

#### **Deutsche Bank AG**

# Securities Linked to One or More Equity Based, Commodity Based or Currency Based Indices or Exchange Traded Funds, Reference Stocks, Commodities and/or Commodity Futures Contracts

#### General

- Deutsche Bank AG may, from time to time, offer and sell securities (the "securities") linked to an equity based, commodity based or currency based index (an "Index") or exchange traded fund (a "Fund"), a reference stock of an issuer (a "Reference Stock"), a commodity (a "Commodity"), a futures contract relating to a commodity (a "Commodity Futures Contract"), a basket (a "Basket") of such Indices, Funds, Reference Stocks, Commodities and/or Commodity Futures Contracts (each, a "Basket Component") or the least performing of two or more Indices, Funds, Reference Stocks, Commodities and/or Commodity Futures Contracts. Each Index, Fund, Reference Stock, Commodity, Commodity Futures Contract and Basket will be referred to as an "Underlying." As used in this product supplement, the term "Reference Stock" includes non-U.S. equity securities issued through depositary arrangements, such as American depositary shares ("ADSs"). If an Underlying is an ADS, the term "issuer" refers to the issuer of the shares underlying the ADS.
- This product supplement describes terms that will apply generally to the securities and supplements the terms described in the accompanying prospectus supplement and prospectus. A separate term sheet or pricing supplement, as the case may be, will describe the specific terms of the securities, including the economic terms of the securities for determining the amount(s) payable or deliverable on the securities; and that term sheet or pricing supplement and/or an underlying supplement will describe any Underlying(s) or Basket Components to which the securities are linked. We refer to such term sheets and pricing supplements generally as "pricing supplements." If the terms described in the relevant pricing supplement are inconsistent with those described herein or in the accompanying prospectus supplement or prospectus, the terms described in the relevant pricing supplement will control.
- The securities will constitute our unsecured and unsubordinated obligations ranking pari passu among themselves and pari passu with all of our other unsecured and unsubordinated obligations, subject, however, to statutory priorities conferred upon certain unsecured and unsubordinated obligations in the event of any Resolution Measures (as described in the accompanying prospectus) imposed on us or in the event of our dissolution,

- liquidation, insolvency or composition, or if other proceedings are opened for the avoidance of the insolvency of, or against, us; and pursuant to Section 46f(5) of the German Banking Act (Kreditwesengesetz), our obligations under the securities will rank in priority to our senior non-preferred obligations under any of our debt instruments (Schuldtitel) within the meaning of Section 46f(6) sentence 1 of the German Banking Act (including the senior non-preferred obligations under any such debt instruments that we issued before July 21, 2018 and that are subject to Section 46f(9) of the German Banking Act) or any successor provision.
- By acquiring the securities, you will be bound by and will be deemed to consent to the imposition of any Resolution Measure by the competent resolution authority, which may include the write down of all, or a portion, of any payment on the securities or the conversion of the securities into ordinary shares or other instruments of ownership. If any Resolution Measure becomes applicable to us, you may lose some or all of your investment in the securities. Please see the section "Risk Factors" beginning on page 20 in the accompanying prospectus and the section "Resolution Measures" beginning on page 75 in the accompanying prospectus for more information.
- Payment on the securities is linked to the performance of one or more Underlyings, as described below. The relevant pricing supplement will specify whether Deutsche Bank AG will (i) pay you any periodic or contingent coupon on the securities and (ii) pay or deliver to you an amount in cash and/or units of the Underlying at maturity or upon an automatic call or early redemption. The Payment at Maturity (including the value of the units of the Underlying deliverable at maturity) will be subject to a Minimum Payment Amount. The Minimum Payment Amount could be as low as 90% of the Face Amount. Any payment on the securities is subject to the credit of Deutsche Bank AG.
- For important information about tax consequences, see "U.S. Federal Income Tax Consequences" in this product supplement.
- The securities will not be listed on any securities exchange, unless otherwise specified in the relevant pricing supplement.

Investing in the securities involves a number of risks, including the credit risk inherent in purchasing an obligation of Deutsche Bank AG. See "Risk Factors" beginning on page 20 of the accompanying prospectus, page PS-5 of the accompanying prospectus supplement and page 10 of this product supplement.

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

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

#### TABLE OF CONTENTS

Summary Terms	
Risk Factor Summary	
Risk Factors	
Description of Securities	31
The Underlyings	
U.S. Federal Income Tax Consequences	64
Use of Proceeds; Hedging	
Plan of Distribution (Conflicts of Interest)	71

You should read this product supplement and the accompanying prospectus supplement and prospectus together with any applicable underlying supplement and the applicable pricing supplement. These documents contain information you should consider when making your investment decision. The information in any applicable underlying supplement, the applicable pricing supplement, this product supplement and the accompanying prospectus supplement and prospectus may be accurate only as of the dates of each of these documents, respectively.

The securities described in the relevant pricing supplement and this product supplement are not appropriate for all investors, and involve important legal and tax consequences and investment risks, which you should discuss with your professional advisers.

In this product supplement and the accompanying prospectus supplement and prospectus, "we," "us," "our" and "Issuer" refer to Deutsche Bank AG, including, as the context may require, acting through one of its branches.

Unless otherwise specified in the relevant pricing supplement, the securities will be offered on a global basis. Please see "Series A Notes Offered on a Global Basis" in the accompanying prospectus supplement for more information.

We have not authorized anyone to provide any information other than that contained or incorporated by reference in this product supplement and the accompanying prospectus supplement and prospectus and any applicable underlying supplement and the applicable pricing supplement. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may provide.

Neither this product supplement nor any applicable underlying supplement, the applicable pricing supplement, the accompanying prospectus supplement or prospectus constitutes an offer to sell or the solicitation of an offer to buy any securities other than the securities described herein or in any applicable underlying supplement, the applicable pricing supplement, the accompanying prospectus supplement or prospectus or an offer to sell or the solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful. Neither the delivery of this product supplement nor any applicable underlying supplement, the applicable pricing supplement, the accompanying prospectus supplement or prospectus, nor any sale made hereunder and thereunder shall, under any circumstances, create any implication that there has been no change in the affairs of Deutsche Bank AG since the date hereof or that the information contained or incorporated by reference herein or therein is correct as of any time subsequent to the date of such information.

You must (i) comply with all applicable laws and regulations in force in any jurisdiction in connection with the possession or distribution of this product supplement and any applicable underlying supplement, the applicable pricing supplement, the accompanying prospectus supplement or prospectus and the purchase, offer or sale of the securities and (ii) obtain any consent, approval or permission required to be obtained by you for the purchase, offer or sale by you of the securities under the laws and regulations applicable to you in force in any jurisdiction to which you are subject or in which you make such purchases, offers or sales; neither we nor the agents shall have any responsibility therefor.

#### SUMMARY TERMS

Issuer

Deutsche Bank AG. We may act through one or more of our branches, such as our London branch, as specified in the relevant pricing supplement.

**Face Amount** 

The denomination of the security, which may be \$10, \$100, \$1,000 or another amount per security, as specified in the relevant pricing supplement.

**Issue Price** 

100% of the Face Amount, unless otherwise specified in the relevant pricing supplement.

Underlying

For securities linked to an equity based, commodity based or currency based index (an "Index") or exchange traded fund (a "Fund"), a reference stock (a "Reference Stock"), a commodity (a "Commodity") or a futures contract relating to a commodity (a "Commodity Futures Contract"), the "Underlying" will be the Index, Fund, Reference Stock, Commodity or Commodity Futures Contract designated in the relevant pricing supplement. As used in this product supplement, the term "Reference Stock" includes non-U.S. equity securities issued through depositary arrangements such as American depositary shares ("ADSs"). If the Underlying is an ADS, the term "issuer" refers to the issuer of the shares underlying the ADS.

For securities linked to a basket (a "Basket") of Indices, Funds, Reference Stocks, Commodities and/or Commodity Futures Contracts, the "Underlying" will be the Basket designated in the relevant pricing supplement. The individual Indices, Funds, Reference Stocks, Commodities and/or Commodity Futures Contracts included in the Basket (each, a "Basket Component") and the relevant weighting of each Basket Component will be set forth in the relevant pricing supplement.

For securities linked to the least performing of two or more Indices, Funds, Reference Stocks, Commodities and/or Commodity Futures Contracts, the "**Underlying**" will be each Index, Fund, Reference Stock, Commodity or Commodity Futures Contract designated in the relevant pricing supplement.

The pricing supplement may also specify that the securities will be linked to the performance of an Underlying or Basket Component adjusted for its exposure to the performance of one or more currencies relative to a reference currency. The details of any adjustment with respect to the Foreign Currency Exposure will be specified in the relevant pricing supplement. We refer to this feature as "Foreign Currency Exposure."

The relevant pricing supplement will specify the manner in which the Underlying will be referenced in the determination of any payment on the securities. Payments on the securities may reflect *long* or *bullish* exposure to one or more Underlyings (meaning that an increase in the value of the relevant Underlying(s) would generally be expected to have a positive effect on payments on the securities) or *short* or *bearish* exposure to one or more Underlyings (meaning that a decrease in the value of the relevant Underlying(s) would generally be expected to have a positive effect on payments on the securities).

#### Coupon

The relevant pricing supplement will specify whether the securities will pay (i) any coupons on a periodic basis or (ii) any contingent coupons under certain circumstances on one or more Coupon Payment Dates.

The "Coupon Payment Date(s)" will be as specified in the relevant pricing supplement. Coupon Payment Dates are subject to adjustment as described below under "Description of Securities—Adjustments to Valuation Dates and Payment Dates."

If specified in the relevant pricing supplement, the securities may be subject to an Automatic Call, redeemed mandatorily or at your or our option or, under certain circumstances, accelerated prior to maturity.

#### **Automatic Call**

If the relevant pricing supplement specifies that the securities are subject to an automatic call, the securities will be automatically called under the circumstances set forth in the relevant pricing supplement for a cash payment that will be determined as set forth in the relevant pricing supplement on a Call Settlement Date specified in the relevant pricing supplement.

#### **Early Redemption**

The relevant pricing supplement will specify whether (i) you will have the option to redeem your securities on one or more Early Redemption Dates prior to maturity, (ii) we will have the option to redeem your securities on one or more Early Redemption Dates prior to maturity and/or (iii) the securities will be mandatorily redeemed, in whole but not in part, prior to maturity under certain conditions. The details of any such redemption will be specified in the relevant pricing supplement.

The "Early Redemption Date" on which the securities are redeemed will be set forth in the relevant pricing supplement, subject to adjustment as described below under "Description of Securities—Adjustments to Valuation Dates and Payment Dates." In the relevant pricing supplement, the Early Redemption Date may be referred to as the "Early Redemption Payment Date."

#### **Currency Early Redemption**

For Currency Based Underlyings or Basket Components, if specified in the relevant pricing supplement, we will have the right, under certain conditions, to redeem the securities prior to the Maturity Date and as a result you could lose some or a significant portion of your investment. If applicable, the relevant pricing supplement will specify the method by which the calculation agent will determine the amount due and payable.

#### Acceleration due to a Commodity Hedging Disruption Event

For securities linked to Commodity Based Underlyings or Basket Components, unless otherwise specified in the relevant pricing supplement, we will have the right to accelerate the payment on the securities if a Commodity Hedging Disruption Event (as defined below) occurs. The amount due and payable per Face Amount of securities upon such early acceleration will be determined by the calculation agent in good faith and in a commercially reasonable manner and you could lose some or a significant portion of your investment. Please see "Description of Securities—Adjustments to Valuation Dates and Payment Dates—Adjustments to Valuation Dates—Commodity Based Underlyings or Basket Components—Commodity Hedging Disruption Events for Commodity Based Underlyings or Basket Components" below for more information.

#### Acceleration due to Changein-Law Event

Unless otherwise specified in the relevant pricing supplement, for Non-U.S. Equity Based Underlyings or Basket Components, we will have the right to accelerate the Maturity Date if a Change-in-Law Event occurs (as defined below). The amount due and payable on the securities upon such acceleration will be determined by the calculation agent in its sole discretion by reference to, among other things, the value of the applicable Non-U.S. Equity Based Underlying or Basket Component impacted by such event (which may be zero), and you could lose some or a significant portion of your investment. Please see "Description of Securities—Adjustments to Valuation Dates and Payment Dates—Adjustments to Valuation Dates—Equity Based Underlyings or Basket Components—Change-in-Law Event for Non-U.S. Equity Based Underlyings or Basket Components."

#### Acceleration due to Delisting Event

Unless otherwise specified in the relevant pricing supplement, for an Underlying or Basket Component that is a Reference Stock, we will have the right to accelerate the Maturity Date if a Delisting Event occurs (as defined below). The amount due and payable on the securities upon such acceleration will be determined by the calculation agent in its sole discretion by reference to, among other things, the value of the applicable Reference Stock or Basket Component impacted by such event (which may be zero), and you could lose some or a significant portion of your investment. Please see "Description of Securities—Anti-Dilution Adjustments for Reference Stock —Delisting Event."

Upon an Automatic Call or early redemption or at maturity, Deutsche Bank AG will pay or deliver to you a Redemption Amount or Payment at Maturity on the Call Settlement Date, Early Redemption Date or Maturity Date, as applicable. Unlike ordinary debt securities, the securities may not guarantee the full return of your initial investment at maturity or upon an Automatic Call or early redemption.

Redemption Amount (if securities are automatically called or otherwise redeemed prior to maturity) If the securities are automatically called or otherwise redeemed prior to maturity, you will receive on the applicable Call Settlement Date or Early Redemption Date a Redemption Amount payable in cash as specified in the relevant pricing supplement. The Redemption Amount will be subject to a Minimum Payment Amount. The Minimum Payment Amount could be as low as 90% of the Face Amount. The payment of any Redemption Amount is subject to the credit of the Issuer.

If the securities are subject to a Currency Early Redemption and a Currency Early Redemption Event (as defined below) has occurred and is continuing, you will not receive the Redemption Amount. The relevant pricing supplement will specify the method by which the calculation agent will calculate the amount due and payable upon such an event.

Payment at Maturity (if securities are NOT automatically called or otherwise redeemed prior to maturity)

If the securities have not been automatically called or otherwise redeemed, Deutsche Bank AG will pay or deliver to you at maturity per Face Amount of securities either (i) a cash amount, or (ii) a number of units of the Underlying, in each case, based on the performance of one or more Underlyings as set forth in the relevant pricing supplement. The Payment at Maturity (including the value of the units of the Underlying deliverable at maturity) will be subject to a Minimum Payment Amount. The Minimum Payment Amount could be as low as 90% of the Face Amount. The payment or delivery of the Payment at Maturity is subject to the credit of the Issuer.

The securities may base the amount Deutsche Bank AG will pay you

at maturity on the performance of one or more Underlyings during the term of the securities including, for example, on whether the Closing Level(s) or Intraday Level(s) of the Underlying(s) falls below a specified level on any day or on a specified day or days during the term of the securities. The specific terms of the securities, including the formula for calculating the Payment at Maturity, will be described in the relevant pricing supplement.

If the relevant pricing supplement specifies that a number of units of the Underlying are deliverable to you at maturity (the "Share Delivery Amount") (which may be determined on the Trade Date), such Share Delivery Amount will be subject to adjustment upon the occurrence of certain corporate events affecting the applicable Underlying. See "Description of Securities—Anti-Dilution Adjustments" Following the occurrence of certain corporate events, the Share Delivery Amount may consist of Exchange Property as determined by the calculation agent, as described below under "Description of Securities—Anti-Dilution Adjustments—Reorganization Events." If we are unable to deliver to you the Share Delivery Amount as required by the terms of the securities, either because it is commercially impracticable for us to do so or due to a legal restriction, stock exchange rule or any other factor, we will pay you the cash equivalent of the Share Delivery Amount (as determined by the calculation agent in good faith and in a commercially reasonable manner) in lieu of delivering shares of the Underlying.

#### **Resolution Measures**

By acquiring the securities, you will be bound by and will be deemed to consent to the imposition of any Resolution Measure by the competent resolution authority, which may include the write down of all, or a portion, of any payment (or delivery of any property) on the securities or the conversion of the securities into ordinary shares or other instruments of ownership. If any Resolution Measure becomes applicable to us, you may lose some or all of your investment in the securities. Please see the section "Risk Factors" beginning on page 20 in the accompanying prospectus and the section "Resolution Measures" beginning on page 75 in the accompanying prospectus for more information.

#### Office Substitution

We may act through one or more of our branches, such as our London branch, as specified in the applicable pricing supplement. If specified in the applicable pricing supplement, we may, without the consent of the holders or the trustee, designate our head office or another branch of ours (in this paragraph, we refer to each of our head office or any of our branches as an "office") as substitute for the office through which we have acted to issue the securities with the same effect as if such substitute office had been originally named as the office through which we had acted to issue the securities for all purposes under the senior indenture (as defined below) and the securities.

The securities will be issued only in global form (i.e., in book-entry form) registered in the name of The Depository Trust Company ("DTC"), or its nominee, unless otherwise stated in the applicable pricing supplement.

We own, directly or indirectly, all of the outstanding equity securities of Deutsche Bank Securities Inc. ("**DBSI**"). Because DBSI is both our affiliate and a member of the Financial Industry Regulatory Authority, Inc. ("**FINRA**"), any offering of the securities by DBSI must be conducted in compliance with the requirements of FINRA Rule 5121 regarding a FINRA member firm's distribution of the securities of an affiliate and related conflicts of interest. In accordance with FINRA Rule 5121, DBSI may not make sales in offerings of the securities to any of its discretionary accounts without the prior written approval of the

customer. See "Plan of Distribution (Conflicts of Interest)."

The specific terms of the securities, including the economic terms of the securities for determining the amount(s) payable or deliverable on the securities, will be provided in the relevant pricing supplement. Definitions of terms used but not defined herein and/or in the relevant pricing supplement may be found below under "Description of Securities."

#### RISK FACTOR SUMMARY

Your investment in the securities will involve certain risks. Set forth below is only a summary of the principal risks associated with an investment in the securities. You should refer to the more detailed discussion of these and other risks set forth under "Risk Factors" in this product supplement, as well as the discussion of risks included in the relevant pricing supplement, before you decide that an investment in the securities is appropriate for you.

#### Risks Relating to the Securities Generally

- The securities may not pay more than the Minimum Payment Amount, which could be as low as 90% of the Face Amount and you may not receive a positive return on the securities.
- You will be entitled to receive at least the Minimum Payment Amount only if you hold your securities to maturity.
- If the securities are accelerated or redeemed early due a Currency Early Redemption, Commodity Hedging Disruption Event, Change-in-Law Event or Delisting Event, you may receive a cash amount that is significantly less than the Minimum Payment Amount.
- The securities are subject to the credit of Deutsche Bank AG.
- The Closing Level(s) of the Underlying or Basket Components on the Valuation Date(s) may be less than the Closing Level(s) on any other day(s) during the term of the securities, which may result in a lower return on the securities.
- Investing in the securities is not the same as investing in the Underlying or Basket Components.
- Concentration risks may adversely affect the value of the securities.
- If you receive the Share Delivery Amount at maturity, the value of those shares may be less on the Maturity Date than on the Valuation Date.
- If the securities provide for the delivery of the Share Delivery Amount at maturity, under certain circumstances we may pay you the cash equivalent of the Share Delivery Amount in lieu of delivering the shares.
- We may, without consent of the holders or the trustee, designate another office of ours as the issuing office.
- Historical performance of any Underlying or Basket Component should not be taken as an indication of the future performance of that Underlying or Basket Component during the term of the securities.

#### Risks Relating to the Estimated Value of the Securities and any Secondary Market

- The Issuer's estimated value of the securities on the Trade Date, as specified in the relevant pricing supplement, will be less than the Issue Price of the securities.
- Assuming no changes in market conditions and other relevant factors, the price you may receive
  for the securities in secondary market transactions would generally be lower than both the Issue
  Price and the Issuer's estimated value of the securities on the Trade Date.
- Unless otherwise specified in the relevant pricing supplement, the securities will not be listed and there will likely be limited or no liquidity.
- Many economic and market factors will affect the value of the securities.
- You may incur a loss on your investment if you sell the securities in the secondary market prior to maturity.
- Holdings of the securities by our affiliates and future sales may affect the value of the securities.

#### **Risks Relating to Potential Conflicts of Interests**

- Any determination by the calculation agent could adversely affect the return on the securities.
- Market disruptions and government actions, including those specifically affecting Deutsche Bank AG, may adversely affect your return.
- Trading and other transactions by us, our Agents or our respective affiliates may impair the value of the securities.
- We, our Agents or our affiliates may publish research, express opinions or provide recommendations that are inconsistent with investing in or holding the securities. Any such research, opinions or recommendations could adversely affect the level of the Underlying or Basket Components and the value of the securities.

#### Risks Related to a Basket

- Changes in the levels of the Basket Components may offset each other.
- The Basket Components may be unequally weighted.
- The correlation among the Basket Components could change unpredictably.

#### Risks Related to the Least Performing of Two or More Underlyings

- If the securities are linked to the least performing of two or more Underlyings, your investment is exposed to a decline in the level of each Underlying.
- If the securities are linked to the least performing of two or more Underlyings, you are exposed to a greater risk of losing some of your investment than if the securities were linked to just one Underlying.

#### Risk Related to Indices, Funds and/or Reference Stocks

- In the case of an Equity Based Index, if the Index is a "price return" index, such Index will reflect the price return of the securities composing such Index, not their total return including all dividends and other distributions.
- In the case of an Index, the Sponsor may adjust the Index in ways that affect the level of the Index, and the Sponsor has no obligation to consider your interests.
- The performance of a Fund, particularly during periods of market volatility, may not match the performance of its Tracked Index or its net asset value per share.
- In the case of a Fund, the policies of the Sponsor of the Fund and changes that affect the Fund or its Tracked Index could adversely affect the value of the securities.
- The value of the securities will not reflect dividends or other distributions on a Fund.
- Securities linked to non-U.S. equity securities and/or Indices of non-U.S. equity securities and/or Funds that include non-U.S. equity securities will be subject to risks associated with non-U.S. securities markets.
- Anti-dilution protection is limited, and the calculation agent may make adjustments in addition to, or that differ from, those set forth in this product supplement.
- Unless otherwise provided in the relevant pricing supplement, there is no affiliation between us and the companies or funds whose shares are, or are included in, an Equity Based Underlying or Basket Component, and we are not responsible for any disclosure by such companies or funds.
- The calculation agent may accelerate the securities or make changes to the terms of the securities if a Change-In-Law Event occurs with respect to a Non-U.S. Equity Based Underlying or Basket Component or a Delisting Event occurs with respect to an Underlying or Basket Component that is a Reference Stock.
- You will not have the rights of owners of a Reference Stock (or, if the Reference Stock is an ADS, the equity securities underlying the ADS) or components included in an Index or Fund.

- Following certain corporate events, any payment you receive on the securities may be based on the equity securities of another company and not the Underlying or Basket Component and, if the securities specify delivery of a number of units of the Underlying or Basket Component, you may receive the equity securities of another company and not the Underlying or Basket Component.
- One of our affiliates may serve as the depositary for ADSs.
- There are important differences between the rights of holders of ADSs and the rights of holders of the equity securities of a foreign company.
- Governmental legislative and regulatory actions, such as sanctions, could adversely affect your investment in the securities.

#### **Risks Related to Currency Exchange Rates**

- If the prices of the components underlying an Underlying or Basket Component are converted into U.S. dollars or another reference currency for purposes of calculating the level of such Underlying or Basket Component, the securities will be subject to currency exchange rate risk.
- If the components underlying an Underlying or Basket Component are traded in currencies other than U.S. dollars and are not converted into U.S. dollars for purposes of calculating the level of such Underlying or Basket Component, the return on the securities may not be adjusted for changes in exchange rates related to the U.S. dollar.
- If the securities are linked to a Currency Based Underlying, Currency Based Basket Component or an ADS or the securities specifically offer Foreign Currency Exposure, your investment will be directly exposed to currency exchange rate risk.
- Securities linked to emerging market currencies carry additional risks.
- Legal and regulatory changes could adversely affect currency exchange rates.
- Currency markets may be volatile.
- Currency exchange rate risks can be expected to heighten in periods of financial turmoil.
- For securities with Foreign Currency Exposure, movements in the level of an Underlying or Basket Component and movements in the exchange rate of the currency linked to that Underlying or Basket Component may offset each other.
- We do not control the Underlying or Basket Components or the components underlying the Underlying or Basket Components nor are we affiliated with the Sponsor or issuer of the Underlying or Basket Component, unless otherwise stated in the relevant pricing supplement.
- For Currency Based Underlyings or Basket Components, if the securities are subject to a Currency Early Redemption, the return on the securities may be reduced and you may receive significantly less than the Minimum Payment Amount in such circumstances.

#### **Risks Related to Commodities**

- Regulatory developments and investigations may result in changes to the rules or methodology used to determine the value of an Underlying or Basket Component, which may adversely affect any payment on the securities.
- Suspension or disruptions of market trading in the commodity and related futures markets may adversely affect the return on commodity-linked securities.
- If the liquidity of the Underlying or Basket Component or its components is limited, the value of the securities would likely be impaired, and this could result in potential conflicts of interest if we or an affiliate of ours acts as the Index publisher or Sponsor of a Fund.
- A Commodity Hedging Disruption Event may result in acceleration of the securities.
- Commodity Futures Contracts and the commodity futures contracts underlying a Commodity Based Underlying or Basket Component are subject to legal and regulatory regimes that may change in ways that could have a substantial adverse effect on the value of the securities.

- The prices of components underlying Commodity Based Underlyings or Basket Components may change unpredictably, and commodity futures contract prices may be near zero, zero or negative, in each case affect the value of the securities in unindicated ways.
- For Commodity Based Indices or Funds that include futures contracts, the absence of backwardation or presence of contango in the markets for such futures contracts will adversely affect the value of the Commodity Based Indices or Funds.
- For Commodity Futures Contracts or Commodity Based Indices or Funds that include futures contracts, changes in the margin requirements of for such futures contracts may adversely affect the value of the securities.
- The securities will not be regulated by the CFTC.

#### **RISK FACTORS**

Your investment in the securities will involve certain risks. The securities may not guarantee the full return of your initial investment at, or prior to, maturity. Investing in the securities is not equivalent to investing in any Underlying or Basket Component or any of the components included in such Underlying or Basket Component. The following risk factors assume that the securities provide long or bullish exposure to the Underlying(s). For securities that provide short or bearish exposure, because a decrease in the value of the relevant Underlying(s) would generally be expected to have a positive effect on payments on the securities, you should take into account this inverse relationship when you read the following risk disclosure regarding the effect of the value of the Underlying(s) on the return of the securities. You should consider carefully the following discussion of risks, including equity market, commodity market and currency exchange rate risk, described below, together with the risk information contained in the accompanying prospectus supplement and prospectus and the relevant pricing supplement before you decide that an investment in the securities is appropriate for you.

