and;

4) for any day which is not an Index Reconstitution Day, the Unit Weight of the Index Constituent i on the immediately preceding Business Day.

Each Unit Weight will be rounded to the nearest six decimal places with 0.0000005 being rounded upwards.

THE DEUTSCHE BANK LIQUID ALPHA USD 5 EXCESS RETURN INDEX

The Excess Return Index Level has been or will be, subject as provided below, calculated in relation to each Business Day following the Index Commencement Date by the Index Sponsor with reference to the return on each of the Total Return Index and the Fed Funds Index. The returns on the Total Return Index and the Fed Funds Index are in turn calculated using their respective Closing Levels. The Excess Return Index Level calculated and published in respect of a Business Day may be subject to postponement if any closing level of the Total Return Index used to calculate the Excess Return Index Level on such day is itself postponed. The Excess Return Index is expressed in U.S. dollars.

The Excess Return Index has been calculated on an actual basis from April 17, 2008 and, for the period prior to that date, has been retrospectively calculated from the Index Commencement Date of January 21, 1999.

The Bloomberg page relating to the Excess Return Index is DBLAUE5J or any successor to such page or service as selected by the Index Sponsor from time to time. Certain details as to Excess Return Index Levels and adjustments made in respect of the Excess Return Index may be made available on such page. A level in respect of the Excess Return Index may also be published on the Fixing Page as described below.

Pursuant to the terms of the Excess Return Index all determinations, calculations and adjustments will be made by the Index Sponsor. In exercising its role in connection with the Excess Return Index, the Index Sponsor will act in good faith and in a commercially reasonable manner.

Excess Return Index Level Calculation

Excess Return Index Level

"Excess Return Index Level" means, with respect to a Business Day, an amount expressed in the Index Currency that is equal to the product of (1) and (2), where:

- (1) is the Excess Return Index Level on the immediately preceding Index Reconstitution Day or Index Commencement Date (if no Index Reconstitution Day has occurred); and
- (2) is the sum of (i) and (ii), where:
 - (i) is one; and
 - (ii) is (a) minus (b), where:
 - (a) is the Total Return Index Return on such day; and
 - (b) is the Fed Funds Index Return on such day.

The Excess Return Index Level is always rounded to the nearest two decimal places with 0.005 being rounded upwards. The Excess Return Index Level as of the Index Commencement Date was equal to 1,000.

Adjustments

Generally

If the Index Sponsor determines that any of the Closing Levels of the Total Return Index or the Fed Funds Index at the relevant time (a) cannot be determined in relation to a Business Day, or (b) is not published or otherwise available for any reason at the relevant time, then in each case, the Excess Return Index Level will not be calculated, provided that if (a) or (b) above continues for a period of eight Business Days, the Index Sponsor will then calculate the Excess Return Index Level using the then prevailing market conditions, the last reported Closing Level(s) and such other factor(s) and condition(s) as the Index Sponsor considers relevant.

Notwithstanding the above, if the Closing Level of the Total Return Index is published on a Business Day subject to a Market Disruption Event or an Additional Disruption Event, the Index Sponsor will publish the Excess Return Index Level on such Business Day. If a fixing level is subsequently published on the Fixing Page in respect of the Total Return Index and such disrupted day on cessation of the relevant disruption event, then the Index Sponsor may calculate and publish on the Fixing Page a level of the Excess Return Index in respect of the relevant disrupted day on the basis of the level of the Total Return Index available on the Fixing Page although such level will not replace the Excess Return Index Level published on the relevant disrupted day.

On an Index Reconstitution Day

If a Market Disruption Event or Additional Disruption Event occurs on any Index Reconstitution Day, the Index Sponsor will postpone calculation of the Excess Return Index Level until such day that the relevant disruption event ceases and a Total Return Index Level is available; *provided*, that if postponement of calculation of the relevant Total Return Index Level continues for a period of eight Business Days the Index Sponsor will calculate the Excess Return Index in respect of such eighth Business Day and each Business Day that a Market Disruption Event or Additional Disruption Event occurred and/or may make such determination and/or adjustment in respect of the Excess Return Index as it, in its reasonable discretion, considers appropriate to determine the Excess Return Index Level on such day and make such other adjustments as it deems appropriate, in each case by reference to such factor(s) and condition(s) as it considers appropriate.

Index Calculation—Change in Methodology

The Index Sponsor will employ the methodology described above and in each case its application of such methodology will be conclusive and binding. While the Index Sponsor currently employs the above described methodology to compose and calculate the Excess Return Index, no assurance can be given that regulatory, juridical, fiscal or other circumstances will not arise that would, in the view of the Index Sponsor, necessitate a modification or change of such methodology and the Index Sponsor will be entitled to make such necessary adjustments, modifications or changes in order to ensure that the Excess Return Index can, where reasonably practicable, continue to be calculated and determined notwithstanding the relevant circumstances or, failing that, to allow a delay or in certain cases, a cancellation of the Excess Return Index. The Index Sponsor will make reasonable efforts to ensure that such modifications or changes will result in a methodology that is consistent with the methodology described above.

Adjustments to the Total Return Index or the Fed Funds Index

If at any time (i) the Total Return Index or the Fed Funds Index ceases to be calculated and announced by its sponsor (however described and including any relevant index calculation entity, an **“Underlying Index Sponsor”**) or (ii) in the determination of the Index Sponsor, an Underlying Index Sponsor makes a material change in the formula for or the method of calculating the Total Return Index or the Fed Funds Index or in any other way materially modifies any of them then, in relation to each affected underlying index (each an **“Affected Index”**), the Index Sponsor may make such determinations and/or adjustments to the Excess Return Index in relation to the Affected Index as it considers appropriate.

Successor Index Sponsor Calculates and Reports an Underlying Index

If the Total Return Index or the Fed Funds Index (each an **“Underlying Index”**) is (A) not calculated and announced by the relevant index sponsor but is calculated and announced by a successor sponsor acceptable to the Index Sponsor, or (B) replaced by a successor index using, in the determination of the Index Sponsor, the same or a substantially similar formula for and method of calculation as used in the calculation of that Underlying Index, then in each case that index (the **“Successor Index”**) will be deemed to be the Underlying Index.

Definitions

“Additional Disruption Event” has the meaning ascribed to it in the description of the Deutsche Bank Liquid Alpha USD 5 Total Return® Index which is also set forth in this underlying supplement;

“Business Day” means a day (other than a Saturday or Sunday) on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in London;

“Closing Level” means in relation to a Business Day and (i) the Total Return Index, the index level of such index (calculated as described in below) or (ii) the Fed Funds Index, the official closing level of such index, in each case as published by the relevant index sponsor on such day;

“Fed Funds Index Return” means, in relation to a Business Day, an amount expressed as a percentage representing the performance of the Fed Funds Index on such day relative to the immediately preceding Index Reconstitution Day or the Index Commencement Date (if no Index Reconstitution Day has occurred);

Expressed as a formula:

$$FFIR_t = \left(\frac{FFIL_t}{FFIL_{r-1}} - 1 \right)$$

where:

$FFIR_t$ = Fed Funds Index Return on day t;

$FFIL_t$ = Closing Level of the Fed Funds Index on day t;

$FFIL_{r-1}$ = Closing Level of the Fed Funds Index on the immediately preceding Index Reconstitution Day r-1 or the Index Commencement Date (if no Index Reconstitution Day has occurred).

“Fixing Page” means the web page <http://index.db.com/index> fixing or any successor page or service details of which are published as described above (no information found at this website is incorporated by reference into this document);

“Index Commencement Date” means January 21, 1999;

“Index Currency” means the United States dollar;

“Index Reconstitution Day” has the meaning ascribed to it in the description of the Deutsche Bank Liquid Alpha USD 5 Total Return® Index above;

“Index Sponsor” means Deutsche Bank AG London Branch or any successor in its capacity as Index Sponsor of the Excess Return Index;

“Market Disruption Event” has the meaning ascribed to it in the description of the Deutsche Bank Liquid Alpha USD 5 Total Return® Index above;

“Total Return Index Return” means, in relation to a Business Day, an amount expressed as a percentage representing the performance of the Total Return Index on such day relative to the immediately preceding Index Reconstitution Day or the Index Commencement Date (if no Index Reconstitution Day has occurred);

Expressed as a formula:

$$TRIR_t = \left(\frac{TRIL_t}{TRIL_{r-1}} - 1 \right)$$

where:

$TRIR_t$ = Total Return Index Return on day t;

$TRIL_t$ = Closing Level of Total Return Index on day t;

$TRIL_{r-1}$ = Closing Level of Total Return Index on the immediately preceding Index Reconstitution Day r-1 or the Index Commencement Date (if no Index Reconstitution Day has occurred).

FURTHER INFORMATION RELATING TO THE INITIAL SELECTION POOL INDICES AND THE INDEX

The Index Constituents

1. Fed Funds Total Return Index

Sponsor:	Deutsche Bank AG
Brief Description:	The Fed Funds Total Return Index measures the accrual of a deposit invested at the inter-bank overnight interest rate (Fed Funds). The deposit is compounded (reinvested) daily, with a 360 day year convention. Fed Funds is the New York closing business rate.
Bloomberg code	DBMMFED1
Index Constituent Level:	The Index Constituent Level of the Fed Funds Total Return Index as of the Index Commencement Date equaled 1,015.26.

2. Deutsche Bank Balanced Currency Harvest (USD-Funded) Index

Sponsor:	Deutsche Bank AG
Brief Description:	<p>The Deutsche Bank Balanced Currency Harvest (USD-Funded) Index reflects the performance of a diversified basket of high-yielding currencies, funded by going short a diversified basket of low-yielding currencies, plus a money market performance linked to Fed Funds rates. The index uses a generalized methodology which is designed to exploit the forward rates bias through systematic allocation rules.</p> <p>The strategy underlying the index is to invest in the 2 highest yielding G10 currencies, and then the 3 remaining highest yielding currencies from the pool of eligible currencies. Additionally, the strategy involves going short the 2 lowest yielding G10 currencies and short the 3 remaining lowest yielding currencies.</p> <p>The eligible currencies are ranked by their respective 3-month LIBOR rates from third-party fixing pages to select the current highest and lowest yielding currencies.</p> <p>The strategy underlying the index involves notionally investing in 3 month forwards by buying equal amounts of each selected high-yielding currency, and selling equal amounts of each selected low-yielding currency, with quarterly rebalancing.</p>
Bloomberg code	DBHVBUSF
Index Constituent Level:	The Index Constituent Level of the Deutsche Bank Balanced Currency Harvest (USD-Funded) Index on the Index Commencement Date equaled 936.91.

3. Deutsche Bank SMART USD Index

Sponsor: Deutsche Bank AG

Brief Description: The SMART Index is intended to reflect the economic performance of an investment strategy that systematically selects steepening or flattening positions in relation to the USD yield curve in order to capture returns generated by changes in the slope of the USD yield curve. The SMART Index is constructed using the Deutsche Bank Steepener USD Index (the “**Steepener Index**”).

The Steepener Index is intended to reflect the economic performance of a strategy that adopts a long position in short term interest rates and a short position in long term interest rates. The long and short positions are weighted so that the overall position is approximately duration neutral thereby eliminating the effects of small parallel shifts in the yield curve (*i.e.*, small shifts of the whole yield curve upward or downward). The Steepener Index is implemented by effecting a long position in 1 month forward 2 year swap contracts, coupled with a concurrent short position in 1 month forward 10 year swap contracts.

Bloomberg code DBSMARTD

Index Constituent Level: The Index Constituent Level of the Deutsche Bank SMART USD Index on the Index Commencement Date equaled 1,029.12.

4. Deutsche Bank Commodity Harvest USD Total Return Index

Sponsor: Deutsche Bank AG

Brief Description: The Deutsche Bank Commodity Harvest USD Total Return Index (the “**DBCHI**”) employs a rules-based strategy to generate “carry” by capturing the relative value between the “optimum roll” strategy within the DB Commodity Booster—S&P GSCI™ Light Energy Index (the “**Commodity Booster Index**”) and the “fixed roll” strategy within the benchmark S&P GSCI™ Light Energy Commodity Index (the “**S&P Light Energy Index**”). The DBCHI is constructed by taking a long exposure to the Commodity Booster Index and a short exposure to the S&P Light Energy Index.

The S&P Light Energy Index, which provides the short exposure, currently comprises 24 commodities representing five commodity sectors: energy, precious metals, base metals, agriculture and livestock. The short exposure is based on the first available month futures contract for all 24 commodities which is typically the first nearby month futures contract for energy and base metals and the first to third nearby month futures contract for other commodities.

