



## Deutsche Bank AG

### Leveraged Index Return Notes® “LIRNs®” Linked to One or More Commodities, Related Futures Contracts or Commodity Indices

- LIRNs are unsecured senior notes issued by Deutsche Bank AG. Any payments due on LIRNs, including any repayment of principal, will be subject to the credit risk of Deutsche Bank AG.
- LIRNs do not guarantee the return of principal at maturity, and we will not pay interest on LIRNs. Instead, the return on the LIRNs will be based on the performance of an underlying “**Market Measure**,” which will be a commodity, a futures contract on a commodity, a commodity index or a basket of the foregoing.
- LIRNs provide an opportunity to earn a multiple of the positive performance of the Market Measure, and may provide limited protection against the risk of losses. You will be exposed to any negative performance of the Market Measure below the Threshold Value (as defined below) on a 1-to-1 basis. If specified in the applicable term sheet, your LIRNs may be “Capped LIRNs.” In the case of Capped LIRNs, the Redemption Amount will not exceed a specified cap (the “**Capped Value**”).
- If the value of the Market Measure increases from its Starting Value to its Ending Value (each as defined below), you will receive at maturity a cash payment per unit (the “**Redemption Amount**”) that equals the principal amount plus a multiple of that increase, and in the case of Capped LIRNs, up to the Capped Value.
- If the value of the Market Measure does not change or decreases from its Starting Value to its Ending Value but not below the Threshold Value, then the Redemption Amount will equal the principal amount. However, if the Ending Value is less than the Threshold Value, you will be subject to 1-to-1 downside exposure to the decrease of the Market Measure below the Threshold Value. In such a case, you will lose some or a significant portion of the principal amount of your LIRNs.
- This product supplement describes the general terms of LIRNs, the risk factors to consider before investing, the general manner in which they may be offered and sold, and other relevant information.
- For each offering of LIRNs, we will provide you with a pricing supplement (which we refer to as a “**term sheet**”) that will describe the specific terms of that offering, including the specific Market Measure, the Capped Value, if applicable, the Threshold Value, and certain risk factors. The term sheet will identify, if applicable, any additions or changes to the terms specified in this product supplement.
- LIRNs will be issued in denominations of whole units. Unless otherwise set forth in the applicable term sheet, each unit will have a principal amount of \$10. The term sheet may also set forth a minimum number of units that you must purchase.
- Unless otherwise specified in the applicable term sheet, LIRNs will not be listed on a securities exchange or quotation system.
- Merrill Lynch, Pierce, Fenner & Smith Incorporated (“**MLPF&S**”) and one or more of its affiliates may act as our agents (the “**agents**”) to offer LIRNs and, unless otherwise specified in the applicable term sheet, will act in a principal capacity in such role.

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*The LIRNs are not deposits or savings accounts and are not insured or guaranteed by the Federal Deposit Insurance Corporation (the “**FDIC**”) or any other U.S. or foreign governmental agency or instrumentality.*

*Potential purchasers of the LIRNs should consider the information in “Risk Factors” beginning on page PS-7 of this product supplement, page PS-5 of the prospectus supplement and page 13 of the prospectus. **You may lose some or a significant portion of your investment in the LIRNs.***

*Neither the Securities and Exchange Commission (the “**SEC**”) nor any state securities commission has approved or disapproved of the LIRNs or passed upon the accuracy or the adequacy of this product supplement and the accompanying prospectus supplement and prospectus, or any related term sheet. Any representation to the contrary is a criminal offense.*

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LIRNs® and “Leveraged Index Return Notes®” are registered service marks of Bank of America Corporation, the parent corporation of MLPF&S.

## SUMMARY

The information in this “Summary” section is qualified in its entirety by the more detailed explanation set forth elsewhere in this product supplement, the prospectus supplement, and the prospectus, as well as the applicable term sheet. Neither we nor MLPF&S have authorized any other person to provide you with any information different from the information set forth in these documents. If anyone provides you with different or inconsistent information about the LIRNs, you should not rely on it.

### Key Terms:

#### General:

The LIRNs are our direct, unconditional, unsecured and unsubordinated obligations and will rank equally and *pari passu* with the claims of all our other unsecured and unsubordinated creditors, subject to any statutory priority regime of the jurisdiction of our incorporation (or, in the case of LIRNs issued by Deutsche Bank AG through a branch, of the law of the jurisdiction where the branch is established). The LIRNs are not deposits or savings accounts and are not insured or guaranteed by the FDIC or any other U.S. or foreign governmental agency or instrumentality. **Any payments due on the LIRNs, including any repayment of principal, will be subject to our credit risk and to any resolution measure (as described in the prospectus) imposed by the competent resolution authority.**

The return on LIRNs will be based on the performance of a Market Measure and there is no guaranteed return of principal at maturity. Therefore, you may lose some or a significant portion of your investment if the value of the Market Measure decreases from the Starting Value to an Ending Value that is less than the Threshold Value.

Each issue of LIRNs will mature on the date set forth in the applicable term sheet. We cannot redeem LIRNs at any earlier date. We will not make any payments on LIRNs until maturity, and you will not receive any interest payments.

#### Market Measure:

The Market Measure may consist of one or more of the following:

- commodities;
- futures contracts on a commodity;
- commodity indices; or
- any combination of the above.

The Market Measure may consist of a group, or “**Basket**,” of the foregoing. We refer to each component included in any Basket as a “**Basket Component**.” If the Market Measure to which your LIRNs are linked is a Basket, the Basket Components will be set forth in the applicable term sheet.

**Market  
Measure  
Performance:**

The performance of the Market Measure will be measured according to the percentage change of the Market Measure from its Starting Value to its Ending Value.

Unless otherwise specified in the applicable term sheet:

The “**Starting Value**” will be the closing value of the Market Measure on the date when the LIRNs are priced for initial sale to the public (the “**pricing date**”). If a Market Disruption Event (as defined below) occurs on the pricing date, the Starting Value will be determined as set forth in the section “Description of LIRNs—Market Disruption Events—Starting Value.”