#### Risks Relating to the Securities Generally

The securities may not pay more than the Minimum Payment Amount, which could be as low as 90% of the Face Amount and you may not receive a positive return on the securities.

If the securities have not been automatically called or redeemed early (if applicable), Deutsche Bank AG will pay or deliver to you at maturity a cash payment or a number of units of the Underlying based on the performance of the Underlying, as determined pursuant to the terms described in the relevant pricing supplement. The Payment at Maturity (including the value of the units of the Underlying deliverable at maturity) will be subject to a Minimum Payment Amount. The Minimum Payment Amount could be as low as 90% of the Face Amount. If the relevant Underlying(s) do not perform favorably, you may not receive any positive return on your investment in the securities. Depending on the particular terms of the securities, you may lose up to 10% of your initial investment. Any payment or delivery on the securities is subject to our ability to satisfy our obligations as they become due.

Even if the relevant pricing supplement specifies that the securities provide for the repayment of the Face Amount at maturity regardless of the performance of the relevant Underlying(s), you may nevertheless suffer a loss on your investment in the securities, in real value terms, if you do not receive a positive return on the securities. This is because inflation may cause the real value of the Face Amount to be less at maturity than it is at the time you invest, and because an investment in the securities represents a forgone opportunity to invest in an alternative asset that does generate a positive return. The potential loss in real value terms will be greater the longer the term of the securities.

Even if you do receive a positive return on your investment in the securities, there can be no assurance that your total return at maturity on the securities will compensate you for the effects of inflation and your yield on the securities may be less than the yield you would earn if you bought a traditional interest-bearing debt security of Deutsche Bank AG or another issuer with a similar credit rating with the same maturity date. You should carefully consider whether an investment that may not provide for the full return of your initial investment, may not provide for any positive return, or may provide a return that is lower than the return on conventional debt securities, is appropriate for you.

You will be entitled to receive at least the Minimum Payment Amount only if you hold your securities to maturity.

You will receive at least the Minimum Payment Amount of your securities if you hold your securities to maturity. If you sell your securities in the secondary market prior to maturity, you may receive less than the Minimum Payment Amount on the portion of your securities sold. You should be willing to hold your securities to maturity.

If the securities are accelerated or redeemed early due to a Currency Early Redemption, Commodity Hedging Disruption Event, Change-in-Law Event or Delisting Event, you may receive a cash amount that is significantly less than the Minimum Payment Amount.

If the securities are accelerated or redeemed early due to a Currency Early Redemption, Commodity Hedging Disruption Event, Change-in-Law Event or Delisting Event, as applicable, the amount due and payable on the securities upon such an event may be significantly less than the Minimum Payment Amount. In such circumstances, you may lose some or a significant portion of your investment.

#### The securities are subject to the credit of Deutsche Bank AG.

The securities will constitute unsecured and unsubordinated obligations of Deutsche Bank AG, ranking in priority to its senior non-preferred obligations, and will not, either directly or indirectly, constitute an obligation of any third party. Any payment or delivery to be made on the securities depends on the ability of Deutsche Bank AG to satisfy its obligations as they become due. An actual or anticipated downgrade in Deutsche Bank AG's credit rating or increase in the credit spreads charged by the market for taking Deutsche Bank AG's credit risk will likely have an adverse effect on the value of the securities. As a result, the actual and perceived creditworthiness of Deutsche Bank AG will affect the value of the securities. Any future downgrade could materially affect Deutsche Bank AG's funding costs and cause the trading price of the securities to decline significantly. Additionally, under many derivative contracts to which Deutsche Bank AG is a party, a downgrade could require it to post additional collateral, lead to terminations of contracts with accompanying payment obligations or give counterparties additional remedies. In the event Deutsche Bank AG were to default on its payment or delivery obligations or become subject to a Resolution Measure, you might not receive any amount owed to you under the terms of the securities and you could lose your entire investment.

## The Closing Level(s) of the Underlying or Basket Components on the Valuation Date(s) may be less than the Closing Level(s) on any other day(s) during the term of the securities, which may result in a lower return on the securities.

Generally, only the Closing Level(s) of the Underlying or Basket Components on the Valuation Date(s) will be used in determining the return on the securities. If the Closing Level(s) of the Underlying or Basket Components on any other day(s) during the term of the securities were used in determining the return on the securities instead, such return could have been greater than the actual return on the securities. The difference in such return could be particularly large if there is a significant increase in the Closing Level(s) of the Underlying or Basket Components after a Valuation Date, if there is a significant decrease in the Closing Level(s) of the Underlying or Basket Components before a Valuation Date or if there is significant volatility in the Closing Level(s) of the Underlying or Basket Components during the term of the securities (especially on dates near the Valuation Date(s)). For example, when a Valuation Date for the securities is near the end of the term of the securities, if the Closing Level(s) of the Underlying or Basket Components increases or remains relatively constant during most of the term of the securities and then decreases below the Initial Level(s) (or the Strike Level(s), if applicable) prior to the relevant Valuation Date, the return on the securities may be significantly less than if the Closing Level(s) of the Underlying or Basket Components on a date earlier than such Valuation Date were used in determining such return on the securities. Under these circumstances, you may receive a lower return on your investment than you would have received if you had invested directly in the Underlying, the Basket Components, the components underlying the Underlying or Basket Components or contracts or funds relating to the Underlying or Basket Components and had been able to sell those instruments earlier.

#### Investing in the securities is not the same as investing in the Underlying or Basket Components.

You may receive a lower return on the securities than you would have received if you had invested directly in the Underlying or Basket Components, the components of the Underlying or Basket Components or contracts relating to the Underlying or Basket Components for which there is an active secondary market. You should not expect the value of the securities in the secondary market to vary in direct proportion to changes in the level of the Underlying or Basket Components. Even if the level of the Underlying or Basket Components increases or decreases during the term of the securities, the value of the securities may not increase or decrease by the same amount.

#### Concentration risks may adversely affect the value of the securities.

If the Underlying or Basket Components are concentrated to a significant degree in a single or a limited number of industry or commodity sectors or geographical regions, with respect to the securities, you will not benefit from the advantages of a diversified investment and will bear the risks of a concentrated investment, including the risk of greater volatility than may be experienced in connection with a diversified investment. You should be aware that other investments may be more diversified than the securities in terms of the number and variety of industry or commodity sectors or geographical regions.

### If you receive the Share Delivery Amount at maturity, the value of those shares may be less on the Maturity Date than on the Valuation Date.

For securities that provide for the delivery of the Share Delivery Amount at maturity, the value of the shares could decrease during the period between the Valuation Date and the Maturity Date. We will make no adjustments to the Share Delivery Amount to account for any fluctuations in the value of the shares to be delivered at maturity, and you will bear the risk of any decrease in the value of those shares between the Valuation Date and the Maturity Date.

## If the securities provide for the delivery of the Share Delivery Amount at maturity, under certain circumstances we may pay you the cash equivalent of the Share Delivery Amount in lieu of delivering the shares.

If we are unable to deliver to you the Share Delivery Amount as required by the terms of the securities, either because it is commercially impracticable for us to do so or due to a legal restriction, stock exchange rule or any other factor, we will pay you the cash equivalent of the Share Delivery Amount (as determined by the calculation agent in good faith and in a commercially reasonable manner) in lieu of delivering shares of the Underlying.

### We may, without consent of the holders or the trustee, designate another office of ours as the issuing office.

If specified in the applicable pricing supplement, we may, without consent of the holders or the trustee, designate our head office or another branch of ours (in this paragraph, we refer to each of our head office or any of our branches as "office") as substitute for the office through which we have acted to issue the securities with the same effect as if such substitute office had been originally named as the office through which we had acted to issue the securities for all purposes under the senior indenture and the securities. This means that, with effect from the substitution date, such substitute office will assume all of the obligations of the originally-named office as principal obligor under the securities. If the securities include an "Office Substitution" right, as described above and in the senior indenture, the applicable pricing supplement may include disclosure about the possible tax consequences of such substitution. If applicable, you should review such disclosure carefully and consult your tax adviser regarding the U.S. federal tax consequences of such substitution, as well as tax consequences arising under the laws of any state, local or non-U.S. taxing jurisdiction.

## Historical performance of any Underlying or Basket Component should not be taken as an indication of the future performance of that Underlying or Basket Component during the term of the securities.

The actual performance of any Underlying or Basket Component over the term of the securities may bear little relation to the historical performance of that Underlying or Basket Component. The future performance of any Underlying or Basket Component may differ significantly from its historical performance, and no assurance can be given as to the level of any Underlying or Basket Component during the term of the securities, including on any Valuation Date. We cannot predict the future performance of any Underlying or Basket Component or whether the performance of the Underlying(s) or Basket Component(s) will result in a payment more than the Minimum Payment Amount.

#### Risks Relating to the Estimated Value of the Securities and any Secondary Market

The Issuer's estimated value of the securities on the Trade Date, as specified in the relevant pricing supplement, will be less than the Issue Price of the securities.

The Issuer's estimated value of the securities on the Trade Date, as specified in the relevant pricing supplement, will be less than the Issue Price of the securities. The difference between the Issue Price and the Issuer's estimated value of the securities on the Trade Date is due to the inclusion in the Issue Price of the Agent's commissions, if any, and the cost of hedging our obligations under the securities through one or more hedge counterparties (which may be one or more of our affiliates or an Agent or its affiliates). Such hedging cost includes our or our hedge counterparty's expected cost of providing such hedge, as well as the profit we or our hedge counterparty expect to realize in consideration for assuming the risks inherent in providing such hedge. The Issuer's estimated value of the securities is determined by reference to an internal funding rate and our pricing models. The internal funding rate is typically lower than the rate we would pay when we issue conventional debt securities on equivalent terms. This difference in funding rate, as well as the Agent's commissions, if any, and the estimated cost of hedging our obligations under the securities, reduces the economic terms of the securities to you and is expected to adversely affect the price at which you may be able to sell the securities in any secondary market. In addition, our internal pricing models are proprietary and rely in part on certain assumptions about future events, which may prove to be incorrect. If at any time a third party dealer were to quote a price to purchase your securities or otherwise value your securities, that price or value may differ materially from the estimated value of the securities determined by reference to our internal funding rate and pricing models. This difference is due to, among other things, any difference in funding rates, pricing models or assumptions used by any dealer who may purchase the securities in the secondary market.

Assuming no changes in market conditions and other relevant factors, the price you may receive for the securities in secondary market transactions would generally be lower than both the Issue Price and the Issuer's estimated value of the securities on the Trade Date.

While the payment(s) on the securities described in the relevant pricing supplement will be based on the full Face Amount of the securities, the Issuer's estimated value of the securities on the Trade Date (as disclosed on the cover of the relevant pricing supplement) will be less than the Issue Price of the securities. The Issuer's estimated value of the securities on the Trade Date does not represent the price at which we or any of our affiliates would be willing to purchase your securities in the secondary market at any time. Assuming no changes in market conditions or our creditworthiness and other relevant factors, the price, if any, at which we or our affiliates would be willing to purchase the securities from you in secondary market transactions, if at all, would generally be lower than both the Issue Price and the Issuer's estimated value of the securities on the Trade Date. Our purchase price, if any, in secondary market transactions would be based on the estimated value of the securities determined by reference to (i) the then-prevailing internal funding rate (adjusted by a spread) or another appropriate measure of our cost of funds and (ii) our pricing models at that time, less a bid spread determined after taking into account the size of the repurchase, the nature of the assets underlying the securities and then-prevailing market conditions. The price we report to financial reporting services and to distributors of our securities for use on customer account statements would generally be determined on the same basis. However, the relevant pricing supplement for the securities may provide that for a period of time beginning from the Trade Date (the duration of such period of time will be specified in the relevant pricing supplement), we or our affiliates may, in our sole discretion, increase the purchase price determined as described above by an amount equal to the declining differential between the Issue Price and the Issuer's estimated value of the securities on the Trade Date, prorated over such period on a straight-line basis, for transactions that are individually and in the aggregate of the expected size for ordinary secondary market repurchases.

In addition to the factors discussed above, the value of the securities and our purchase price in secondary market transactions after the Trade Date, if any, will vary based on many economic and market factors, including our creditworthiness, and cannot be predicted with accuracy. These changes may adversely affect the value of the securities, including the price you may receive in any secondary market transactions. Any sale prior to the Maturity Date could result in a substantial loss to you. The securities are not designed to be short-term trading instruments. Accordingly, you should be able and willing to hold the securities to maturity.

### Unless otherwise specified in the relevant pricing supplement, the securities will not be listed and there will likely be limited or no liquidity.

Unless otherwise specified in the relevant pricing supplement, the securities will not be listed on any securities exchange. There may be little or no secondary market for the securities. We or our affiliates intend to act as market makers for the securities but are not required to do so and may cease such market making activities at any time. Even if there is a secondary market, it may not provide enough liquidity to allow you to sell the securities when you wish to do so or at a price advantageous to you. Because we do not expect other dealers to make a secondary market for the securities, the price at which you may be able to sell your securities is likely to depend on the price, if any, at which we or our affiliates are willing to buy the securities. If, at any time, we or our affiliates do not act as market makers, it is likely that there would be little or no secondary market in the securities. If you have to sell your securities prior to maturity, you may not be able to do so or you may have to sell them at a substantial loss.

#### Many economic and market factors will affect the value of the securities.

While we expect that, generally, the level of the Underlying or Basket Components will affect the value of the securities more than any other single factor, the value of the securities prior to maturity will also be affected by a number of other factors that may either offset or magnify each other, including:

- the expected volatility of the Underlying or Basket Components;
- the time remaining to the maturity of the securities;
- if an Underlying or Basket Component is an Index:
  - o the market prices and dividend rates of the stocks composing the Index; and
  - the composition of the Index;
- if an Underlying or Basket Component is a Fund:
  - the market prices and dividend rates of the shares of the Fund and the component securities held by the Fund;
  - the occurrence of certain events affecting the Fund that may or may not require an antidilution adjustment; and
  - o the composition of the Fund;
- if an Underlying or Basket Component is a Reference Stock:
  - the dividend rate of the Reference Stock;
  - o the real and anticipated results of operations of the issuer of the Reference Stock; and
  - actual or anticipated corporate reorganization events, such as mergers or takeovers, which may affect the Reference Stock;
- if an Underlying or Basket Component is a Commodity Based Underlying:
  - o supply and demand trends for any underlying commodity
  - o suspensions, disruptions or reduced liquidity in the commodity markets;
  - changes in the legal and regulatory regimes for commodities; and
  - if the Commodity Based Underlying or Basket Component is an Index that tracks futures contracts, the presence or absence of backwardation or contango in the markets for such futures contracts;

- the currency exchange rate and the volatility of the currency exchange rate between the U.S. dollar (or any other reference currency) and any other currencies relevant to the Underlying or Basket Components;
- interest rates and yields in the markets generally;
- geopolitical conditions and economic, financial, political, regulatory or judicial events that affect
  the Underlying or Basket Components, any index that a Fund seeks to track (the "Tracked
  Index") or the markets generally;
- supply and demand for the securities; and
- our creditworthiness, including actual or anticipated downgrades in our credit ratings.

During the term of the securities, it is possible that the value of the securities may decline significantly due to the factors described above even if the level of the Underlying or a Basket Component remains unchanged, and any sale prior to maturity could result in a substantial loss to you. You must hold the securities to maturity to receive the stated payout from the Issuer.

### You may incur a loss on your investment if you sell the securities in the secondary market prior to maturity.

You should be willing to hold the securities to maturity. If you are able to sell the securities prior to maturity in the secondary market, you may have to sell them at a loss relative to your initial investment even if the level of the Underlying at such time is greater than the Initial Level (or the Strike Level, if applicable) at the time of sale.

#### Holdings of the securities by our affiliates and future sales may affect the value of the securities.

Certain of our affiliates may purchase some of the securities for investment. As a result, upon completion of an offering, our affiliates may own a portion of the securities offered in that offering. Circumstances may occur in which our interests or those of our affiliates may be in conflict with your interests. In addition, if a substantial portion of the securities held by our affiliates were to be offered for sale in the secondary market, if any, following such an offering, the value of the securities may fall. The negative effect of such sales on the value of the securities could be more pronounced if secondary trading in the securities is limited or illiquid.

#### Risks Relating to Potential Conflicts of Interests

#### Any determination by the calculation agent could adversely affect the return on the securities.

We and our affiliates play a variety of roles in connection with the issuance of the securities, including acting as calculation agent, hedging our obligations under the securities and determining the Issuer's estimated value of the securities on the applicable Trade Date and the price, if any, at which we or our affiliates would be willing to purchase the securities from you in secondary market transactions. In performing these roles, our economic interests and those of our affiliates are potentially adverse to your interests as an investor in the securities. The calculation agent will determine, among other things, all values, prices and levels required to be determined for the purposes of the securities on any relevant date or time. In addition, the calculation agent will determine (i) the amount due with respect to the securities if the securities are accelerated following a Commodity Hedging Disruption Event (as defined below), (ii) if a Currency Early Redemption is specified, whether a Currency Early Redemption Event has occurred and is continuing and the amount due and payable upon such event, (iii) whether a Change-in-Law Event or a Delisting Event has occurred and, upon such an event, whether to accelerate the Maturity Date of the securities (and the amount payable upon any such acceleration) or make changes to the terms of the securities to ensure an equitable result, (iv) whether there has been a Market Disruption Event or a discontinuation of any Underlying or Basket Components, (v) whether or not any anti-dilution adjustments to the Share Adjustment Factor, the Stock Adjustment Factor and/or the Share Delivery Amount should be made, (vi) whether there has been a material change in the method of calculating any Underlying or Basket Component and (vii) in some circumstances, the levels or prices related to an Underlying or

Basket Component that affect whether an Automatic Call and/or a Mandatory Redemption, as applicable, has occurred.

In making these determinations, the calculation agent may be required to make discretionary judgments. In making these discretionary judgments, the fact that we are the calculation agent may cause us to have economic interests that are adverse to your interests as an investor in the securities, and our determinations as calculation agent may adversely affect your return on the securities.

### Market disruptions and government actions, including those specifically affecting Deutsche Bank AG, may adversely affect your return.

The calculation agent may, in its sole discretion, determine that a Market Disruption Event has occurred, which may include disruptions or suspensions of trading in the markets as a whole if the calculation agent, in its sole discretion, determines that any of these events prevents us or any of our affiliates from properly hedging our obligations under the securities. For Currency Based Underlyings, Basket Components or for securities that offer Foreign Currency Exposure, these events may also include without limitation: a general inconvertibility event that generally makes it impossible to convert the relevant currency into the relevant reference currency through customary legal channels; a general nontransferability event that generally makes it impossible (a) to deliver the relevant reference currency from accounts inside a relevant currency jurisdiction to accounts outside that relevant currency jurisdiction, or (b) to deliver a relevant currency between accounts inside the relevant currency jurisdiction for such relevant currency or to a party that is a non-resident of the relevant currency jurisdiction for such relevant currency; a default or other similar event with respect to any security or indebtedness of, or guaranteed by, any governmental authority of the relevant currency jurisdiction; any change in the laws or regulations, or official interpretations of such, in the relevant currency jurisdiction in respect of any relevant currency; any nationalization 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 currency jurisdiction; or the inability by Deutsche Bank AG or any of its affiliates, after using commercially reasonable efforts, to acquire, establish, re-establish, substitute, maintain, unwind or dispose of any hedge position relating to the securities.

Upon the occurrence of one of these events, or another event that is included as a Market Disruption Event, it is possible that one or more of the Valuation Dates and the Maturity Date may be postponed. It is also possible that, upon the occurrence of any of these events, the calculation agent will determine the Closing Level of an Underlying or Basket Component as set forth under "Description of Securities—Adjustments to Valuation Dates and Payment Dates," and such Closing Level may differ substantially from the published closing level of such Underlying or Basket Component in the absence of such events. As a result, any such Market Disruption Event may adversely affect your return on the securities. The amount you receive at maturity may be less than the full Face Amount of your securities.

### Trading and other transactions by us, our Agents or our respective affiliates may impair the value of the securities.

We or our affiliates expect to hedge our exposure from the securities by entering into various derivative transactions, such as over-the-counter options, futures or exchange-traded instruments with one ore more hedge counterparties (which may be one or more of our affiliates or an Agent or its affiliates). We, our Agents or our respective affiliates may also engage in trading in instruments linked or related to the Underlying or Basket Components on a regular basis as part of our or their general brokerdealer and other businesses, for proprietary accounts, for other accounts under management or to facilitate transactions for customers, including block transactions. Such trading and hedging activities may adversely affect the price of the components included in the Underlying or Basket Components and/or the level of the Underlying or Basket Components, and therefore, make it less likely that you will receive a positive return on your investment in the securities. It is possible that we, our Agents or our respective affiliates could receive substantial returns from these hedging and trading activities while the value of the securities declines. We, our Agents or our respective affiliates may also issue or underwrite other securities or financial or derivative instruments with returns linked or related to the Underlying or Basket Components. To the extent that we, our Agents or one of our respective affiliates serves as issuer, agent or underwriter for such securities or financial or derivative instruments, our, our Agents or our respective affiliates' interests with respect to such products may be adverse to those of the holders of the securities.

Introducing competing products into the marketplace in this manner could adversely affect the level of the Underlying or Basket Components and the value of the securities. Any of the foregoing activities described in this paragraph may reflect trading strategies that differ from, or are in direct opposition to, investors' trading and investment strategies related to the securities. Furthermore, because DBSI, another Agent or one of its affiliates may conduct trading and hedging activities for us in connection with the securities, DBSI, such Agent or such affiliate may profit in connection with such trading and hedging activities and such profit, if any, will be in addition to any compensation that DBSI or such Agent receives for the sale of the securities to you. You should be aware that the potential to earn a profit in connection with hedging activities may create an incentive for DBSI or another Agent to sell the securities to you in addition to any compensation they would receive for the sale of the securities.

We, our Agents or our affiliates may publish research, express opinions or provide recommendations that are inconsistent with investing in or holding the securities. Any such research, opinions or recommendations could adversely affect the level of the Underlying or Basket Components and the value of the securities.

We, our Agents or our affiliates may publish research from time to time on financial markets and other matters that could adversely affect the level of the Underlying or Basket Components and the value of the securities, or express opinions or provide recommendations that are inconsistent with purchasing or holding the securities. Any research, opinions or recommendations expressed by us, our Agents or our affiliates may not be consistent with each other and may be modified from time to time without notice. You should make your own independent investigation of the merits of investing in the securities and the Underlying or Basket Components.

#### Risks Related to a Basket

#### Changes in the levels of the Basket Components may offset each other.

If the securities are linked to a Basket, movements in the Basket Components may not correlate with each other. At a time when the levels of one or more of the Basket Components increase, the levels of one or more of the other Basket Components may not increase as much or may decrease. Therefore, in calculating the Closing Level of the Basket, increases in the levels of one or more of the Basket Components may be moderated, offset or more than offset by lesser increases or decreases in the levels of the other Basket Components, particularly if the Basket Components whose levels increase are of relatively low weight in the Basket.

#### The Basket Components may be unequally weighted.

If the securities are linked to a Basket, the Basket Components may have different weights in determining the performance of the Basket. In such case, the performance of a Basket Component with a higher weighting will influence the performance of the Basket to a greater degree than the performance of a Basket Component with a lower weighting.

#### The correlation among the Basket Components could change unpredictably.

Correlation is the extent to which the levels of the Basket Components increase or decrease to the same degree at the same time. The value of the securities may be adversely affected by increased positive correlation among the Basket Components, in particular when the level of one or more Basket Components decreases. The value of the securities may also be adversely affected by increased negative correlation between the Basket Components, meaning the positive performance of one or more Basket Components could be entirely offset by the negative performance of one or more other Basket Components.

#### Risks Related to the Least Performing of Two or More Underlyings

If the securities are linked to the least performing of two or more Underlyings, your investment is exposed to a decline in the level of each Underlying.

Your return on the securities, if any, is not linked to a basket consisting of the Underlyings. Rather, any payment on the securities will be determined by reference to the performance of *each* individual

Underlying. Unlike an instrument with a return linked to a basket, in which risk is mitigated and diversified among all of the basket components, you will be exposed equally to the risks related to each Underlying and your return will be based on the least performing of the Underlyings, as measured on each Valuation Date. Poor performance by any Underlying over the term of the securities may adversely affect your return on the securities and will not be offset or mitigated by a positive performance by the other Underlying(s).

## If the securities are linked to the least performing of two or more Underlyings, you are exposed to a greater risk of losing some of your investment than if the securities were linked to just one Underlying.

The risk that you will lose some of your investment in the securities is greater than in substantially similar securities that are linked to the performance of just one Underlying. With two or more Underlyings, it is more likely that the Closing Level of at least one Underlying will decline than if the securities were linked to only one Underlying, and therefore, it is more likely that you will receive a Payment at Maturity that is less than your investment, subject to the Minimum Payment Amount. In addition, the performance of the Underlyings may not be correlated. If the performance of the Underlyings is not correlated, or is negatively correlated, the potential for the Closing Level of at least one Underlying to decline is even greater.

#### Risk Related to Indices, Funds and/or Reference Stocks

In the case of an Equity Based Index, if the Index is a "price return" index, such Index will reflect the price return of the securities composing such Index, not their total return including all dividends and other distributions.

If an Equity Based Underlying or Basket Component is an Index that is a "price return" index, such Index will reflect the changes in the market prices of the securities composing such Index. Such Index would not be a "total return" index, which, in addition to reflecting the price returns of the securities composing such Index, would also reflect the reinvestment of all dividends and other distributions paid on the securities composing such Index.

### In the case of an Index, the Sponsor may adjust the Index in ways that affect the level of the Index, and the Sponsor has no obligation to consider your interests.

The Sponsor is responsible for calculating and maintaining the Index. The Sponsor can add, delete or substitute the components underlying the Index or make other methodological changes that could change the level of the Index. You should realize that the changing of components included in the Index may affect the Index, as a newly added component may perform significantly better or worse than the component(s) it replaces. Additionally, the Sponsor may alter, discontinue or suspend calculation or dissemination of the Index. Any of these actions could adversely affect the value of the securities. The Sponsor has no obligation to consider your interests in calculating or revising the Index.