The long exposure in the DBCHI is provided by using the Commodity Booster Index which includes the same 24 commodities based on Deutsche Bank’s proprietary optimum yield methodology (the “**OY mechanism**”). Under the OY mechanism, when a futures contract is close to expiry, a new futures contract is chosen by comparing the annualized roll returns of all available futures contracts that have a maturity not exceeding 13 months. A new futures contract is selected that offers the optimal roll return, *i.e.*, the greatest positive roll returns or least negative roll returns. If two or more futures contracts offer exactly same roll return, then the futures contract closest to expiry is chosen. In order to avoid directional exposure, the long exposure and short exposure are rebalanced on a monthly basis.

Bloomberg code DBCMHLTU

Index Constituent Level: The Index Constituent Level of the Deutsche Bank Commodity Harvest USD Total Return Index on the Index Commencement Date equaled 1,026.91.

5. S&P X-Alpha USD Total Return Strategy Index

Sponsor: Deutsche Bank AG

Calculation Agent: Standard and Poor's

Brief Description: The S&P X-Alpha USD Total Return Strategy Index employs a rules-based, mathematical model that reflects the relative performance between a basket of eight Deutsche Bank equity indices and a basket of four regional equity benchmark indices and also contains a Fed Funds Return Index. The regional focus of the Index is the Euro Zone, the United States, Japan and the United Kingdom. The X-Alpha Model seeks to identify, from a growth perspective, high short-term earnings momentum stocks in global developed markets and, from a value perspective, low price-earnings ratio or high dividend yielding stocks in the same markets.

The X-Alpha Model employs certain Deutsche Bank proprietary indices that reflect the performance of these categories of stocks, and pairs each with a regional well-known, broad equity index maintained by a third-party sponsor as a benchmark index, to make eight index constituent pairs.

The return on an index constituent pair is determined based on the daily cumulative return of the relevant underlying index compared to that of the relevant benchmark index. The X-Alpha Model reflects a weighted return in U.S. dollars of the index constituent pairs, with the pair weights being determined based upon initial weights assigned to each index constituent pair, adjusted based upon their recent observed volatility to target a volatility of 8% per year for the X-Alpha Model's exposure to each index constituent pair.

Bloomberg code SPXADT

Index Constituent Level: The Index Constituent Level of the S&P X-Alpha USD Total Return Strategy Index on the Index Commencement Date equaled 945.64.

ADDITIONAL INFORMATION RELATING TO THE SELECTION POOL INDICES

THE DEUTSCHE BANK FED FUNDS TOTAL RETURN INDEX

The Fed Funds Total Return Index (the “**Fed Funds Index**”) is intended to measure the accrual of a deposit invested at the inter-bank overnight interest rate. The deposit is compounded (reinvested) daily, with a 360 day year convention. The Fed Funds Index is calculated on a total return basis on every calendar day.

On any calendar day, the closing level of the Fed Funds Index is equal to the Fed Funds Index closing level on the last day before such calendar day upon which a closing level for the Funds Index is available (the “**latest publication day**”) multiplied by the sum of (i) one and (ii) the product of the inter-bank overnight interest rate for the latest publication day as published on Bloomberg (ticker: FEDL01) *multiplied by* the quotient of the number of calendar days from but excluding the latest publication day to and including such calendar day *divided by* 360.

Expressed as formula, the level of the Fed Funds Index on any calendar day is equal to:

$$IL(t) = ((Calendar\ Days(t, t') / 360) * R(t') + 1) * IL(t')$$

where:

$R(t')$ = the inter-bank overnight interest rate on t' , the latest day before t on which a closing quote is available.

$IL(t')$ = the level of the Fed Funds Index on day t'

$IL(t)$ = the level of the Fed Funds Index on day t

THE DEUTSCHE BANK BALANCED CURRENCY HARVEST (USD-FUNDED) INDEX

Strategy and Composition

The Deutsche Bank Balanced Currency Harvest (USD-Funded) Index (the “**Currency Harvest Index**”) was created by Deutsche Bank AG, London Branch (the “**Currency Harvest Index Sponsor**”) on December 19, 2005. The Currency Harvest Index is intended to reflect a strategy of purchasing 3-month forward contracts on certain currencies in jurisdictions with high interest rates and selling 3-month forward contracts on certain currencies in jurisdictions with low interest rates and includes a component based on the overnight rate calculated by the Federal Reserve Bank of New York. This strategy is based on the view that foreign currency forward rates are biased estimators of future foreign currency spot rates, and that currencies that trade at a forward discount tend to outperform on average currencies that trade at a forward premium. The strategy reflected in the Currency Harvest Index takes the view that by taking long positions in high yielding currencies and short positions in low yielding currencies, an investor’s gain from the interest rate differentials will exceed any potential losses from exchange rate risk. The Currency Harvest Index Sponsor provides no assurance that this expectation is or will remain valid. Various market factors and circumstances at any time and over any period could cause and have in the past caused investors to become more risk averse to high yielding currencies. Such risk aversion is greater with respect to the non-G10 currencies (as defined below) which may be volatile and subject to large fluctuations, devaluations, exchange controls and inconvertibility which could negatively affect the level of the Currency Harvest Index.

The Currency Harvest Index thus reflects the value of notional long and short 3-month foreign exchange forward positions in certain foreign currencies against the U.S. dollar. The Currency Harvest Index is recomposed every quarter; at each recomposition, the Currency Harvest Index Sponsor selects from a larger group of currencies (the “**Eligible Currencies**”) ten currencies to be the Index currencies (the “**Index Currencies**” and each an “**Index Currency**”) for that quarter.

On August 28, 2012, the Eligible Currencies were the U.S. dollar, the euro, the Japanese yen, the British pound, the Swiss franc, the Australian dollar, the Canadian dollar, the Swedish krona, the Norwegian krone, the South Korean won, the Mexican peso, the New Zealand dollar, the Singapore dollar, the South African rand, the Polish zloty, the Taiwanese dollar, the Brazilian real, the Czech koruna, the Hungarian forint, and the Turkish lira. The U.S. dollar, the euro, the British pound, the Japanese yen, the Swiss franc, the Australian dollar, the New Zealand dollar, the Canadian dollar, the Swedish krona, and the Norwegian krone are the “**G10 Currencies**.” The remaining Eligible Currencies are the “**non-G10 Currencies**.”

As of August 28, 2012, the Long Currencies were the Hungarian forint, the New Zealand dollar, the Brazilian real, the Turkish lira, and the Australian dollar. As of that date, the Short Currencies were the U.S. dollar, the Japanese yen, the Swiss franc, the Singapore dollar, and the Taiwanese dollar.

Recomposition

At each quarterly recomposition, the Currency Harvest Index Sponsor selects the G10 currencies with the two highest and the two lowest Yield Fix Rates (as defined below), and subsequently selects the currencies with the three highest and three lowest Yield Fix Rates from the remaining G10 currencies and the non-G10 currencies for inclusion in the Currency Harvest Index for that quarterly period. “**Yield Fix Rate**” means, for an Eligible Currency, the interest rate for such deposits in such Eligible Currency for a period of three months as set forth on Reuters, or, if such rate does not appear on Reuters, the interest rate for deposits in such Eligible Currency determined by the Currency Harvest Index Sponsor acting in good faith and in a commercially reasonable manner from such sources as it deems appropriate. The currencies with the highest Yield Fix Rates are the “**Long Currencies**,” and the currencies with the lowest Yield Fix Rates are the “**Short Currencies**.” The Currency Harvest Index reflects notional long forward positions in the Long Currencies, and notional short positions in the Short Currencies; these positions are equally weighted. A new equally weighted basket of notional long and short positions is thus created at each quarterly recomposition. During each quarter, the Currency Harvest Index closing level is determined by interpolation of daily published forward rates (e.g., the 3-month, 2-month and 1-month forward rate) for the Eligible Currencies.

In addition, at any quarterly recomposition, the Currency Harvest Index Sponsor may add as an Eligible Currency any currency that: (i) is not subject to a currency peg regime, (ii) is in the “most liquid” category as measured by the most recent Bank for International Settlements Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity, and (iii) complies with certain liquidity criteria, or that complies with such additional or alternative criteria as the Currency Harvest Index Sponsor determines appropriate acting in good faith and in a commercially reasonable manner. Similarly, at any quarterly recomposition, the Currency Harvest Index Sponsor may remove as an Eligible Currency any currency that does not comply with the foregoing criteria as long as following any such removal there are at least fifteen (15) Eligible Currencies. If any Eligible Currency other than the euro is the currency of a country that participates in or has announced its intention to participate in the third stage of European Economic and Monetary Union, as determined by the Currency Harvest Index Sponsor, the Currency Harvest Index Sponsor may make such adjustments to the methodology and calculation of the Index as it determines appropriate to account for such event, including, in its discretion, selecting a replacement currency.

Calculation of Closing Level

An increase in the value of the Long Currencies versus the dollar relative to the value of the Short Currencies versus the dollar will result in an increase in the closing level of the Currency Harvest Index (the “**Index Closing Level**”). Conversely, a decrease in the value of the Long Currencies versus the dollar relative to the value of the Short Currencies versus the dollar will result in a decrease in the Index Closing Level. The Index Closing Level reflects the deduction of an annual 1.5% fee, which accounts for the Currency Harvest Index being based on published mid-market prices as opposed to dealer-quoted prices, which are lower. In addition, the Index Closing Level is affected by changes in the Fed Effective Fix Rate, which is the overnight rate calculated by the Federal Reserve Bank of New York and appearing on the Reuters Page FEDL01.

Index Adjustments and Cancellations

If a Force Majeure Event or a Market Disruption Event occurs in respect of the Currency Harvest Index, the Currency Harvest Index Sponsor may adjust the Currency Harvest Index (including without limitation following a Market Disruption Event by removing an affected currency as an Index Currency), amend the methodology of the Currency Harvest Index, delay the calculation of the Index Closing Level or cancel and permanently cease to calculate the Currency Harvest Index.

Market Disruption Events

A “**Market Disruption Event**” includes the following:

- A currency exchange rate splits into dual or multiple exchange rates;
- An event occurs that generally makes it impossible to convert an Index Currency into U.S. Dollars in the home country for such Index Currency (the “**Index Currency Jurisdiction**”) through customary legal channels;
- An event occurs that generally makes it impossible to deliver U.S. Dollars from accounts inside an Index Currency Jurisdiction to accounts outside that Index Currency Jurisdiction, or to deliver an Index Currency between accounts inside the Index Currency Jurisdiction for such Index Currency or to a party that is a non-resident of the relevant Index Currency Jurisdiction;
- The occurrence of a default, event of default or other similar condition or event with respect to any security or indebtedness of, or guaranteed by, any governmental authority in relation to an Index Currency;
- Any change in, or amendment to, the laws or regulations prevailing in the Index Currency Jurisdiction in respect of any Index Currency, or any change in any application or official interpretation of such laws or regulations, or any other governmental action that the Currency Harvest Index Sponsor determines may cause another Market Disruption Event to occur or that leads or may lead to the introduction of a currency peg regime;
- The occurrence of an event that makes it impossible or not reasonably practicable to obtain a firm quote for a currency exchange rate relevant to the Index;
- Any nationalization, confiscation, expropriation, requisition or other action by a relevant governmental authority that deprives Deutsche Bank AG or any of its affiliates of all or substantially all of its assets in the relevant jurisdiction;
- The Currency Harvest Index Sponsor determines that there is a material difference in a relevant currency rate as determined by reference to the rate source for the Index and any other market source;

- It becomes impossible to obtain a relevant currency exchange rate, either from the source for that rate or by the Currency Harvest Index Sponsor itself acting in good faith in a commercially reasonable manner;
- The Currency Harvest Index Sponsor determines that Deutsche Bank AG or any of its affiliates would be unable, after using commercially reasonable efforts, to acquire, establish, re-establish, substitute, maintain, unwind, or dispose of any hedge position relating to the securities or other relevant Index-linked transactions, or to realize, recover or remit the proceeds of any such transactions; and
- Any event that the Currency Harvest Index Sponsor determines may lead to any of the foregoing events.