If the Market Measure consists of a Basket, the Starting Value will be equal to 100. See “Description of LIRNs—Basket Market Measures.”

The “**Threshold Value**” will be a value of the Market Measure that equals a specified percentage (100% or less) of the Starting Value. The Threshold Value will be determined on the pricing date and set forth in the term sheet. If the Threshold Value is equal to 100% of the Starting Value, you will be exposed to any decrease in the value of the Market Measure from the Starting Value to the Ending Value on a 1-to-1 basis, and you may lose all of your investment in LIRNs.

The “**Ending Value**” will equal the closing value of the Market Measure on the calculation day (as defined below).

If a Market Disruption Event occurs on the scheduled calculation day, or if certain other events occur, the calculation agent will determine the Ending Value as set forth in the section “Description of LIRNs—Market Disruption Events—Ending Value.”

If the Market Measure consists of a Basket, the Ending Value will be determined as described in “Description of LIRNs—Basket Market Measures—Ending Value of the Basket.”

**Participation  
Rate:**

The rate at which investors participate in any increase in the value of the Market Measure, as calculated below. The Participation Rate will be equal to or greater than 100%, and will be set forth in the term sheet. If the Participation Rate is 100%, your participation in any upside performance of the Market Measure will not be leveraged.

**Capped Value:**

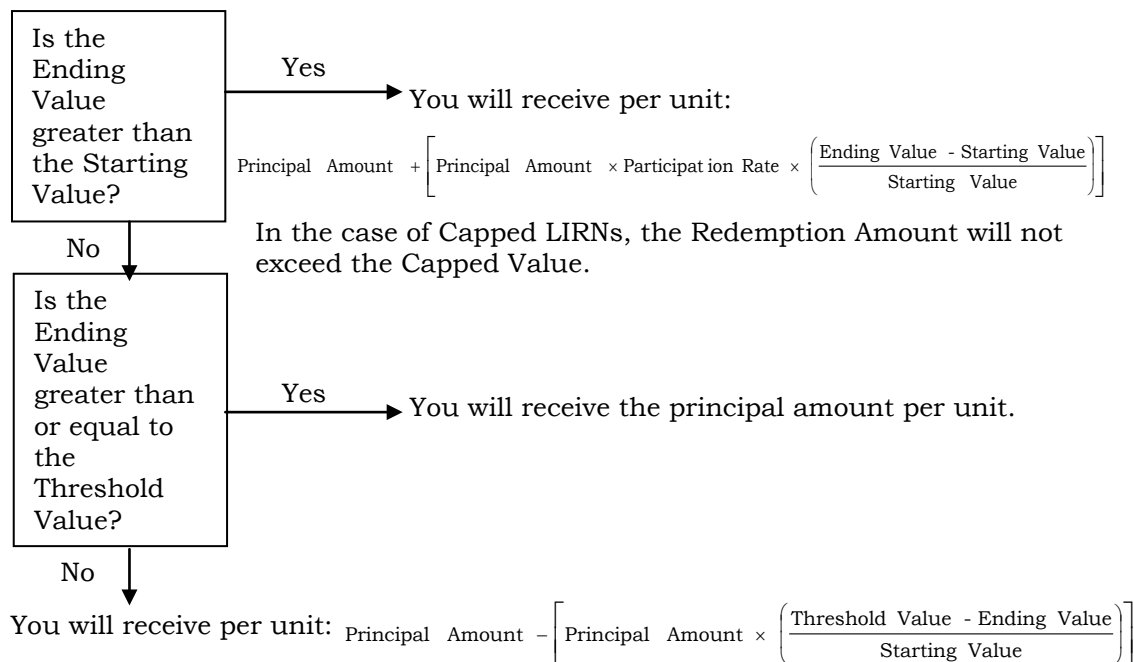
For Capped LIRNs, the maximum Redemption Amount. Your investment return on Capped LIRNs, if any, is limited to the amount represented by the Capped Value specified in the term sheet. We will determine the applicable Capped Value on the pricing date of each issue of Capped LIRNs.

**Redemption  
Amount at  
Maturity:**

At maturity, you will receive a Redemption Amount that is greater than the principal amount if the value of the Market Measure increases from the Starting Value to the Ending Value. In the case of Capped LIRNs, the Redemption Amount will not exceed the Capped Value. If the value of the Market Measure does not change or decreases from the Starting Value to the Ending Value but not below the Threshold Value, then the Redemption Amount will equal the principal amount. If the Ending Value is less than the Threshold Value, you will be subject to 1-to-1 downside exposure to the decrease of the Market Measure below the Threshold Value, and will receive a Redemption Amount that is less than the principal amount. If the Threshold Value is equal to 100% of the Starting Value, the Redemption Amount could be zero and you may lose all of your investment in LIRNs.

**Any payments due on the LIRNs, including any repayment of principal, are subject to our credit risk as issuer of LIRNs.**

The Redemption Amount, denominated in U.S. dollars, will be calculated as follows:



The Redemption Amount will not be less than zero.

**Principal at Risk:**

You may lose some or a significant portion of the principal amount of the LIRNs. Further, if you sell your LIRNs prior to maturity, you may find that the market value per LIRN is less than the price that you paid for the LIRNs.

**Calculation Agent:**

The calculation agent will make all calculations and determinations associated with the LIRNs. Unless otherwise set forth in the applicable term sheet, we or one or more of our affiliates, acting independently or jointly with MLPF&S, will act as the calculation agent, or we may appoint MLPF&S or one of its affiliates to act as calculation agent for the LIRNs. See the section entitled “Description of LIRNs—Role of the Calculation Agent.”