### The performance of a Fund, particularly during periods of market volatility, may not match the performance of its Tracked Index or its net asset value per share.

The performance of a Fund may not match the performance of its Tracked Index due to a number of factors. For instance, the Fund may not hold all or substantially all of the securities, commodities, futures contracts or other assets included in its Tracked Index and the Sponsor of the Fund may invest a portion of the Fund's assets in securities not included in its Tracked Index. Therefore, the performance of the Fund is generally linked, in part, to assets other than the securities, commodities, futures contracts or other assets included in its Tracked Index. Additionally, the performance of the Fund will reflect transaction costs and fees that are not included in the calculation of its Tracked Index.

In addition, because the shares of the Fund are traded on a securities exchange and are subject to supply and demand, the performance of one share of the Fund may differ from the performance of its Tracked Index or the Fund's net asset value ("NAV") per share. Furthermore, during periods of market volatility, securities or other assets held by the Fund may become unavailable in the secondary market due to reduced liquidity or suspensions of, or limitations on, trading, making it difficult for market participants to accurately calculate the NAV per share of the Fund and/or create, redeem or hedge shares

of the Fund. In such circumstances, the prices at which market participants are willing to buy and sell shares of the Fund may be significantly lower than the Fund's NAV and the liquidity of the shares of the Fund may be materially and adversely affected. Consequently, the performance of the Fund may deviate significantly from the performance of its Tracked Index or the Fund's NAV per share. These circumstances may or may not constitute a Market Disruption Event and, in either case, your return on the securities may be determined based on the price of the Fund when it deviates significantly from the performance of its Tracked Index or the Fund's NAV per share. If this occurs, the value of, and your return on, the securities may be materially and adversely affected.

### In the case of a Fund, the policies of the Sponsor of the Fund and changes that affect the Fund or its Tracked Index could adversely affect the value of the securities.

If the securities are linked to a Fund, the policies of a Sponsor of a Fund concerning the calculation of the Fund's NAV, additions, deletions or substitutions of securities, commodities, futures contracts or other assets or financial measures held by the Fund, substitution of its Tracked Index and the manner in which changes affecting how any Tracked Index are reflected in the Fund could adversely affect the price of the shares of the Fund and, therefore, the value of, and return on, the securities. The value of, and return on, the securities could also be adversely affected if the Sponsor of a Fund changes these policies, for example, by changing the manner in which it calculates the Fund's NAV, or if the Sponsor of a Fund discontinues or suspends calculation or publication of the Fund's NAV, in which case it may become difficult to determine the value of the securities. If events such as these occur or if the Closing Level of the Fund is not available on any Valuation Date because of a Market Disruption Event (as defined below) or for any other reason, the calculation agent may determine the Closing Level of the Fund on the relevant Valuation Date and the Payment at Maturity or Redemption Amount (if applicable) in a manner it considers appropriate in its sole discretion. We describe the discretion that the calculation agent will have in determining the Closing Level(s) of a Fund on the Valuation Date(s) more fully below and in the relevant pricing supplement.

Further, under continuous listing standards adopted by the applicable exchange on which it is listed, a Fund will be required to confirm on an ongoing basis that the components of the Tracked Index satisfy the applicable listing requirements. In the event that a Fund's Tracked Index does not comply with the applicable listing requirements, the Fund would be required to rectify the non-compliance by requesting that the Sponsor of the Fund's Tracked Index modify the Tracked Index, adopting a substitute Tracked Index or obtaining relief from the Securities and Exchange Commission (the "SEC"). There can be no assurance that the Sponsor of the Tracked Index would modify the Tracked Index or that relief would be obtained from the SEC and, therefore, non-compliance with the continuous listing standards may result in a Fund being delisted by the applicable exchange. If a Fund were delisted by the applicable exchange, the calculation agent would calculate the appropriate Closing Level applicable, of one share of that Fund based on the closing level of its Tracked Index, which may adversely affect the value of the securities and any payment on the securities.

#### The value of the securities will not reflect dividends or other distributions on a Fund.

The value of the securities will not reflect the value of actually owning shares of a Fund and receiving the dividends or other distributions paid on that Fund (except in the limited circumstances set forth under "Description of Securities—Anti-Dilution Adjustments—Anti-Dilution Adjustments for Funds"). This is because the calculation agent will calculate any payment on the securities, in whole or in part, by reference to the prices of that Fund without taking into consideration the value of dividends or other distributions paid on that Fund.

Securities linked to non-U.S. equity securities and/or Indices of non-U.S. equity securities and/or Funds that include non-U.S. equity securities will be subject to risks associated with non-U.S. securities markets.

Non-U.S. equity securities are issued by non-U.S. companies in non-U.S. securities markets. Investments in securities linked to the value of non-U.S. equity securities or Indices or Funds that include non-U.S. equity securities involve risks associated with the securities markets in the home countries of the issuers of those non-U.S. equity securities. Non-U.S. securities markets may have less liquidity and may be more volatile than U.S. securities markets, and market developments may affect non-U.S.

markets differently than U.S. securities markets. Direct or indirect government intervention to stabilize a non-U.S. securities market, as well as cross-shareholdings in non-U.S. companies, may affect trading prices and volumes in those markets. In addition, governments may seek to regulate not only the reference assets or the equity securities composing or held by the reference assets to which your securities are linked but also derivative instruments based on the equity securities, which can affect the value of the equity securities and your securities. Also, there is generally less publicly available information about companies in some of these jurisdictions than there is about U.S. companies that are subject to the reporting requirements of the Securities and Exchange Commission, and generally non-U.S. companies are subject to accounting, auditing and financial reporting standards and requirements and securities trading rules different from those applicable to U.S. reporting companies. The prices of securities in non-U.S. markets may be affected by political, economic, financial and social factors in those countries, or global regions, including changes in government, economic and fiscal policies and currency exchange laws.

Further, non-U.S. equity securities may be issued by companies in countries based in emerging markets. Emerging markets pose further risks in addition to the risks associated with investing in foreign equity markets generally. Countries with emerging markets may have relatively unstable financial markets and governments; may present the risks of nationalization of businesses; may impose restrictions on currency conversion, exports or foreign ownership and prohibitions on the repatriation of assets; may pose a greater likelihood of regulation by the national, provincial and local governments of the emerging market countries, including the imposition of currency exchange laws and taxes; and may have less protection of property rights, less access to legal recourse and less comprehensive financial reporting and auditing requirements than more developed countries. The economies of countries with emerging markets may be based on only a few industries, may be highly vulnerable to changes in local or global trade conditions, and may suffer from extreme and volatile debt burdens or inflation rates. Local securities markets may trade a small number of securities and may be unable to respond effectively to increases in trading volume, potentially making prompt liquidation of holdings difficult or impossible at times. Moreover, the economies in such countries may differ unfavorably from the economy in the United States in such respects as growth of gross national product, rate of inflation, capital reinvestment, resources, self-sufficiency and balance of payment positions. The currencies of emerging markets may also be less liquid and more volatile than those of developed markets and may be affected by political and economic developments in different ways than developed markets. The foregoing factors may adversely affect the performance of companies based in emerging markets.

Some or all of these factors may adversely affect the performance of the applicable non-U.S. equity securities and, as a result, the market value of the securities and any amounts payable or property deliverable on the securities.

### Anti-dilution protection is limited, and the calculation agent may make adjustments in addition to, or that differ from, those set forth in this product supplement.

If the securities are linked to a Fund or Reference Stock, the calculation agent will make adjustments to the Share Delivery Amount, the Share Adjustment Factor applicable to a Fund or the Stock Adjustment Factor applicable to a Reference Stock for certain events affecting the relevant Fund or Reference Stock. The calculation agent is not required, however, to make such adjustments in response to all events that could affect the shares of the Fund or Reference Stock. If such an event occurs that does not require the calculation agent to make an adjustment, the value of the securities may be materially and adversely affected. In addition, you should be aware that the calculation agent may, at its sole discretion, make adjustments to the relevant Share Delivery Amount, Share Adjustment Factor, Stock Adjustment Factor or any other terms of the securities that are in addition to, or that differ from, those described in this product supplement to reflect changes occurring in relation to the Fund, Reference Stock or any other security received in a reorganization event in circumstances where the calculation agent determines that it is appropriate to reflect those changes to ensure an equitable result. Any alterations to the specified antidilution adjustments for a Fund, Reference Stock or any other security received in a reorganization event described in this product supplement may be materially adverse to investors in the securities. You should read "Description of Securities—Anti-Dilution Adjustments" below in order to understand the adjustments that may be made to the securities.

Unless otherwise provided in the relevant pricing supplement, there is no affiliation between us and the companies or funds whose shares are, or are included in, an Equity Based Underlying or Basket Component, and we are not responsible for any disclosure by such companies or funds.

Unless otherwise provided in the relevant pricing supplement, we are not affiliated with the companies or funds whose shares are, or are included in, an Equity Based Underlying or Basket Component. However, we or our affiliates may currently, or from time to time in the future, engage in business with companies or funds whose shares are, or are included in, an Equity Based Underlying or Basket Component, including extending loans to, making equity investments in, or providing advisory services (including merger and acquisition advisory services) to, them. In the course of this business, we or our affiliates may acquire non-public information about such companies or funds, and we will not disclose any such information to you. Nevertheless, neither we nor our affiliates assume any responsibility for the accuracy or the completeness of any information about such companies or funds. You, as an investor in the securities, should make your own investigation into such companies or funds. Such companies or funds are not involved in any offering of these securities in any way and none of them has any obligation of any sort with respect to the securities. Such companies or funds have no obligation to take your interests into consideration for any reason, including when taking any corporate actions that would require the calculation agent to adjust the Share Adjustment Factor, Stock Adjustment Factor or Share Delivery Amount, as applicable, which may adversely affect the value of the securities.

The calculation agent may accelerate the securities or make changes to the terms of the securities if a Change-In-Law Event occurs with respect to a Non-U.S. Equity Based Underlying or Basket Component or a Delisting Event occurs with respect to an Underlying or Basket Component that is a Reference Stock.

Upon the occurrence of a Change-in-Law Event with respect to a Non-U.S. Equity Based Underlying or Basket Component or a Delisting Event with respect to an Underlying or Basket Component that is a Reference Stock, the calculation agent may, in its sole discretion, accelerate the Maturity Date of the securities. Any amount payable upon acceleration could be significantly less than the amount that would be due on the securities if they were not accelerated. In such circumstances, you may receive less than the Minimum Payment Amount and you could lose some or a significant portion of your investment.

If the securities are accelerated, the term of your investment in the securities will be limited to a period that is shorter than their original term, and holders of the securities will not benefit from any potential positive performance of the relevant Non-U.S. Equity Based Underlying, Reference Stock or Basket Component, as appliable, or receive any further payments. There is no guarantee that you would be able to reinvest the proceeds from an investment in the securities at a comparable return for a similar level of risk in the event that the securities are accelerated.

If a Change-in-Law Event occurs with respect to a Non-U.S. Equity Based Underlying or Basket Component or a Delisting Event occurs with respect to an Underlying or Basket Component that is a Reference Stock and the calculation agent does not accelerate the Maturity Date of the securities, then the calculation agent may, in good faith and a commercially reasonable manner, adjust any terms, including but not limited to, the Non-U.S. Equity Based Underlying, Reference Stock or Basket Component, as appliable, the Initial Level, the Final Level, the Stock Adjustment Factor (if applicable) or any other values that the calculation agent determines necessary to ensure an equitable result.

Any of these actions may adversely affect, perhaps significantly, the market value of the securities, as well as any amounts payable on the securities.

You will not have the rights of owners of a Reference Stock (or, if the Reference Stock is an ADS, the equity securities underlying the ADS) or components included in an Index or Fund.

As a holder of the securities, you will not have any voting rights or rights to receive dividends or other distributions or other rights that holders of the Underlying, Basket Components or components included in an Underlying or Basket Component would have. If the securities are linked to non-U.S. equity securities issued through depositary arrangements like ADSs, you will not have any rights of owners of such ADSs or the equity securities underlying the ADSs.

Following certain corporate events, any payment you receive on the securities may be based on the equity securities of another company and not the Underlying or Basket Component and, if the securities specify delivery of a number of units of the Underlying or Basket Component, you may receive the equity securities of another company and not the Underlying or Basket Component.

Following certain corporate events relating to an Underlying or Basket Component that is a Reference Stock, where its issuer is not the surviving entity, whether the securities will be automatically called (if applicable) and any payments on the securities may be based on the equity securities of a successor to the issuer of the Underlying or Basket Component or any cash or any other assets distributed to holders of the Underlying or Basket Component in such corporate event. If the securities specify delivery of a number of units of the Underlying or Basket Component, you may receive the equity securities of another company and not the Underlying or Basket Component. The occurrence of these corporate events and the consequent adjustments may materially and adversely affect any payments on the securities and the value of the securities. We describe the specific corporate events that can lead to these adjustments and the procedures for selecting alternative property to deliver in the section of this product supplement called "Description of Securities—Anti-Dilution Adjustments—Anti-Dilution Adjustments for Reference Stock."

#### One of our affiliates may serve as the depositary for ADSs.

One of our affiliates may serve as the depositary for some foreign companies that issue ADSs. If the Underlying or a Basket Component is an ADS, and one of our affiliates serves as depositary for such ADSs, the interests of our affiliate, as depositary for the ADSs, may be adverse to your interests as a holder of the securities.

### There are important differences between the rights of holders of ADSs and the rights of holders of the equity securities of a foreign company.

If the securities are linked to the performance of an ADS, you should be aware that the securities are linked to the price of the ADS and not the equity securities represented by the ADS, and there exist important differences between the rights of holders of ADSs and the rights of holders of the corresponding equity securities. Each ADS is a security evidenced by American depositary receipts that represents a certain number of equity securities of a foreign issuer. Generally, ADSs are issued under a deposit agreement which sets forth the rights and responsibilities of the depositary, the foreign issuer and holders of the ADSs, which may be different from the rights of holders of equity securities of the foreign issuer. For example, the foreign issuer may make distributions in respect of its equity securities that are not passed on to the holders of its ADSs. Any such differences between the rights of holders of the ADSs and holders of the corresponding equity securities may be significant and may materially and adversely affect the price of the ADSs and thus the value of the securities.

### Governmental legislative and regulatory actions, such as sanctions, could adversely affect your investment in the securities.

Governmental legislative or regulatory actions, including, without limitation, sanctions-related actions by the U.S. or a foreign government, could prohibit or otherwise restrict persons from holding the securities, any Reference Stock or Fund or any securities, if any, underlying any Index or Fund, or engaging in transactions in them, and any such action could adversely affect the value of the securities. These legislative or regulatory actions could result in restrictions on the securities or a de-listing of a Reference Stock or Fund or any securities, if any, underlying any Index or Fund. You may lose a significant portion or all of your initial investment in the securities if such a de-listing occurs or if you are forced to divest the securities due to government mandates, especially if such de-listing occurs or such divestment must be made at a time when the value of the securities has declined.

If any such governmental legislative and regulatory actions constitutes a Change-in-Law Event with respect to a Non-U.S. Equity Based Underlying or Basket Component or a Delisting Event with respect to an Underlying or Basket Component that is a Reference Stock, then the Calculation Agent may, in its sole discretion, accelerate the maturity of the securities or make changes to the terms of the securities to ensure an equitable result. See "—The calculation agent may accelerate the securities or make changes to the terms of the securities if a Change-In-Law Event occurs with respect to a Non-U.S. Equity Based

Underlying or Basket Component or a Delisting Event occurs with respect to an Underlying or Basket Component that is a Reference Stock."

#### Risks Related to Currency Exchange Rates

If the prices of the components underlying an Underlying or Basket Component are converted into U.S. dollars or another reference currency for purposes of calculating the level of such Underlying or Basket Component, the securities will be subject to currency exchange rate risk.

If the prices of the components underlying an Underlying or Basket Component are converted into U.S. dollars or another reference currency for purposes of calculating the level of the Underlying or Basket Components, holders of the securities will be exposed to currency exchange rate risk with respect to each of the currencies represented in the Underlying or Basket Components calculated in that manner. An investor's net exposure to currency exchange rate risk will depend on the extent to which the currencies represented in such an Underlying or Basket Component strengthen or weaken against the U.S. dollar or such other reference currency and the relative weight of each relevant currency represented in the Underlying or Basket Component. If, taking into account such weighting, the U.S. dollar or such other reference currency strengthens against the component currencies as a whole, the level of the relevant Underlying or Basket Component will be adversely affected and the value of the securities may be reduced. Additionally, the volatility and/or the correlation (including the direction and the extent of such correlation) of the exchange rates between the U.S. dollar or such other reference currency and the currencies represented in the Underlying or Basket Components could adversely affect the value of the securities.

If the components underlying an Underlying or Basket Component are traded in currencies other than U.S. dollars and are not converted into U.S. dollars for purposes of calculating the level of such Underlying or Basket Component, the return on the securities may not be adjusted for changes in exchange rates related to the U.S. dollar.

If the components underlying an Underlying or Basket Component are traded in currencies other than U.S. dollars and are *not* converted into U.S. dollars for purposes of calculating the level of such Underlying or Basket Component, unless the securities specifically include Foreign Currency Exposure, the return on the securities will not be adjusted for changes in the exchange rates between the U.S. dollar and any of the currencies in which the components underlying the Underlying or Basket Component are denominated and, consequently, you would not receive the possible benefits of favorable net changes in such exchange rates.

If the securities are linked to a Currency Based Underlying, Currency Based Basket Component or an ADS or the securities specifically offer Foreign Currency Exposure, your investment will be directly exposed to currency exchange rate risk.

If the securities are linked to a Currency Based Underlying or Basket Component or specifically offer Foreign Currency Exposure, the return you receive on the securities will be directly linked to currency exchange rate risk. Furthermore, there are significant currency exchange rate risks related to an investment in a security that is linked to an ADS, which is quoted and traded in U.S. dollars, representing an equity security that is quoted and traded in a foreign currency. Changes in the exchange rate between the U.S. dollar and a foreign currency may affect the U.S. dollar equivalent of the price of the underlying equity security on non-U.S. securities markets and, as a result, may affect the price of the ADS, which may consequently affect the value of the securities. The ADSs, which are quoted and traded in U.S. dollars, may trade differently from its underlying equity security.

Of particular importance to currency exchange rate risk are:

- existing and expected rates of inflation;
- existing and expected interest rates;
- political, civil or military unrest;

- the balance of payments between the countries represented in the Underlying or Basket Components and the U.S. or other relevant currency jurisdictions;
- the extent of governmental surpluses or deficits in the countries represented in the Underlying or Basket Components and the U.S. or other relevant currency jurisdictions; and
- for ADSs, the volatility of the exchange rate between the U.S. dollar and the currency of the underlying equity security.

All of these factors are in turn sensitive to the monetary, fiscal and trade policies pursued by the governments of the countries represented in the Underlying or Basket Components, the United States or other relevant currency jurisdictions and other countries important to international trade and finance. The exposure to exchange rate risk may have an adverse effect on the value of, and your return on, the securities.

#### Securities linked to emerging market currencies carry additional risks.

An investment linked to emerging market currencies involves many risks beyond those involved in an investment linked to the currencies of developed markets, including, but not limited to: economic, social, political, financial and military conditions in the emerging markets, including especially political uncertainty and financial instability; the increased likelihood of restrictions on export or currency conversion in the emerging markets; the greater potential for an inflationary environment in the emerging markets; the possibility of nationalization or confiscation of assets; the greater likelihood of regulation by the national, provincial and local governments of the emerging market countries, including the imposition of currency exchange controls and taxes; and less liquidity in emerging market currency markets than in those of developed markets. The currencies of emerging markets may be more volatile than those of developed markets and may be affected by political and economic developments in different ways than developed markets. Moreover, the emerging market economies may differ, potentially unfavorably, from developed market economies in a variety of ways, including growth of gross national product, rate of inflation, capital reinvestment, resources and self-sufficiency.

#### Legal and regulatory changes could adversely affect currency exchange rates.

Many governmental agencies and regulatory organizations are authorized to take extraordinary actions in the event of market emergencies. It is not possible to predict the effect of any future legal or regulatory action relating to currency exchange rates, but any such action could cause unexpected volatility and instability in currency markets with a substantial and adverse effect on the performance of any Currency Based Underlying or Basket Component or any Underlying or Basket Component that has foreign currency exposure and, consequently, the value of, and your return on, the securities.

#### Currency markets may be volatile.

Currency markets may be highly volatile, particularly in relation to emerging or developing nations' currencies, and, in certain market conditions, also in relation to developed nations' currencies. Significant changes, including changes in liquidity and prices, can occur in such markets within very short periods of time. Foreign currency risks include, but are not limited to, convertibility risk, market volatility and the potential impact of actions taken by governments, which may include the regulation of exchange rates or foreign investments, the imposition of taxes, the issuance of a new currency to replace an existing currency or the evaluation or revaluation of a currency. These factors may affect the level of any Currency Based Underlying or Basket Component or any Underlying or Basket Component that has foreign currency exposure and, therefore, the value of the securities in varying ways.

#### Currency exchange rate risks can be expected to heighten in periods of financial turmoil.

In periods of financial turmoil, capital can move quickly out of regions that are perceived to be more vulnerable to the effects of the crisis than others, with sudden and severely adverse consequences to the currencies of those regions. In addition, governments around the world, including the U.S. government and governments of other major world currencies, have recently made, and may be expected to continue to make, very significant interventions in their economies, and sometimes directly in their currencies. Such interventions affect currency exchange rates globally. Further interventions, other government

actions or suspensions of actions, as well as other changes in government economic policy or other financial or economic events affecting the currency markets, may cause currency exchange rates to fluctuate sharply in the future or inhibit such fluctuations, which could have a material adverse effect on the level of any Currency Based Underlying or Basket Component or any Underlying or Basket Component that has foreign currency exposure, and therefore, the value of the securities.

For securities with Foreign Currency Exposure, movements in the level of an Underlying or Basket Component and movements in the exchange rate of the currency linked to that Underlying or Basket Component may offset each other.

For securities with Foreign Currency Exposure, movements in the level of an Underlying or Basket Component and movements in the exchange rate of the currency linked to the Underlying or Basket Component may not correlate with each other. For example, at a time when the level of an Underlying or Basket Component increases, the currency linked to such Underlying or Basket Component may weaken against the reference currency. Such increases in the level of the Underlying or Basket Component may be moderated, offset or more than offset by declines in the value of the currency linked to that Underlying or Basket Component against the reference currency. Similarly, when the currency linked to the Underlying or Basket Component appreciates against the reference currency, the level of the Underlying or Basket Component may decline. Such increases in the value of the currency linked to the Underlying or Basket Component against the reference currency may be moderated, offset or more than offset by declines in the level of the Underlying or Basket Component.

We do not control the Underlying or Basket Components or the components underlying the Underlying or Basket Components nor are we affiliated with the Sponsor or issuer of the Underlying or Basket Component, unless otherwise stated in the relevant pricing supplement.

Except as we may otherwise describe in the relevant pricing supplement, we will not be affiliated with any Sponsor or issuer of, or any of the companies whose stocks are included in, the Underlying or Basket Components. As a result, we will have no ability to control the actions of such Sponsor, issuer or companies, including actions that could affect the value of the components included in the Underlying or Basket Components or the securities. Except as we may otherwise describe in the relevant pricing supplement, none of the money you pay us will go to the Sponsor (except where we are the Sponsor), the issuer of a Reference Stock or any of the companies included in the Underlying or Basket Components. The Sponsor, issuer of a Reference Stock and those companies included in the Underlying or Basket Component will not be involved in the offering of the securities in any way and will not have any obligation to consider your interests as a holder of the securities in taking any actions that might affect the value of the securities. In the case of an Equity Based Underlying or Basket Component with stock components, none of the money you pay us will go to any of the companies that may be included in an Underlying or Basket Component, and such companies will not be involved in the offering of the securities in any way nor will such companies have any obligation to consider your interests as a holder of the securities in taking any actions that might affect the value of the securities.

For Currency Based Underlyings or Basket Components, if the securities are subject to a Currency Early Redemption, the return on the securities may be reduced and you may receive significantly less than the Minimum Payment Amount in such circumstances.

For Currency Based Underlyings or Basket Components, if specified in the relevant pricing supplement, the securities will be subject to a Currency Early Redemption in the event that the calculation agent determines that one of the following events has occurred and is continuing: a general inconvertibility event that generally makes it impossible to convert the relevant currency into the relevant reference currency through customary legal channels; a general non-transferability event that generally makes it impossible (a) to deliver the relevant reference currency from accounts inside a relevant currency jurisdiction to accounts outside that relevant currency jurisdiction, or (b) to deliver a relevant currency between accounts inside the relevant currency jurisdiction for such relevant currency or to a party that is a non-resident of the relevant currency jurisdiction for such relevant currency; any change in laws or regulations, or official interpretations of such laws or regulations, in the relevant currency jurisdiction in respect of any relevant currency; or inability of Deutsche Bank AG or any of its affiliates, after using commercially reasonable efforts, to acquire, establish, re-establish, substitute, maintain, unwind or dispose of any hedge position relating to the securities. In such circumstances, we may

redeem the securities prior to maturity and the amount that we pay you may be significantly less than the Minimum Payment Amount. In such circumstances, you may receive less than the Minimum Payment Amount and you could lose some or a significant portion of your investment.

#### **Risks Related to Commodities**

Regulatory developments and investigations may result in changes to the rules or methodology used to determine the value of an Underlying or Basket Component, which may adversely affect any payment on the securities.

The methodologies used to determine the value of certain "benchmarks" (e.g., commodity and currency price sources), which may be used in determining the Closing Level(s) of one or more Underlyings or Basket Components, are the subject of recent national, international and other regulatory guidance, proposals for reform and investigations. These reforms or changes made in response to these investigations may cause those benchmarks to perform differently than in the past and may have other consequences that cannot be predicted. In addition, market participants may elect not to continue to participate in the administration of certain benchmarks if these reforms and investigations increase the costs and risks associated with those activities, which could cause changes in the rules or methodologies used in certain benchmarks or lead to the disappearance of certain benchmarks. Any of these changes could adversely affect the value of the securities and any payment on the securities.

Suspension or disruptions of market trading in the commodity and related futures markets may adversely affect the return on commodity-linked securities.