In addition, the Currency Harvest Index Sponsor will not calculate the Index Closing Level in the event of an event or circumstance (including, without limitation, a systems failure, natural or man-made disaster, Act of God, armed conflict, act of terrorism, riot or labor disruption or any similar intervening circumstance) that is beyond the reasonable control of the Currency Harvest Index Sponsor and that the Currency Harvest Index Sponsor determines, in its discretion, affects the Index or any Index Currency (a **"Force Majeure Event"**). If a Force Majeure Event occurs on a trading day, the Currency Harvest Index Sponsor may, in its discretion, take one or more of the following actions: (i) make such determinations and/or adjustments as it considers appropriate to determine the Index Closing Level; or (ii) defer publication of information relating to the Currency Harvest Index until the next trading day on which it determines that no Force Majeure Event exists.

Change in the Methodology of the Currency Harvest Index

The Currency Harvest Index Sponsor may modify the methodology used to determine the Currency Harvest Index as it deems appropriate if the Currency Harvest Index Sponsor is of the view that such change is required in light of fiscal, market, regulatory, juridical or financial circumstances (including, but not limited to, any changes to or any suspension or termination of or any other events affecting any Index Currency).

THE DEUTSCHE BANK SMART USD INDEX

General Description

The Deutsche Bank SMART USD Index (the “**SMART Index**”) was created by Deutsche Bank AG, London Branch (the “**SMART Index Sponsor**”) on July 15, 2007. The SMART Index is intended to reflect the economic performance of an investment strategy that systematically selects steepening or flattening positions in relation to the USD yield curve based on signals of a rate cutting or rate hiking cycle or the implied positive or negative carry in those positions in order to capture returns generated by changes in the slope of the USD yield curve. The SMART Index is constructed using the Deutsche Bank Steepener USD Index (the “**Steepener Index**”).

The Steepener Index is intended to reflect the economic performance of a strategy that adopts a long position in short term interest rates and a short position in long term interest rates. The long and short positions are weighted so that the overall position is approximately duration neutral, thereby eliminating the effects of small parallel shifts in the yield curve (*i.e.*, small shifts of the whole yield curve upward or downward). The Steepener Index is implemented by effecting a long position in 1-month forward 2-year swap contracts, coupled with a concurrent short position in 1-month forward 10-year swap contracts.

Rebalancing

The SMART Index reflects the return of a holding which is (i) 100% long the Steepener Index, (ii) one third long the Steepener Index, (iii) one third short the Steepener Index, or (iv) 100% short the Steepener Index. The fraction of the Steepener Index reflected in the SMART Index each month is set on the last business day of the preceding month (a “**Rebalancing Day**”) based on one of two applicable criteria, the rate cycle and the carry of the steepener position. The rate cycle and the carry of the steepener position are assessed on the business day immediately preceding the Rebalancing Day.

For any Rebalancing Day, first the rate cycle criterion is examined for indications that the interest rate environment is either (a) one of rising interest rates (when the Steepener Index might be expected to perform badly) or (b) one of falling interest rates (when the Steepener Index might be expected to perform well). If the rate cycle criterion provides such indications for such Rebalancing Day, the fraction of the Steepener Index reflected in the SMART Index is adjusted on the basis of the first criterion, as described below. However, if no inference regarding the interest rate environment can be drawn from the rate cycle criterion, then the second criterion, the carry of the steepener position, is examined instead and any changes to the fraction of the Steepener Index reflected in the SMART Index on such Rebalancing Day are based on the second criterion, as described below.

Rate Cycle

The rate cycle criterion is based on an examination of 3-month U.S. dollar Libor. If there has been a material increase in 3-month U.S. dollar Libor in the month preceding a Rebalancing Day, suggesting that a rate hiking cycle is in effect, a short or reduced long position in the Steepener Index is adopted. Conversely, if there has been a material decrease in 3-month U.S. dollar Libor in the month preceding a Rebalancing Day, suggesting that a rate cutting cycle is in effect, a long or reduced short position in the Steepener Index is adopted.

3-month USD Libor is deemed to have increased materially over the month if it is more than 2.5% higher than the previous month, for example if it increases from 5.00% to a rate higher than 5.125%. Similarly, 3-month USD Libor is deemed to have decreased materially over the month if it is more than 2.5% lower than the previous month, for example if it decreases from 5.00% to a rate lower than 4.875%.

If there has been no material change in 3-month USD Libor in the preceding month, then the second criterion, the carry of the steepener position, is considered.

Carry of the Steepener Position

The carry of the steepener position is defined as the yield, in percentage terms, of holding two forward interest rate swaps, receiving fixed payments (long swap) of a 2-year maturity and making fixed payments (short swap) of a 10-year maturity, for a holding period of one month (assuming no changes in the curve). If the carry, measured using market data as of close of business in New York, is positive or zero, this is taken as a signal that the market expects the Steepener Index return to be positive, and hence a long or reduced short position in the Steepener Index is adopted. Conversely, if the carry is negative, a short or reduced long position in the Steepener Index is adopted.

Calculation of the SMART Index

The “**SMART Index Closing Level**” is calculated on every London and New York business day as the product of (i) one plus the SMART Index Return on such business day and (ii) the SMART Index Closing Level on the immediately preceding Rebalancing Day.

The “**SMART Index Return**” on any business day is the product of the Steepener Fraction and the return of the Steepener Index on such business day. The return on the Steepener Index reflects the economic performance of a strategy that adopts a long position in 1-month forward, 2-year swap contracts, coupled with a concurrent short position in 1 month forward, 10-year swap contracts.

The “**Steepener Fraction**” is a number equal to -1, -1/3, 1/3 or 1, determined as indicated in the table below, based on the Steepener Fraction applicable during the preceding month and on observations of the rate cycle or the carry of the steepener position, as applicable.

Preceding Month Steepener Fraction	Rising Interest Rate Environment Indicated / Negative Carry	Falling Interest Rate Environment Indicated / Positive Carry	Current Month Steepener Fraction
1	X		1/3
1/3	X		-1/3
-1/3	X		-1
-1	X		-1
1		X	1
1/3		X	1
-1/3		X	1/3
-1		X	-1/3

Disruption Events

Increased Cost of Hedging and Hedging Disruption.

If the Steepener Index is the cause of an Increased Cost of Hedging or a Hedging Disruption, the SMART Index Sponsor may, in its reasonable discretion, select a successor index to replace the Steepener Index in the calculation of the SMART Index.

Successor Steepener Index

If the Steepener Index is (i) not calculated and announced by its sponsor but is calculated and announced by a successor sponsor acceptable to the SMART Index Sponsor, or (ii) is replaced by a successor index using, in the determination of the SMART Index Sponsor, the same or a substantially similar formula for and method of calculation as used in the calculation of the Steepener Index, then in each case that index (the “**Successor Steepener Index**”) will be deemed to be and replace the Steepener Index in the calculation of the SMART Index.

Rate Disruption Event

If a Rate Disruption Event occurs on any Index Business Day or Rebalancing Day, then the SMART Index Sponsor may:

- (x) determine the SMART Index Closing Level or the Steepener Fraction or whether a rising or falling rate environment is indicated by applying its estimate (an “**Estimate**”) of the relevant rate, price or information necessary for that purpose, which will be estimated in good faith and in a commercially reasonable manner; or
- (y) take no action, and/or postpone a Rebalancing Day, for a maximum of eight Index Business Days.

Modification and Cessation of Calculation of the Steepener Index

If the sponsor of the Steepener Index makes or announces that it will make a material change in the formula for or method of calculating the Steepener Index or in any other way materially modifies the Steepener Index (other than a modification prescribed in the formula or method to maintain the Steepener Index in the event of changes in constituent stock, capitalization and other routine events) (a **"Steepener Index Modification"**) or permanently cancels the Steepener Index and no Successor Steepener Index exists (a **"Steepener Index Cancellation"**), or (ii) on a day on which it would ordinarily calculate and publish an index closing level for the Steepener Index, the index sponsor of the Steepener Index fails to calculate and announce a relevant index closing level (a **"Steepener Index Disruption"** and, together with a Steepener Index Modification and a Steepener Index Cancellation, each a **"Steepener Index Adjustment Event"**), then the SMART Index Sponsor may:

- (x) determine the level of the Steepener Index at the relevant time using, in lieu of a published level for the Steepener Index, the level of the Steepener Index as at the relevant time as determined by the SMART Index Sponsor in accordance with the formula for and method of calculating the Steepener Index last in effect prior to the Steepener Index Adjustment Event (an **"Estimated Steepener Index Closing Level"**);
- (y) select a Successor Steepener Index in its reasonable discretion; or
- (z) in relation to a Steepener Index Disruption, take no action for a maximum of eight Index Business Days.

Definitions

"Disruption Event" means the occurrence of (a) prior to the replacement of the Steepener Index, an Increased Cost of Hedging or a Hedging Disruption and/or (b) a Rate Disruption Event or (c) a Steepener Index Adjustment Event, as determined by the SMART Index Sponsor.

"Force Majeure Event" means an event or circumstance (including, without limitation, a systems failure, fire, building evacuation, natural or man-made disaster, act of God, armed conflict, act of terrorism, riot or labor disruption or any similar intervening circumstance) that affects the ability of the SMART Index Sponsor to calculate or determine the SMART Index and which is beyond the reasonable control of the SMART Index Sponsor.

"Hedging Disruption" means a determination by the SMART Index Sponsor in its sole discretion that it would be unable, after using commercially reasonable efforts, to (i) acquire, establish, re-establish, substitute, maintain, unwind or dispose of any transaction(s) or asset(s) which could be used to hedge its position in relation to any securities issue or other relevant transactions relating to or calculated by reference to the SMART Index or (ii) realize, recover or remit the proceeds of any such transaction(s) or asset(s).

"Increased Cost of Hedging" means a determination by the SMART Index Sponsor in its sole discretion that it would incur a materially increased amount of tax, duty, expense or fee (other than brokerage commissions) to (i) acquire, establish, re-establish, substitute, maintain, unwind or dispose of any transaction(s) or asset(s), which could be used to hedge its position in relation to any securities issue or other relevant transactions relating to or calculated by reference to the SMART Index, or (ii) realize, recover or remit the proceeds of any such transaction(s).

"Index Business Day" means a day (other than a Saturday or Sunday):

- (a) on which commercial banks and exchange markets are open for general business (including dealings in foreign exchange and foreign currency deposits) in London and New York;
- (b) on which no Disruption Event is occurring, unless the SMART Index Sponsor has determined an Estimated Steepener Index Closing Level or made an Estimate for the relevant day (which it is not obliged to do); and
- (c) on which no Force Majeure Event is subsisting.

"Rate Disruption Event" means an occurrence in which the publication of a rate, price or information necessary to the SMART Index Sponsor for the purpose of determining the SMART Index Closing Level or the Steepener Fraction is temporarily or permanently discontinued, unavailable or not announced or published, thereby preventing determination of the SMART Index Closing Level or the Steepener Fraction.

SMART Index Sponsor

Unless otherwise provided all determinations made by the SMART Index Sponsor will be made by it in good faith and in a commercially reasonable manner by reference to such factors as the SMART Index Sponsor deems appropriate and will be final, conclusive and binding in the absence of manifest error.

Change in the Methodology of the SMART Index

The SMART Index Sponsor will, subject as provided below, employ the methodology described above and its application of such methodology shall be conclusive and binding. While the SMART Index Sponsor currently employs the above described methodology to calculate the SMART Index, no assurance can be given that fiscal, market, regulatory, juridical, financial or other circumstances will not arise that would, in the view of the SMART Index Sponsor, necessitate or make desirable a modification of or change to such methodology and the SMART Index Sponsor will be entitled to make any such modification or change.

THE DEUTSCHE BANK COMMODITY HARVEST USD TOTAL RETURN INDEX

General Description

The Deutsche Bank Commodity Harvest USD Index (the “**Commodity Harvest Index**”) is designed to represent a commodity neutral outperformance strategy and is intended to reflect the return of holding a long position in the Deutsche Bank Commodity Booster—S&P GSCI™ Light Energy Index (the “**Booster Index**”) and a short position in the S&P GSCI™ Light Energy Index (the “**S&P Light Energy Index**”). Publication of the Commodity Harvest Index began on December 17, 2007.

The Commodity Harvest Index is calculated on a “total return” basis and an “excess return” basis. When calculated on a total return basis, the Commodity Harvest Index incorporates a Treasury Bill interest component and is called the Deutsche Bank Commodity Harvest Index USD Total Return Index. The sponsor of the Commodity Harvest Index is Deutsche Bank AG, London Branch.

Index Commodities

The Commodity Harvest Index reflects notional amounts invested as described above with respect to each of the Booster Index and the S&P Light Energy Index (each, an “**Index Commodity**”).