**Agents:**

MLPF&S and one or more of its affiliates will act as our agents in connection with each offering of LIRNs and will receive an underwriting discount based on the number of units of LIRNs sold. None of the agents is your fiduciary or advisor solely as a result of the making of any offering of LIRNs, and you should not rely upon this product supplement, the term sheet, or the accompanying prospectus or prospectus supplement as investment advice or a recommendation to purchase LIRNs.

**Listing:**

Unless otherwise specified in the applicable term sheet, the LIRNs will not be listed on a securities exchange or quotation system.

**ERISA Considerations:**

See “Benefit Plan Investor Considerations” beginning on page PS-46 of the prospectus supplement.

This product supplement relates only to LIRNs and does not relate to any commodities, futures contracts or commodity indices that compose the Market Measure described in any term sheet. You should read carefully the entire prospectus, prospectus supplement, and product supplement,

together with the applicable term sheet, to understand fully the terms of your LIRNs, as well as the tax and other considerations important to you in making a decision about whether to invest in any LIRNs. In particular, you should review carefully the section in this product supplement entitled “Risk Factors,” which highlights a number of risks of an investment in LIRNs, to determine whether an investment in LIRNs is appropriate for you. If information in this product supplement is inconsistent with the prospectus or prospectus supplement, this product supplement will supersede those documents. However, if information in any term sheet is inconsistent with this product supplement, that term sheet will supersede this product supplement. You should carefully review the applicable term sheet to understand the specific terms of your LIRNs.

Neither we nor any agent is making an offer to sell LIRNs in any jurisdiction where the offer or sale is not permitted. This product supplement and the accompanying prospectus supplement and prospectus are not an offer to sell these LIRNs to anyone and are not soliciting an offer to buy these LIRNs from anyone in any jurisdiction where the offer or sale is not permitted.

When you read the accompanying prospectus supplement, please note that all references in the prospectus supplement to the prospectus dated July 31, 2015, or to any sections therein, should refer instead to the accompanying prospectus dated April 27, 2016 or to the corresponding sections of such prospectus, as applicable, unless otherwise specified or the context otherwise requires. Certain capitalized terms used and not defined in this product supplement have the meanings ascribed to them in the prospectus supplement and prospectus. Unless otherwise indicated or unless the context requires otherwise, all references in this product supplement to “we,” “us,” “our,” or similar references are to Deutsche Bank AG, including, as the context may require, acting through one of its branches.

You are urged to consult with your own attorneys and business and tax advisors before making a decision to purchase any LIRNs.

## RISK FACTORS

*Your investment in LIRNs is subject to investment risks, many of which differ from those of a conventional debt security. Your decision to purchase LIRNs should be made only after carefully considering the risks, including those discussed below, together with the risk information contained in the prospectus supplement, the prospectus and the relevant term sheet, in light of your particular circumstances. LIRNs are not an appropriate investment for you if you are not knowledgeable about the material terms of LIRNs or investments in commodities, futures contracts on commodities, or commodity-based indices in general.*

### **General Risks Relating to LIRNs**

#### **Your investment may result in a loss; there is no guaranteed return of principal.**

There is no fixed principal repayment amount on LIRNs at maturity. The return on LIRNs will be based on the performance of a Market Measure and therefore, you will lose some or a significant portion of your investment if the value of the Market Measure decreases from the Starting Value to an Ending Value that is less than the Threshold Value. If the Threshold Value is equal to 100% of the Starting Value, the Redemption Amount could be zero and you may lose all of your investment in LIRNs.

**Your return on the LIRNs may be less than the yield on a conventional fixed or floating rate debt security of comparable maturity.** There will be no periodic interest payments on LIRNs as there would be on a conventional fixed-rate or floating-rate debt security having the same maturity. Any return that you receive on LIRNs may be less than the return you would earn if you purchased a conventional debt security with the same maturity date. As a result, your investment in LIRNs may not reflect the full opportunity cost to you when you consider factors, such as inflation, that affect the time value of money.

**Your investment return will be limited to the return represented by the Capped Value, if applicable, and may be less than a comparable investment directly in the Market Measure.** The appreciation potential of Capped LIRNs is limited to the Capped Value. You will never receive a Redemption Amount greater than the Capped Value, regardless of the extent of the increase in the value of the Market Measure. In contrast, a direct investment in the Market Measure (or the components of the Market Measure) would allow you to receive the full benefit of any appreciation in the value of the Market Measure (or those components).

Additionally, the Market Measure may consist of one or more commodity indices that are calculated in a non-U.S. currency and include components traded in such non-U.S. currency. If the value of that currency strengthens against the U.S. dollar during the term of your LIRNs, you may not obtain the benefit of that increase, which you would have received if you had owned the commodities or futures contracts included in the index or indices.

**The LIRNs are subject to the credit of Deutsche Bank AG, and actual or perceived changes in Deutsche Bank AG's creditworthiness are expected to affect the value of the LIRNs.** The LIRNs are senior unsecured obligations of Deutsche Bank AG and are not, either directly or indirectly, an obligation of any third party. Any payment to be made on the LIRNs 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 LIRNs. As a result, the actual and perceived creditworthiness of Deutsche Bank AG will affect the value of the LIRNs and, in the event Deutsche Bank AG were to default on its payment obligations or become subject to a Resolution Measure (as

defined below), you might not receive any amount owed to you under the terms of the LIRNs and you could lose your entire investment.