The commodity and related futures markets are subject to temporary distortions or other disruptions due to various factors, including the lack of liquidity in the markets, the participation of speculators and government regulation and intervention. In addition, U.S. futures exchanges and some foreign exchanges have regulations that limit the amount of fluctuation in some futures contract prices that may occur during a single Business Day. These limits are generally referred to as "daily price fluctuation limits" and the maximum or minimum price of a contract on any given day as a result of these limits is referred to as a "limit price." Once the limit price has been reached in a particular contract, no trades may be made at a price beyond the limit, or trading may be limited for a set period of time. Limit prices have the effect of precluding trading in a particular contract or forcing the liquidation of contracts at potentially disadvantageous times or prices. These circumstances could adversely affect the level of a Commodity Based Underlying or Basket Component and, therefore, the return on the securities.

If the liquidity of the Underlying or Basket Component or its components is limited, the value of the securities would likely be impaired, and this could result in potential conflicts of interest if we or an affiliate of ours acts as the Index publisher or Sponsor of a Fund.

Commodities and derivatives contracts on commodities may be difficult to buy or sell, particularly during adverse market conditions. Reduced liquidity on the relevant Valuation Date would likely have an adverse effect on the value of the Underlying or Basket Component and, therefore, on the return on the securities. Limited liquidity relating to the components of an Index or Fund may also result in the Index publisher or Sponsor of a Fund being unable to determine the value of the Index or Fund using its normal means which, in turn, could result in potential conflicts of interest if we or an affiliate of ours acts as the Index publisher or Sponsor of a Fund. Any resulting discretion by the Index publisher or Sponsor of a Fund in determining the value could adversely affect the value of the securities.

#### A Commodity Hedging Disruption Event may result in acceleration of the securities.

If a Commodity Hedging Disruption Event occurs, we will have the right to accelerate the payment on the securities prior to maturity. The amount due and payable on the securities upon such early acceleration will be determined in good faith and in a commercially reasonable manner by the calculation agent. If the payment on the securities is accelerated, the amount due and payable on the securities upon such an event may be significantly less than the Minimum Payment Amount and you may not be able to reinvest the proceeds in a comparable investment. In such circumstances, you may receive less than the Minimum Payment Amount and you could lose some or a significant portion of your investment.

Commodity Futures Contracts and the commodity futures contracts underlying a Commodity Based Underlying or Basket Component are subject to legal and regulatory regimes that may change in ways that could have a substantial adverse effect on the value of the securities.

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

Notably, with respect to agricultural and exempt commodities as defined in the Commodity Exchange Act (generally, physical commodities such as agricultural commodities, energy commodities and metals) the CFTC has authority to establish limits on the number of positions, other than bona fide hedge positions, that may be held by any person in a commodity through futures contracts, options on futures contracts and other related derivatives, such as swaps, that are economically equivalent to those contracts. In addition, designated contract markets and swap execution facilities, as defined in the Commodity Exchange Act, are authorized to establish and enforce position limits or position accountability requirements on their own markets or facilities, which must be at least as stringent as the CFTC's where CFTC limits also apply.

In October 2020, the CFTC adopted rules to establish revised or new position limits on 25 agricultural, metals and energy commodity derivatives contracts. The limits will apply to a number of Commodity Futures Contracts and commodity futures contracts that may be included in an Index, such as CBOT Soybeans, Soybean Meal and Wheat futures; ICE Futures US Cotton No. 2, Sugar No. 11 and Sugar No. 16 futures; NYMEX Light Sweet Crude Oil, NYMEX NY Harbor USLD Heating Oil, NY Harbor Gasoline Blendstock and Henry Hub Natural Gas futures; and COMEX Gold, Silver and Copper futures and NYMEX Palladium futures. The limits would apply to a person's combined position in the specified 25 futures contracts and options on futures ("core referenced futures contracts"), futures and options on futures directly or indirectly linked to the core referenced futures contracts, and economically equivalent swaps. These rules will come into effect on January 1, 2022 for covered futures and options on futures contracts and January 1, 2023 for covered swaps. The rules may reduce liquidity in the exchange-traded market for those commodity-based futures contracts, which may, in turn, have an adverse effect on any payments on the securities.

The prices of components underlying Commodity Based Underlyings or Basket Components may change unpredictably, and commodity futures contract prices may be near zero, zero or negative, in each case affect the value of the securities in unindicated ways.

Market prices of components underlying Commodity Based Underlyings or Basket Components may fluctuate rapidly based on numerous factors, including: changes in supply and demand relationships; weather; trends in agriculture; trade, fiscal, monetary and exchange control programs; domestic and foreign political and economic events and policies; disease, pestilence and technological developments; changes in interest rates, whether through governmental action or market movements; currency exchange rates; volatility from speculative activities; the development, availability and/or decrease in the price of substitutes; monetary and other governmental policies, action and inaction; macroeconomic or geopolitical and military events, including political instability in some countries in which the production of particular commodities may be concentrated; and natural or nuclear disasters. These factors may affect the values of a Commodity Based Underlying or Basket Component or its components and the value of the securities in varying ways, and different factors may cause the value of the components, and the volatilities of their prices, to move in inconsistent directions at inconsistent rates. Additionally, certain Commodity Based Underlyings or Basket Components may be concentrated in only a few, or even a

single industry (e.g., energy). These Commodity Based Underlyings or Basket Components and their components are likely to be more volatile than those comprised of a variety of commodities or Commodity Futures Contracts. In addition, prices of commodity futures contracts may be near zero, zero or negative, which can occur rapidly and unexpectedly. For example, the prices of the West Texas Intermediate (WTI) crude oil futures contracts fell into negative territory for the first time ever in 2020. If any commodity futures contract referenced in a Commodity Based Underlying or Basket Component reaches a near-zero, zero or negative price, the market value of and return on the securities could be adversely affected, potentially severely and in unanticipated ways, and you may lose some of your initial investment in the securities.

## For Commodity Based Indices or Funds that include futures contracts, the absence of backwardation or presence of contango in the markets for such futures contracts will adversely affect the value of the Commodity Based Indices or Funds.

For Commodity Based Indices or Funds that include futures contracts, as such futures contracts near expiration, they are replaced by contracts that have a later expiration. Thus, for example, a contract purchased and held in January may specify a March expiration. As that contract nears expiration, it may be replaced by selling the March contract and purchasing the contract expiring in June. This process is referred to as "rolling." Historically, the prices of some futures contracts have frequently been higher for contracts with shorter-term expirations than for contracts with longer-term expirations, which is referred to as "backwardation." In these circumstances, absent other factors, the sale of the March contract would take place at a price that is higher than the price at which the June contract is purchased, thereby creating a gain in connection with rolling. While certain futures contracts included in Commodity Based Indices or Funds have historically exhibited consistent periods of backwardation, backwardation will likely not exist in these markets at all times. The absence of backwardation in the markets for these futures contracts will adversely affect the values of such Commodity Based Indices or Funds and, accordingly, decrease the value of the securities. Conversely, some futures contracts included in Commodity Based Indices or Funds have historically exhibited "contango" markets rather than backwardation. Contango markets are those in which the prices of contracts are higher in the distant delivery months than in the nearer delivery months due to the costs of long-term storage of a physical commodity prior to delivery or other factors. The presence of contango in the markets for these futures contracts will adversely affect the values of such Commodity Based Indices or Funds and, accordingly, decrease the value of the securities.

## For Commodity Futures Contracts or Commodity Based Indices or Funds that include futures contracts, changes in the margin requirements of for such futures contracts may adversely affect the value of the securities.

Futures exchanges require market participants to post collateral in order to open and keep open positions in futures contracts. If an exchange changes the amount of collateral required to be posted to hold positions in Commodity Futures Contracts or futures contracts underlying Commodity Based Indices or Funds, market participants may adjust their positions, which may affect prices of such futures contracts. As a result, the level of that Commodity Futures Contract or Commodity Based Index or Fund, as applicable, may be affected, which may adversely affect the value of the securities.

#### The securities will not be regulated by the CFTC.

The net proceeds to be received by us from the sale of the securities will not be used to purchase or sell any commodity futures contracts or options on such futures contracts for your benefit. An investment in the securities thus neither constitutes an investment in futures contracts, options on such futures contracts nor a collective investment vehicle that trades in these futures contracts (i.e., the securities will not constitute a direct or indirect investment by you in the futures contracts), and you will not benefit from the regulatory protections of the CFTC. Among other things, this means that we are not registered with the CFTC as a futures commission merchant and you will not benefit from the CFTC's or any other non-U.S. regulatory authority's regulatory protections afforded to persons who trade in futures contracts on a regulated futures exchange through a registered futures commission merchant. For example, the price you pay to purchase the securities will be used by us for our own purposes and will not be subject to customer funds segregation requirements provided to customers that trade futures on an exchange regulated by the CFTC.

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

#### **DESCRIPTION OF SECURITIES**

The following description of the terms of the securities supplements the description of the general terms of the securities set forth under the headings "Description of Notes" in the accompanying prospectus supplement and "Description of Debt Securities" in the accompanying prospectus. A separate pricing supplement will describe the specific terms of the securities, including the economic terms of the securities for determining the amount(s) payable on the securities; and that pricing supplement and/or an underlying supplement will describe the equity based, commodity based or currency based index or exchange traded fund, reference stock, commodity, commodity futures contract or basket of such indices, exchange traded funds, reference stocks, commodities and/or commodity futures contracts to which the securities will be linked. Capitalized terms used but not defined in this product supplement have the meanings assigned to them in the accompanying prospectus supplement and prospectus.

#### General

The "securities" are unsecured unsubordinated obligations of Deutsche Bank AG, ranking in priority to its senior non-preferred obligations, that are linked to an equity based, commodity based or currency based index (an "Index") or exchange traded fund (a "Fund"), a reference stock of an issuer (a "Reference Stock"), a commodity (a "Commodity"), a futures contract relating to a commodity (an "Commodity Futures Contract"), a basket (a "Basket") of such Indices, Funds, Reference Stocks, Commodities and/or Commodity Futures Contracts (each, a "Basket Component") or the least performing of two or more Indices, Funds, Reference Stocks, Commodities and/or Commodity Futures Contracts. Each Index, Fund, Reference Stock, Commodity, Commodity Futures Contract and Basket will be referred to as an "Underlying," as specified in the relevant pricing supplement. As used in this product supplement, the term "Reference Stock" includes non-U.S. equity securities issued through depositary arrangements such as American depositary shares ("ADSs"). If the Underlying is an ADS, the term "issuer" refers to the issuer of the shares underlying the ADS. The pricing supplement may also specify that the securities will be linked to the performance of an Underlying or Basket Component adjusted for its exposure to the performance of one or more currencies relative to a reference currency. The details of any adjustment with respect to the Foreign Currency Exposure will be specified in the relevant pricing supplement. We refer to this feature as "Foreign Currency Exposure." When used in this product supplement, any reference to Underlying, Basket Component or Tracked Index shall include any relevant successor Underlying, Basket Component or Tracked Index, respectively.

The securities are included in a series of notes referred to in the accompanying prospectus supplement as our Senior Notes, Series A. The securities will be issued by Deutsche Bank AG (the "Issuer") under the Amended and Restated Senior Indenture, dated as of August 3, 2021, as amended and supplemented by the First Supplemental Senior Indenture dated as of April 26, 2024, in each case among us, Delaware Trust Company, as trustee, and Deutsche Bank Trust Company Americas, as issuing agent, paying agent, authenticating agent and registrar (as amended and supplemented from time to time, the "senior indenture"). We may issue the securities through one or more of our branches, such as our London branch, as specified in the relevant pricing supplement.

The securities will constitute our unsecured and unsubordinated obligations ranking *pari passu* among themselves and *pari passu* with all of our other unsecured and unsubordinated obligations, subject, however, to statutory priorities conferred upon certain unsecured and unsubordinated obligations in the event of any Resolution Measures imposed on us or in the event of our dissolution, liquidation, insolvency or composition, or if other proceedings are opened for the avoidance of the insolvency of, or against, us; and pursuant to Section 46f(5) of the German Banking Act (*Kreditwesengesetz*), our obligations under the securities will rank in priority to our senior non-preferred obligations under any of our debt instruments (*Schuldtitel*) within the meaning of Section 46f(6) sentence 1 of the German Banking Act (including the senior non-preferred obligations under any such debt instruments that we issued before July 21, 2018 and that are subject to Section 46f(9) of the German Banking Act) or any successor provision.

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

If specified in the applicable pricing supplement, we may, without the consent of the holders or the trustee, designate our head office or another branch of ours (in this paragraph, we refer to each of our head office or any of our branches as an "office") as substitute for the office through which we have acted to issue the securities with the same effect as if such substitute office had been originally named as the office through which we had acted to issue the securities for all purposes under the senior indenture and such series. In order to give effect to such a substitution, we will give notice of the substitution to the trustee and the holders of the securities. With effect from the substitution date, such substitute office will, without any amendment of the securities or entry into any supplemental indenture, assume all of the obligations of the originally-named office as principal obligor under the securities. The applicable pricing supplement will include a reference to office substitution if included as a term of the securities.

The relevant pricing supplement will specify the manner in which the Underlying will be referenced in the determination of any payment on the securities. Payments on the securities may reflect long or bullish exposure to one or more Underlyings (meaning that an increase in the value of the relevant Underlying(s) would generally be expected to have a positive effect on payments on the securities) or short or bearish exposure to one or more Underlyings (meaning that a decrease in the value of the relevant Underlying(s) would generally be expected to have a positive effect on payments on the securities).

If specified in the relevant pricing supplement, Deutsche Bank AG will pay you any applicable periodic coupons (the "Periodic Coupons") on the securities or any contingent coupons (the "Contingent Coupons") on the securities under certain circumstances specified in the relevant pricing supplement. The securities do not guarantee the return of your initial investment at, or prior to, maturity. Instead, Deutsche Bank AG will pay or deliver to you an amount in cash and/or units of the Underlying at maturity or upon an Automatic Call or an early redemption, if applicable, the amount of which may vary depending on the performance of the Underlying, calculated as set forth in the relevant pricing supplement.

The securities will be issued in denominations that will be specified in the relevant pricing supplement. The securities will be represented by one or more permanent global securities registered in the name of DTC or its nominee, as described under "Description of Notes—Form, Legal Ownership and Denomination of Notes" in the accompanying prospectus supplement and "Forms of Securities—Global Securities" in the accompanying prospectus.

The specific terms of the securities will be described in the relevant pricing supplement. The terms described in that document should be read as supplementing those described herein, in the relevant underlying supplement and in the accompanying prospectus and prospectus supplement. If the terms described in the relevant pricing supplement are inconsistent with those described herein, in the relevant underlying supplement or in the accompanying prospectus or prospectus supplement, the terms described in the relevant pricing supplement will control.

We will irrevocably deposit with DTC no later than the opening of business on the applicable date or dates funds sufficient to make payments of the amount payable with respect to the securities on such date. We will give DTC irrevocable instructions and authority to pay such amount to the holders of the securities entitled thereto.

Subject to the foregoing and to applicable law (including, without limitation, U.S. federal laws), we or our affiliates may, at any time and from time to time, purchase outstanding securities by tender, in open market transactions or by private agreement.

#### **Certain Defined Terms**

Each term listed below has the meaning given to it for the purpose of this product supplement and the relevant pricing supplement, unless the context otherwise requires or the relevant pricing supplement gives the term a different meaning.

"Automatic Call" means, if specified in the relevant pricing supplement, the securities will be automatically called under the conditions set forth in the relevant pricing supplement.

"Averaging Dates" means the dates specified in the relevant pricing supplement, subject to adjustment as described below under "— Adjustments to Valuation Dates and Payment Dates." If

Averaging Dates are specified, the Final Level will be determined on the last Averaging Date, which we refer to as the "Final Averaging Date."

"Business Day" means, unless otherwise specified in the relevant pricing supplement, any day other than a day that is (i) a Saturday or Sunday, (ii) a day on which banking institutions generally in the City of New York or London, England are authorized or obligated by law, regulation or executive order to be closed or (iii) a day on which transactions in U.S. dollars are not conducted in the City of New York or London, England.

"Call Settlement Date(s)" means, unless otherwise specified in the relevant pricing supplement, the third Business Day following the corresponding Observation Date, subject to adjustment as described below under "— Adjustments to Valuation Dates and Payment Dates."

#### "Closing Level" means:

- (a) for a Basket, the level of such Basket, calculated in accordance with the formula set forth in the relevant pricing supplement, on the relevant date of calculation;
- (b) for a Commodity or Commodity Futures Contract, the price of such Commodity or Commodity Futures Contract on the relevant date of calculation, as defined in the relevant pricing supplement;
- (c) for a Fund, the Closing Price of one share of such Fund on the relevant date of calculation, multiplied by the then-current Share Adjustment Factor applicable to the Fund;
- (d) for an Index, the official closing level of such Index as published on the applicable page of Bloomberg Finance L.P. or any successor service ("Bloomberg") on the relevant date of calculation. The Closing Level of an Index as published by Bloomberg may be published to greater or fewer decimal places than the official closing level of that Index as published by its Sponsor (as defined below). Accordingly, the Closing Level of an Index as published by Bloomberg may be slightly different from the official closing level of that Index as published by its Sponsor; and
- (e) for a Reference Stock, the Closing Price of one share of such Reference Stock on the relevant date of calculation, multiplied by the then-current Stock Adjustment Factor applicable to the Reference Stock or adjusted otherwise as described below under "—Anti-Dilution Adjustments—Anti-Dilution Adjustments for Reference Stock."

"Closing Price" for one share of a Fund or Reference Stock (or one unit of any other security for which a closing price must be determined) on any Trading Day means:

- if the Fund or Reference Stock (or any such other security) is denominated in U.S. dollars and the Fund or Reference Stock (or any such other security) is listed or admitted for trading on a U.S. national securities exchange, the last reported sale price for one share of the Fund or Reference Stock (or any such other security), regular way, of the principal trading session on such day on the principal U.S. national securities exchange registered under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), on which the Fund or Reference Stock (or any such other security) is listed or admitted for trading;
- if the Fund or Reference Stock (or any such other security) is denominated in U.S. dollars and the Fund or Reference Stock (or any such other security) is not listed or admitted for trading on any U.S. national securities exchange but is included in the OTC Bulletin Board (or any successor service), the last reported sale price for one share of the Fund or Reference Stock (or any such other security) of the principal trading session on the OTC Bulletin Board (or any successor service) on such day;
- with respect to any such other security, if such security is issued by a foreign issuer and its
  closing price cannot be determined as set forth in the three bullet points above, and such security
  is listed or admitted for trading on a non-U.S. securities exchange or market, the last reported
  sale price, regular way, of the principal trading session on such day on the primary non-U.S.

securities exchange or market on which such security is listed or admitted for trading (the "non-U.S. dollar price") (if the Initial Level (or other price of the Fund or Reference Stock as specified in the relevant pricing supplement) is denominated in U.S. dollars, the non-U.S. dollar price will be converted to U.S. dollars using such exchange rate as the calculation agent determines in its sole discretion); or

otherwise, if none of the above circumstances is applicable, the mean, as determined by the
calculation agent, of the bid prices for one share of the Fund or Reference Stock (or any such
other security) obtained from as many dealers in such security, but not exceeding three, as will
make such bid prices available to the calculation agent.

"Commodity" means, when referring to an Underlying or Basket Component, a physical commodity, as determined by the calculation agent.

"Commodity Based" means, when referring to an Underlying or a Basket Component, that the Underlying or Basket Component is a Commodity, Commodity Futures Contract or tracks commodities or commodity-linked instruments, as determined by the calculation agent.

"Commodity Futures Contract" means a futures contract relating to a commodity.

"Contingent Coupon" means a coupon that will be paid only under certain circumstances. The relevant pricing supplement will specify the amount, or the method of determining the amount, of any Contingent Coupons and the circumstances under which any Contingent Coupons will be paid.

"Coupon" means any Periodic Coupon or Contingent Coupon. The relevant pricing supplement will specify the amount, or the method of determining the amount, of any applicable Periodic Coupon or Contingent Coupon.

"Coupon Payment Date(s)" means one or more days specified in the relevant pricing supplement.

"Currency Based" means, when referring to an Underlying or a Basket Component, that the Underlying or Basket Component tracks currencies or currency-linked instruments, as determined by the calculation agent.

"Currency Early Redemption" means that, for Currency Based Underlyings or Basket Components, if specified in the relevant pricing supplement, we will have the right, under certain conditions, to redeem the securities prior to the Maturity Date. If applicable, the relevant pricing supplement will specify the Redemption Amount or the method by which it will be determined.

"Early Redemption Date" means the date on which the securities are redeemed pursuant to the Redemption at Option of the Holder, Redemption at Option of the Issuer or Mandatory Redemption as set forth in the relevant pricing supplement, subject to adjustment as described below under "— Adjustments to Valuation Dates and Payment Dates."

"Equity Based" means, when referring to an Underlying or a Basket Component, that the Underlying or Basket Component is a security or tracks, or is composed of, securities, as determined by the calculation agent.

"Face Amount" means the denomination of the security, which may be \$10, \$100, \$1,000 or another amount per security, as specified in the relevant pricing supplement.

"Final Basket Level" means the Closing Level of the Basket on the Final Valuation Date, or the arithmetic average of the Closing Levels of the Basket on each of the Averaging Dates, or on such other date or dates as specified in the relevant pricing supplement.

"Final Commodity Price" means the Closing Level of the Commodity or Commodity Futures Contract on the Final Valuation Date, or the arithmetic average of the Closing Levels of the Commodity or Commodity Futures Contract on each of the Averaging Dates, or on such other date or dates as specified in the relevant pricing supplement.

"Final Fund Price" means the Closing Level of the Fund on the Final Valuation Date, or the arithmetic average of the Closing Levels of the Fund on each of the Averaging Dates, or on such other date or dates as specified in the relevant pricing supplement.

"Final Index Level" means the Closing Level of the Index on the Final Valuation Date, or the arithmetic average of the Closing Levels of the Index on each of the Averaging Dates, or on such other date or dates as specified in the relevant pricing supplement.

"Final Level" means one of the following, as applicable:

- Final Basket Level
- Final Commodity Price
- Final Fund Price
- Final Index Level
- Final Stock Price

When used in connection with a Basket, the Final Level will be deemed to refer to the Final Basket Level and, when used in connection with a Basket Component, the Final Level shall be deemed to refer to the Final Commodity Price, Final Fund Price, Final Index Level or Final Stock Price of such Basket Component, as applicable. In the relevant pricing supplement, the Final Level may be referred to as the "Final Price."

"Final Stock Price" means the Closing Level of the Reference Stock on the Final Valuation Date, or the arithmetic average of the Closing Levels of the Reference Stock on each of the Averaging Dates, or on such other date or dates as specified in the relevant pricing supplement.

"Final Valuation Date" means the date specified in the relevant pricing supplement, subject to adjustment as described below under "— Adjustments to Valuation Dates and Payment Dates."

"Initial Basket Level" means the Closing Level of the Basket on the Trade Date, or such other level as specified in the relevant pricing supplement.

"Initial Commodity Price" means the Closing Level of the Commodity or Commodity Futures Contract on the Trade Date, or such other price as specified in the relevant pricing supplement.

"Initial Fund Price" means the Closing Level of the Fund on the Trade Date, or such other price as specified in the relevant pricing supplement.

"Initial Index Level" means the Closing Level of the Index on the Trade Date, or such other level as specified in the relevant pricing supplement.

"Initial Level" means one of the following, as applicable:

- Initial Basket Level
- Initial Commodity Price
- Initial Fund Price
- Initial Index Level
- Initial Stock Price

When used in connection with a Basket, the Initial Level will be deemed to refer to the Initial Basket Level and, when used in connection with a Basket Component, the Initial Level shall be deemed to refer to the Initial Commodity Price, Initial Fund Price, Initial Index Level or Initial Stock Price of such Basket

Component, as applicable. In the relevant pricing supplement, the Initial Level may be referred to as the "Initial Price," "Lookback Level" or "Lookback Price," as applicable.

"Initial Stock Price" means the Closing Level of the Reference Stock on the Trade Date, or such other price as specified in the relevant pricing supplement.

#### "Intraday Level" means:

- (a) for a Basket, the level of such Basket at the relevant time of calculation, calculated in accordance with the formula set forth in the relevant pricing supplement;
- (b) for a Commodity or Commodity Futures Contract, the price of such Commodity or Commodity Futures Contract at the relevant time of calculation, as defined in the relevant pricing supplement;
- (c) for a Fund, the Intraday Price of one share of such Fund at the relevant time of calculation, multiplied by the then-current Share Adjustment Factor applicable to the Fund;
- (d) for an Index, the level of such Index as published on the applicable page of Bloomberg or any successor service, at the relevant time of calculation. The Intraday Level of an Index as published by Bloomberg may be published to greater or fewer decimal places than the official level of that Index as published by its Sponsor. Accordingly, the Intraday Level of an Index as published by Bloomberg may be slightly different from the official level of that Index as published by its Sponsor; and
- (e) for a Reference Stock, the Intraday Price of one share of such Reference Stock at the relevant time of calculation, multiplied by the then-current Stock Adjustment Factor applicable to the Reference Stock or adjusted otherwise as described below under "—Anti-Dilution Adjustments—Anti-Dilution Adjustments for Reference Stock."

"Intraday Price" for one share of a Fund or Reference Stock (or one unit of any other security for which an Intraday Price must be determined) at any time during any Trading Day (including at the close) means:

- if the Fund or Reference Stock (or any such other security) is denominated in U.S. dollars and the
  Fund or Reference Stock (or any such other security) is listed or admitted for trading on a U.S.
  national securities exchange, the most recently reported sale price for one share of the Fund or
  Reference Stock (or any such other security), regular way at such time during the principal
  trading session on such day on the principal U.S. national securities exchange registered under
  the Exchange Act, on which the Fund or Reference Stock (or any such other security) is listed or
  admitted for trading;
- if the Fund or Reference Stock (or any such other security) is denominated in U.S. dollars and the Fund or Reference Stock (or any such other security) is listed or admitted for trading on any U.S. national securities exchange but the most recently reported sale price is not available pursuant to the preceding bullet point, the most recently reported sale price for one share of the Fund or Reference Stock (or any such other security) at such time during the principal trading session on the over-the-counter market as reported on the OTC Bulletin Board (or any successor service) operated by FINRA on such day;
- if the Fund or Reference Stock (or any such other security) is denominated in U.S. dollars and the Fund or Reference Stock (or any such other security) is not listed or admitted for trading on any U.S. national securities exchange but is included in the OTC Bulletin Board (or any successor service), the most recently reported sale price for one share of the Fund or Reference Stock (or any such other security) at such time during the principal trading session on the OTC Bulletin Board (or any successor service) on such day;
- with respect to any such other security, if such security is issued by a foreign issuer and its intraday price cannot be determined as set forth in the three bullet points above, and such security is listed or admitted for trading on a non-U.S. securities exchange or market, the most recently reported sale price, regular way, at such time during the principal trading session on

such day on the primary non-U.S. securities exchange or market on which such security is listed or admitted for trading (the "non-U.S. dollar price") (if the Initial Level (or other price of the Fund or Reference Stock as specified in the relevant pricing supplement) is denominated in U.S. dollars, the non-U.S. dollar price will be converted to U.S. dollars using such exchange rate as the calculation agent determines in its sole discretion); or

otherwise, if none of the above circumstances is applicable, the mean, as determined by the
calculation agent, for the bid prices for one share of the Fund or Reference Stock (or such other
securities) obtained from as many dealers in such security, but not exceeding three, as will make
such bid prices available to the calculation agent.