The Booster Index

The Booster Index is sponsored by Deutsche Bank AG, London Branch. The Booster Index represents a long commodity exposure and seeks to outperform the benchmark S&P Light Energy Index by selecting constituent commodity futures contracts from the Deutsche Bank Liquid Commodities Index Optimum Yield (“**DBLCI-OY**”) and assigning them the same weights as those commodity futures contracts have in the S&P Light Energy Index. For livestock and those commodities in the S&P Light Energy Index for which there is no corresponding DBLCI-OY constituent commodity, the S&P Light Energy Index weight for that commodity is assigned to the corresponding S&P GSCI™ single commodity index, thereby offsetting their exposure in the S&P Light Energy Index.

The Deutsche Bank Liquid Commodities Index Optimum Yield employs a rule-based approach when it “rolls” from one futures contract to another for each constituent commodity. Rather than select the new futures contract for a constituent commodity based on a predefined schedule (e.g., monthly), as does the S&P Light Energy Index, the DBLCI-OY rolls to that future (from the list of tradable futures which expire in the next thirteen months), which seeks to generate the maximum implied roll yield. The DBLCI-OY aims to maximize the potential roll benefits in backwardated markets and minimize the loss from rolling down the curve in contango markets.

If the price of a future is greater than the spot price, the market is in contango. If the price of a future is below the spot price, the market is in backwardation. In a contango market, as the time to expiry of a future decreases, the price generally will tend toward the spot price. Assuming a flat spot price, this results in the price of the future falling. The opposite is true for a market in backwardation. Thus, a contango market will tend to impact negatively the level of an index while a market in backwardation will tend to impact positively the level of an index.

For each index constituent, the selected DBLCI-OY future contract is rolled to a new contract when the existing contract is close to expiry. The Booster Index re-weights on an annual basis after the new S&P Light Energy Index weights have been announced.

The S&P GSCI™ Light Energy Index

The S&P Light Energy Index is comprised of the same commodity futures contracts as the S&P GSCI™ but with those weights for contracts in the energy sector having been divided by 4.

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. 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 this S&P GSCI™ Index Methodology as published by Standard & Poor’s will be included. This feature is intended to enhance 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.

Because the weights of energy-related S&P GSCI™ commodities are reduced in the S&P Light Energy Index relative to the S&P GSCI™, the relative weights of the remaining S&P GSCI™ commodities are necessarily increased. As a result, although the S&P Light Energy Index contains all of the S&P GSCI™ commodities that are included in the S&P GSCI™, they are not world-production weighted in the same manner as the S&P GSCI™. The S&P Light Energy Index and the S&P GSCI™ are calculated and maintained by Standard & Poor's. On July 2, 2012, The McGraw-Hill Companies, Inc. ("**McGraw-Hill**"), the owner of the S&P Indices business, and CME Group Inc. ("**CME Group**"), the 90% owner of the CME Group and Dow Jones & Company, Inc. joint venture that owns the Dow Jones Indexes business, formed a new joint venture, S&P Dow Jones Indices, which owns the S&P Indices business and the Dow Jones Indexes business.

As of June 2012, the following commodity future contracts were included in the S&P GSCI™ and the S&P Light Energy Index.

Commodity (Contract)	Trading Facility	Ticker
Aluminum	London Metal Exchange	MAL
Cattle (Feeder)	Chicago Mercantile Exchange	FC
Cattle (Live)	Chicago Mercantile Exchange	LC
Cocoa	ICE Futures U.S.	CC
Coffee	ICE Futures U.S.	KC
Corn	Chicago Board of Trade	C
Cotton #2	ICE Futures U.S.	CT
Copper	London Metal Exchange	MCU
Gold	N.Y. Mercantile Exchange—COMEX	GC
Lean Hogs	Chicago Mercantile Exchange	LH
Natural Gas	N.Y. Mercantile Exchange/ICE	NG
Oil (Heating)	N.Y. Mercantile Exchange	HO
Oil (Brent Crude)	ICE Futures U.K.	LCO
Oil (Gasoil)	ICE Futures U.K.	LGO
RBOB Gasoline	N.Y. Mercantile Exchange	RB
Oil (Crude)	N.Y. Mercantile Exchange/ICE	CL
Nickel	London Metal Exchange	MNI
Silver	N.Y. Mercantile Exchange—COMEX	SI
Soybeans	Chicago Board of Trade	S
Lead	London Metal Exchange	MPB
Sugar #11	ICE Futures U.S.	SB
Wheat (Chicago)	Chicago Board of Trade	W
Wheat (Kansas)	Kansas City Board of Trade	KW
Zinc	London Metal Exchange	MZN

As of September 10, 2012, the following commodity future contracts were included in the DBLCI-OY Index.

Commodity (Contract)	Trading Facility	Ticker
Heating Oil	N.Y. Mercantile Exchange	HO
Crude Oil	N.Y. Mercantile Exchange	CL
Aluminum	London Metal Exchange	LA
Gold	N.Y. Mercantile Exchange—COMEX	GC
Corn	Chicago Board of Trade	C
Wheat*	Chicago Board of Trade/Kansas City Board of Trade/Minneapolis Grain Exchange	DBLCOWUE

*Following the close of trading on February 16, 2012, instead of tracking the performances of Wheat through futures contracts on Wheat traded on the Board of Trade of the City of Chicago, Inc. ("**CBOT**"), the DBLCI-OY Index tracks the performance of Wheat through the Deutsche Bank Liquid Commodity Index – Optimum Yield Wheat Basket Index USD Excess Return (Symbol: DBLCOWUE) (the "**Wheat Basket Index**"), consisting of a basket of three futures contracts on Wheat traded on CBOT, the Kansas City Board of Trade ("**KCBT**") and the Minneapolis Grain Exchange, Inc. ("**MGEX**"), respectively. The Wheat Basket Index is rebalanced annually so that the underlying futures contracts on Wheat traded on CBOT, KCBT and MGEX will be weighted equally upon each annual rebalancing day.

Calculation of the Commodity Harvest Index

The Index Sponsor will calculate the closing level of the Commodity Harvest Index on an "excess return" basis (the "**ER Closing Level**") and on a "total return" basis (the "**TR Closing Level**") on the basis of changes in the excess return levels for each of the S&P Light Energy Index and the Booster Index and apply such changes to a notional amount.

The Commodity Harvest Index has been calculated back to a Base Date (the “**Base Date**”) of August 4, 1997. On the Base Date each of the ER Closing Level and the TR Closing Level was 100.

“**Closing Level**” means, in respect of an Index Business Day, each of the ER Closing Level and the TR Closing Level, in each case for such Index Business Day.

“**Index Business Day**” means a day (other than a Saturday or Sunday):

- (a) on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in New York City; and
- (b) which is a day on which the S&P Light Energy Index is calculated, as determined by the NYSE Euronext Holiday & Hours schedule.

“**Index Valuation Time**” means 11:00 pm (London time) on each Index Business Day or, if the publication time of any ER Calculation Value is amended, such other time as the Index Sponsor may determine and announce to be the Index Valuation Time for the Commodity Harvest Index.

EXCESS RETURN CALCULATION

The ER Closing Level on each Index Business Day is calculated by the Index Sponsor as the sum of (A) the ER Closing Level for the Commodity Harvest Index for the Index Business Day immediately preceding the relevant Index Business Day and (B) the sum of the values calculated for each Index Commodity for such Index Business Day as the product of (i) the ER Calculation Value for the relevant Index Commodity for the relevant Index Business Day less the ER Calculation Value for the relevant Index Commodity for the Index Business Day immediately preceding the relevant Index Business Day and (ii) the ER Calculation Value Amount for the relevant Index Commodity for the Index Business Day immediately preceding the relevant Index Business Day and rounding the result to six decimal places with 0.0000005 being rounded upwards.

“**ER Calculation Value**” means, subject to the occurrence of an Index Commodity Adjustment Event as described below, in respect of an Index Business Day and:

- (i) the Booster Index, the closing level of the Booster Index, calculated on an “excess return” basis, in respect of such Index Business Day (or, if such day is not a Valid Date for such Index Commodity, in respect of the Valid Date immediately preceding such Index Business Day) in respect of the Booster Index; and
- (ii) the S&P Light Energy Index, the S&P GSCI Light Energy Index (CPW4) Excess Return as published on Bloomberg Screen SPGSLEP <Index> Page or any successor thereto in respect of such Index Business Day (or, if such day is not a Valid Date for such Index Commodity, in respect of the Valid Date immediately preceding such Index Business Day) in respect of the S&P Light Energy Index.

As of the Base Date, the ER Calculation Value in respect of the Booster Index was 100 and the ER Calculation Value in respect of the S&P Light Energy Index was 432.5354000.

“**ER Calculation Value Amount**” means in respect of an Index Commodity:

- (i) in respect of the Base Date and:
 - (a) the Booster Index, 1; and
 - (b) the S&P Light Energy Index, -0.231194950;
- (ii) in respect of each Index Business Day falling after the Base Date (other than the first Index Business Day falling after a Rebalancing Date), the ER Calculation Value Amount in respect of the Index Business Day immediately preceding such Index Business Day; and
- (iii) in respect of the first Index Business Day falling after a Rebalancing Date, the ER Calculation Value Amount for such Rebalancing Date.

Total Return Calculation

The TR Closing Level is calculated on each Index Business Day by the Index Sponsor and is equal to the TR Closing Level of the Commodity Harvest Index on the Index Business Day immediately preceding such Index Business Day multiplied by the sum of (i) the ER Closing Level for such Index Business Day divided by the ER Closing Level for the Index Business Day immediately preceding such Index Business Day and (ii) the sum of (a) 1 and (b) the TBill Accrual Factor for such Index Business Day, such sum raised to the power of 1 plus the number of days which are not Index Business Days during the period from (but excluding) the Index Business Day immediately preceding such Index Business Day to (but excluding) such Index Business Day minus (iii) 1.

“TBill Accrual Factor” means, in respect of an Index Business Day, an amount calculated by the Index Sponsor in accordance with the following formula:

$$(1 - 91/360 \times \text{TBR})^{(-1/91)} - 1$$

where:

“TBR” means the closing three-month Treasury Bill rate appearing on Reuters Page US3MT = RR (or such page or service as may replace Reuters Page US3MT = RR for the purposes of displaying three-month Treasury Bill rates) in respect of the Index Business Day immediately preceding such Index Business Day (the **“TBill Determination Date”**) or if such rate is not published in respect of the TBill Determination Date, the closing three-month Treasury Bill rate last published prior to the TBill Determination Date.

Rebalancing

The ER Calculation Value Amount in respect of each Index Commodity will be rebalanced on each Rebalancing Date in accordance with the provisions set forth below (such procedure a **“Rebalancing”**).

The ER Calculation Value Amount in respect of each Index Commodity in relation to a Rebalancing Date is equal to (A) the product of (i) the ER Closing Level for such Index Business Day and (ii) the Index Weight for such Index Commodity, divided by (B) the ER Calculation Value for such Index Commodity for such Index Business Day.

“Index Weight” means the weightings assigned to each Index Commodity on the Base Date being:

- (a) in respect of the Booster Index, 100%; and
- (b) in respect of the S&P Light Energy Index, -100% (minus 100%).

“Rebalancing Date” means the tenth Index Business Day (the **“Scheduled Rebalancing Date”**) in each calendar month; provided that if the Scheduled Rebalancing Date is not a Valid Date in respect of any Index Commodity, the Rebalancing Date, subject to the occurrence of an Index Commodity Adjustment Event, will be the next occurring Index Business Day which is a Valid Date in respect of all Index Commodities.

“Scheduled Publication Day” means, in respect of an Index Commodity, a day on which the ER Calculation Value in respect of such Index Commodity is (or but for the occurrence of an Index Commodity Disruption Event or Force Majeure Event would have been) published.

“Valid Date” means, in respect of an Index Commodity, a day which is a Scheduled Publication Day and a day in respect of which an Index Commodity Disruption Event has not occurred.

Corrections to ER Calculation Values

In calculating the Closing Levels, the Index Sponsor will have regard to subsequent corrections to any ER Calculation Values published by the relevant Index Commodity Index Sponsor in respect of the relevant Index Commodity prior to the Index Valuation Time on the Valid Date for the relevant Index Commodity immediately following the twelfth Index Business Day to which the relevant Closing Level relates but not thereafter.