**The LIRNs may be written down, be converted into ordinary shares or other instruments of ownership or become subject to other resolution measures. You may lose some or all of your investment if any such measure becomes applicable to us.** On May 15, 2014, the European Parliament and the Council of the European Union adopted a directive establishing a framework for the recovery and resolution of credit institutions and investment firms (commonly referred to as the “**Bank Recovery and Resolution Directive**”). The Bank Recovery and Resolution Directive required each member state of the European Union to adopt and publish by December 31, 2014 the laws, regulations and administrative provisions necessary to comply with the Bank Recovery and Resolution Directive. Germany adopted the Recovery and Resolution Act (*Sanierungs- und Abwicklungsgesetz*, or the “**Resolution Act**”), which became effective on January 1, 2015. The Bank Recovery and Resolution Directive and the Resolution Act provided national resolution authorities with a set of resolution powers to intervene in the event that a bank is failing or likely to fail and certain other conditions are met. From January 1, 2016, the power to initiate resolution measures applicable to significant banking groups (such as Deutsche Bank Group) in the European Banking Union has been transferred to the European Single Resolution Board which, based on the European Union regulation establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Resolution Fund (the “**SRM Regulation**”), works in close cooperation with the European Central Bank, the European Commission and the national resolution authorities. Pursuant to the SRM Regulation, the Resolution Act and other applicable rules and regulations described above under “Resolution Measures and Deemed Agreement,” the LIRNs are subject to the powers exercised by the competent resolution authority to impose Resolution Measures on us, which may include: writing down, including to zero, any claim for payment on the LIRNs; converting the LIRNs into ordinary shares of (i) the issuer, (ii) any group entity or (iii) any bridge bank or other instruments of ownership of such entities qualifying as common equity tier 1 capital; or applying any other resolution measure including, but not limited to, transferring the LIRNs to another entity, amending, modifying or varying the terms and conditions of the LIRNs or cancelling the LIRNs. The competent resolution authority may apply Resolution Measures individually or in any combination.

The German Banking Act as amended by the German law on the mechanism for the resolution of banks of November 2, 2015 (*Abwicklungsmechanismusgesetz*, or the “**Resolution Mechanism Act**”) provides that, in a German insolvency proceeding of the issuer, certain specifically defined senior unsecured debt instruments would rank junior to, without constituting subordinated debt, all other outstanding unsecured unsubordinated obligations of the issuer and be satisfied only if all such other senior unsecured unsubordinated obligations of the issuer have been paid in full. This prioritization would also be given effect if Resolution Measures are imposed on the issuer, so that obligations under debt instruments that rank junior in insolvency as described above would be written down or converted into common equity tier 1 instruments before any other senior unsecured obligations of the issuer are written down or converted. A large portion of our liabilities consist of senior unsecured obligations that either fall outside the statutory definition of debt instruments that rank junior to other senior unsecured obligations according to the Resolution Mechanism Act or are expressly exempted from such definition.

Among those unsecured unsubordinated obligations that are expressly exempted are money market instruments and senior unsecured debt instruments whose terms provide that (i) the amount of the repayment depends on the occurrence or non-occurrence of an event



which is uncertain at the point in time when the senior unsecured debt instruments are issued or settlement is effected in a way other than by monetary payment, or (ii) the amount of the interest payments depends on the occurrence or non-occurrence of an event which is uncertain at the point in time when the senior unsecured debt instruments are issued unless the payment of interest or the amount of the interest payments solely depends on a fixed or floating reference interest rate and settlement is effected by monetary payment. This order of priority introduced by the Resolution Mechanism Act became effective on January 1, 2017 and would apply to the then outstanding debt instruments of the issuer if German insolvency proceedings were instituted, or if Resolution Measures were imposed, on such debt instruments. In a German insolvency proceeding or in the event of the imposition of Resolution Measures with respect to the issuer, the competent resolution authority or court would determine whether the securities offered by the prospectus have the terms described in clauses (i) or (ii) above, referred to herein as “**Structured Debt Securities**,” or whether they do not, referred to herein as “**Non-Structured Debt Securities**.” We expect and intend the LIRNs offered herein to be classified as Structured Debt Securities, but the competent regulatory authority or court may classify the LIRNs differently. In a German insolvency proceeding or in the event of the imposition of Resolution Measures with respect to the issuer, the Structured Debt Securities are expected to be among the unsecured unsubordinated obligations that would bear losses after the Non-Structured Debt Securities as described above. **Nevertheless, you may lose some or all of your investment in the LIRNs if a Resolution Measure becomes applicable to us.** Imposition of a Resolution Measure would likely occur if we become, or are deemed by the competent supervisory authority to have become, “non-viable” (as defined under the then applicable law) and are unable to continue our regulated banking activities without a Resolution Measure becoming applicable to us. The Bank Recovery and Resolution Directive and the Resolution Act are intended to eliminate the need for public support of troubled banks, and you should be aware that public support, if any, would only potentially be used by the competent supervisory authority as a last resort after having assessed and exploited, to the maximum extent practicable, the resolution tools, including the bail-in tool.

By acquiring the LIRNs, you would have no claim or other right against us arising out of any Resolution Measure and we would have no obligation to make payments under the LIRNs following the imposition of a Resolution Measure. In particular, the imposition of any Resolution Measure will not constitute a default or an event of default under the LIRNs, under the senior indenture or for the purposes of, but only to the fullest extent permitted by, the Trust Indenture Act of 1939, as amended (the “**Trust Indenture Act**”). Furthermore, because the LIRNs are subject to any Resolution Measure, secondary market trading in the LIRNs may not follow the trading behavior associated with similar types of securities issued by other financial institutions which may be or have been subject to a Resolution Measure.

In addition, by your acquisition of the LIRNs, you waive, to the fullest extent permitted by the Trust Indenture Act and applicable law, any and all claims against the trustee and the paying agent, the issuing agent and the registrar (each, an “**indenture agent**”) for, agree not to initiate a suit against the trustee or any indenture agent in respect of, and agree that the trustee and the indenture agents will not be liable for, any action that the trustee or any indenture agents takes, or abstains from taking, in either case in accordance with the imposition of a Resolution Measure by the competent resolution authority with respect to the LIRNs. **Accordingly, you may have limited or circumscribed rights to challenge any decision of the competent resolution authority to impose any Resolution Measure.**

**Our initial estimated value of the LIRNs will be determined based on an internal funding rate and our pricing models, which may not be comparable to the initial estimated values of similar notes of other financial institutions.** The initial estimated value of the LIRNs, which will be set forth in the applicable term sheet, is an estimate only, determined as of a particular point in time 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 of comparable maturity. As a result of this difference, the initial estimated value of the LIRNs would likely be lower if it were based on the rate we would pay when we issue conventional debt securities of comparable maturity. This difference in funding rate, as well as the underwriting discount and the estimated cost of hedging our obligations under the LIRNs (which includes an expected hedging related charge), reduces the economic terms of the LIRNs to you.