"Issue Price" means 100% of the Face Amount, unless otherwise specified in the relevant pricing supplement.

"Mandatory Redemption" means, if the relevant pricing supplement so provides, the securities will be mandatorily redeemed, in whole but not in part, prior to maturity under certain conditions. The details of any such redemption will be specified in the relevant pricing supplement.

"Maturity Date" means the date specified in the relevant pricing supplement, subject to adjustment as described below under "— Adjustments to Valuation Dates and Payment Dates."

"Minimum Payment Amount" means an amount specified in the relevant pricing supplement that will be equal to or greater than 90% of the Face Amount but less than or equal to 100% of the Face Amount.

"Non-U.S. Equity Based" means, when referring to an Underlying or a Basket Component, that the Underlying or Basket Component is a non-U.S. equity security or tracks, or is composed of, non-U.S. equity securities, as determined by the calculation agent.

"Observation Date(s)" means one or more dates on which the securities may be subject to an Automatic Call as set forth in the relevant pricing supplement, subject to adjustment as described below under "— Adjustments to Valuation Dates and Payment Dates."

"Payment at Maturity" means the payment of cash or delivery of a number of units of the Underlying due at maturity per Face Amount of securities, as described below under "— Payment at Maturity."

"Payment Date(s)" means any Coupon Payment Date, Call Settlement Date, Early Redemption Date, Maturity Date or other date specified in the pricing supplement on which a payment or delivery is required to be made on the securities. Any Payment Date is subject to adjustment as described below under "— Adjustments to Valuation Dates and Payment Dates."

"Periodic Coupon" means a coupon that will be paid on a periodic basis. The relevant pricing supplement will specify the amount, or the method of determining the amount, of any Periodic Coupons.

"Redemption Amount" means, if the securities are automatically called or redeemed prior to maturity, the cash amount you will receive on the applicable Call Settlement Date or Early Redemption Date as specified in the relevant pricing supplement.

If the securities are subject to a Currency Early Redemption and a Currency Early Redemption Event has occurred and is continuing, you will not receive the Redemption Amount. The relevant pricing supplement will specify the method by which the calculation agent will calculate the amount due and payable upon such an event.

"Redemption at Option of the Holder" means, if the relevant pricing supplement so provides, you will have the option to redeem your securities on one or more Early Redemption Dates prior to maturity. The details of any such redemption will be specified in the relevant pricing supplement.

"Redemption at Option of the Issuer" means, if the relevant pricing supplement so provides, we will have the option to redeem your securities on one or more Early Redemption Dates prior to maturity. The details of any such redemption will be specified in the relevant pricing supplement.

"Relevant Exchange" means:

- (a) for each Equity Based Underlying or Basket Component separately that is an Index or Fund, the primary organized exchanges or markets of trading for (i) any security then included in or, for a Fund, any security issued by, such Underlying or Basket Component or (ii) any futures or options contract or fund related to such Underlying or Basket Component or to any security then included in such Underlying or Basket Component;
- (b) for each Equity Based Underlying or Basket Component separately that is a Reference Stock, (i) if the Underlying or Basket Component (or any security for which a Closing Price or Intraday Price must be determined) is listed or admitted for trading on one or more U.S. securities exchanges or markets, the primary U.S. exchange or market on which such Underlying, Basket Component or security is listed or admitted for trading, (ii) if the Underlying or Basket Component (or any security for which a Closing Price or Intraday Price must be determined) is not listed or admitted for trading on a U.S. securities exchange or market, the primary non-U.S. exchange or market on which such Underlying, Basket Component or security is listed or admitted for trading or (iii) with respect to an equity security underlying an ADS, the primary exchange or market for trading for such security, as specified in the relevant pricing supplement;
- (c) for each Commodity Based Underlying or Basket Component separately that is a Commodity, Commodity Futures Contract or Index, the exchange on which the Commodity, the Commodity Futures Contract or any Commodity or Commodity Futures Contract included in the Index is traded or its successor; and
- (d) for each Commodity Based Underlying or Basket Component separately that is a Fund, the primary organized exchanges or markets of trading for (i) such Commodity Based Underlying or Basket Component, (ii) any Commodity or Commodity Futures Contract then included in such Commodity Based Underlying or Basket Component, or (iii) any futures or options contract or fund related to such Commodity Based Underlying or Basket Component;

each as determined by the calculation agent.

"Share Adjustment Factor" for each Underlying or Basket Component that is a Fund, unless otherwise specified in the relevant pricing supplement, will initially be 1.0, subject to adjustments as described below under "—Anti-Dilution Adjustments—Anti-Dilution Adjustments for Funds."

"Sponsor" means the sponsor of the applicable Underlying or Basket Component.

"Strike Level" means a pre-determined percentage of the Initial Level, as specified in the relevant pricing supplement, which may be greater than or less than 100% of the Initial Level. In the relevant pricing supplement, the Strike Level may be referred to as the "Strike Price."

"Stock Adjustment Factor" for each Underlying or Basket Component that is a Reference Stock, unless otherwise specified in the relevant pricing supplement, will initially be 1.0, subject to adjustments as described below under "—Anti-Dilution Adjustments—Anti-Dilution Adjustments for Reference Stock."

"Tracked Index" means the index that a Fund seeks to track.

"Trade Date" means the date specified in the relevant pricing supplement.

#### "Trading Day" means:

(a) for each Equity Based Underlying or Basket Component separately and any securities included in or, for a Fund, any security issued by, or any futures or options contract or exchange traded fund related to, such Equity Based Underlying or Basket Component, any day other than a day on which (i)(A) trading is generally not conducted on the Relevant Exchange for such Underlying, Basket Component, security, futures or option contract or exchange traded fund (notwithstanding any such Relevant Exchange closing prior to its scheduled closing time) and/or (B) with respect to an Index, the level of such Index is not published by its Sponsor and (ii) the calculation agent determines in its sole discretion that such non-trading or, with respect to an Index, nonpublication, materially interfered or interferes with our ability or the ability of any of our affiliates to establish, adjust or unwind all or a material portion of any hedge with respect to the securities;

- (b) for each Commodity Based Underlying or Basket Component separately and any Commodity or Commodity Futures Contract included in, or any futures or options contract or exchange traded fund related to, such Commodity Based Underlying or Basket Component, a day, as determined by the calculation agent, on which the Relevant Exchange for such Underlying, Basket Component, Commodity, Commodity Futures Contract, futures or options contract or exchange traded fund is open for trading during its regular trading session, notwithstanding any such Relevant Exchange closing prior to its scheduled closing time; and
- (c) for each Currency Based Underlying or Basket Component separately, 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 New York City and London, England.

"Underlying Return" means, unless otherwise specified in the relevant pricing supplement, (a) the Final Level *minus* the Initial Level (or the Strike Level, if applicable), *divided by* (b) the Initial Level (or the Strike Level, if applicable). In the relevant pricing supplement, the Underlying Return may be referred to as the "Basket Return," "Commodity Return," "Fund Return," "Index Return," "Reference Stock Return" or "Reference Underlying Return" as applicable.

"Valuation Date(s)" means any Trade Date, Observation Date, Final Valuation Date, Averaging Date or other date specified in the pricing supplement on which a level for an Underlying or Basket Component is required to be determined, subject to adjustment as described below under "— Adjustments to Valuation Dates and Payment Dates."

When used in this product supplement, any reference to Underlying, Basket Component or Tracked Index shall include any relevant successor Underlying, Basket Component or Tracked Index, respectively.

# **Periodic and Contingent Coupons**

The relevant pricing supplement will specify whether the securities will pay any Periodic Coupons or Contingent Coupons. Unless otherwise specified in the relevant pricing supplement, the amount of Periodic Coupon or Contingent Coupon per Face Amount of securities payable on each Coupon Payment Date will be calculated as follows:

(Face Amount × Coupon Rate) / number of Coupon Payment Dates per year

where the number of Coupon Payment Dates per year is determined by the frequency of the Coupon Payment Dates and how many Coupon Payment Dates would occur over the course of a full year regardless of the actual term of the securities. For example, if the securities pay a Contingent Coupon on a quarterly basis, this number will be 4.

"Coupon Rate" means a rate per annum specified in the relevant pricing supplement.

If the payment of a Coupon is not contingent on the performance of the Underlying(s), Coupon will accrue from and including the issue date of the securities to but excluding the Maturity Date or the date on which the securities are redeemed or repurchased early, if applicable.

Unless otherwise specified in the relevant pricing supplement, Coupons will be paid in arrears on each Coupon Payment Date, including the Maturity Date, to the holders of record at the close of business on the Business Day immediately preceding that Coupon Payment Date, unless otherwise specified in the relevant pricing supplement. However, upon an Automatic Call or an early redemption or at maturity, the paying agent will pay any Coupon due to the holder to whom it pays the Payment at Maturity or the Redemption Amount. If the securities are automatically called or redeemed early, no additional Coupon will accrue or be payable following the Automatic Call or early redemption.

Coupon Payment Dates are subject to adjustment as described under "—Adjustments to Valuation Dates and Payment Dates—Adjustments to Payment Dates" below.

#### **Automatic Call**

If the relevant pricing supplement specifies that the securities are subject to an automatic call, the securities will be automatically called under the circumstances set forth in the relevant pricing supplement for a cash payment that will be determined as set forth in the relevant pricing supplement on a Call Settlement Date specified in the relevant pricing supplement.

# **Early Redemption**

If the relevant pricing supplement specifies that the securities are subject to a Redemption at Option of the Holder, you will have the option to redeem your securities on one or more Early Redemption Dates prior to maturity. If the relevant pricing supplement specifies that the securities are subject to a Redemption at Option of the Issuer, we will have the option to redeem your securities on one or more Early Redemption Dates prior to maturity. If the relevant pricing supplement specifies that the securities are subject to a Mandatory Redemption, your securities will be mandatorily redeemed prior to maturity under certain conditions. The details of any such redemption will be specified in the relevant pricing supplement.

In order to request that the Issuer redeem your securities on an Early Redemption Date pursuant to a Redemption at Option of the Holder, you must also (i) instruct your DTC custodian with respect to the securities to book a delivery versus payment trade with respect to your securities on the relevant Early Redemption Date at a price equal to the Redemption Amount (calculated as set forth in the relevant pricing supplement) and (ii) cause the DTC custodian to deliver the trade as booked for settlement via DTC at or prior to the time set forth in the relevant pricing supplement on the relevant Early Redemption Date. Because the securities are represented by a global security owned by DTC, you must instruct the broker or other direct or indirect custodian through which you hold your securities to notify DTC of your desire to exercise the Redemption at Option of the Holder right so that the notice of redemption is promptly received by the Issuer. You should consult the broker or other direct or indirect participant through which you hold your securities in order to ascertain the cutoff time by which an instruction must be given in order for timely notice to be delivered to DTC.

For Currency Based Underlyings or Basket Components, if the relevant pricing supplement specifies that the securities are subject to a Currency Early Redemption, then, if the calculation agent determines that a Currency Early Redemption Event has occurred and is continuing, we may redeem the securities prior to the Maturity Date. The relevant pricing supplement will specify the method by which the calculation agent will determine the amount due and payable. We will deliver an irrevocable notice of a Currency Early Redemption to holders of securities specifying the date on which such payment is due at least five Business Days prior to such payment date. The amount due and payable on the securities upon such an event may be significantly less than the Minimum Payment Amount. In such circumstances, you may receive less than the Minimum Payment Amount and you could lose some or a significant portion of your investment. For purposes of the foregoing, a "Currency Early Redemption Event" means any of a General Inconvertibility Event, a General Non-transferability Event, a Change in Law Event, a Currency Hedging Disruption Event (each as defined below) and such other event or events as may be specified in the relevant pricing supplement.

# **Payment at Maturity**

Unlike ordinary debt securities, the securities may not guarantee the full return of your initial investment at maturity. Instead, if the securities have not been automatically called or otherwise redeemed, Deutsche Bank AG will pay or deliver to you at maturity per Face Amount of securities either (i) a cash amount, or (ii) a number of units of the Underlying, in each case, based on the performance of one or more Underlyings as set forth in the relevant pricing supplement. The Payment at Maturity (including the value of the units of the Underlying deliverable at maturity) will be subject to a Minimum Payment Amount. The Minimum Payment Amount could be as low as 90% of the Face Amount. The payment or delivery of the Payment at Maturity is subject to the credit of the Issuer.

The securities may base the amount Deutsche Bank AG will pay you at maturity on the performance of one or more Underlyings during the term of the securities including, for example, on whether the Closing Level(s) or Intraday Level(s) of the Underlying(s) falls below a specified level on any day or on a

specified day or days during the term of the securities. The specific terms of the securities, including the formula for calculating the Payment at Maturity, will be described in the relevant pricing supplement.

If the relevant pricing supplement specifies that a number of units of the Underlying are deliverable to you at maturity (the "Share Delivery Amount") (which may be determined on the Trade Date), such Share Delivery Amount will be subject to adjustment upon the occurrence of certain corporate events affecting the applicable Underlying. See "— Anti-Dilution Adjustments" below. Following the occurrence of certain corporate events, the Share Delivery Amount may consist of Exchange Property as determined by the calculation agent, as described below under "— Anti-Dilution Adjustments—Reorganization Events." If we are unable to deliver to you the Share Delivery Amount as required by the terms of the securities, either because it is commercially impracticable for us to do so or due to a legal restriction, stock exchange rule or any other factor, we will pay you the cash equivalent of the Share Delivery Amount (as determined by the calculation agent in good faith and in a commercially reasonable manner) in lieu of delivering shares of the Underlying.

#### No Fractional Units

If we deliver units of the Underlying to you at maturity, we will pay cash in lieu of delivering any fractional units of the Underlying in an amount equal to the product of Final Level *multiplied* by such fractional amount as determined by the calculation agent on the applicable Valuation Date, *provided* that if the Underlying is a Fund or a Reference Stock, the Final Level of such Fund or Reference Stock will be determined based on (i) the Closing Price of one share of such Fund or Reference Stock without taking into account any anti-dilution adjustment applicable to such Fund or Reference Stock or (ii) if one or more corporate events occur, the value of one unit of the Per Share Exchange Property as determined by the calculation agent, as described below under "— Anti-Dilution Adjustments—Reorganization Events."

#### Delivery of Units of the Underlying

We may designate any of our affiliates to deliver any units of the Underlying or any Exchange Property (as defined below under "— Anti-Dilution Adjustments") pursuant to the relevant pricing supplement, and we shall be discharged of any obligation to deliver such shares of Underlying or Exchange Property to the extent of such performance by our affiliates. Reference in this product supplement to delivery of units of Underlying or any Exchange Property by us shall also include delivery of such units by our affiliates.

We will irrevocably deposit with DTC no later than the opening of business on the applicable date or dates funds or other property sufficient to make payments of the amount payable or deliveries of property deliverable with respect to the securities on such date. We will give DTC irrevocable instructions and authority to pay such amount or deliver such property to the holders of the securities entitled thereto.

# Adjustments to Valuation Dates and Payment Dates

Upon an adjustment to a Valuation Date (other than a Trade Date), the corresponding Payment Date on which a payment is made to the holder of the securities based on the level of an Underlying or Basket Component on such Valuation Date may be adjusted as well. Payment Dates will also be adjusted if they are not Business Days.

As used in the following sections under "— Adjustments to Valuation Dates and Payment Dates," "Underlying" refers to an individual Index, Fund, Reference Stock, Commodity or Commodity Futures Contract to which a security is linked. For Underlyings that make up a Basket, adjustments for Market Disruption Events and non-Trading Days will be applied to each individual Basket Component separately. For securities that offer Foreign Currency Exposure or are linked to two or more Underlyings, see below under "—Securities that offer Foreign Currency Exposure or are linked to a hybrid Basket or Multiple Underlyings."

The relevant pricing supplement may specify an alternative method of adjustment to Valuation Dates and Payment Dates which applies to a specific issuance of securities. If this is the case, the pricing supplement will set out how the adjustments will occur and those adjustments will supersede the relevant adjustments described below.

If a security is issued with a term (from but excluding the settlement date to and including the Maturity Date, each as specified in the relevant pricing supplement) of one year or less, the provisions under "— Adjustments to Valuation Dates" and "— Adjustments to Payment Dates" below will apply but the Valuation Date and the Maturity Date will not be adjusted so that the term (calculated as described above) is greater than one year, and the calculation agent will determine the Closing Level of the relevant Underlying(s) or Basket Component(s) on such Valuation Date as set forth below as if such Valuation Date were the Eighth Day.

#### **Adjustments to Valuation Dates**

#### Equity Based Underlyings or Basket Components

For (i) Equity Based Underlyings or (ii) Baskets composed exclusively of Basket Components which are Equity Based, the following adjustments will be made for Market Disruption Events and non-Trading Days, as applicable. For a hybrid Basket, see below under "— Securities that offer Foreign Currency Exposure or are linked to a hybrid Basket or Multiple Underlyings."

If:

- (a) a Valuation Date is not a Trading Day with respect to any Underlying or Basket Component; or
- (b) a Market Disruption Event for any Underlying or Basket Component occurs or is continuing on a Valuation Date,

then the applicable Valuation Date for such disrupted Underlying or Basket Component, as applicable, will be postponed to the immediately succeeding Trading Day on which no Market Disruption Event for such Underlying or Basket Component occurs or is continuing. The Valuation Date for any such Underlying or Basket Component will not be postponed later than the eighth scheduled Trading Day after the date originally scheduled for such Valuation Date (the "**Eighth Day**").

If the Valuation Date is postponed to the Eighth Day and:

- (a) the Eighth Day is not a Trading Day with respect to such Underlying or Basket Component; or
- (b) a Market Disruption Event for such Underlying or Basket Component occurs or is continuing on the Eighth Day,

then, on the Eighth Day the Closing Level of such Underlying or Basket Component will be determined by the calculation agent (i) in the case of an Index, using the formula for, and method of calculating, the Closing Level last in effect prior to the commencement of the Market Disruption Event or initial non-Trading Day for such relevant Underlying or Basket Component, using the Closing Level of each component of such Underlying or Basket Component, as applicable (or, if trading in the relevant components has been materially suspended or materially limited, the calculation agent's good faith estimate of the Closing Level) on the Eighth Day, and (ii) in the case of a Fund or a Reference Stock, in good faith and in a commercially reasonable manner.

For a Basket, the calculation agent will then calculate the Closing Level for the Basket using:

- (a) for Basket Components not disrupted on the original Valuation Date, the Closing Levels of such Basket Components on the original Valuation Date;
- (b) for Basket Components disrupted on the original Valuation Date but not disrupted on one or more Trading Days from the original Valuation Date to and including the Eighth Day, the Closing Levels of such Basket Components on the first Trading Day after the original Valuation Date on which no Market Disruption Event occurred or was continuing; and
- (c) for Basket Components disrupted from the original Valuation Date through the Eighth Day, the calculation agent's determination of the Closing Levels of such Basket Components as described above.

Market Disruption Events if an Equity Based Underlying or Basket Component is an Index or Fund:

With respect to an Equity Based Underlying or Basket Component that is an Index or Fund, a "Market Disruption Event" means a determination by the calculation agent in its sole discretion that the occurrence or continuance of one or more of the following events materially interfered or interferes with our ability or the ability of any of our affiliates to establish, adjust or unwind all or a material portion of any hedge with respect to the securities:

- for an Underlying or Basket Component which is a Fund, the occurrence or existence of a suspension, absence or material limitation of trading in shares of the Fund on the Relevant Exchange for more than two hours of trading or during the one-half hour period preceding the close of the principal trading session in such market; or a breakdown or failure in the price and trade reporting systems of the Relevant Exchange as a result of which the reported trading prices for the Fund shares during the last one-half hour preceding the close of the principal trading session in such market are materially inaccurate;
- a suspension, absence or material limitation of trading of stocks then constituting 20% or more of
  the level of the Underlying or Basket Component or the Tracked Index of a Fund on the Relevant
  Exchanges for such securities for more than two hours of trading during, or during the one hour
  period preceding the close of, the principal trading session on such Relevant Exchanges;
- a breakdown or failure in the price and trade reporting systems of any Relevant Exchange as a
  result of which the reported trading prices for stocks then constituting 20% or more of the level of
  the Underlying or Basket Component or the Tracked Index of a Fund during the one hour
  preceding the close of the principal trading session on such Relevant Exchange are materially
  inaccurate;
- a suspension, absence or material limitation of trading on any major market for trading in futures
  or options contracts or exchange traded funds related to the Underlying or Basket Component or
  the Tracked Index of a Fund for more than two hours of trading during, or during the one hour
  period preceding the close of, the principal trading session on such market; or
- a decision to permanently discontinue trading in the futures or options contracts or exchange traded funds related to the Underlying or Basket Component or the Tracked Index of a Fund.

For the purpose of determining whether a Market Disruption Event exists at any time, if trading in a security included in the Underlying or Basket Component or the Tracked Index of a Fund is materially suspended or materially limited at that time, then the relevant percentage contribution of that security to the level of the disrupted Underlying or Basket Component or such Tracked Index shall be based on a comparison of:

- the portion of the level of such Underlying or Basket Component or such Tracked Index attributable to that security, relative to
- the overall level of such Underlying or Basket Component or such Tracked Index,

in each case, immediately before that suspension or limitation.

For purposes of determining whether a Market Disruption Event has occurred:

- a limitation on the hours or 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
  market;
- limitations pursuant to the rules of any Relevant Exchange similar to NYSE Rule 80B (or any
  applicable rule or regulation enacted or promulgated by any other self-regulatory organization, the
  SEC or any other relevant authority of scope similar to NYSE Rule 80B as determined by the
  calculation agent) on trading during significant market fluctuations will constitute a suspension,
  absence or material limitation of trading;

- a suspension of trading in futures or options contracts or exchange traded funds related to the Underlying or Basket Component or the Tracked Index of a Fund by any major market for trading in such contracts or funds by reason of:
  - o a price change exceeding limits set by such exchange or market;
  - o an imbalance of orders relating to such contracts or funds; or
  - a disparity in bid and ask quotes relating to such contracts or funds

will, in each such case, constitute a suspension, absence or material limitation of trading in futures or options contracts or exchange traded funds related to the Underlying or Basket Component or the Tracked Index of a Fund: and

a "suspension, absence or material limitation of trading" on any Relevant Exchange or on any
major market for trading in futures or options contracts or exchange traded funds related to the
Underlying or Basket Component or the Tracked Index of a Fund will not include any time when
such market is itself closed for trading under ordinary circumstances.

Market Disruption Events if an Equity Based Underlying or Basket Component is a Reference Stock:

With respect to an Equity Based Underlying or Basket Component that is a Reference Stock, a "Market Disruption Event" means, with respect to the Underlying or Basket Component (or any other security for which a Closing Price must be determined), a determination by the calculation agent in its sole discretion that the occurrence or continuance of one or more of the following events materially interfered or interferes with our ability or the ability of any of our affiliates to effect transactions in the Underlying or Basket Component or any instrument related to the Underlying or Basket Component or to establish, adjust or unwind all or a material portion of any hedge position in the Underlying or Basket Component with respect to the securities:

- the occurrence or existence of a suspension, absence or material limitation of trading of the Underlying or Basket Component (or such other security) on the primary market for the Underlying or Basket Component (or such other security) for more than two hours of trading or during the one-half hour period preceding the close of the principal trading session in such market:
- a breakdown or failure in the price and trade reporting systems of the primary market for the Underlying or Basket Component (or such other security) as a result of which the reported trading prices for the Underlying or Basket Component (or such other security) during the last one-half hour preceding the close of the principal trading session in such market are materially inaccurate;
- a suspension, absence or material limitation of trading on any major market for trading in futures
  or options contracts related to the Underlying or Basket Component (or such other security), if
  available, during the one-half hour period preceding the close of the principal trading session in
  the applicable market;
- a decision to permanently discontinue trading in the futures or options contracts related to the Underlying or Basket Component (or such other security); or
- any other event, if the calculation agent determines in its sole discretion that the event materially
  interfered or interferes with our ability or the ability of any of our affiliates to effect transactions in
  any Underlying or Basket Component or any instrument related to any Underlying or Basket
  Component or to establish, adjust or unwind all or a material portion of any hedge position in any
  Underlying or Basket Component with respect to the securities.

For purposes of determining whether a Market Disruption Event has occurred:

• a limitation on the hours or 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 market;

- limitations pursuant to the rules of any relevant market similar to NYSE Rule 80B (or any
  applicable rule or regulation enacted or promulgated by any other self-regulatory organization, the
  SEC or any other relevant authority of scope similar to NYSE Rule 80B as determined by the
  calculation agent) on trading during significant market fluctuations will constitute a suspension,
  absence or material limitation of trading;
- a suspension of trading in futures or options contracts related to the Underlying or Basket Component (or such other security) by any major market for trading in such contracts, if available, by reason of:
  - o a price change exceeding limits set by such exchange or market;
  - o an imbalance of orders relating to such contracts; or
  - o a disparity in bid and ask quotes relating to such contracts

will, in each such case, constitute a suspension, absence or material limitation of trading in futures or options contracts related to the Underlying or Basket Component (or such other security), as determined by the calculation agent in its sole discretion; and

a "suspension, absence or material limitation of trading" on any major market for trading in futures
or options contracts related to the Underlying or Basket Component (or such other security) will
not include any time when such market is itself closed for trading under ordinary circumstances.

Change-in-Law Event for Non-U.S. Equity Based Underlyings or Basket Components

Unless otherwise specified in the relevant pricing supplement, for (i) Non-U.S. Equity Based Underlyings or (ii) Baskets composed in whole or in part of Basket Components which are Non-U.S. Equity Based, the following provision will apply.