If, in respect of an Index Business Day and an Index Commodity:

- (i) an Index Commodity Disruption Event has occurred in relation to the relevant Index Commodity (a **“Disruption Affected Commodity”**);
- (ii) pursuant to the provisions set forth below under the heading “Index Commodity Adjustment Event” the Index Sponsor has either:
 - (a) calculated the relevant Closing Level for the Disruption Affected Commodity by reference to the ER Calculation Value of the Disruption Affected Commodity for the immediately preceding Valid Date; or
 - (b) deferred publication of the information relating to the Commodity Harvest Index; and
- (iii) the relevant Index Disruption Event has continued for no longer than nine successive Index Business Days,

then on the day on which such Index Commodity Disruption Event ceases to exist (or, if such day is not an Index Business Day, on the immediately succeeding Index Business Day) (such day, the “**Index Disruption Event End Date**”), the Index Sponsor may, in its sole and absolute discretion, calculate or recalculate, as the case may be, the ER Calculation Value in respect of the Disruption Affected Commodity and each Index Business Day in respect of which such Index Disruption Event occurred (each such day, a “**Disruption Affected Day**”) as if the ER Calculation Value for the Disruption Affected Commodity on each such Disruption Affected Day was the ER Calculation Value for the Disruption Affected Commodity in respect of the Index Disruption Event End Date.

Index Commodity Adjustment Event

If an Index Commodity Disruption Event occurs in relation to an Index Commodity on any Scheduled Publication Day, the Index Sponsor may, in its sole and absolute discretion, either:

- (i) calculate the relevant Closing Level by reference to the ER Calculation Value of the relevant Index Commodity on the immediately preceding Valid Date for a period of up to ten successive Scheduled Publication Days; or
- (ii) defer publication of the information relating to the Commodity Harvest Index for a period of up to ten successive Scheduled Publication Days; or
- (iii) select a Successor Index Commodity in respect of such Index Commodity; or
- (iv) calculate the relevant Closing Level using, in lieu of a published ER Calculation Value for that Index Commodity, the level for that Index Commodity calculated on an “excess return” basis as at the Index Valuation Time on the relevant Index Business Day as determined by the Index Sponsor in accordance with the formula for and method of calculating that Index Commodity last in effect prior to the failure but only using those contracts or commodities that comprised that Index Commodity prior to that Index Commodity Adjustment Event; or
- (v) permanently cancel the Commodity Harvest Index and the publication of Closing Levels relating to the Commodity Harvest Index.

In the case of (i) or (ii) above, if an Index Commodity Disruption Event in relation to the relevant Index Commodity continues for the period of ten successive Scheduled Publication Days as referred to therein, on the expiry of such period the provisions of (iii), (iv) or (v) above will apply, as selected by the Index Sponsor in its sole and absolute discretion.

If an Index Commodity Cancellation or Index Commodity Modification occurs in relation to an Index Commodity, the Index Sponsor will on the day on which such Index Commodity Modification or Index Commodity Cancellation occurs (or, if such day is not an Index Business Day, on the immediately succeeding Index Business Day), in its discretion, either:

- (a) select a Successor Index Commodity in respect of such Index Commodity; or
- (b) calculate the relevant Closing Level using, in lieu of a published ER Calculation Value for that Index Commodity, the level for that Index Commodity calculated on an “excess return” basis as at the Index Valuation Time on the relevant Index Business Day as determined by the Index Sponsor in accordance with the formula for and method of calculating that Index Commodity last in effect prior to the change or cancellation but only using those contracts or commodities that comprised that Index Commodity prior to that Index Commodity Adjustment Event; or
- (c) permanently cancel the Commodity Harvest Index and the publication of Closing Levels relating to the Commodity Harvest Index.

“**Index Commodity Adjustment Event**” means, in respect of an Index Commodity, an Index Commodity Disruption Event, an Index Commodity Cancellation or an Index Commodity Modification.

“**Index Commodity Cancellation**” means, in respect of an Index Commodity, on or prior to an Index Business Day the relevant Index Commodity Index Sponsor permanently cancels the Index Commodity and no Successor Index Commodity exists.

“**Index Commodity Disruption Event**” means, in respect of an Index Commodity, on a Scheduled Publication Day the relevant Index Commodity Index Sponsor fails to calculate and announce an ER Calculation Value.

“**Index Commodity Index Sponsor**” means, in respect of an Index Commodity, the corporation or other entity that (a) is responsible for setting and reviewing the rules and procedures and the methods of calculation and adjustments, if any, related to such Index Commodity and (b) announces (directly or through an agent) the ER Calculation Value of the relevant Index Commodity.

“Index Commodity Modification” means, in respect of an Index Commodity, on or prior to an Index Business Day the relevant Index Commodity Index Sponsor makes or announces that it will make a material change in the formula for or the method of calculating a relevant Index Commodity or in any other way materially modifies that Index Commodity (other than a modification prescribed in that formula or method to maintain that Index Commodity in the event of changes in the constituent contracts or commodities and other routine events).

“Successor Index Commodity” means, in respect of an Index Commodity, if an Index Commodity is (A) not calculated and announced by the relevant Index Commodity Index Sponsor but is calculated and announced by a successor sponsor acceptable to the Index Sponsor, or (B) replaced by a successor index using, in the determination of the Index Sponsor, the same or a substantially similar formula for and method of calculation as used in the calculation of that Index Commodity then, in each case that index will be deemed to be the relevant Index Commodity.

Force Majeure Event

If a Force Majeure Event occurs on an Index Business Day, the Index Sponsor may in its discretion:

- (i) make such determinations and/or adjustments to the Commodity Harvest Index as it considers appropriate to determine any Closing Level on any such Index Business Day; and/or
- (ii) defer publication of any Closing Level until the next Index Business Day on which it determines that no Force Majeure Event exists; and/or
- (iii) permanently cancel publication of the Closing Levels.

“Force Majeure Event” means an event or circumstance (including, without limitation, a systems failure, natural or man-made disaster, act of God, armed conflict, act of terrorism, riot or labor disruption or any similar intervening circumstance) that is beyond the reasonable control of the Index Sponsor and the Index Sponsor determines affects the Commodity Harvest Index or any Index Commodity.

Index Sponsor

All determinations made by the Index Sponsor will be made by it in good faith and in a commercially reasonable manner by reference to such factors as the Index Sponsor deems appropriate and will be final, conclusive and binding in the absence of manifest error.

Change in the Methodology of the Commodity Harvest Index

The Index Sponsor will, subject as provided below, employ the methodology described above and its application of such methodology will be conclusive and binding. While the Index Sponsor currently employs the above described methodology to calculate the Commodity Harvest Index, no assurance can be given that fiscal, market, regulatory, juridical or financial circumstances (including, but not limited to, any changes to or any suspension or termination of or any other events affecting any Index Commodity) will not arise that would, in the view of the Index Sponsor, necessitate a modification of or change to such methodology and in such circumstances the Index Sponsor may make any such modification or change as it determines appropriate.

The Standard and Poor's X-Alpha USD Total Return Strategy Index

GENERAL DESCRIPTION

The Standard & Poor's X-Alpha USD Total Return Strategy Index (the "**Index**") utilizes a rules-based, mathematical model that reflects the relative performance between a basket of eight DB equity indices and a basket of four regional equity benchmark indices (the "**X-Alpha Model**") and also contains a Fed Funds Return Index. The regional focus of the Index is the United States, the Euro Zone, Japan and the United Kingdom. The X-Alpha Model seeks to identify, from a growth perspective, high short-term earnings momentum stocks in global developed markets and, from a value perspective, low price-earnings ratio or high dividend yielding stocks in the same markets.

The X-Alpha Model employs certain proprietary indices developed by Deutsche Bank (the "**DB Growth Indices**" and the "**DB Value Indices**" respectively and together the "**DB Regional Style Indices**" and each a "**DB Regional Style Index**") that reflect the performance of these categories of stocks, and pairs each with a well-known, regional equity index maintained by a third-party provider (each a "**Benchmark Index**" and together the "**Benchmark Indices**"), to make eight index constituent pairs (each an "**Index Constituent Pair**") as described under "Index Constituent Pairs" below.

The return of an Index Constituent Pair is determined based on the daily cumulative return of the relevant DB Regional Style Index compared to that of the relevant Benchmark Index. The X-Alpha Model reflects a weighted return in U.S. dollars of the Index Constituent Pairs, with the pair weights being determined based upon initial weights assigned to each Index Constituent Pair, adjusted based upon each Index Constituent Pair's recent observed volatility to target an annualized volatility of 8% for the X-Alpha Model's exposure to each Index Constituent Pair.

The S&P X-Alpha USD Excess Return Strategy Index (the "**ER Index**"), in turn, reflects the return on the X-Alpha Model, with the exposure of the Index to the X-Alpha Model also being adjusted based upon the X-Alpha Model's recent observed volatility to target a volatility of 8% per year for the ER Index.

The Index is composed of the ER Index and the Fed Funds Return Index, as described below.

The Index is reconstituted quarterly, at which time the weights and exposures of the Index Constituent Pairs in the X-Alpha Model, and the exposure of the Index to the X-Alpha Model, are adjusted. The calculation of the Index level and the reconstitution process are fully quantitative and rules-based and contain no subjectivity or discretion on the part of the Index Provider. On July 2, 2012, The McGraw-Hill Companies, Inc. ("**McGraw-Hill**"), the owner of the S&P Indices business, and CME Group Inc. ("**CME Group**"), the 90% owner of the CME Group and Dow Jones & Company, Inc. joint venture that owns the Dow Jones Indexes business, formed a new joint venture, S&P Dow Jones Indices, which owns the S&P Indices business and the Dow Jones Indexes business.

Objective

The objective of the Index is to reflect the performance of an alpha investment model. "**Alpha**" is the difference in the performance of an asset (or financial indicator) relative to a benchmark asset (or financial indicator). An alpha investment model is a model that aims to generate positive alpha – *i.e.*, positive returns that are generated without regard to the direction of a benchmark. The alpha in the Index is generated, in relation to each Index Constituent Pair, by the performance of a DB Regional Style Index relative to the Benchmark Index with which it is paired.

Index Constituents

In order to achieve this objective, the Index consists of two main indices: (i) the Fed Funds Return Index and (ii) the ER Index.

Fed Funds Return Index:

The Fed Funds Return Index represents the total return component of the Index and reflects the performance of a notional investment compounding daily at the published Federal Funds Effective Rate US minus a Funding Fee of 6.25 basis points (0.0625 percent).

ER Index:

The ER Index is comprised of eight pairs of notional financial positions that reflect the combined performance of a direct investment in one DB Regional Style Index minus the return of the Benchmark Index with which it is paired. Each of the eight DB Regional Style Indices is paired with one of the four Benchmark Indices to form an Index Constituent Pair, as set out below. The objective behind this pairing is to isolate the potential excess return of the "value" or "growth" stock selection model implemented by the relevant DB Regional Style Index from the return achieved from the Benchmark

Index with which it is paired. In addition to the above return from the ER Index, there is also a component of the return from the Fed Funds Return Index.

Each DB Regional Style Index, which is paired with a corresponding Benchmark Index to constitute an Index Constituent Pair, is reconstituted on a quarterly basis by the Index Provider.

(a) Regional Index Selection

The DB Regional Style Indices and the Benchmark Indices have been selected from four regions, representing the United States, the Euro Zone, Japan and the United Kingdom. Each index reflects the reinvestment of dividends into such index. In the case of the DB Regional Style Indices, 85% of the cash dividends paid are reinvested into the relevant index as a result of taxation on dividends, with the exception of the DB Regional Style Indices that are focused on the United States, for which 75% of the cash dividends are reinvested. In the case of the Benchmark Indices, cash dividends are reinvested into each relevant index less any withholding taxes or other charges, in accordance with the rules of each Benchmark Index.

The X-Alpha Model tracks the performance of the following eight DB Regional Style Indices:

United States	The DB U.S. Value Total Return Index The DB U.S. Growth Total Return Index
Euro Zone	The DB Euro Value Total Return Index The DB Euro Growth Total Return Index
Japan	The DB Japan Value Total Return Index The DB Japan Growth Total Return Index
United Kingdom	The DB U.K. Value Total Return Index The DB U.K. Growth Total Return Index

Each of the DB Regional Style Indices is described below under “Additional Information Relating to the DB Regional Style Indices.”

The performance of each DB Regional Style Index is measured against one of the following Benchmark Indices, as described below under “Index Constituent Pairs”:

United States	The S&P 500® Total Return Index
Euro Zone	The EURO STOXX 50 Total Return Index™
Japan	The TOPIX 100® Total Return Index
United Kingdom	The S&P® United Kingdom Total Return Index

Each of the Benchmark Indices is described below under “Additional Information Relating to the Benchmark Indices.”