Our internal pricing models consider relevant parameter inputs such as expected interest rates and mid-market levels of price and volatility of the assets underlying the LIRNs or any futures, options or swaps related to such underlying assets. Our pricing models are proprietary and rely in part on certain forecasts about future events, which may prove to be incorrect. Because our pricing models may differ from other financial institutions' valuation models, and because funding rates taken into account by other financial institutions (including those with similar creditworthiness) may vary materially from the internal funding rate used by us, our initial estimated value of the LIRNs may not be comparable to the initial estimated values of similar notes of other financial institutions.

**The public offering price you pay for the LIRNs will exceed the initial estimated value.** The difference is due to the inclusion in the public offering price of the underwriting discount and the estimated cost of hedging our obligations under the LIRNs (which includes an expected hedging related charge). These factors are expected to reduce the price at which you may be able to sell the LIRNs in any secondary market and, together with various credit, market and economic factors over the term of the LIRNs, including changes in the value of the Market Measure, will affect the value of the LIRNs in complex and unpredictable ways.

**The initial estimated value of the LIRNs on the pricing date does not represent the price at which we, MLPF&S, or any of our respective affiliates would be willing to purchase your LIRNs 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, MLPF&S, or any of our respective affiliates would be willing to purchase the LIRNs from you in secondary market transactions, if at all, would generally be lower than both the public offering price and the initial estimated value of the LIRNs on the pricing date. MLPF&S has advised us that any repurchases by them or their affiliates are expected to be made at prices determined by reference to their pricing models and at their discretion. These prices will reflect MLPF&S's trading commissions and mark-ups and may differ materially from the initial estimated value of the LIRNs determined by reference to our internal funding rate and pricing models.

**We cannot assure you that there will be a trading market for your LIRNs.** If a secondary market exists, we cannot predict how the LIRNs will trade, or whether that market will be liquid or illiquid. The development of a trading market for LIRNs will depend on various factors, including our financial performance and changes in the value of the Market Measure. The number of potential buyers of your LIRNs in any secondary market may be limited. There is no assurance that any party will be willing to purchase your LIRNs at any price in any secondary market.

**We anticipate that one or more of the agents will act as a market-maker for LIRNs that it offers, but none of them is required to do so and may cease to do so at any time.**

Any price at which an agent may bid for, offer, purchase, or sell any of the LIRNs may be higher or lower than the applicable public offering price, and that price may differ from the values determined by pricing models that it may use, whether as a result of dealer discounts, mark-ups, or other transaction costs. These bids, offers, or transactions may affect the prices, if any, at which those LIRNs might otherwise trade in the market. In addition, if at any time any agent were to cease acting as a market-maker for any issue of LIRNs, it is likely that there would be significantly less liquidity in that secondary market. In such a case, the price at which those LIRNs could be sold likely would be lower than if an active market existed.

**Unless otherwise stated in the term sheet, we will not list LIRNs on any securities exchange.** Even if an application were made to list your LIRNs, we cannot assure you that the application will be approved or that your LIRNs will be listed and, if listed, that they will remain listed for their entire term. The listing of LIRNs on any securities exchange will not necessarily ensure that a trading market will develop, and if a trading market does develop, that there will be liquidity in the trading market.

**The Redemption Amount will not reflect changes in the value of the Market Measure other than on the calculation day.** Changes in the value of the Market Measure during the term of LIRNs other than on the calculation day will not be reflected in the calculation of the Redemption Amount. To calculate the Redemption Amount, the calculation agent will compare only the Ending Value to the Starting Value or the Threshold Value, as applicable. No other values of the Market Measure will be taken into account. As a result, even if the value of the Market Measure has increased at certain times during the term of the LIRNs, you will receive a Redemption Amount that is less than the principal amount if the Ending Value is less than the Threshold Value.

**If your LIRNs are linked to a Basket, changes in the levels of one or more of the Basket Components may be offset by changes in the levels of one or more of the other Basket Components.** The Market Measure of your LIRNs may be a Basket. In such a case, changes in the levels of one or more of the Basket Components may not correlate with changes in the levels of one or more of the other Basket Components. The levels of one or more Basket Components may increase, while the levels of one or more of the other Basket Components may decrease or not increase as much. Therefore, in calculating the value of the Market Measure at any time, increases in the level of one Basket Component may be moderated or wholly offset by decreases or lesser increases in the levels of one or more of the other Basket Components. If the weightings of the applicable Basket Components are not equal, adverse changes in the levels of the Basket Components which are more heavily weighted could have a greater impact upon your LIRNs.

**The publisher of an index may adjust that index in a way that affects its level, and the publisher has no obligation to consider your interests.** If the Market Measure consists of a commodity index, unless otherwise specified in the term sheet, we have no affiliation with the publisher of that index (the “**Index Publisher**”). An Index Publisher can add, delete, or substitute the components included in that index or make other methodological changes that could change its level. A new component included in an index may perform significantly better or worse than the replaced component, and the performance will impact the level of the applicable index. Additionally, an Index Publisher may alter, discontinue, or suspend calculation or dissemination of an index. Any of these actions could adversely affect the value of the Market Measure and, consequently, the market value of your LIRNs. No Index Publisher will have any obligation to consider your interests in calculating or revising any index.