If a Change-in-Law Event occurs then the calculation agent may, in its sole discretion, accelerate the Maturity Date to the third business day after the date on which the value of the securities is determined by the calculation agent as described below. In the event of such an acceleration, the amount payable in respect of the securities on the Maturity Date so accelerated will be the value of the securities as of the date of the Change-in-Law Event (or, if the calculation agent determines in its sole discretion that another day is more appropriate, such other day), as determined by the calculation agent in its sole discretion by reference to, among other things, the value of the applicable Non-U.S. Equity Based Underlying or Basket Component impacted by such event (which may be zero). The amount due and payable on the securities upon such an event may be significantly less than the Minimum Payment Amount. In such circumstances, you may receive less than the Minimum Payment Amount and you could lose some or a significant portion of your investment.

If a Change-in-Law Event occurs and the calculation agent does not accelerate the Maturity Date of the securities in accordance with the above paragraph, then the calculation agent may, in good faith and a commercially reasonable manner, adjust any terms, including but not limited to, the Non-U.S. Equity Based Underlying or Basket Component, the Initial Level, the Final Level, the Share Adjustment Factor (if applicable) or any other values that the calculation agent determines necessary to ensure an equitable result.

A "Change-in-Law Event" will occur if due to (A) the adoption of or any change in any applicable law, regulation or order (including, for the avoidance of doubt and without limitation, adoption or promulgation of new regulations authorized or mandated by existing statute) or (B) the promulgation of or any change, announcement or statement of the formal or informal interpretation by any court, tribunal, regulatory or executive authority with competent jurisdiction of any applicable law, regulation or order, the direct or indirect sale, purchase, beneficial ownership, holding, or transfer of, or any other transaction or other dealing related to, a Non-U.S. Equity Based Underlying or Basket Component, as applicable, by any class of eligible potential purchasers of the securities, the Issuer or any affiliate or any major hedging counterparty is prohibited or, after giving effect to any applicable liquidation, unwind or cure period, will be prohibited.

#### Commodity Based Underlyings or Basket Components

For (i) Commodity Based Underlyings or (ii) Baskets composed exclusively of Basket Components which are Commodity Based, the following adjustments will be made for Market Disruption Events and non-Trading Days, as applicable. For a hybrid Basket, see below under "— Securities that offer Foreign Currency Exposure or are linked to a hybrid Basket or Multiple Underlyings."

If a Market Disruption Event affecting one or more Commodities or Commodity Futures Contracts included in an Underlying or Basket Component occurs or is continuing on a Valuation Date or if any Valuation Date is not a Trading Day with regard to any Commodity or Commodity Futures Contract, the calculation agent will calculate the Closing Level of such Underlying or Basket Component for the Valuation Date using:

- (a) for each Commodity or Commodity Futures Contract, the weight of the Commodity or Commodity Futures Contract within the Underlying or Basket Component on the Valuation Date;
- (b) for each Commodity or Commodity Futures Contract for which the Valuation Date was a Trading Day and which did not suffer a Market Disruption Event on such day, the closing price (as defined in the relevant pricing supplement) for such Commodity or Commodity Futures Contract on that day; and
- (c) subject to the following paragraph, for each Commodity or Commodity Futures Contract for which the Valuation Date was not a Trading Day or which suffered a Market Disruption Event on such Valuation Date, the closing price (as defined in the relevant pricing supplement) for the Commodity or Commodity Futures Contract on the immediately succeeding Trading Day for such Commodity or Commodity Futures Contract on which no Market Disruption Event occurs or is continuing with respect to or affecting such Commodity or Commodity Futures Contract (a "Good Day").

If a Good Day does not occur by:

- (x) the scheduled Trading Day after a Trade Date; or
- (y) the eighth scheduled Trading Day (the "**Eighth Day**") after the scheduled Valuation Date (other than a Trade Date).

then the calculation agent will determine and use in calculating the Closing Level of the Underlying or Basket Component the closing price for the affected Commodity or Commodity Futures Contract on the scheduled Trading Day after the Trade Date or the Eighth Day (as applicable) in good faith and in a commercially reasonable manner.

With respect to a Commodity Based Underlying or Basket Component, a "Market Disruption Event" means a determination by the calculation agent in its sole discretion that the occurrence or continuance of one or more of the following events materially interfered or interferes with our ability or the ability of any of our affiliates to establish, adjust or unwind all or a material portion of any hedge with respect to the securities:

- a termination or suspension of, or material limitation or disruption in the trading of any Commodity
  or Commodity Futures Contract (including, but not limited to, the occurrence or announcement of
  a limitation on, or suspension of, the trading of an applicable Commodity or Commodity Futures
  Contract imposed by the Relevant Exchange on which such Commodity or Commodity Futures
  Contract is traded by reason of movements exceeding "limit up" or "limit down" levels permitted
  by such Relevant Exchange) within or constituting an Underlying or Basket Component;
- the settlement price of any Commodity or Commodity Futures Contract within or constituting an Underlying or Basket Component has increased or decreased from the previous day's settlement price by the maximum amount permitted under the rules of the Relevant Exchange;

- failure by the Relevant Exchange or other price source to announce or publish the settlement price of any Commodity or Commodity Futures Contract within or constituting an Underlying or Basket Component;
- failure by the Sponsor of an Underlying or Basket Component to publish the closing level of the Underlying or Basket Component;
- for an Underlying or Basket Component which is a Fund, the occurrence of a Market Disruption Event (as defined with respect to an Equity Based Underlying or Basket Component which is a Fund, except that any reference to "stocks" shall be deemed to refer to "Commodities" or "Commodity Futures Contracts"); or
- a Commodity Hedging Disruption Event (as defined below).

Commodity Hedging Disruption Events for Commodity Based Underlyings or Basket Components

If a Commodity Hedging Disruption Event occurs, we will have the right, but not the obligation, to accelerate the payment on the securities by providing, or causing the calculation agent to provide, written notice of our election to exercise such right to the trustee at its New York office, on which notice the trustee may conclusively rely, as promptly as possible and in no event later than the Business Day immediately following the day on which we reach a final determination that such Commodity Hedging Disruption Event occurred. The amount due and payable per Face Amount of securities upon such early acceleration will be determined by the calculation agent in good faith and in a commercially reasonable manner on the date on which we deliver notice of such acceleration and will be payable on the fifth Business Day following the day on which the calculation agent delivers notice of such acceleration. The amount due and payable on the securities upon such an event may be significantly less than the Minimum Payment Amount. In such circumstances, you may receive less than the Minimum Payment Amount and you could lose some or a significant portion of your investment. We will provide, or will cause the calculation agent to provide, written notice to the trustee at its New York office, on which notice the trustee may conclusively rely, and to DTC of the cash amount due with respect to the securities as promptly as possible and in no event later than two Business Days prior to the date on which such payment is due. For the avoidance of doubt, the determination set forth above is only applicable to the amount due with respect to acceleration as a result of a Commodity Hedging Disruption Event and not with respect to acceleration due to an event of default.

#### A "Commodity Hedging Disruption Event" means that:

- (a) due to (i) the adoption of, or any change in, any applicable law, regulation or rule or (ii) the promulgation of, or any change in, the interpretation by any court, tribunal or regulatory authority with competent jurisdiction of any applicable law, rule, regulation or order (including, without limitation, as implemented by the CFTC or any exchange or trading facility), in each case occurring on or after the pricing date, the calculation agent determines in good faith that it is contrary to such law, rule, regulation or order to purchase, sell, enter into, maintain, hold, acquire or dispose of our or our affiliates' (A) positions or contracts in securities, options, futures, derivatives or foreign exchange or (B) other instruments or arrangements, in each case, in order to hedge individually or in the aggregate on a portfolio basis our obligations under the securities ("hedge positions"), including, without limitation, if such hedge positions are (or, but for the consequent disposal thereof, would otherwise be) in excess of any allowable position limit(s) in relation to any commodity traded on any exchange(s) or other trading facility (it being within the sole and absolute discretion of the calculation agent to determine which of the hedge positions are counted towards such limit); or
- (b) for any reason, we or our affiliates are unable, after using commercially reasonable efforts, to (i) acquire, establish, re-establish, substitute, maintain, unwind or dispose of any transaction(s) or asset(s) the calculation agent deems necessary to hedge the risk of entering into and performing our commodity-related obligations with respect to the securities, or (ii) realize, recover or remit the proceeds of any such transaction(s) or asset(s).

#### **Currency Based Underlyings or Basket Components**

For (i) Currency Based Underlyings or (ii) Baskets composed exclusively of Basket Components which are Currency Based, the following adjustments will be made for Market Disruption Events and non-Trading Days, as applicable. For a hybrid Basket, see below under "— Securities that offer Foreign Currency Exposure or are linked to a hybrid Basket or Multiple Underlyings."

If:

- (a) a Valuation Date is not a Trading Day with respect to any Underlying or Basket Component; or
- (b) a Market Disruption Event for any Underlying or Basket Component occurs or is continuing on a Valuation Date,

then the applicable Valuation Date for such disrupted Underlying or Basket Component, as applicable, may, in the discretion of the calculation agent, be postponed to the immediately succeeding Trading Day on which no Market Disruption Event for such Underlying or Basket Component occurs or is continuing. The Valuation Date for any such Underlying or Basket Component will not be postponed later than the eighth scheduled Trading Day after the date originally scheduled for such Valuation Date (the "Eighth Day").

If the Valuation Date is postponed to the Eighth Day and:

- (a) the Eighth Day is not a Trading Day with respect to such Underlying or Basket Component; or
- (b) a Market Disruption Event for such Underlying or Basket Component occurs or is continuing on the Eighth Day,

then, on the Eighth Day the calculation agent will determine the Closing Level of such Underlying or Basket Component using the formula for, and method of calculating, the Closing Level last in effect prior to the commencement of the Market Disruption Event or initial non-Trading Day for such Underlying or Basket Component, using the level of each component of such Underlying or Basket Component (or, if trading in the relevant component has been materially suspended or materially limited, the calculation agent's good faith estimate of the level of each component) on the Eighth Day.

For a Basket, the calculation agent will then calculate the Closing Level for the Basket using:

- (a) for Basket Components not disrupted on the original Valuation Date, the Closing Level of such Basket Components on the original Valuation Date;
- (b) for Basket Components disrupted on the original Valuation Date but not disrupted on one or more Trading Days from the original Valuation Date to and including the Eighth Day, the published closing levels of such Basket Components on the first Trading Day after the original Valuation Date on which no Market Disruption Event occurred or was continuing; and
- (c) for Basket Components disrupted from the original Valuation Date through the Eighth Day, the calculation agent's determination of the Closing Levels of such Basket Components as described above.

With respect to a Currency Based Underlying or Basket Component, a "Market Disruption Event" means any of the following:

- A currency exchange rate used in the calculation of the Underlying or Basket Component splits into dual or multiple exchange rates;
- An event occurs that generally makes it impossible to convert the Underlying or Basket Component or a currency used in the calculation of the Underlying or Basket Component (a "Relevant Currency") into the relevant reference currency in the home country for such Relevant Currency (the "Relevant Currency Jurisdiction") through customary legal channels (such an event, a "General Inconvertibility Event");

- An event occurs that generally makes it impossible (a) to deliver the relevant reference currency
  from accounts inside a Relevant Currency Jurisdiction to accounts outside that Relevant
  Currency Jurisdiction, or (b) to deliver a Relevant Currency between accounts inside the Relevant
  Currency Jurisdiction for such Relevant Currency or to a party that is a non-resident of the
  Relevant Currency Jurisdiction (such an event, a "General Non-transferability Event");
- 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 of the Relevant Currency Jurisdiction;
- Any change in, or amendment to, the laws or regulations prevailing in the Relevant Currency
  Jurisdiction in respect of any Relevant Currency, or any change in any application or official
  interpretation of such laws or regulations, or any other governmental action that the calculation
  agent determines may cause another Market Disruption Event to occur or that leads or may lead
  to the introduction of a currency peg regime or other intervention (such an event, a "Change in
  Law Event");
- 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 Underlying or Basket Component;
- 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 Currency Jurisdiction;
- The calculation agent determines that there is a material difference in a currency exchange rate relevant to the Underlying or Basket Component as determined by reference to the rate source for the Underlying or Basket Component and any other market source;
- It becomes impossible to obtain a currency exchange rate relevant to the Underlying or Basket Component, either from the source for that rate or by the Sponsor of the Underlying or Basket Component itself acting in good faith and in a commercially reasonable manner;
- The calculation agent 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 any securities or other relevant transactions linked to the Underlying or Basket Component, or to realize, recover or remit the proceeds of any such transactions (such an event, a "Currency Hedging Disruption Event");
- The Sponsor of the Underlying or Basket Component that is an Index fails to publish the closing level of the Underlying or Basket Component; and
- Any event that the calculation agent determines may lead to any of the foregoing events.

# Securities that offer Foreign Currency Exposure or are linked to a hybrid Basket or Multiple Underlyings

If the securities offer Foreign Currency Exposure, Market Disruption Events (as defined with respect to a Currency Based Underlying or Basket Component) will apply to the securities. If the calculation agent, in its sole discretion, determines that a Market Disruption Event prevents it from valuing a currency related to the Underlying or Basket Component, or calculating the Redemption Amount or Payment at Maturity in the ordinary manner, the calculation agent will determine such value or amount in good faith and in a commercially reasonable manner.

If the securities are linked to a Basket composed of a mix of Equity Based, Commodity Based or Currency Based Basket Components (a "**hybrid Basket**"), the Valuation Date for each Basket Component will be adjusted separately in accordance with the provisions set out above.

If the securities are linked to two or more Underlyings, the Valuation Date for each Underlying will be adjusted separately in accordance with the provisions set out above.

#### **Adjustments to Payment Dates**

If the scheduled Payment Date is not a Business Day, then the Payment Date will be the next succeeding Business Day following such scheduled Payment Date. If an adjustment is made for a Market Disruption Event or a non-Trading Day that occurs on a Valuation Date, the relevant Payment Date will be postponed to a Business Day following the date on which the calculation agent determines:

- (a) with respect to securities linked to a single Underlying (including, without limitation, a hybrid Basket), the Closing Level of the Underlying; or
- (b) with respect to securities linked to two or more Underlyings, the last of the Closing Level(s) of the Underlying(s)

(in each case, the "postponed Valuation Date"), so that the number of Business Days between the postponed Valuation Date and the postponed Payment Date will be equal to the number of Business Days between the originally scheduled Valuation Date and Payment Date. If a Payment Date is postponed, any payment due on such Payment Date will be paid on the Payment Date as postponed, with the same force and effect as if the Payment Date had not been postponed, but no interest will accrue or be payable as a result of the delayed payment.

For the avoidance of doubt, if the Maturity Date is adjusted as the result of a Market Disruption Event, the Coupon (if any) due on the Maturity Date will be made on the Maturity Date as adjusted, with the same force and effect as if the Maturity Date had not been adjusted, but no additional Coupon will accrue or be payable as a result of any delayed payment.

# Discontinuation of an Index; Alteration of Method of Calculation

If the Sponsor of an Index discontinues publication of such Index and such Sponsor or another entity publishes a successor or substitute index that the calculation agent determines, in its sole discretion, to be comparable to the discontinued Index (such index being referred to herein as a "Successor Index"), then the Closing Level of such Index on any Trading Day following the publication of such Successor Index on which a level for such Index must be taken for the purposes of the securities, including any Valuation Date ("Relevant Date") will be determined by reference to the official closing level of such Successor Index as of the applicable Relevant Date, with such adjustment as the calculation agent deems necessary to take into account the different levels of the Index and such Successor Index at the time of such succession.

Upon any selection by the calculation agent of a Successor Index, the calculation agent will cause written notice thereof to be promptly furnished to the trustee, to us and to the holders of the securities.

If the Sponsor discontinues publication of an Index prior to, and such discontinuance is continuing on, any Relevant Date, and the calculation agent determines, in its sole discretion, that no Successor Index is available at such time, or the calculation agent has previously selected a Successor Index and publication of such Successor Index is discontinued prior to and such discontinuation is continuing on such Relevant Date, then (a) the calculation agent will determine the Closing Level for such Relevant Date and (b) the index level, if applicable, at any time on such Relevant Date will be deemed to equal the Closing Level on that Relevant Date, as determined by the calculation agent. Such Closing Level will be computed by the calculation agent in accordance with the formula for and method of calculating the Index or Successor Index, as applicable, last in effect prior to such discontinuance, using the closing price (or, if trading in the relevant component has been materially suspended or materially limited, its good faith estimate of the closing price) on such date of each component most recently composing such Index or Successor Index, as applicable. Notwithstanding these alternative arrangements, discontinuance of the publication of the Index or Successor Index, as applicable, may adversely affect the value of the securities.

If at any time the method of calculating an Index or Successor Index, or the level thereof, is changed in a material respect, or if an Index or Successor Index is in any other way modified so that such Index or Successor Index does not, in the opinion of the calculation agent, fairly represent the level of such Index or Successor Index had such changes or modifications not been made, then, from and after such time,

the calculation agent will, at the close of business in New York City on each date on which the Closing Level of such Index or Successor Index is to be determined, make such calculations and adjustments as, in the good faith judgment of the calculation agent, may be necessary in order to arrive at a level of an index comparable to such Index or Successor Index, as the case may be, as if such changes or modifications had not been made, and the calculation agent will calculate the relevant Closing Level with reference to such Index or Successor Index, as adjusted. Accordingly, if the method of calculating an Index or Successor Index is modified so that the level of such Index or Successor Index is a fraction of what it would have been if there had been no such modification (e.g., due to a split in such Index or Successor Index), then the calculation agent will adjust such Index or Successor Index in order to arrive at a level of such Index or Successor Index as if there had been no such modification (e.g., as if such split had not occurred).

# Discontinuance of a Fund and/or its Tracked Index; Alteration of Method of Calculation

If a Fund is delisted from the relevant exchange, liquidated or otherwise terminated (a "Liquidation Event"), then any price of such Fund required for the purposes of the securities will be determined by the calculation agent and will be deemed to equal the product of (i) the closing level of its Tracked Index (or any successor index to the Tracked Index, as described below) on any Relevant Date (taking into account any material changes in the method of calculating the Tracked Index following such Liquidation Event) times (ii) a fraction, the numerator of which is the closing price of the Fund and the denominator of which is the closing level of the Tracked Index (or any Successor Tracked Index, as described below), each determined as of the last day prior to the occurrence of the Liquidation Event on which a closing price of the Fund was available.

If the sponsor of a Tracked Index discontinues publication of such Tracked Index and such sponsor or another entity publishes a successor or substitute index that the calculation agent determines, in its sole discretion, to be comparable to the discontinued Tracked Index (such index being referred to herein as a "Successor Tracked Index"), then any subsequent closing level following a Liquidation Event on which the closing level must be taken for the purpose of the securities, including any Valuation Date, will be determined by reference to the published level of such Successor Tracked Index at the regular weekday close of trading on any Trading Day, with such adjustment as the calculation agent deems necessary to take into account the different levels of the Tracked Index and such Successor Tracked Index at the time of such succession.

Upon any selection by the calculation agent of a Successor Tracked Index, the calculation agent will cause written notice thereof to be furnished to the trustee, to us and to DTC, as holder of the security, within three Business Days of such selection. We expect that such notice will be passed on to you, as a beneficial owner of the securities, in accordance with the standard rules and procedures of DTC and its direct and indirect participants.

If the sponsor discontinues publication of the Tracked Index prior to, and such discontinuance is continuing on, the Relevant Date following a Liquidation Event and the calculation agent determines, in its sole discretion, that no Successor Tracked Index is available at such time, then the calculation agent will determine the closing level of the Tracked Index for such date. Such closing level will be computed by the calculation agent in accordance with the formula for calculating the Tracked Index last in effect prior to such discontinuance, using the closing level (or, if trading in the relevant securities has been materially suspended or materially limited, its good faith estimate of the closing level) at the close of the principal trading session of the relevant exchange on the Relevant Date of each security most recently composing the Tracked Index without any rebalancing or substitution of such securities following such discontinuance. Notwithstanding these alternative arrangements, discontinuance of the publication of the Tracked Index may adversely affect the value of the securities.

# **Anti-Dilution Adjustments**

#### **Anti-Dilution Adjustments for Funds**

The Share Adjustment Factor and the Share Delivery Amount for each Fund is subject to adjustment by the calculation agent as a result of the anti-dilution adjustments described in this section.

No adjustments to any Share Adjustment Factor or Share Delivery Amount will be required unless such Share Adjustment Factor or Share Delivery Amount adjustment would require a change of at least 0.1% of such Share Adjustment Factor or Share Delivery Amount then in effect. A Share Adjustment Factor or Share Delivery Amount resulting from any of the adjustments specified in this section will be rounded to the nearest one ten-thousandth with five one hundred-thousandths being rounded upward. The calculation agent will not be required to make any adjustments to the Share Adjustment Factor or Share Delivery Amount for any Fund after the close of business on the final Valuation Date.

No adjustments to the Share Adjustment Factor or the Share Delivery Amount will be required other than those specified below. The adjustments specified in this section do not cover all events that could affect a Fund, and there may be events that could affect a Fund for which the calculation agent will not make any adjustments. Nevertheless, the calculation agent may, in its sole discretion, make additional adjustments to any terms of the securities upon the occurrence of events that affect or could potentially affect the market price of, or shareholder rights in, a Fund, with a view to offsetting, to the extent practical, any such change, and preserving the relative investment risks of the securities. In addition, the calculation agent may make adjustments or a series of adjustments that differ from those described herein if the calculation agent determines, in its sole discretion, that such adjustments do not properly reflect the economic consequences of the events specified in this product supplement or would not preserve the relative investment risks of the securities. All determinations made by the calculation agent in making any adjustments to the terms of the securities, including adjustments that are in addition to, or that differ from, those described in this product supplement, will be made in good faith and in a commercially reasonable manner, with the aim of ensuring an equitable result. In determining whether to make any adjustment to the terms of the securities, the calculation agent may consider any adjustment made by the Options Clearing Corporation or any other derivatives clearing organization on options contracts on the affected Fund.

#### Share Splits and Reverse Share Splits

If the shares of a Fund are subject to a share split or reverse share split, then once such split has become effective, the Share Adjustment Factor, which will initially be set at 1.0, or the Share Delivery Amount will be adjusted so that the new Share Adjustment Factor or Share Delivery Amount shall equal the product of:

- (a) the prior Share Adjustment Factor or Share Delivery Amount, and
- (b) the number of shares which a holder of one share of a Fund before the effective date of the share split or reverse share split would have owned or been entitled to receive immediately following the applicable effective date.

#### Share Dividends or Distributions

If a Fund is subject to a share dividend (i.e., an issuance of additional shares of a Fund that is given ratably to all or substantially all holders of shares of a Fund), then, once the dividend or distribution has become effective and the shares of a Fund are trading ex-dividend, the Share Adjustment Factor or the Share Delivery Amount will be adjusted so that the new Share Adjustment Factor or Share Delivery Amount plus the product of:

- (a) the prior Share Adjustment Factor or Share Delivery Amount, and
- (b) the number of additional shares issued in the share dividend or distribution with respect to one share of a Fund.

#### Non-cash Distributions

If a Fund distributes shares of capital stock, evidences of indebtedness or other assets or property of a Fund to all or substantially all holders of shares of a Fund (other than (i) share dividends or distributions referred to under "— Share Dividends or Distributions" above and (ii) cash dividends referred to under "— Extraordinary Cash Dividends or Distributions" below), then, once the distribution has become effective and the shares of a Fund are trading ex-dividend, the Share Adjustment Factor or the Share Delivery

Amount will be adjusted so that the new Share Adjustment Factor or Share Delivery Amount shall equal the product of:

- (a) the prior Share Adjustment Factor or Share Delivery Amount, and
- (b) a fraction, the numerator of which is the Current Market Price of one share of a Fund and the denominator of which is the amount by which such Current Market Price exceeds the Fair Market Value of such distribution.

The "Current Market Price" of a Fund means the arithmetic average of the closing prices of one share of a Fund for the ten Trading Days prior to the Trading Day immediately preceding the ex-dividend date of the distribution requiring an adjustment to the Share Adjustment Factor or the Share Delivery Amount.

**"Ex-dividend date"** means the first Trading Day on which transactions in the shares of a Fund trade on the relevant exchange without the right to receive that cash dividend or other cash distribution.

The "Fair Market Value" of any such distribution means the per share value of such distribution on the ex-dividend date for such distribution, as determined by the calculation agent. If such distribution consists of property traded on the ex-dividend date on a U.S. national securities exchange, the Fair Market Value will equal the closing price of such distributed property on such ex-dividend date.

#### Extraordinary Cash Dividends or Distributions

A dividend or other distribution consisting exclusively of cash to all or substantially all holders of shares of a Fund will be deemed to be an extraordinary cash dividend if its per share value exceeds that of the immediately preceding non-extraordinary cash dividend, if any, for a Fund by an amount equal to at least 10% of the closing price of a Fund on the first Trading Day immediately preceding the ex-dividend date.

If an extraordinary cash dividend occurs, the Share Adjustment Factor or the Share Delivery Amount will be adjusted so that the new Share Adjustment Factor or Share Delivery Amount shall equal the product of:

- (a) the prior Share Adjustment Factor or Share Delivery Amount, and
- (b) a fraction, the numerator of which is the closing price of a Fund on the Trading Day before the exdividend date and the denominator of which is the amount by which that closing price exceeds the per share extraordinary dividend amount.

#### **Anti-Dilution Adjustments for Reference Stock**

Upon the occurrence of certain corporate events, the Closing Level and Intraday Level of each Reference Stock will be adjusted via its Stock Adjustment Factor, as described below.

The Stock Adjustment Factor, Share Delivery Amount and the Final Level for such Reference Stock are subject to adjustment by the calculation agent as a result of the anti-dilution and reorganization adjustments described in this section. No adjustments to the Stock Adjustment Factor or the Share Delivery Amount will be required unless such adjustment would require a change of at least 0.1% in the Stock Adjustment Factor or the Share Delivery Amount then in effect. The Stock Adjustment Factor or the Share Delivery Amount resulting from any of the adjustments specified in this section will be rounded to the nearest one ten-thousandth with five one hundred-thousandths being rounded upward. The calculation agent will not be required to make any adjustments to the Stock Adjustment Factor or the Share Delivery Amount after the close of business on the final Valuation Date.