For purposes of calculating the Index Closing Level (as defined below under “Index Closing Level”), the DB Regional Style Indices and Benchmark Indices that are not denominated in U.S. dollars are expressed in U.S. dollars by converting the non-U.S. dollar amounts into U.S. dollars using the Exchange Rate.

“**Exchange Rate**” means, for any date of determination, the rate of exchange prevailing at 4:00 p.m. Central European Time (or at such time approximate thereto as the Index Provider determines to be practicable) on such day between the currency in which any Index Constituent is expressed (the “**Reference Currency**”) and U.S. dollars (expressed as the number of units of the Reference Currency or a fraction thereof required to buy one U.S. dollar) as determined by the Index Provider by reference to such source(s) as the Index Provider may determine to be appropriate at such time.

Index Constituent Pairs

The relevant Index Constituents comprising each Index Constituent Pair and their respective Index Constituent Pair Percentage Weights are listed below:

Index Constituent Pair	DB Regional Style Index	Benchmark Index	Index Constituent Pair Percentage Weight
U.S. Value Pair	DB U.S. Value Total Return Index	S&P 500® Total Return Index	25%
U.S. Growth Pair	DB U.S. Growth Total Return Index	S&P 500® Total Return Index	25%
Euro Value Pair	DB Euro Value Total Return Index	EURO STOXX 50 Total Return Index™	15%
Euro Growth Pair	DB Euro Growth Total Return Index	EURO STOXX 50 Total Return Index™	15%
U.K. Value Pair	DB U.K. Value Total Return Index	S&P® United Kingdom Total Return Index	5%
U.K. Growth Pair	DB U.K. Growth Total Return Index	S&P® United Kingdom Total Return Index	5%
Japan Value Pair	DB Japan Value Total Return Index	TOPIX 100® Total Return Index	5%
Japan Growth Pair	DB Japan Growth Total Return Index	TOPIX 100® Total Return Index	5%

Calculation and Reconstitution

The calculation of the Index is composed of a series of daily calculations and reconstitution events based on six basic steps, which are summarized below. Steps 1 and 6 are done on a daily basis and Steps 2-5 are performed only during a reconstitution. A reconstitution occurs in two separate phases over six days. Step 2 and Step 3 take place on an Index Constituent Pair Reconstitution Day and Step 4 and Step 5 take place on an X-Alpha Reconstitution Day.

- Step 1:** Convert any of the non-U.S. dollar denominated Index Constituents into U.S. dollars using the Exchange Rate
- Step 2:** Re-weight the 8 Index Constituent Pairs back to an equal weighting between the relevant DB Regional Style Index compared to its corresponding Benchmark Index
- Step 3:** Determine the Index Constituent Pair Exposure for each Index Constituent Pair based on the relevant Index Constituent Pair's 100 Day Annualized Volatility compared to the Target Volatility Cap of 8%
- Step 4:** Re-weight the X-Alpha Model based on each Index Constituent Pair's Index Constituent Pair Percentage Weight
- Step 5:** Determine the X-Alpha Exposure based on the X-Alpha Model's 100 Day Annualized Volatility compared to the Target Volatility Cap of 8%
- Step 6:** Combine the return of the Fed Funds Return Index with the return of the ER Index to calculate the Index Closing Level

Weighting of Index Constituent Pairs

Quarterly, the X-Alpha Model will re-weight each Index Constituent Pair. The weighting of each is determined by taking its Index Constituent Pair Percentage Weight, as set forth in the table above, and adjusting such weight by the relevant Index Constituent Pair Exposure determined, as described in the paragraph below.

Exposure of the X-Alpha Model to an Index Constituent Pair

The exposure of the X-Alpha Model to an Index Constituent Pair is determined on the basis of that Index Constituent Pair's 100 Day Annualized Volatility compared to the Target Volatility Cap of 8% and ranges between the Minimum Percentage Weight of 50% and the Maximum Percentage Weight of 150%. This exposure is determined quarterly and is reflected in the Index Constituent Pair Exposure for the period. The purpose of adjusting the Index Constituent Pair Exposure is to increase the exposure when the 100 Day Annualized Volatility has been lower than the Target Volatility Cap and to decrease the exposure when the 100 Day Annualized Volatility has been higher than the Target Volatility Cap. This serves to target the volatility of each Index Constituent Pair to the Target Volatility Cap.

As used above and further below, "100 Day Annualized Volatility" is expressed as a percentage and means the level calculated by the Index Provider representing the recent volatility of the daily returns of an Index Constituent Pair or the X-Alpha Model, as the case may be, over the prior 100 trading days expressed as an annualized number. Volatility is a measure of the dispersion or movement of such daily returns. Higher volatility suggests greater movement in the daily returns whereas lower volatility suggests lesser movement in the daily returns.

Knock-out of an Index Constituent Pair

In the event that the cumulative daily return in the period between quarterly reconstitutions for any Index Constituent Pair is below -40% (minus forty percent), the level of the Index Constituent Pair is no longer used in the calculation of the X-Alpha Model until the next reconstitution. Rather, until the next reconstitution, the exposure of the X-Alpha Model to that Index Constituent Pair is replaced with exposure to a notional position which simulates the effect of "selling out" the notional position represented by the exposure of the X-Alpha Model to the poor-performing Index Constituent Pair and financing the resulting negative cash position at the Fed Funds rate minus 6.25 basis points until the next reconstitution. Upon the next reconstitution, the Index Constituent Pair would again be included in the Model as described in the prior paragraph.

Exposure of the ER Index to the X-Alpha Model

The exposure of the ER Index to the X-Alpha Model is determined on the basis of the X-Alpha Model's 100 Day Annualized Volatility compared to the Target Volatility Cap and ranges between the Minimum Percentage Weight of 50% and the Maximum Percentage Weight of 150%. Even though each Index Constituent Pair has its exposure targeted to the Target Volatility Cap, the 100 Day Annualized Volatility of the X-Alpha Model may still be above or below that of the Target Volatility Cap and, therefore, an adjustment may be required which is determined quarterly and reflected in the X-Alpha Exposure for the period.

Index Closing Level

The Index Closing Level depends on the performance of the ER Index and the Fed Funds Return Index. The ER Index Closing Level depends on the performance of each Index Constituent Pair and the deduction of a Borrow Fee, equivalent to 0.60% annualized, which is added to return of each Benchmark Index within each Index Constituent Pair to account for the transaction costs incurred in reconstituting each Index Constituent Pair. The performance of an Index Constituent within an Index Constituent Pair on any trading day depends primarily on the index closing level of that Index Constituent on that trading day relative to its index closing level on the immediately preceding Index Constituent Pair Reconstitution Day.

The Index Closing Level on any trading day will depend on the comparative performance of, in relation to each Index Constituent Pair, the relevant DB Regional Style Index compared to the relevant Benchmark Index plus the return from the Fed Funds Return Index. If the overall performance of the DB Regional Style Indices compared to the Benchmark Indices, when measured by reference to each Index Constituent Pair, is positive, the Index Closing Level will rise.

Conversely, if the overall performance of the DB Regional Style Indices compared to the Benchmark Indices, when measured by reference to each Index Constituent Pair, is negative and not offset by the performance of the Fed Funds Return Index, the Index Closing Level will fall. Therefore, whether or not the Index Closing Level rises or falls depends not on whether or not the levels of any of the DB Regional Style Indices and/or the Benchmark Indices rise or fall but on the overall comparative performance of the DB Regional Style Indices to the Benchmark Indices when measured by reference to each Index Constituent Pair when combined with the performance of the Fed Funds Return Index.

OTHER ADJUSTMENTS

Adjustments to the Index Constituent Pairs

If at any time in the determination of the Index Provider, (i) the sponsor of any DB Regional Style Index (a “**DB Regional Style Index Provider**”) or Benchmark Index (a “**Benchmark Index Provider**”) makes a material change in the formula for or the method of calculating such DB Regional Style Index or such Benchmark Index, as the case may be, or in any other way materially modifies such DB Regional Style Index or such Benchmark Index (other than a modification described in the formula or method of maintaining the DB Regional Style Index or Benchmark Index in the event of changes to constituent share and capitalization and other routine events) or (ii) a DB Regional Style Index Provider or a Benchmark Index Provider makes a manifest error (in the determination of the Index Provider) in the calculation and/or publication of the relevant DB Regional Style Index or the relevant Benchmark Index, as the case may be, and the relevant Index Provider does not, in commercially reasonable manner, correct such error or (iii) a DB Regional Style Index Provider or a Benchmark Index Provider fails to calculate and/or publish the relevant DB Regional Style Index or the Benchmark Index, and the Index Provider determines that the relevant DB Regional Style Index Provider or Benchmark Index Provider will not recommence such calculation or publication, then the Index Provider may select a replacement index to replace the affected Index Constituent. Should the Index Provider decide that there is no suitable replacement index then the Index Provider may make such determinations and/or adjustments as it considers appropriate until such time (if any) as the Index Provider determines that there is a suitable replacement index. Any such replacement index shall be an Index Constituent and shall be included in the relevant Index Constituent Pair from the date the Index Provider determines shall be the effective date of such replacement. The Index Provider has no obligation to inform any person about any such replacement.

Index Calculation—change in methodology

The application of the methodology described herein by the Index Provider shall be conclusive and binding. While the Index Provider currently employs the above described methodology to constitute the Index and calculate the Index Closing Level, no assurance can be given that market, regulatory, juridical, financial or fiscal circumstances will not arise that would, in the view of the Index Provider, necessitate a modification or change of such methodology and in such circumstances the Index Provider shall be entitled to make such modification or change as it shall in its commercially reasonable discretion consider appropriate. The Index Provider will make reasonable efforts to ensure that such modifications or changes will result in a methodology that is consistent with the methodology described above.

Index Composition and Calculation—change in rebalancing and/or reconstitution period

The Index Provider may, by way of announcement on a publicly available source, amend any Index Reconstitution Day, Index Constituent Pair Reconstitution Day and/or X-Alpha Reconstitution Day (each a “**Date**” and together the “**Dates**”) on no less than 14 calendar days’ notice prior to such amendment taking place. Such amendment may, in the commercially reasonable discretion of the Index Provider, be applicable in relation to any one or more Dates, and for a certain period or indefinitely.

The Index Provider gives no assurance regarding any modification or change in any methodology used in calculating the Index and the Index Provider is under no obligation to continue the calculation, publication and dissemination of the Index.

Index Calculation in Case of a Market Disruption Event

Upon the occurrence of a Market Disruption Event, in the sole determination of the Index Provider, the Index Closing Level shall not be calculated on the relevant day and shall be calculated on the first succeeding trading day on which no there is no Market Disruption Event, provided that if the Market Disruption Event continues for a period of eight trading days then the Index Provider shall calculate the Index Closing Level having regard to the then prevailing market conditions, the last reported closing level of each relevant Index Constituent and such other conditions that the Index Provider determines relevant for the calculation of the Index Closing Level.

INDEX CLOSING LEVELS

The Index Closing Level as of October 31, 2007 equaled 2,978.43. The S&P X-Alpha USD Total Return Strategy Index was back-calculated on a hypothetical basis from November 12, 1996 to October 31, 2007. The Index has been retrospectively constituted by the Index Provider on a hypothetical basis, using the same methodology as described above, subject to the change in methodology described below. The Index has been constituted on a live basis as of October 31, 2007. All prospective investors should be aware that a retrospective calculation means that no actual investment which allowed a tracking of the performance of the Index was possible at any time during the period of the retrospective constitution and that as a result the retrospectively calculated level is purely hypothetical. The methodology and the model used for the constitution and retrospective constitution of the Index were developed with the advantage of hindsight. In reality it is not possible to invest with the advantage of hindsight and therefore this retrospectively calculated performance is purely theoretical.

FURTHER INFORMATION RELATING TO THE INDEX

All calculations above are based on information obtained from various publicly available sources. The Index Provider has relied on these sources and not independently verified the information extracted from these sources. Further information in respect of the Index may be provided at www.standardandpoors.com (no information found at this website is incorporated by reference into this document). Information on the calculation of the Index and on any change to the composition of the Index will be promptly recorded and will be made available upon written request to the Index Provider. Daily Index values can be viewed on Bloomberg and Reuters. The tickers are as below:

S&P X-Alpha USD Total Return Strategy Index

Bloomberg ticker: SPXADT
Reuters ticker: .SPXADT

ADDITIONAL INFORMATION RELATING TO THE DB REGIONAL STYLE INDICES

Unless otherwise specified below, please refer to “Definitions Applicable to the DB Regional Style Indices” below for definitions of the terms used in the following descriptions of the DB Regional Style Indices.