**Exchange rate movements may impact the value of LIRNs.** If any component included in an index is traded in a currency other than U.S. dollars and, for purposes of that index, is converted into U.S. dollars, then the Redemption Amount may depend in part on the relevant exchange rates. If the value of the U.S. dollar strengthens against the currencies of that index, the level of the applicable index may be adversely affected and the Redemption Amount may be reduced. Exchange rate movements may be particularly impacted by existing and expected rates of inflation and interest rate levels; political, civil, or military unrest; the balance of payments between countries; and the extent of governmental surpluses or deficits in the countries relevant to the applicable index and the United States. All of these factors are in turn sensitive to the monetary, fiscal, and trade policies pursued by the governments of those countries and the United States and other countries important to international trade and finance.

**If you attempt to sell LIRNs prior to maturity, their market value, if any, will be affected by various factors that interrelate in complex ways, and their market value may be less than the principal amount.** LIRNs are not designed to be short-term trading instruments. The limited protection against the risk of losses provided by the Threshold Value, if any, will only apply if you hold LIRNs to maturity. You have no right to have your LIRNs redeemed at your option prior to maturity. If you wish to liquidate your investment in LIRNs prior to maturity, your only option would be to sell them. At that time, there may be an illiquid market for the LIRNs or no market at all. Even if you were able to sell your LIRNs, there are many factors outside of our control that may affect their market value, some of which, but not all, are stated below. The impact of any one factor may be offset or magnified by the effect of another factor. The following paragraphs describe a specific factor's expected impact on the market value of LIRNs, assuming all other conditions remain constant.

- **Value of the Market Measure.** We anticipate that the market value of LIRNs prior to maturity generally will depend to a significant extent on the value of the Market Measure. In general, it is expected that the market value of LIRNs will decrease as the value of the Market Measure decreases, and increase as the value of the Market Measure increases. However, as the value of the Market Measure increases or decreases, the market value of LIRNs is not expected to increase or decrease at the same rate. If you sell your LIRNs when the value of the Market Measure is less than, or not sufficiently above the applicable Starting Value, then you may receive less than the principal amount of your LIRNs.

In addition, because the Redemption Amount for Capped LIRNs will not exceed the applicable Capped Value, we do not expect that Capped LIRNs will trade in any secondary market at a price that is greater than the Capped Value.

- **Volatility of the Market Measure.** Volatility is the term used to describe the size and frequency of market fluctuations. The volatility of the Market Measure during the term of the LIRNs may vary. In addition, an unsettled international environment and related uncertainties may result in greater market volatility, which may continue over the term of the LIRNs. Increases or decreases in the volatility of the Market Measure may have an adverse impact on the market value of LIRNs. Even if the value of the Market Measure increases after the applicable pricing date, if you are able to sell your LIRNs before their maturity date, you may receive substantially less than the amount that would be payable at maturity based on that value because of the anticipation that the value of the Market Measure will continue to fluctuate until the Ending Value is determined.

- **Economic and Other Conditions Generally.** The general economic conditions of the capital markets in the United States, as well as geopolitical conditions and other financial, political, regulatory, and judicial events and related uncertainties that affect commodity markets generally, may adversely affect the value of the Market Measure and the market value of LIRNs. If the Market Measure includes one or more indices that have returns that are calculated based upon commodities prices in one or more non-U.S. markets (a “**non-U.S. Market Measure**”), the value of your LIRNs may also be affected by similar events in the markets of the relevant foreign countries.
- **Interest Rates.** We expect that changes in interest rates will affect the market value of LIRNs. In general, if U.S. interest rates increase, we expect that the market value of LIRNs will decrease, and conversely, if U.S. interest rates decrease, we expect that the market value of LIRNs will increase. In general, we expect that the longer the amount of time that remains until maturity, the more significant the impact of these changes will be on the value of the LIRNs. In the case of non-U.S. Market Measures, the level of interest rates in the relevant foreign countries may affect the economies of those foreign countries and, in turn, the value of the non-U.S. Market Measure, and, thus, the market value of the LIRNs may be adversely affected.
- **Exchange Rate Movements and Volatility.** If the Market Measure of your LIRNs includes any non-U.S. Market Measures, changes in, and the volatility of, the exchange rates between the U.S. dollar and the relevant non-U.S. currency or currencies could have a negative impact on the value of your LIRNs, and the Redemption Amount may depend in part on the relevant exchange rates. In addition, the correlation between the relevant exchange rate and any applicable non-U.S. Market Measure reflects the extent to which a percentage change in that exchange rate corresponds to a percentage change in the applicable non-U.S. Market Measure, and changes in these correlations may have a negative impact on the value of your LIRNs.
- **Our Financial Condition and Creditworthiness.** Our actual or perceived creditworthiness, including any actual or anticipated downgrades in our credit ratings and any increases in our credit spreads, may adversely affect the market value of the LIRNs. In general, we expect the longer the amount of time that remains until maturity, the more significant the impact will be on the value of the LIRNs. However, an improvement in our creditworthiness will not necessarily increase the market value of LIRNs.
- **Time to Maturity.** There may be a disparity between the market value of the LIRNs prior to maturity and their value at maturity. This disparity is often called a time “value,” “premium,” or “discount,” and reflects expectations concerning the value of the Market Measure prior to the maturity date. As the time to maturity decreases, this disparity will likely decrease, such that the market value of the LIRNs will approach the expected Redemption Amount to be paid at maturity.