No adjustments to the Stock Adjustment Factor or the Share Delivery Amount will be required other than those specified below. The required adjustments specified in this section do not cover all events that could affect the Intraday Price or the Closing Price of the Reference Stock on any Trading Day during the term of the securities. No adjustments will be made for certain other events, such as offerings of common stock by the issuer of the Reference Stock for cash or in connection with acquisitions or otherwise or the

occurrence of a partial tender or exchange offer for the Reference Stock by the issuer of the Reference Stock or any third party. Nevertheless, the calculation agent may, in its sole discretion, make additional adjustments to any terms of the securities upon the occurrence of corporate or other similar events that affect or could potentially affect the market price of, or shareholder rights in, the Reference Stock, with a view to offsetting, to the extent practical, any such change, and preserving the relative investment risks of the securities. In addition, the calculation agent may make adjustments or a series of adjustments that differ from those described herein if the calculation agent determines, in its sole discretion, that such adjustments do not properly reflect the economic consequences of the events specified in this product supplement or would not preserve the relative investment risks of the securities. All determinations made by the calculation agent in making any adjustments to the terms of the securities, including adjustments that are in addition to, or that differ from, those described in this product supplement, will be made in good faith and in a commercially reasonable manner, with the aim of ensuring an equitable result. In determining whether to make any adjustment to the terms of the securities, the calculation agent may consider any adjustment made by the Options Clearing Corporation or any other equity derivatives clearing organization on options contracts on the affected Reference Stock.

For purposes of these adjustments, except as noted below, if an ADS is serving as the Reference Stock, all adjustments to the Stock Adjustment Factor or the Share Delivery Amount for such Reference Stock will be made as if the equity security underlying the ADS is serving as the Reference Stock. Therefore, for example, if the equity security underlying the ADS is subject to a two-for-one stock split and assuming the Stock Adjustment Factor is equal to one, the Stock Adjustment Factor for the Reference Stock would be adjusted to equal to two and the Share Delivery Amount would be adjusted to be equal to twice as much as the prior Share Delivery Amount. If the securities are linked to an ADS, the term "dividend" used in this section will mean, unless we specify otherwise in the pricing supplement for the securities, the dividend paid by the issuer of the equity security underlying the ADS, net of any applicable foreign withholding or similar taxes that would be due on dividends paid to a U.S. person that claims and is entitled to a reduction in such taxes under an applicable income tax treaty, if available.

However, if an ADS is serving as the Reference Stock, no adjustment to the Closing Level, Final Level, the Stock Adjustment Factor or the Share Delivery Amount, including those described below, will be made if (i) holders of those ADSs are not eligible to participate in any of the transactions described below or (ii) (and to the extent that) the calculation agent determines in its sole discretion that the issuer or the depositary for those ADSs has adjusted the number of equity securities represented by each ADS in response to the corporate event in question. However, to the extent that the number of equity securities represented by each ADS is changed for any other reason, appropriate adjustments to the anti-dilution adjustments described herein (which may include ignoring such provision, if appropriate) will be made to reflect such change.

#### Stock Splits and Reverse Stock Splits

If the Reference Stock is subject to a stock split or a reverse stock split, then once any split has become effective, the Stock Adjustment Factor or the Share Delivery Amount relating to such Reference Stock will be adjusted so that the new Stock Adjustment Factor or Share Delivery Amount shall equal the product of:

- the prior Stock Adjustment Factor or Share Delivery Amount, and
- the number of shares which a holder of one share of such Reference Stock before the effective date of that stock split or reverse stock split would have owned or been entitled to receive immediately following the applicable effective date.

#### Stock Dividends or Distributions

If the Reference Stock is subject to (i) a stock dividend, i.e., an issuance of additional shares of such Reference Stock, that is given ratably to all or substantially all holders of shares of such Reference Stock, or (ii) a distribution of shares of such Reference Stock as a result of the triggering of any provision of the corporate charter of the issuer of such Reference Stock, then, once the dividend or distribution has become effective and the shares of such Reference Stock are trading ex-dividend, the Stock Adjustment Factor or the Share Delivery Amount will be adjusted so that the new Stock Adjustment Factor or Share

Delivery Amount shall equal the prior Stock Adjustment Factor or Share Delivery Amount plus the product of:

- the prior Stock Adjustment Factor or Share Delivery Amount, and
- the number of additional shares issued in the stock dividend or distribution with respect to one share of such Reference Stock.

#### Non-cash Dividends or Distributions

If the issuer of the Reference Stock distributes shares of capital stock, evidences of indebtedness or other assets or property of such issuer of the Reference Stock to all or substantially all holders of such Reference Stock (other than (i) dividends or distributions referred to under "— Stock Splits and Reverse Stock Splits" or "— Stock Dividends or Distributions" above or rights and/or warrants referred to under "— Issuance of Transferable Rights or Warrants" below and (ii) cash distributions or dividends referred under "— Extraordinary Cash Dividends or Distributions" below), then, once the distribution has become effective and the shares of such Reference Stock are trading ex-dividend, the Stock Adjustment Factor or the Share Delivery Amount will be adjusted so that the new Stock Adjustment Factor or Share Delivery Amount shall equal the product of:

- the prior Stock Adjustment Factor or Share Delivery Amount, and
- a fraction, the numerator of which is the Current Market Price of one share of such Reference Stock and the denominator of which is the amount by which such Current Market Price exceeds the Fair Market Value of such distribution.

Notwithstanding the foregoing, a distribution on a Reference Stock described in clause (a), (d) or (e) of the section entitled "— Reorganization Events" below that also would require an adjustment to the applicable Stock Adjustment Factor or Share Delivery Amount under this section will only be treated as a Reorganization Event (as defined below) and shall only cause an adjustment pursuant to clause (a), (d) or (e) under the section entitled "— Reorganization Events." A distribution on a Reference Stock described in the section entitled "— Issuance of Transferable Rights or Warrants" that also would require an adjustment under this section shall only cause an adjustment pursuant to the section entitled "— Issuance of Transferable Rights or Warrants."

For purposes of (i) any non-cash dividends or distributions referred to under this subsection or (ii) any cash dividends or distributions referred under "— Extraordinary Cash Dividends or Distributions" below, the following terms have the meanings set forth below with respect to such distribution.

The "Current Market Price" of the Reference Stock means the Closing Price of one share of such Reference Stock on the Trading Day immediately preceding the ex-dividend date of the distribution requiring an adjustment to the Stock Adjustment Factor or the Share Delivery Amount.

**"Ex-dividend date"** means the first Trading Day on which transactions in the Reference Stock trade on the Relevant Exchange without the right to receive such distributions.

The "Fair Market Value" of any such distribution means the per share value of such distribution on the ex-dividend date for such distribution, as determined by the calculation agent. If such distribution consists of property traded on the ex-dividend date on a U.S. national securities exchange or, if the applicable Reference Stock is a non-U.S. equity security or an ADS and such distribution consists of property traded on the ex-dividend date on a non-U.S. securities exchange or market, the Fair Market Value will equal the closing price of such distributed property on such ex-dividend date, as determined by the calculation agent.

#### Extraordinary Cash Dividends or Distributions

If the issuer of the Reference Stock pays dividends or makes other distributions consisting exclusively of cash to all or substantially all holders of such Reference Stock during any fiscal quarter during the term of the securities, in an aggregate amount that, together with other such dividends or distributions previously made during such fiscal quarter with respect to which an adjustment to the Stock Adjustment

Factor or the Share Delivery Amount has not previously been made under this "— Extraordinary Cash Dividends or Distributions" section (such aggregate amount, the "Dividend Amount"), exceeds the Dividend Threshold, then, once the dividend or distribution has become effective and the shares of such Reference Stock are trading ex-dividend, the Stock Adjustment Factor or the Share Delivery Amount will be adjusted so that the new Stock Adjustment Factor or Share Delivery Amount shall equal the product of:

- the prior Stock Adjustment Factor or Share Delivery Amount, and
- a fraction, the numerator of which is the Current Market Price of such Reference Stock and the
  denominator of which is the amount by which such Current Market Price exceeds the excess of
  the Dividend Amount over the Dividend Threshold.

For the avoidance of doubt, the Stock Adjustment Factor or the Share Delivery Amount for a Reference Stock may be adjusted more than once in any particular fiscal quarter pursuant to this section. If the applicable Stock Adjustment Factor or Share Delivery Amount has been previously adjusted in a particular fiscal quarter because of cash dividends or distributions that exceed the Dividend Threshold, subsequent adjustments will be made if the issuer of the applicable Reference Stock pays cash dividends or makes other distributions during the same fiscal quarter in an aggregate amount that, together with other cash dividends or distributions since the last adjustment to the Stock Adjustment Factor or the Share Delivery Amount pursuant to this section exceeds the Dividend Threshold.

The "**Dividend Threshold**" of a Reference Stock is equal to the sum of (i) the immediately preceding cash dividend(s) or other cash distribution(s) paid in the preceding fiscal quarter, if any, per share of such Reference Stock plus (ii) 10% of the Closing Price of such Reference Stock on the Trading Day immediately preceding the ex-dividend date for the dividend or distribution as to which an adjustment to the Stock Adjustment Factor or the Share Delivery Amount may be made.

# Issuance of Transferable Rights or Warrants

If the issuer of the Reference Stock issues transferable rights or warrants to all holders of such Reference Stock to subscribe for or purchase such Reference Stock, including new or existing rights to purchase such Reference Stock at an exercise price per share less than the Closing Price of such Reference Stock on both (i) the date the exercise price of such rights or warrants is determined and (ii) the ex-dividend date, then the applicable Stock Adjustment Factor or Share Delivery Amount will be adjusted on the ex-dividend date for that issuance so that the new Stock Adjustment Factor or Share Delivery Amount shall equal the product of:

- the prior Stock Adjustment Factor or Share Delivery Amount, and
- a fraction, the numerator of which is the Current Market Price of one share of such Reference Stock and the denominator of which is the amount by which such Current Market Price exceeds the cash value of the warrants or rights.

The cash value of the warrants or rights will equal the Closing Price of such Reference Stock on the ex-dividend date *minus* the exercise price per share of those rights or warrants.

#### Reorganization Events

If prior to the final Valuation Date,

- (a) there occurs any reclassification or change of the Reference Stock, including, without limitation, as a result of the issuance of tracking stock by the issuer of such Reference Stock,
- (b) the issuer of the Reference Stock, or any surviving entity or subsequent surviving entity of the issuer of such Reference Stock (a "Successor Entity"), has been subject to a merger, combination or consolidation and is not the surviving entity,
- (c) any statutory exchange of securities of the issuer of the Reference Stock or any Successor Entity with another corporation occurs, other than pursuant to clause (b) above,

- (d) the issuer of the Reference Stock is liquidated or is subject to a proceeding under any applicable bankruptcy, insolvency or other similar law.
- (e) the issuer of the Reference Stock issues to all of its shareholders equity securities of an issuer other than the issuer of such Reference Stock, other than in a transaction described in clauses (b), (c) or (d) above (a "Spin-off Event"), or
- (f) a tender or exchange offer or going-private transaction is commenced for all the outstanding shares of the issuer of the Reference Stock and is consummated and completed in full for all or substantially all of such shares, as determined by the calculation agent in its sole discretion (an event in clauses (a) through (f), a "Reorganization Event"),

then the Payment at Maturity, the Redemption Amount, the amount of any Contingent Coupon payable or whether the securities are automatically called, as applicable, will depend on the value of any Exchange Property, as defined below, and if the payment is physically settled, will consist of such Exchange Property. To determine the amount payable to you at maturity or upon an early redemption, the amount of any Contingent Coupon payable or whether the securities are automatically called, as applicable, the calculation agent will do the following:

- (i) The calculation agent will determine the cash value of any non-cash property distributed in the Reorganization Event (other than Exchange Traded Securities) per share of the Reference Stock and combine this with any cash to determine a "Per Share Cash Amount";
- (ii) The calculation agent will combine the Per Share Cash Amount, if any, with the Exchange Traded Securities, if any, a holder of such Reference Stock would hold immediately after the Reorganization Event in respect of a single share of such Reference Stock to determine the Exchange Property resulting for a single share of such Reference Stock (the "Per Share Exchange Property");
- (iii) The calculation agent will then deem the Per Share Exchange Property to be a share of such Reference Stock for the purposes of determining the Payment at Maturity, the Redemption Amount, the amount of any Contingent Coupon payable or whether the securities are automatically called, as applicable. The value of the Per Share Exchange Property on any day will equal the Closing Price (or Intraday Price, if applicable) for any Exchange Traded Securities plus the Per Share Cash Amount, and the calculation agent will use this value, after adjusting for the Stock Adjustment Factor or the Share Delivery Amount immediately prior to the Reorganization Event, for the purposes of determining whether any triggers, caps, limits or floors (or other similar concepts) have been breached, reached or met and for determining the Payment at Maturity, the Redemption Amount, the amount of any Contingent Coupon payable or whether the securities are automatically called, as applicable, by treating such value, after adjusting for the Stock Adjustment Factor or the Share Delivery Amount immediately prior to the Reorganization Event, as if it were the Closing Price (or Intraday Price, if applicable) of the original Reference Stock;
- (iv) The calculation agent may, in its sole discretion, adjust the Stock Adjustment Factor, the Share Delivery Amount or any initial price, trigger, cap, limit or floor (or take similar action) to reflect the use of the value of the Exchange Property as opposed to the value of such Reference Stock in determining the Payment at Maturity, the Redemption Amount, the amount of any Contingent Coupon payable or whether the securities are automatically called, as applicable, and with a view to offsetting, to the extent practical, any change in the economic position of the holder and Deutsche Bank AG that results solely from the Reorganization Event;
- (v) In the event Exchange Property consists of Exchange Traded Securities, those securities will, in turn, be subject to the anti-dilution adjustments, including but not limited to, the anti-dilution adjustments set forth in this product supplement; and
- (vi) At maturity or upon an early redemption, if the Payment at Maturity or Redemption Amount, as applicable, is equal to a number of shares of such Reference Stock, as specified in the relevant pricing supplement:

- (x) if such payment is to be physically settled, Deutsche Bank AG will pay you the Per Share Exchange Property in lieu of shares of such Reference Stock; and
- (y) if such payment is to be cash settled, Deutsche Bank AG will pay you the Payment at Maturity or Redemption Amount, as applicable, based on the cash value of the Per Share Exchange Property in lieu of one share of such Reference Stock, using the Closing Price of any Exchange Traded Securities to determine their value.

"Exchange Property" for each share of the Reference Stock, means any shares of such Reference Stock that continue to be held by the holders of such Reference Stock, and any securities, cash or any other assets distributed to the holders of such Reference Stock in, or in connection with, the Reorganization Event distributed in respect of such share of such Reference Stock. Deutsche Bank AG will not pay you any interest on any Exchange Property. In the case of a consummated and completed in full tender or exchange offer or going-private transaction involving Exchange Property, Exchange Property shall be deemed to include the amount of cash or other property paid by the offeror in the tender or exchange offer with respect to such Exchange Property (in an amount determined on the basis of the rate of exchange in such tender or exchange offer or going-private transaction). In the event of a tender or exchange offer or a going-private transaction with respect to Exchange Property in which an offeree may elect to receive cash or other property, Exchange Property shall be deemed to include the kind and amount of cash and other property received by offerees who elect to receive cash.

**"Exchange Traded Securities"** means any securities (including, without limitation, securities of the issuer of the Reference Stock or securities of foreign issuers represented by American depositary receipts) traded on its Relevant Exchange.

The calculation agent shall be solely responsible for determination and calculation of the Exchange Property if a Reorganization Event occurs and the cash amount due upon exchange of the securities, including the determination of the cash value of any Exchange Property and the Per Share Exchange Property, if necessary. The calculation agent's determinations and calculations shall be conclusive absent manifest error. Regardless of any of the Reorganization Events described above, any payment or delivery upon an Automatic Call or an early redemption or at maturity, will be made by Deutsche Bank AG, as Issuer of the securities, and is subject to the credit of the Issuer.

#### **Delisting Event**

If a Delisting Event occurs then the calculation agent may, in its sole discretion, accelerate the Maturity Date to the third business day after the date on which the value of the securities is determined by the calculation agent as described below. In the event of such an acceleration, the amount payable in respect of the securities on the Maturity Date so accelerated will be the value of the securities as of the date of the Delisting Event (or, if the calculation agent determines in its sole discretion that another day is more appropriate, such other day), as determined by the calculation agent in its sole discretion by reference to, among other things, the value of the applicable Reference Stock or Basket Component impacted by such event (which may be zero). The amount due and payable on the securities upon such an event may be significantly less than the Minimum Payment Amount. In such circumstances, you may receive less than the Minimum Payment Amount and you could lose some or a significant portion of your investment.

If a Delisting Event occurs and the calculation agent does not accelerate the Maturity Date of the securities in accordance with the above paragraph, then the calculation agent may, in good faith and a commercially reasonable manner, adjust any terms, including but not limited to, the Reference Stock or Basket Component, the Initial Level, the Final Level, the Share Adjustment Factor or any other values that the calculation agent determines necessary to ensure an equitable result.

A "Delisting Event" will occur if an Underlying or Basket Component that is a Reference Stock is delisted or trading of such Reference Stock or Basket Component is suspended on the primary exchange for such Reference Stock or Basket Component, and is not immediately re-listed or approved for trading on a successor exchange, which is a major U.S. securities exchange registered under the Exchange Act as determined by the calculation agent (a "successor exchange"). If an Underlying or Basket Component that is a Reference Stock is delisted or trading of such Reference Stock or Basket

Component is suspended on the primary exchange for such Reference Stock or Basket Component, and such Reference Stock or Basket Component is immediately re-listed or approved for trading on a successor exchange, then such Reference Stock or Basket Component will continue to be deemed the Reference Stock or Basket Component, as applicable, except as described under "—Delisting of ADSs or Termination of ADS Facility".

#### Delisting of ADSs or Termination of ADS Facility

If an ADS serving as the Underlying or a Basket Component is no longer listed or admitted for trading on a U.S. securities exchange registered under the Exchange Act or included in the OTC Bulletin Board operated by FINRA, or if the ADS facility between the issuer of the shares of common equity represented by an ADS ("Underlying ADS Stock") and the ADS depositary is terminated for any reason, then, on and after the date the ADS is no longer so listed or adjusted to trading on the date of such termination, as applicable (the "ADS Change Date"), then the calculation agent will either deem the Underlying ADS Stock to be the Reference Stock or Basket Component or will deem such event a Delisting Event and take the actions described above under "—Delisting Event" above.

If the calculation agent deems the Underlying ADS Stock to be the Reference Stock or Basket Component, then the calculation agent will determine the price of such Underlying or Basket Component by reference to the Underlying ADS Stock. The Stock Adjustment Factor or the Share Delivery Amount will thereafter equal the last value of the Stock Adjustment Factor or the Share Delivery Amount for the ADS *multiplied* by the number of shares of the underlying equity securities represented by a single ADS. On and after the ADS Change Date, for all purposes, the Closing Price or Intraday Price of the Underlying ADS Stock on its primary exchange will be converted into U.S. dollars using such exchange rate as the calculation agent, in its sole discretion, determines to be commercially reasonable.

#### **Calculation Agent**

The "calculation agent" for the securities will be Deutsche Bank AG, London Branch. As calculation agent, Deutsche Bank AG, London Branch will determine, among other things, all values, prices and levels required to be determined for the purposes of the securities on any relevant date or time. In addition, the calculation agent will determine (i) the amount due with respect to the securities if the securities are accelerated following a Commodity Hedging Disruption Event, (ii) if a Currency Early Redemption is specified, whether a Currency Early Redemption Event has occurred and is continuing and the amount due and payable upon such event, (iii) whether there has been a Market Disruption Event or a discontinuation of any Underlying or Basket Components, (iv) whether or not any anti-dilution adjustments to the Share Adjustment Factor, the Stock Adjustment Factor and/or the Share Delivery Amount should be made, (v) whether there has been a material change in the method of calculating any Underlying or Basket Component, and (vi) in some circumstances, the prices or levels related to an Underlying or Basket Component that affect whether an Automatic Call and/or a Mandatory Redemption, as applicable, has occurred.

Unless otherwise specified in this product supplement, all determinations made by the calculation agent will be at the sole discretion of the calculation agent and will, in the absence of manifest error, be conclusive for all purposes and binding on you, the trustee and us. We may appoint a different calculation agent from time to time after the date of the relevant pricing supplement without your consent and without notifying you.

The calculation agent will provide written notice to the trustee at its New York office, on which notice the trustee may conclusively rely, of the amount to be paid on any Coupon Payment Date, at maturity or upon an Automatic Call or an early redemption on or prior to 11:00 a.m., New York City time, on the Business Day preceding such Coupon Payment Date, the Maturity Date, the Call Settlement Date or the Early Redemption Date, as applicable.

All calculations with respect to the Closing Level(s), Initial Level, Intraday Level(s) and Underlying Return will be made by the calculation agent and will be rounded to the nearest one hundred-thousandth, with five one-millionths rounded upward (e.g., 0.876545 would be rounded to 0.87655); all U.S. dollar amounts related to determination of the payment per Face Amount of securities on any Coupon Payment Date, at maturity or upon an Automatic Call or an early redemption, if any, will be rounded to the nearest

ten-thousandth, with five one hundred-thousandths rounded upward (e.g., 0.76545 would be rounded up to 0.7655); and all U.S. dollar amounts paid on the aggregate Face Amount of securities per holder will be rounded to the nearest cent, with one-half cent rounded upward.

#### **Events of Default**

Under the heading "Description of Debt Securities—Subordinated Debt Securities—Events of Default" in the accompanying prospectus is a description of events of default relating to the securities.

# **Payment Upon an Event of Default**

Unless otherwise specified in the relevant pricing supplement, in case an event of default with respect to the securities shall have occurred and be continuing, the amount declared due and payable per Face Amount of securities upon any acceleration of the securities will be determined by the calculation agent and will be an amount in cash equal to the amount payable or deliverable at maturity per Face Amount of securities as described under the caption "—Payment at Maturity," calculated as if the date of acceleration were the final Valuation Date, plus, if applicable, any Coupon then due on the securities. If the securities have successive Averaging Dates, then the Trading Days immediately preceding the date of acceleration will be deemed to be the corresponding Averaging Dates. If the securities have scheduled Averaging Dates that are not all on successive Trading Days, then the amount due and payable will be calculated as though the Closing Levels of the Underlying for any Averaging Dates scheduled to occur on or after such date of acceleration were the Closing Levels of the Underlying on the date of acceleration. Upon any acceleration of the securities, any Coupon payable will be prorated from and including the immediately preceding Coupon Payment Date to, but excluding, the date of acceleration.

If the maturity of the securities is accelerated because of an event of default as described above, we shall, or shall cause the calculation agent to, provide written notice to the trustee at its New York office, on which notice the trustee may conclusively rely, and to DTC of the cash amount due with respect to the securities as promptly as possible and in no event later than two Business Days after the date of acceleration.

#### Modification

Under the heading "Description of Debt Securities—Modification of the Senior Indenture" in the accompanying prospectus is a description of when the consent of each affected holder of debt securities is required to modify the senior indenture.

#### **Defeasance**

The provisions described in the accompanying prospectus under the heading "Description of Debt Securities—Senior Debt Securities—Discharge and Defeasance" are not applicable to the securities, unless otherwise specified in the relevant pricing supplement.

#### Listing

The securities will not be listed on any securities exchange, unless otherwise specified in the relevant pricing supplement.

# **Book-Entry Only Issuance—The Depository Trust Company**

The Depository Trust Company, or DTC, will act as securities depositary for the securities. The securities will be issued only as fully-registered securities registered in the name of Cede & Co. (DTC's nominee). One or more fully-registered global securities certificates, representing the total aggregate Face Amount of securities, will be issued and will be deposited with DTC. See the descriptions contained in the accompanying prospectus supplement under the headings "Description of Notes—Form, Legal Ownership and Denomination of Notes."

# **Governing Law**

The senior indenture is, and the securities will be, governed by and construed in accordance with the laws of the State of New York, except as may be otherwise required by mandatory provisions of law.

# THE UNDERLYINGS

#### **Reference Stocks and Funds**

In the relevant pricing supplement we will provide summary information regarding the relevant issuer of any Reference Stock or any Funds, as applicable, to which the securities will be linked based on publicly available information. We have not participated in the preparation of, or verified, such publicly available information.

Companies and Funds with securities registered under the Exchange Act and, if applicable, the Investment Company Act of 1940, as amended, are required to file periodically certain financial and other information specified by the SEC. Information provided to or filed with the SEC electronically can be accessed through a website maintained by the SEC. The address of the SEC's website is http://www.sec.gov.

#### Indices

In the relevant pricing supplement we will provide summary information regarding any Indices to which the securities will be linked, based on publicly available information. We have not participated in the preparation of, or verified, such publicly available information. The Indices to which payment on the securities will be linked may also be described in an underlying supplement relating to the securities.

#### General

This product supplement, any relevant underlying supplement and the relevant pricing supplement relate only to the securities offered thereby. We have derived any and all disclosures contained in this product supplement, any relevant underlying supplement and the relevant pricing supplement regarding the Funds, Indices or issuers of the Reference Stocks described therein from the publicly available documents described above. In connection with any offering of the securities, we have not participated in the preparation of such documents or made any due diligence inquiry with respect to the issuers of the Reference Stocks, the Funds or the Indices described therein. Furthermore, we cannot give any assurance that all events occurring prior to the date hereof (including events that would affect the accuracy or completeness of the publicly available documents described in the preceding paragraph) that would affect the trading price of Reference Stocks (and therefore the Stock Adjustment Factor), the Funds (and therefore the Share Adjustment Factor) or Indices described therein have been publicly disclosed. Subsequent disclosure of any such events or the disclosure of or failure to disclose material future events concerning the issuers of the Reference Stocks, the Funds or the Indices described therein could affect the Payment at Maturity or the Redemption Amount (if applicable) with respect to the securities and, therefore, the value of the securities.

Neither we nor any of our affiliates makes any representation to you as to the performance of any Underlying.

We or our affiliates may currently or from time to time engage in business with the issuers of or companies underlying the Equity Based Underlying or Basket Components, including extending loans to, making equity investments in, or providing advisory services to, them, including merger and acquisition advisory services. In the course of this business, we or our affiliates may acquire non-public information about such issuers or companies, and we will not disclose any such information to you. In addition, one or more of our affiliates may publish research reports or otherwise express views about the Underlying or Basket Components and the components underlying the Underlying or Basket Components. As a prospective purchaser of a security, you should undertake an independent investigation of the Underlying or Basket Components as in your judgment is appropriate to make an informed decision with respect to an investment in the securities. Additionally, we or our affiliates are active participants in the commodities and currency markets as dealers, proprietary traders and agents for our customers, and therefore at any given time we may be a party to one or more commodity or currency transactions and such transactions may have a negative impact on securities linked to a Commodity Based or Currency Based Underlying or Basket Component or securities that offer Foreign Currency Exposure.