DB Euro Value Total Return Index and DB Euro Growth Total Return Index

The DB Euro Value Total Return Index (the “**DB Euro Value Index**”) is intended to reflect the total return performance of the twenty shares with the highest Dividend Yield selected from the EURO STOXXSM Large Index. The DB Euro Growth Total Return Index (the “**DB Euro Growth Index**” and, together with the Euro Value Index, the “**DB Euro Indices**”) is intended to reflect the total return performance of the twenty shares with the highest Short-term Earnings Momentum selected from the EURO STOXXSM Large Index. Each DB Euro Index is reconstituted on a quarterly basis. Each DB Euro Index is calculated and maintained by Deutsche Bank AG, London Branch (the “**DB Regional Style Index Sponsor**”) and is expressed in euros.

Index Recomposition

On each quarterly Selection Date, each DB Euro Index will be reconstituted and new index constituents for each DB Euro Index will be selected from the Selection Pool Index; *provided*, that where the sponsor of the Selection Pool Index has announced on or prior to such Selection Date (the “**Current Selection Date**”) that one or more of the shares constituting the Selection Pool Index will cease to be included in such Selection Pool Index with effect from a date prior to the Selection Date immediately following the Current Selection Date, such share or shares will not be eligible for inclusion within either DB Euro Index for the purposes of such Current Selection Date.

Composition of the DB Euro Value Total Return Index and the DB Euro Growth Total Return Index

Please refer to the relevant pricing supplement for the list of the current Index Constituents of each DB Euro Index and their respective Weights.

DB U.S. Value Total Return Index and DB U.S. Growth Total Return Index

The DB U.S. Value Total Return Index (the “**DB U.S. Value Index**”) is intended to reflect the total return performance of the thirty shares with the lowest Price-Earnings Ratio selected from the 251 shares with the highest Market Capitalization contained in the S&P 500® Index (the “**Selection Pool**”). The DB U.S. Growth Total Return Index (the “**DB U.S. Growth Index**” and, together with the U.S. Value Index, the “**DB U.S. Indices**”) is intended to reflect the total return performance of the thirty shares with the highest Short-term Earnings Momentum selected from the Selection Pool. Each DB U.S. Index is reconstituted on a quarterly basis. Each DB U.S. Index is calculated and maintained by the DB Regional Style Index Sponsor and is expressed in U.S. dollars.

Index Recomposition

On each Selection Date, each DB U.S. Index will be reconstituted, and new index constituents for each DB U.S. Index will be selected from the Selection Pool; *provided*, that where the sponsor of the Selection Pool Index has announced on or prior to such Selection Date (the “**Current Selection Date**”) that one or more of the shares constituting the Selection Pool Index will cease to be included in such Selection Pool Index with effect from a date prior to the Selection Date immediately following the Current Selection Date, such share or shares will not be eligible for inclusion within either DB U.S. Index for the purposes of such Current Selection Date.

Composition of the DB U.S. Value Total Return Index and the DB U.S. Growth Total Return Index

Please refer to the relevant pricing supplement for the list of the current Index Constituents of each DB U.S. Index and their respective Weights.

DB Japan Value Total Return Index and DB Japan Growth Total Return Index

The DB Japan Value Total Return Index (the “**DB Japan Value Index**”) is intended to reflect the total return performance of the twenty shares with the lowest Price-Earnings Ratio selected from the TOPIX 100® Index. The DB Japan Growth Total Return Index (the “**DB Japan Growth Index**” and, together with the Japan Value Index, the “**DB Japan Indices**”) is intended to reflect the total return performance of the twenty shares with the highest Short-term Earnings Momentum selected from the TOPIX 100® Index. Each DB Japan Index is reconstituted on a quarterly basis. Each DB Japan Index is calculated and maintained by the DB Regional Style Index Sponsor and is expressed in Japanese yen.

Index Recomposition

On each Selection Date, each DB Japan Index will be reconstituted and new index constituents for each DB Japan Index will be selected from the Selection Pool Index; *provided*, that where the sponsor of the Selection Pool Index has announced on or prior to such Selection Date (the “**Current Selection Date**”) that one or more of the shares constituting the Selection Pool Index will cease to be included in such Selection Pool Index with effect from a date prior to the Selection Date immediately following the Current Selection Date, such share or shares will not be eligible for inclusion within either DB Japan Index for the purposes of such Current Selection Date.

Composition of the DB Japan Value Total Return Index and the DB Japan Growth Total Return Index

Please refer to the relevant pricing supplement for the list of the current Index Constituents of each DB Japan Index and their respective Weights.

DB U.K. Value Total Return Index and DB U.K. Growth Total Return Index

The DB U.K. Value Total Return Index (the “**DB U.K. Value Index**”) is intended to reflect the total return performance of the twenty shares with the lowest Price-Earnings Ratio selected from the FTSE 100® Index. The DB U.K. Growth Total Return Index (the “**DB U.K. Growth Index**” and, together with the U.K. Value Index, the “**DB U.K. Indices**”) is intended to reflect the total return performance of the twenty shares with the highest Short-term Earnings Momentum selected from the FTSE 100® Index. Each DB U.K. Index is reconstituted on a quarterly basis. Each DB U.K. Index is calculated and maintained by the DB Regional Style Index Sponsor and is expressed in British pound sterling.

Index Recomposition

On each Selection Date, each DB U.K. Index will be reconstituted, and new index constituents for each DB U.K. Index will be selected from the Selection Pool Index; *provided*, that where the sponsor of the Selection Pool Index has announced on or prior to such Selection Date (the “**Current Selection Date**”) that one or more of the shares constituting the Selection Pool Index will cease to be included in such Selection Pool Index with effect from a date prior to the Selection Date immediately following the Current Selection Date, such share or shares will not be eligible for inclusion within either DB U.K. Index for the purposes of such Current Selection Date.

Composition of the DB U.K. Value Total Return Index and the DB U.K. Growth Total Return Index

Please refer to the relevant pricing supplement for the list of the current Index Constituents of each DB U.K. Index and their respective Weights.

Definitions Applicable to the DB Regional Style Indices

Unless otherwise noted below, the following defined terms are applicable with respect to each DB Regional Style Index described above.

“**Eligible Share**” means, with respect to the DB Euro Value Index, the DB U.S. Value Index, the DB Japan Value Index and the DB U.K. Value Index, in relation to a Selection Date and each share constituting the relevant Selection Pool Index, any share that has a twelve-month trailing earnings per share higher than zero on such Selection Date. “**Eligible Share**” means, with respect to the DB Euro Growth Index, the DB U.S. Growth Index, the DB Japan Growth Index and the DB U.K. Growth Index (such indices, collectively, the “**DB Growth Indices**”), in relation to a Selection Date and each share constituting the relevant Selection Pool Index, any share that has a twelve-month trailing earnings per share higher than zero on such Selection Date and on the fourth Selection Date preceding such Selection Date (the “**Reference Selection Date**”).

“**Price-Earnings Ratio**” means, in respect to each Eligible Share and a Selection Date: the trading price for such Selection Date *divided by* the twelve-month trailing earnings per share for such Selection Date.

“**Selection Date**” means, with respect to each DB Euro Index and each DB U.S. Index, the eighth calendar day of March, June, September and December or, if any such day is not a trading day, the first succeeding trading day.

“**Selection Date**” means, with respect to each DB Japan Index and each DB U.K. Index, the fifteenth calendar day of February, May, August and November or, if any such day is not a trading day, the first succeeding trading day.

“**Short-term Earnings Momentum**” means, with respect to each DB Growth Index, in relation to each Eligible Share: the twelve-month trailing earnings per share on the relevant Selection Date, *divided by* the twelve-month trailing earnings per share on the Reference Selection Date, *minus* 1.

Adjustments to the Selection Pool Index

With respect to each DB Regional Style Index, if at any time (i) the Selection Pool Index ceases to exist or (ii) in the determination of the DB Regional Style Index Sponsor, the Selection Pool Index sponsor makes a material change in the formula for or the method of calculating the Selection Pool Index or in any other way materially modifies the Selection Pool Index (other than a modification described in the formula or method of maintaining the Selection Pool Index in the event of changes to constituent share and capitalization and other routine events) or (iii) the Selection Pool Index sponsor makes a manifest error (in the determination of the DB Regional Style Index Sponsor) in the calculation and/or publication of the Selection Pool Index or any other factors relevant to the calculation of the Index or (iv) the Selection Pool Index sponsor fails to calculate and/or publish the Selection Pool Index, then the DB Regional Style Index Sponsor shall select a successor selection pool index to replace the Selection Pool Index in its reasonable discretion. Should the DB Regional Style Index Sponsor decide (which it shall, in its reasonable discretion, be entitled to do) that there is no reasonable replacement index for the Selection Pool Index then the DB Regional Style Index Sponsor may make such determinations and/or adjustments as it considers appropriate until such time (if any) as the DB Regional Style Index Sponsor determines in its reasonable discretion that there is a suitable replacement index.

Change in Methodology of each DB Regional Style Index

The application by the DB Regional Style Index Sponsor of the methodology for each DB Regional Style Index described in this underlying supplement shall be conclusive and binding. While the DB Regional Style Index Sponsor currently employs the above described methodology to compose and calculate each DB Regional Style Index, no assurance can be given that market, regulatory, juridical, financial or fiscal circumstances will not arise that would, in the view of the DB Regional Style Index Sponsor, necessitate a modification or change of such methodology. The DB Regional Style Index Sponsor will make reasonable efforts to assure that such modifications or changes will result in a methodology that is consistent with the methodology described above. The DB Regional Style Index Sponsor will publish notice of any such modification or change and the effective date thereof as described below.

Further Information Relating to each DB Regional Style Index

The DB Regional Style Index Sponsor will publish the Daily Index Closing Level for each DB Regional Style Index for each trading day on Bloomberg or any successor thereto as provided in the table below and on Deutsche Bank's website at <https://index.db.com/servlet/home> or any successor thereto.

DB Regional Style Index	Bloomberg Ticker
DB Euro Value Total Return Index	DBEEEUVA <Index>
DB Euro Growth Total Return Index.....	DBEEEUGR <Index>
DB U.S. Value Total Return Index.....	DBUSUSV <Index>
DB U.S. Growth Total Return Index	DBUSUSG <Index>
DB Japan Value Total Return Index.....	DBAPJVT <Index>
DB Japan Growth Total Return Index.....	DBAPJGT <Index>
DB U.K. Value Total Return Index.....	DBEEUKVT <Index>
DB U.K. Growth Total Return Index	DBEEUKGT <Index>

The DB Regional Style Index Sponsor will also publish on these websites any adjustments made to any DB Regional Style Index, including notice of any material modification or change to the methodology of any DB Regional Style Index described in this underlying supplement. The reference to Deutsche Bank's website is made for purposes of conveying the foregoing information only, and no other information found at this website is incorporated by reference into this underlying supplement.

ADDITIONAL INFORMATION RELATING TO THE BENCHMARK INDICES

The EURO STOXX 50 Total Return Index™

We have derived all information contained in this underlying supplement regarding the EURO STOXX 50 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 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 Index™ was created by STOXX Limited, a joint venture between Deutsche Börse AG and SIX Swiss Exchange. Publication of the EURO STOXX 50 Index™ began on February 26, 1998, based on an initial index value of 1,000 on December 31, 1991. The EURO STOXX 50 Index™ is published in *The Wall Street Journal* and disseminated on the STOXX Limited website: <http://www.stoxx.com>, which sets forth, among other things, the country and industrial sector weightings of the securities included in the EURO STOXX 50 Index™ and updates these weightings at the end of each quarter. Information contained in the STOXX Limited website is not incorporated by reference in, and should not be considered a part of, this underlying supplement.

The EURO STOXX 50 Index™ is calculated as a price index and as a total return index (we refer to the total return index as the EURO STOXX 50 Total Return Index™). The EURO STOXX 50 Total Return Index™ is the same as the STOXX 50 Index™ (described below) in all respects except with regard to the treatment of dividend payments on its component stocks. The level of the EURO STOXX 50 Total Return Index™ reflects the payment of all dividends whereas the level of the EURO STOXX 50 Index™ only takes into account (i) cash dividends on a component stock with a gross amount equal to or greater than 10 percent of such stock's closing price on the day before the effective date and (ii) special dividends from non-operating income.