**Trading and hedging activities by us, the agents, and our respective affiliates may affect your return on the LIRNs and their market value.** We, the agents, and our respective affiliates may buy or sell the commodities or futures contracts represented by or included in the Market Measure, or futures, options contracts, or exchange traded instruments on the Market Measure or its components or other instruments whose value is derived from the Market Measure or its components. We, the agents, or our respective affiliates may execute such purchases or sales for our own or their own accounts, for business reasons, or in connection with hedging our obligations under LIRNs. These transactions could affect the

value of these components and, in turn, the value of a Market Measure in a manner that could be adverse to your investment in LIRNs. On or before the applicable pricing date, any purchases or sales by us, the agents, and our respective affiliates, or others on our or their behalf (including those for the purpose of hedging some or all of our anticipated exposure in connection with the LIRNs) may increase the value of a Market Measure or its components. Consequently, the values of that Market Measure or its components may decrease subsequent to the pricing date of an issue of LIRNs, adversely affecting the market value of LIRNs.

We, the agents, or one or more of our respective affiliates expect to also engage in hedging activities that could increase the value of the Market Measure on the applicable pricing date (including the Starting Value), and therefore effectively establish a higher level that the Market Measure must achieve for you to obtain a positive return on your investment or avoid a loss of some or a significant portion of your initial investment at maturity. In addition, these activities, including the unwinding of the hedge near or on the calculation day, may decrease the market value of your LIRNs prior to maturity, including on the calculation day, and may reduce the Redemption Amount. We, the agents, or one or more of our respective affiliates may purchase or otherwise acquire a long or short position in LIRNs, and may hold or resell LIRNs and may pursue a dynamic hedging strategy which may involve taking long or short positions in the Market Measure, its components, or instruments whose value is derived from the Market Measure or its components. For example, the agents may enter into these transactions in connection with any market making activities in which they engage. We cannot assure you that these activities will not adversely affect the value of the Market Measure, the market value of your LIRNs prior to maturity or the Redemption Amount.

**Our trading, hedging and other business activities, and those of the agents or one or more of our respective affiliates, may create conflicts of interest with you.** We, the agents, or one or more of our respective affiliates may engage in trading activities related to the Market Measure and to components included in the Market Measure (and related futures and options contracts on the Market Measure or its components) that are not for your account or on your behalf. We, the agents, or one or more of our respective affiliates also may issue or underwrite other financial instruments with returns based upon the applicable Market Measure or its components. The foregoing activities may reflect trading strategies that differ from, or are in direct opposition to, investors' trading and investment strategies related to the LIRNs. In addition, in the ordinary course of their business activities, the agents and their affiliates may hold and trade our or our affiliates' debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Certain of the agents or their affiliates may also have a lending relationship with us. In order to hedge such exposure, the agents may enter into transactions such as the purchase of credit default swaps or the creation of short positions in our or our affiliates' securities, including potentially the LIRNs. Any such short positions could adversely affect future trading prices of the LIRNs. These trading and other business activities may present a conflict of interest between your interest in LIRNs and the interests we, the agents and our respective affiliates may have in our proprietary accounts, in facilitating transactions, including block trades, for our or their other customers, and in accounts under our or their management. These trading and other business activities, if they influence the value of the Market Measure or secondary trading in your LIRNs, could be adverse to your interests as a beneficial owner of LIRNs.

We, the agents, and our respective affiliates expect to enter into arrangements or adjust or close out existing transactions to hedge our obligations under the LIRNs. We, the agents, or our respective affiliates also may enter into hedging transactions relating to other notes or instruments that we or they issue, some of which may have returns calculated in a

manner related to that of a particular issue of LIRNs. We may enter into such hedging arrangements with one or more of our subsidiaries or affiliates, or with one or more of the agents or their affiliates. Such a party may enter into additional hedging transactions with other parties relating to LIRNs and the applicable Market Measure. This hedging activity is expected to result in a profit to those engaging in the hedging activity, which could be more or less than initially expected, or the hedging activity could also result in a loss. We, the agents, and our respective affiliates will price these hedging transactions with the intent to realize a profit, regardless of whether the value of LIRNs increases or decreases. Any profit in connection with such hedging activities will be in addition to any other compensation that we, the agents, and our respective affiliates receive for the sale of the LIRNs, which creates an additional incentive to sell the LIRNs to you.

**There may be potential conflicts of interest involving the calculation agent. We have the right to appoint and remove the calculation agent.** We or one of our affiliates may be the calculation agent or act as joint calculation agent for LIRNs and, as such, will determine the Starting Value, the Threshold Value, the Ending Value, and the Redemption Amount. Under some circumstances, these duties could result in a conflict of interest between our status as issuer of the LIRNs and our responsibilities as calculation agent. These conflicts could occur, for instance, in connection with the calculation agent's determination as to whether a Market Disruption Event has occurred, or in connection with judgments that the calculation agent would be required to make if the method of calculation of a Market Measure or Basket Component were materially changed or the publication or determination of a Market Measure or Basket Component were discontinued. See the sections entitled "Description of LIRNs—Market Disruption Events," "—Adjustments to a Market Measure," and "—Discontinuance of a Market Measure." The calculation agent will be required to carry out its duties in good faith and in a commercially reasonable manner. However, because we may serve as the calculation agent, potential conflicts of interest could arise.

In addition, we may appoint MLPF&S or one of its affiliates to act as the calculation agent or as joint calculation agent for LIRNs. As the calculation agent or joint calculation agent, MLPF&S or one of its affiliates will have discretion in making various determinations that affect your LIRNs. The exercise of this discretion by the calculation agent could adversely affect the value of your LIRNs and may present the calculation agent with a conflict of interest of the kind described under "—Trading and hedging activities by us, the agents, and our respective affiliates may affect your return on the LIRNs and their market value" and "—Our trading, hedging and other business activities, and those of the agents or one or more of our respective affiliates, may create conflicts of interest with you" above.