We describe various risk factors that may a nature of that value, under "Risk Factors" above.	ne value	of the	securities,	and the	unpredictable
mature of that value, under Trisk Factors above.					

# U.S. FEDERAL INCOME TAX CONSEQUENCES

The following is a general discussion of the material U.S. federal income tax consequences of ownership and disposition of the securities purchased at their original issuance for the Issue Price. It applies to you only if you hold the securities as capital assets within the meaning of Section 1221 of the Internal Revenue Code of 1986, as amended (the "Code"). It does not address other taxes, such as estate or gift taxes, nor does it address all aspects of U.S. federal income taxation that may be relevant to you in light of your particular circumstances, including alternative minimum tax and "Medicare contribution tax" consequences, the special tax accounting rules under Section 451(b) and different consequences that may apply if you are an investor subject to special rules, such as a financial institution, a regulated investment company, a tax-exempt entity (including an "individual retirement account" or a "Roth IRA"), a dealer in securities, a trader in securities that elects to apply a mark-to-market method of tax accounting, a person holding a security as a part of a "straddle" or integrated transaction, a nonresident alien individual present in the United States for 183 days or more in a taxable year, a U.S. holder (as defined below) whose functional currency is not the U.S. dollar, or an entity classified as a partnership for U.S. federal income tax purposes and the partners therein.

If you are a partnership for U.S. federal income tax purposes, the U.S. federal income tax treatment of a partner will generally depend on the status of the partner and your activities. If you are a partnership holding the securities or a partner in such a partnership, you should consult your tax adviser as to your particular U.S. federal tax consequences of holding and disposing of the securities.

The U.S. federal income tax consequences of the ownership and disposition of any Underlying are not discussed.

We will not attempt to ascertain whether any entity the stock of which constitutes or is included in an Underlying would be treated as a "passive foreign investment company" (a "**PFIC**") within the meaning of Section 1297 of the Code or as a "United States real property holding corporation" (a "**USRPHC**") within the meaning of Section 897 of the Code. If any such entity were so treated, certain adverse U.S. federal income tax consequences might apply, to a U.S. holder in the case of a PFIC, or to a non-U.S. holder (as defined below) in the case of a USRPHC, upon the sale, exchange, retirement or other taxable disposition (each, a "taxable disposition") of the relevant security. You should refer to information filed by such entities with the Securities and Exchange Commission or an equivalent governmental authority and consult your tax adviser regarding the possible consequences to you if any such entity is or becomes a PFIC or a USRPHC.

This discussion is based on the Code, administrative pronouncements, judicial decisions and final, temporary and proposed Treasury regulations, all as of the date of this product supplement, changes to any of which subsequent to the date hereof may affect the tax consequences described below, possibly with retroactive effect. It does not address the application of any state, local or non-U.S. tax laws. You should consult your tax adviser concerning the application of U.S. federal income tax laws to your particular situation, as well as any tax consequences arising under the laws of any state, local or non-U.S. taxing jurisdictions.

This discussion does not apply to securities that are not properly treated as indebtedness for U.S. federal income tax purposes, or to renewable securities, mandatorily exchangeable securities, reverse exchangeable securities or securities the interest on or principal of which are payable in, or determined by reference to, one or more currencies other than the U.S. dollar. The tax treatment of these securities will be discussed in the relevant pricing supplement.

If a particular series of securities includes an "Office Substitution" right, as described in the senior indenture, the relevant pricing supplement may include disclosure about the possible tax consequences of such a substitution.

The following discussion may be modified or superseded by additional information regarding U.S. federal income taxation set forth in an applicable pricing supplement, which you should consult before making a decision to invest in the securities to which the pricing supplement pertains.

#### Tax Consequences to U.S. Holders

You are a "U.S. holder" if, for U.S. federal income tax purposes, you are a beneficial owner of a security and are: (i) a citizen or resident of the United States; (ii) a corporation created or organized in or under the laws of the United States, any State therein or the District of Columbia; or (iii) an estate or trust the income of which is subject to U.S. federal income taxation regardless of its source.

# **Short-term Securities**

For the purposes of this discussion, a "Short-term Security" is one with a term of one year or less (from but excluding the settlement date to and including the last possible date that the security could be outstanding pursuant to its terms). Generally, a Short-term Security is treated as issued at a discount equal to the difference between the aggregate amount of all payments required to be made on the security and the security's issue price. As discussed below, certain aspects of the U.S. federal income tax treatment of a Short-term Security with contingent payments are uncertain.

If you are a cash-method taxpayer, you generally will not be required to recognize income with respect to a Short-term Security, other than with respect to receipt of interest payments, prior to its taxable disposition. If you are an accrual-method taxpayer (or a cash-method taxpayer who elects to accrue income on the security currently), you will be subject to rules that generally require accrual of discount on a Short-term Security on a straight-line basis, unless you elect a constant-yield method of accrual based on daily compounding. In the case of a Short-term Security with contingent payments, it may not be clear how accruals should be determined.

Upon the taxable disposition of a Short-term Security, you will recognize gain or loss in an amount equal to any difference between the amount you receive and your adjusted basis in the security. Your adjusted basis in the security will generally equal the amount you paid to acquire it, increased by any previously accrued but unpaid discount you have included in income. The amount of any resulting loss will be treated as a short-term capital loss, the deductibility of which is subject to limitations. If you recognize a loss above certain thresholds, you might be required to file a disclosure statement with the Internal Revenue Service ("IRS"). The excess of the amount you receive at maturity over your basis in the security generally should be treated as ordinary income. Under generally applicable rules, all or a portion of any gain you realize upon a sale of a security prior to its maturity will be treated as ordinary income in an amount not exceeding the amount of accrued discount that you have not included in income. The application of the rules discussed in this paragraph to a Short-term Security with contingent payments may be unclear.

If you are a cash-method taxpayer who has not elected to accrue income on a Short-term Security currently, you generally will be required to defer deductions for any interest on indebtedness you incur to purchase or carry the security, in an amount not exceeding the accrued discount that you have not included in income. As discussed above, it is unclear how the accrual of discount on a Short-term Security with contingent payments should be determined. Accordingly, the application of these general rules to you is uncertain.

#### **CPDI Securities**

For purposes of this discussion, a "CPDI Security" is one properly treated as a contingent payment debt instrument for U.S. federal income tax purposes. A CPDI Security will be subject to special original issue discount ("OID") provisions set out in the Treasury regulations, under which, regardless of your method of accounting, you will be required to accrue the OID on the security as interest income, as described below.

We are required to determine a "comparable yield" for each issuance of CPDI Securities. The comparable yield generally is the yield at which, in similar market conditions, we could issue a fixed-rate debt instrument with terms similar to those of the relevant CPDI Securities, including the level of subordination, term and timing of payments, but excluding any adjustments for the riskiness of the contingencies or the liquidity of those CPDI Securities. Solely for purposes of determining the amount of OID that you will be required to accrue as interest income, we are also required to construct a "projected"

payment schedule" representing a payment or series of payments the amount(s) and timing of which would produce a yield to maturity equal to the comparable yield.

We will determine the comparable yield for each issuance of CPDI Securities and will provide the comparable yield, and the related projected payment schedule, in the relevant pricing supplement for the securities or in another manner described in the relevant pricing supplement. Neither the comparable yield nor the projected payment schedule constitutes a representation by us regarding the actual contingent amount(s) that we will pay on a CPDI Security.

For U.S. federal income tax purposes, you are required to use our determination of the comparable yield and projected payment schedule in determining interest accruals and adjustments thereto in respect of your CPDI Securities, unless you timely disclose and justify the use of other estimates to the IRS. Regardless of your method of tax accounting, you will be required to accrue as interest income OID on a CPDI Security in each taxable year based on the comparable yield, with adjustments to reflect the difference, if any, between the actual and projected amount(s) of payment(s) (including contingent payment(s) and stated interest payment(s), if any) on the CPDI Security during the year (as described below). Subject to any adjustment(s) reflecting the difference between the actual and the projected amount(s) of payments on the CPDI Security, no additional income will be recognized upon the receipt of actual payments in amounts equal to the interest accrued based upon the comparable yield described above.

You will be required for U.S. federal income tax purposes to accrue an amount of OID, for each accrual period prior to and including the maturity (or earlier taxable disposition) of a CPDI Security, equal to the product of (i) its "adjusted issue price" (as defined below) as of the beginning of the accrual period, (ii) its comparable yield, adjusted for the length of the accrual period and (iii) the number of days during the accrual period that you held it divided by the number of days in the accrual period. For U.S. federal income tax purposes, the adjusted issue price of a CPDI Security is its issue price increased by any previously accrued interest income (determined without regard to adjustments due to differences between projected and actual payments) and decreased by the projected amounts of any prior payments on the CPDI Security.

In addition to accruing interest based upon the comparable yield as described above, you will be required to recognize interest income equal to the amount of any net positive adjustment, *i.e.*, the excess of actual payments over projected payments in respect of a CPDI Security for a taxable year. A net negative adjustment, *i.e.*, the excess of projected payments over actual payments in respect of a CPDI Security for a taxable year:

- will first reduce the amount of interest in respect of the CPDI Security that you would otherwise be required to include in income in the taxable year; and
- to the extent of any excess, will give rise to an ordinary loss, but only to the extent that the
  amount of all previous interest inclusions under the CPDI Security exceeds the total amount
  of your net negative adjustments treated as ordinary loss on the CPDI Security in prior
  taxable years.

A net negative adjustment is not subject to the limitation imposed on miscellaneous itemized deductions under Section 67 of the Code. Any net negative adjustment in excess of the amounts described above will be carried forward to offset future interest income in respect of the security or to reduce the amount realized on a taxable disposition of the security.

Upon a taxable disposition of a CPDI Security prior to its maturity, you generally will recognize taxable income or loss equal to the difference between the amount received from the disposition and your adjusted basis in the CPDI Security. Your adjusted basis in the CPDI Security generally will equal the amount you paid to acquire it, increased by the amount of interest income previously accrued by you in respect of the CPDI Security (determined without regard to any of the positive or negative adjustments to interest accruals described above) and decreased by the projected amounts of any prior payments in respect of the CPDI Security. You generally must treat any income on a taxable disposition as interest income and any loss as ordinary loss to the extent of previous interest inclusions (reduced by the total amount of net negative adjustments you have previously taken into account as ordinary losses), with the

balance treated as capital loss. As with net negative adjustments, these ordinary losses are not subject to the limitation imposed on miscellaneous itemized deductions under Section 67 of the Code. The deductibility of capital losses, however, is subject to limitations. Additionally, if you recognize a loss above certain thresholds, you might be required to file a disclosure statement with the IRS.

If you purchase a CPDI Security for an amount that differs from its adjusted issue price, you will be required to account for this difference, generally by allocating it reasonably among projected payments on the notes or daily portions of interest that you are required to accrue with respect to the security and treating these allocations as adjustments to your income when the payment is made or the interest accrues. You should consult your tax adviser with respect to the tax consequences of an investment in CPDI Securities, including the treatment of the difference, if any, between your basis in your securities and their adjusted issue price.

At maturity, you generally will be treated as receiving the amount of the payment set forth in the projected payment schedule, reduced by any net negative adjustment carryforward. If you receive a different amount, the difference generally will be taken into account as a positive or negative adjustment, with consequences described above.

Special rules may apply if all the remaining payments on a CPDI Security become fixed substantially contemporaneously. For this purpose, payments will be treated as fixed if the remaining contingencies with respect to them are remote or incidental. Under these rules, you would be required to account for the differences between the originally projected payments and the fixed payments in a reasonable manner over the periods to which the differences relate. In addition, you would be required to make adjustments to, among other things, your accrual periods and your basis in the security. The character of any gain or loss on a taxable disposition of your security also could be affected.

#### **VRDI Securities**

For purposes of this discussion, a "VRDI Security" is one that is properly treated as a variable rate debt instrument for U.S. federal income tax purposes. Qualified stated interest on a VRDI Security will be taxable to you as ordinary income at the time it accrues or is received, in accordance with your method of tax accounting. In general, it is expected that all stated interest on a VRDI Security that provides for a single floating rate will be qualified stated interest, although the relevant pricing supplement may indicate that this is not the case. If the stated principal amount of a VRDI Security exceeds its issue price by at least a specified *de minimis* amount, this excess will be treated as OID that you must include in income as it accrues, in accordance with a constant-yield method based on compounding of interest, before the receipt of the cash attributable to this income.

Upon the sale or other taxable disposition of a VRDI Security (including early redemption or settlement at maturity), you generally will recognize capital gain or loss equal to the difference between the amount realized (other than amounts attributable to accrued qualified stated interest, which will be treated as described above) and your tax basis in the VRDI Security. Your tax basis in a VRDI Security will equal the amount you paid to purchase the VRDI Security, increased by the amounts of OID (if any) you have previously included in income with respect to the VRDI Security and not yet received, and reduced by any payments other than qualified stated interest you have previously received. This gain or loss generally will be long-term capital gain or loss if you have held the VRDI Security for more than one year at the time of disposition. The deductibility of capital losses is subject to limitations.

#### Tax Consequences to Non-U.S. Holders

You generally are a "non-U.S. holder" if, for U.S. federal income tax purposes, you are a beneficial owner of a security and are: (i) a nonresident alien individual; (ii) an entity treated as a foreign corporation; or (iii) a foreign estate or trust.

You are not a "non-U.S. holder," as used herein, if you are a beneficial owner of a security who is (i) an individual present in the United States for 183 days or more in the taxable year of disposition of the security or (ii) a former citizen or resident of the United States, if certain conditions apply. If you are a potential investor to whom such considerations might be relevant, you are urged to consult your tax adviser regarding the U.S. federal income tax consequences of the taxable disposition of a security.

Unless otherwise indicated in the relevant pricing supplement, insofar as we have responsibility for information reporting and withholding for U.S. federal income tax purposes, we expect to treat interest income on a security as non-U.S. source income. The discussion that follows assumes that this treatment is correct. Accordingly, except as described below and subject to the discussion below under "—Withholding Under Section 871(m) of the Code," any income or gain you realize with respect to a security generally should not be subject to U.S. federal withholding or income tax if these amounts are not effectively connected with your conduct of a trade or business in the United States. However, you should in any event expect to be required to provide an appropriate IRS Form W-8 or other documentation in order to establish an exemption from backup withholding, as described below under "—Information Reporting and Backup Withholding."

If, however, we properly treat interest on a security as U.S.-source income, subject to the discussions below under "—Withholding Under Section 871(m) of the Code" and "FATCA' Legislation," payments to you on the security, and any gain from a taxable disposition of the security, generally will be exempt from U.S. federal withholding and income tax, provided that these amounts are not effectively connected with your conduct of a trade or business in the United States, you provide a properly completed IRS Form W-8 appropriate to your circumstances, and, in the case of payments of interest on a security, (i) you do not own, directly or by attribution, 10% or more of the total combined voting power of all classes of the Bank's stock entitled to vote; and (ii) you are not a controlled foreign corporation related, directly or indirectly, to the Bank through stock ownership.

If you are engaged in a trade or business in the United States, and income or gain from a security is effectively connected with your conduct of that trade or business (and, if an applicable treaty so requires, is attributable to a permanent establishment in the United States), you generally will be taxed in the same manner as a U.S. holder. If this paragraph applies to you, you should consult your tax adviser with respect to other U.S. tax consequences of the ownership and disposition of the security, including the possible imposition of a 30% branch profits tax if you are a corporation.

#### Withholding Under Section 871(m) of the Code

Section 871(m) of the Code and the Treasury regulations thereunder ("Section 871(m)") impose a 30% withholding tax on certain "dividend equivalents" paid or deemed paid to non-U.S. persons with respect to derivatives linked to U.S. stocks or indices that include U.S. stocks under certain circumstances, even in cases where the derivatives do not provide for payments explicitly linked to dividends. In general, this withholding regime applies to derivatives that substantially replicate the economic performance of one or more underlying U.S. stocks, as determined generally when the derivative is priced (or, if more than 14 calendar days after that time, when the derivative is issued), based on one of two tests set forth in the Treasury regulations. Section 871(m) provides certain exceptions to the withholding requirements, for example for derivatives linked to certain broad-based indices. Additionally, an IRS notice excludes from the scope of Section 871(m) instruments issued prior to January 1, 2025 that do not have a "delta" (within the meaning of Section 871(m)) of one with respect to underlying securities that could pay U.S.-source dividends for U.S. federal income tax purposes.

We will disclose further information regarding the application of Section 871(m) in the relevant terms supplement. Our determination as to whether Section 871(m) applies to a series of securities is not binding on the IRS. Section 871(m) requires complex calculations to be made with respect to derivatives linked to U.S. stocks, and their application to a specific series of securities may be uncertain. Accordingly, even if we determine that Section 871(m) does not apply to a series of securities, the IRS could challenge our determination and assert that withholding is required in respect of those securities. Additionally, the application of Section 871(m) may be affected by your particular circumstances (for example, where you enter into two or more transactions that refer to the same underlying security and the transactions were entered into in connection with each other). You should consult your tax adviser regarding the potential application of Section 871(m) to a series of securities. We will not pay additional amounts on account of any withholding tax imposed by Section 871(m).

#### "FATCA" Legislation

Legislation commonly referred to as "FATCA" and Treasury regulations promulgated thereunder generally impose a withholding tax of 30% on payments to certain non-U.S. entities (including financial intermediaries) with respect to certain financial instruments, unless various U.S. information reporting and due diligence requirements have been satisfied. An intergovernmental agreement between the United States and the non-U.S. entity's jurisdiction may modify these requirements. Withholding under these rules (if applicable) applies to (i) payments of U.S.-source interest (including OID), if any, on the securities and dividend equivalents and (ii) payments of gross proceeds of the taxable disposition of securities that can produce U.S.-source interest or dividends for U.S. federal income tax purposes. However, under proposed Treasury regulations (the preamble to which specifies that taxpayers are permitted to rely on them pending finalization), FATCA withholding will not apply to gross proceeds from the taxable disposition of the securities. You should consult your tax adviser regarding the potential application of FATCA, including the availability of certain refunds or credits. We will not pay additional amounts on account of any withholding tax imposed by FATCA.

#### Information Reporting and Backup Withholding

You may be subject to information reporting. You may also be subject to backup withholding on payments in respect of your securities at the rate specified in the Code unless you provide certain identifying information (such as a correct taxpayer identification number, if you are a U.S. holder) and otherwise satisfy the requirements of the backup withholding rules. If you are a non-U.S. holder and you provide a properly completed Form W-8 appropriate to your circumstances, you will generally establish an exemption from backup withholding. Amounts withheld under the backup withholding rules are not additional taxes and may be refunded or credited against your U.S. federal income tax liability, provided the required information is furnished to the IRS.

The U.S. federal income tax discussion set forth above does not address all aspects of U.S. federal income taxation that may be relevant to you in light of your particular circumstances. You should consult your tax adviser regarding the application of U.S. federal tax laws in your particular circumstances, as well as any tax consequences arising under the laws of any state, local or non-U.S. taxing jurisdiction.

# **USE OF PROCEEDS; HEDGING**

Unless otherwise specified in the relevant pricing supplement, the net proceeds we receive from the sale of the securities will be used for general corporate purposes and, in part, by us or by one or more of our affiliates in connection with hedging our obligations under the securities through one or more hedge counterparties (which may be one or more of our affiliates or an Agent or its affiliates), as more particularly described in "Use of Proceeds" in the accompanying prospectus. The Issue Price of the securities includes each agent's commissions (as shown on the cover page of the relevant pricing supplement) paid with respect to the securities which commissions may include the reimbursement of certain issuance costs and the estimated cost of hedging our obligations under the securities. The estimated cost of hedging includes the projected profit that we or our hedge counterparty expects to realize in consideration for assuming the risks inherent in hedging our obligations under the securities. Because hedging our obligations entails risk and may be influenced by market forces beyond our or our hedge counterparty's control, the actual cost of such hedging may result in a profit that is more or less than expected, or could result in a loss.

On or prior to the date of the relevant pricing supplement, we, through one or more hedge counterparties (which may be one or more of our affiliates or an Agent or its affiliates), expect to hedge some or all of our anticipated exposure in connection with the securities by taking positions in the relevant Underlying or Basket Components, the components underlying the relevant Underlying or Basket Components, or instruments whose value is derived from the relevant Underlying or Basket Components or their underlying components. While we cannot predict an outcome, such hedging activity or our other hedging or investment activity could potentially increase (or for securities that provide short or bearish exposure, decrease) the level of the relevant Underlying or Basket Components (including the Initial Level), and therefore effectively establish a higher (or for securities that provide short or bearish exposure, lower) level that the relevant Underlying or Basket Components must achieve for you to obtain a positive return on your investment or avoid a loss of some of your initial investment upon an Automatic Call or an early redemption or at maturity. Similarly, the unwinding of our or our hedge counterparty's hedges near or on a Valuation Date or Valuation Dates could decrease (or for securities that provide short or bearish exposure, increase) the Closing Levels of the relevant Underlying or Basket Components on such dates, which could have an adverse effect on the value of the securities. From time to time, prior to maturity of the securities, we may pursue a dynamic hedging strategy which may involve taking long or short positions in the relevant Underlying or Basket Components, the components underlying the relevant Underlying or Basket Components, or instruments whose value is derived from the relevant Underlying or Basket Components or their underlying components. Although we have no reason to believe that any of these activities will have a material impact on the level of the relevant Underlying or the value of the securities, we cannot assure you that these activities will not have such an effect.

We have no obligation to engage in any manner of hedging activity and will do so solely at our discretion and for our own account. No security holder shall have any rights or interest in our hedging activity or any positions we may take in connection with our hedging activity.

# PLAN OF DISTRIBUTION (CONFLICTS OF INTEREST)

Under the terms and subject to the conditions contained in the Distribution Agreements entered into between Deutsche Bank AG and each of DBSI and Deutsche Bank Trust Company Americas ("DBTCA") as agents and certain other agents that may be party to either Distribution Agreement from time to time (each an "Agent" and, collectively with DBSI and DBTCA, the "Agents"), each Agent participating in an offering of securities will agree to purchase, and we will agree to sell, the Face Amount of securities set forth on the cover page of the relevant pricing supplement. Each Agent proposes initially to offer the securities directly to the public at the public offering price set forth on the cover page of the relevant pricing supplement or at prevailing market prices or at prices related thereto at the time of resale or otherwise, as the agent determines and as we will specify in the applicable pricing supplement. DBSI, DBTCA and other Agents may allow a concession to other dealers as set forth in the relevant pricing supplement, or we may pay other fees, in the amount set forth on the cover page of the relevant pricing supplement. After the initial offering of the securities, the Agents may vary the offering price and other selling terms from time to time.

We own, directly or indirectly, all of the outstanding equity securities of DBSI. The net proceeds received from the sale of the securities will be used, in part, by DBSI or one of its affiliates in connection with hedging our obligations under the securities. Because DBSI is both our affiliate and a member of FINRA, the underwriting arrangements for any offering of the securities by DBSI must comply with the requirements of FINRA Rule 5121 regarding a FINRA member firm's distribution of the securities of an affiliate and related conflicts of interest. In accordance with FINRA Rule 5121, DBSI may not make sales in offerings of the securities to any of its discretionary accounts without the prior written approval of the customer.

DBSI or another Agent may act as principal or agent in connection with offers and sales of the securities in the secondary market. Secondary market offers and sales, if any, will be made at prices related to market prices at the time of such offer or sale; accordingly, the Agents or a dealer may change the public offering price, concession and discount after the offering has been completed.

In order to facilitate the offering of the securities, DBSI may engage in transactions that stabilize, maintain or otherwise affect the price of the securities. Specifically, DBSI may sell more securities than it is obligated to purchase in connection with the offering, creating a naked short position in the securities for its own account. DBSI must close out any naked short position by purchasing the securities in the open market. A naked short position is more likely to be created if DBSI is concerned that there may be downward pressure on the price of the securities in the open market after pricing that could adversely affect investors who purchase in the offering. As an additional means of facilitating the offering, DBSI may bid for, and purchase, securities in the open market to stabilize the price of the securities. Any of these activities may raise or maintain the market price of the securities above independent market levels or prevent or slow a decline in the market price of the securities. DBSI is not required to engage in these activities, and may end any of these activities at any time.

To the extent the total aggregate Face Amount of securities offered pursuant to a pricing supplement is not purchased by investors, one or more of our affiliates may agree to purchase for investment the unsold portion. As a result, upon completion of an offering, our affiliates may own a portion of the securities offered in that offering.

Delivery of the securities will be made against payment therefor on or about the issue date specified in the applicable pricing supplement. Under Rule 15c6-1 of the Exchange Act trades in the secondary market generally are required to settle in two business days after the date the securities are priced, unless the parties to any such trade expressly agree otherwise. Effective on May 28, 2024 (the "settlement cycle effective date"), the standard settlement cycle under Rule 15c6-1 will be shortened from two business days to one business day. Accordingly, if the applicable pricing supplement specifies that the issue date is more than two business days (or, on or after the settlement cycle effective date, one business day) after the date on which the securities are priced, purchasers who wish to trade such securities at any time prior to the second business day (or, on or after the settlement cycle effective date, the first business day) preceding the issue date will be required, by virtue of the fact that the securities will not settle in T+2 (or, on or after the settlement cycle effective date, T+1), to specify an alternative

settlement cycle at the time of any such trade to prevent a failed settlement; such purchasers should also consult their own advisors in this regard.

No action has been or will be taken by us, DBSI, DBTCA or any dealer that would permit a public offering of the securities or possession or distribution of this product supplement or the accompanying prospectus supplement, prospectus or pricing supplement, other than in the United States, where action for that purpose is required. No offers, sales or deliveries of the securities, or distribution of this product supplement or the accompanying prospectus supplement, prospectus or pricing supplement or any other offering material relating to the securities, may be made in or from any jurisdiction except in circumstances which will result in compliance with any applicable laws and regulations and will not impose any obligations on us, the Agents or any dealer.

Each Agent has represented and agreed, and any other Agent through which we may offer the securities will represent and agree, that if any securities are to be offered outside the United States, it will not offer or sell any such securities in any jurisdiction if such offer or sale would not be in compliance with any applicable law or regulation or if any consent, approval or permission is needed for such offer or sale by it or for or on behalf of the Issuer unless such consent, approval or permission has been previously obtained and such Agent will obtain any consent, approval or permission required by it for the subscription, offer, sale or delivery of the securities, or the distribution of any offering materials, under the laws and regulations in force in any jurisdiction to which it is subject or in or from which it makes any subscription, offer, sale or delivery.