EURO STOXX 50 Index™ Composition and Maintenance

The EURO STOXX 50 Index™ is composed of 50 component stocks of market sector leaders from within the 19 EURO STOXX® Supersector indices, which represent the Eurozone portion of the STOXX Europe 600® Supersector indices. The STOXX Europe 600® Supersector indices contain the 600 largest stocks traded on the major exchanges of 18 European countries. The component stocks have a high degree of liquidity and represent the largest companies across all market sectors defined by the Dow Jones Global Classification Standard.

The composition of the EURO STOXX 50 Index is reviewed annually, based on the closing stock data on the last trading day in August. The component stocks are announced on 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 EURO STOXX 50 Index™ are made to ensure that the EURO STOXX 50 Index™ includes the 50 market sector leaders from within the EURO STOXX Index™. A current list of the issuers that comprise the EURO STOXX 50 Index™ is available on the STOXX Limited website: <http://www.stoxx.com>. Information contained in the STOXX Limited website is not incorporated by reference in, and should not be considered a part of, this underlying supplement.

The free float factors for each component stock used to calculate the EURO 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 EURO 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 EURO 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 S&P 500® Total Return Index

We have derived all information contained in this underlying supplement regarding the S&P 500® Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. Such information reflects the policies of, and is subject to change by, Standard & Poor's, a division of the McGraw-Hill Companies, Inc. ("S&P"). The S&P 500® Index was developed by S&P and is calculated, maintained and published by S&P. On July 2, 2012, The McGraw-Hill Companies, Inc. ("McGraw-Hill"), the owner of the S&P Indices business, and CME Group Inc. ("CME Group"), the 90% owner of the CME Group and Dow Jones & Company, Inc. joint venture that owns the Dow Jones Indexes business, formed a new joint venture, S&P Dow Jones Indices, which owns the S&P Indices business and the Dow Jones Indexes business.

The S&P 500® Index is calculated as a price index and as a total return index (we refer to the total return index as the S&P 500® Total Return Index). The S&P 500® Total Return Index differs from the S&P 500® Index (described below) with regard to the treatment of dividend payments on its component stocks. Ordinary cash dividends are applied on the ex-dividend date in calculating the S&P 500® Total Return Index whereas such dividends are not reflected in the level of the S&P 500® Index.

The S&P 500® Index is intended to provide a performance benchmark for the U.S. equity markets. The calculation of the level of the S&P 500® Index (discussed below in further detail) is based on the relative value of the aggregate Market Value (as defined below) of the common stocks of 500 companies (the “**S&P 500® Component Stocks**”) as of a particular time as compared to the aggregate average Market Value of the common stocks of 500 similar companies during the base period of the years 1941 through 1943. Historically, the “**Market Value**” of any S&P 500® Component Stock was calculated as the product of the market price per share and the number of the then outstanding shares of such S&P 500® Component Stock. As discussed below, on March 21, 2005, S&P began to use a new methodology to calculate the Market Value of the S&P 500® Component Stocks and on September 16, 2005, S&P completed its transition to the new calculation methodology. The 500 companies are not the 500 largest companies listed on the NYSE and not all 500 companies are listed on such exchange. S&P chooses companies for inclusion in the S&P 500® 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® 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.

On March 21, 2005, S&P began to calculate the Index based on a half float-adjusted formula, and on September 16, 2005 the Index became fully float-adjusted. S&P Dow Jones’ criteria for selecting stocks for the Index have not been changed by the shift to float adjustment. However, the adjustment affects each company’s weight in the Index (*i.e.*, its Market Value).

Under float adjustment, the share counts used in calculating the Index reflect only those shares that are available to investors, not all of a company’s outstanding shares. S&P defines three groups of shareholders whose holdings are subject to float adjustment:

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

However, treasury stock, stock options, restricted shares, equity participation units, warrants, preferred stock, convertible stock, and rights are not part of the float. In cases where holdings in a group exceed 10% of the outstanding shares of a company, the holdings of that group will be excluded from the float-adjusted count of shares to be used in the Index calculation. 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 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 in one or more of the three groups listed above where the group holdings exceed 10% of the outstanding shares, by the total shares outstanding. (On March 21, 2005, the S&P 500® Index moved half way to float adjustment, meaning that if a stock has an IWF of 0.80, the IWF used to calculate the Index between March 21, 2005 and September 16, 2005 was 0.90. On September 16, 2005, S&P began to calculate the Index on a fully float-adjusted basis, meaning that if a stock has an IWF of 0.80, the IWF used to calculate the S&P 500® Index on and after September 16, 2005 is 0.80.) The float-adjusted Index is calculated by dividing the sum of the IWF multiplied by both the price and the total shares outstanding for each stock by the index divisor. For companies with 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 weights.

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

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

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

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

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

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

The TOPIX 100® Total Return Index

The TOPIX 100® Index is a sub-index of the Tokyo Stock Price Index. The Tokyo Stock Price Index, which we refer to as the TOPIX Index, was developed by the Tokyo Stock Exchange, Inc. (the “**TSE**”). We have derived all information contained in this underlying supplement regarding the TOPIX Index and its sub-indices, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. Such information reflects the policies of, and is subject to change by, the TSE. We make no representation or warranty as to the accuracy or completeness of such information. The TSE is under no obligation to continue to publish the TOPIX Index or its sub-indices and may discontinue publication of the TOPIX Index or its sub-indices at any time. Publication of the TOPIX Index began on July 1, 1969, with a base value of 100 calculated on the base date of January 4, 1968. The TOPIX Index is computed and published every 15 seconds via the TSE’s Market Information System and is reported to securities companies across Japan and available worldwide through computerized information networks.

The TOPIX 100® Index is calculated as a price index and as a total return index (we refer to the total return index as the TOPIX 100® Total Return Index). The TOPIX 100® Total Return Index differs from the TOPIX 100® Index (described below) in that the TOPIX 100® Total Return Index is adjusted to reflect the payment of dividends on its component stocks. Adjustments are made on the ex-dividend date based on the amount of dividends for each component stock.

Composition and Maintenance

The 100 component stocks of the TOPIX 100® Index are selected from the stocks that comprise the TOPIX Index as follows. First, the 30 stocks that comprise the TOPIX Core 30 Index are selected for inclusion in the TOPIX 100 Index (the method for selecting the components of the TOPIX Core 30 is described below). The remaining 70 stocks are selected from the current constituents of the TOPIX 100® Index. Of such current constituents, the 70 largest stocks by free-float adjusted market capitalization as of the base date are selected. These 70 stocks must be from the TSE First Section’s top 200 stocks by total trading value for the previous 3-year period and must also be ranked within the top 130 stocks by free-float adjusted market capitalization as of the base date. If it is not possible to select all the 70 stocks in accordance with the procedures above, the remaining stocks are selected from the TSE First Section’s top 200 stocks listed by total trading value for the previous 3-year period to the base date.

The TOPIX Core 30 Index also is a sub-index of the TOPIX Index. The 30 component stocks of the TOPIX Core 30 Index are selected from the stocks that comprise the TOPIX Index as follows. First, the 15 largest stocks by free-float adjusted market capitalization are selected from the TSE First Section's top 90 stocks by total trading value during the previous 3-year period. The remaining 15 stocks are selected from the current constituents of the TOPIX Core 30 Index. Of such current constituents, the 15 largest stocks by free-float adjusted market capitalization as of the base date are selected. These 15 stocks must be from the TSE First Section's top 90 stocks by total trading value during the previous 3-year period and must also be ranked within the top 40 stocks by free-float adjusted market capitalization as of the base date. If it is not possible to select all the 15 stocks in accordance with the procedures above, the remaining stocks are selected from the TSE First Section's top 90 companies by total trading value for the previous 3-year period to the base date.

The TOPIX Index is a capitalization weighted index of all domestic common stocks listed on the First Section of the TSE. The TSE is responsible for calculating and maintaining the TOPIX Index, and can add, delete or substitute the stocks underlying the TOPIX Index or make other methodological changes that could change the value of the TOPIX Index. The underlying stocks may be removed, if necessary, in accordance with deletion/addition rules which provide generally for the deletion of a stock from the TOPIX Index if such stock ceases to meet the criteria for inclusion. Stocks listed on the Second Section of the TSE may be transferred to the First Section if they satisfy applicable criteria. Such criteria include numerical minimum values for number of shares listed, number of shareholders and 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. As of October 31, 2007, stocks of 1,720 companies were assigned to the First Section of the TSE and stocks of 467 companies were assigned to the Second Section.

The S&P® United Kingdom Total Return Index

We have derived all information contained herein regarding the S&P® United Kingdom Index, including, without limitation, its make-up, method of calculation and changes in its components, from publicly available information. Such information reflects the policies of, and is subject to change by, S&P. The S&P® United Kingdom Index was developed by S&P and is calculated, maintained and published by S&P. On July 2, 2012, McGraw Hill, the owner of the S&P Indices business, and CME Group, the 90% owner of the CME Group and Dow Jones & Company, Inc. joint venture that owns the Dow Jones Indexes business, formed a new joint venture, S&P Dow Jones Indices, which owns the S&P Indices business and the Dow Jones Indexes business. We make no representation or warranty as to the accuracy or completeness of such information.

The S&P United Kingdom Index is calculated as a price index and as a total return index (we refer to the total return index as the S&P United Kingdom Total Return Index). The S&P United Kingdom Total Return Index differs from the S&P United Kingdom Index with regard to the treatment of dividend payments on its component stocks. Ordinary cash dividends are applied on the ex-dividend date in calculating the S&P United Kingdom Total Return Index whereas such dividends are not reflected in the level of the S&P United Kingdom Index.

The S&P United Kingdom Index is a sub-index of the S&P Europe 350. It is a capitalization-weighted index and has a base date of December 31, 1987, which is when calculation began. The S&P United Kingdom Index is designed to be broad enough to provide representation of the United Kingdom market but narrow enough to maintain liquidity. As a subset of the S&P Europe 350, it includes highly liquid securities with economic diversity over industry sectors. The S&P Europe 350 is comprised of the S&P Euro, the S&P Euro Plus and the S&P United Kingdom sub-indices. Index constituents are leading companies from each of the 10 Sectors of the Global Industry Classification Standard (GICS®) and from the 17 major European markets. Each stock is analyzed for size and liquidity, and each component region has appropriate sector and country representation. The size of each market corresponds to its relative size in the index universe based on float-adjusted market value.

A stock's weight in an index is determined by the float-adjusted market capital of the stock. All strategic holdings are classified as either corporate, private or government holdings and are removed from the float-adjusted market capital. Shares owned by founders, directors of the company, trusts, venture capitalists and other companies are excluded as well. These are called strategic holders, who are considered long-term holders of a stock's equity. Thresholds are defined for specific indices for all strategic or long-term holders, taking into account the market practices and reporting patterns of a particular market or region.

The S&P United Kingdom Index is calculated using a base-weighted aggregate methodology. That means 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

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. The S&P United Kingdom Index is calculated in real time.

On any given day, the index value is the quotient of the total available market capitalization of the constituents of the S&P United Kingdom Index and the 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 S&P United Kingdom 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.

Changes in the index level reflect changes in the total market capitalization of the S&P United Kingdom Index that are caused by price movements in the market. They do not reflect changes in the market capitalization of the S&P United Kingdom 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 corporate action affects the price of a security—such as when the price drops on a special distribution ex-date—the price of the security is adjusted to reflect the ex-date and the index divisor is adjusted to offset any change in the total market value of the S&P United Kingdom Index. When a stock is replaced by another stock, the index divisor is adjusted so that the change in index market value that results from the addition or deletion does not change the index level. All share changes of 5% and over are done at the effective date, or as soon as reliable information is available. Changes of less than 5% are applied on the third Friday of March, June, September and December. Similarly, changes reflecting float adjustment are applied if they cause a capitalization change of 5% or over. Changes of less than this are applied at the annual review in September.

Maintenance of the S&P United Kingdom Index includes monitoring and completing 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 S&P United Kingdom Index. Other corporate actions, such as share issuances, can change the market value of an index and require an index divisor adjustment to prevent the value of the index from changing. Adjusting the index divisor for a change in market value leaves the value of the S&P United Kingdom Index unaffected by the corporate action. This helps keep the value of the S&P United Kingdom Index accurate as a barometer of stock market performance, and ensures that the movement of the S&P United Kingdom 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 S&P United Kingdom Index. Corporate actions such as splits, stock dividends, spin-offs, rights offerings, and share changes are applied on the ex-date.

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