**The U.S. federal income tax consequences of an investment in the LIRNs are uncertain and may be adverse to a holder of the LIRNs.** There is no direct legal authority regarding the proper U.S. federal income tax treatment of the LIRNs, and we do not plan to request a ruling from the Internal Revenue Service (the "IRS"). Consequently, significant aspects of the tax treatment of the LIRNs are uncertain, and the IRS or a court might not agree with the treatment of the LIRNs as prepaid financial contracts that are not debt, as described in the section of this product supplement entitled "U.S. Federal Income Tax Consequences." If the IRS were successful in asserting an alternative treatment, the tax consequences of your ownership and disposition of the LIRNs could be materially and adversely affected. In addition, in 2007 the U.S. Treasury Department and the IRS released a notice requesting comments on various issues regarding the U.S. federal income tax treatment of "prepaid forward contracts" and similar instruments. Any Treasury regulations or other guidance promulgated after consideration of these issues could materially and adversely affect the tax consequences of an investment in the LIRNs, possibly with retroactive effect. **You should review the discussion**

**under “U.S. Federal Income Tax Consequences” and consult your tax advisor regarding the U.S. federal tax consequences of an investment in the LIRNs, as well as tax consequences arising under the laws of any state, local or non-U.S. taxing jurisdiction.**

### **Risks Relating to the Market Measures**

**You must rely on your own evaluation of the merits of an investment linked to the applicable Market Measure.** In the ordinary course of business, we, the agents, and/or our respective affiliates may have expressed views on expected movements in a Market Measure or its components, and may do so in the future. These views or reports may be communicated to our clients and clients of these entities. However, these views are subject to change from time to time. Moreover, other professionals who deal in markets relating to a Market Measure may at any time have significantly different views from our views and the views of these entities. For these reasons, you are encouraged to derive information concerning a Market Measure or its components from multiple sources, and you should not rely on our views or the views expressed by these entities.

**Ownership of LIRNs will not entitle you to any rights with respect to any commodities or futures contracts represented by or included in the Market Measure.** You will not own or have any beneficial or other legal interest in any of the commodities or futures contracts represented by or included in the Market Measure. We will not invest in any of the commodities or futures contracts represented by or included in that Market Measure for your benefit.

**The prices of the commodities or futures contracts represented by or included in the Market Measure may change unpredictably, affecting the value of your LIRNs in unforeseeable ways.** Trading in commodities and futures contracts is speculative and can be extremely volatile. Their market prices 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 countries in which the production of particular commodities may be concentrated; and natural or nuclear disasters. These factors may adversely affect the value of a Market Measure or its components in varying ways, and different factors may cause the levels and volatilities of commodity prices to move in inconsistent directions at inconsistent rates. Additionally, certain Market Measures or Basket Components may relate to a single industry (e.g., energy). These Market Measures and Basket Components are likely to be more volatile than other types of market measures which represent a broad base of commodities.

**If the liquidity of any components of the Market Measure is limited, the LIRNs would likely be impaired.** Commodities and derivatives contracts on commodities may be difficult to buy or sell, particularly during adverse market conditions. Reduced liquidity of any components of the Market Measure on the calculation day would likely have an adverse effect on the value of the Market Measure and, therefore, on the return of the LIRNs. Limited liquidity relating to the components of a Market Measure that is a commodity index may also result in the Index Publisher being unable to determine the value of such index 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. The resulting discretion by the Index Publisher in determining the value of a Market Measure that is a commodity index could adversely affect the value of the LIRNs.

**Suspension or disruptions of market trading in the applicable commodities and related futures contracts may adversely affect the value of LIRNs.** The commodity markets are subject to disruptions due to various factors, including the lack of liquidity in the markets, the participation of speculators and government regulation and intervention. In addition, U.S. futures exchanges and some foreign exchanges have regulations that limit the amount of fluctuation in futures contract prices that may occur during a single 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. Any such disruption, or any other force majeure (such as an act of God, fire, flood, severe weather conditions, act of governmental authority, labor difficulty, etc.), could have an adverse effect on the value of or trading in the Market Measure, or the manner in which it is calculated, and therefore, the value of LIRNs.

**Changes in exchange methodology may adversely affect the value of LIRNs prior to maturity.** The value of a Market Measure will be determined by reference to fixing prices, spot prices, or related futures contracts of the commodities represented by or included in a Market Measure, as determined by the applicable exchange or as otherwise set forth in the applicable term sheet. An exchange may from time to time change its rules or take extraordinary actions under its rules, which could adversely affect the prices of the applicable commodities or futures contracts, which could reduce the value of the Market Measure and the value of LIRNs.

In addition, some fixing prices or spot prices are derived from a principals’ market, which operates as an over the counter (“**OTC**”) physical commodity market. Although market-making members of principals’ markets are typically supervised by regulating entities, the principals’ markets themselves are not regulated. If any tax or other form of regulation should affect the members of the relevant principals’ market, the role of the principals’ market as a benchmark for the applicable commodity may be affected.

**Legal and regulatory changes could adversely affect the return on and value of your LIRNs.** The value of the underlying commodities or futures contracts could be adversely affected by new laws or regulations or by the reinterpretation of existing laws or regulations (including, without limitation, those related to taxes and duties on commodities and futures contracts) by one or more governments, courts, or other official bodies.

In the U.S., the regulation of commodity transactions is subject to ongoing modification by governmental action. For example, the U.S. Commodity Futures Trading Commission (“**CFTC**”) has interpreted the Dodd-Frank Wall Street Reform and Consumer Protection Act (“**Dodd-Frank**”), which was enacted in July 2010, to require the CFTC to impose limits on the size of positions that can be held by market participants in futures contracts and OTC derivatives on certain physical commodities. The CFTC’s rules providing for such position limits have been, and may in the future be, subject to litigation challenging their validity, the potential final outcome of which cannot be known at this time. While the ultimate scope and effect of any final and implemented position limit rules are not yet known, these limits will likely restrict the ability of many market participants to trade in the commodities markets to the same extent as they have in the past, including affecting their ability to enter into or

maintain hedge positions in the applicable commodity or futures contracts. These rules and various other legislative and regulatory requirements may, among other things, reduce liquidity, increase market volatility, and increase costs in these markets. Furthermore, such rules may also force market participants, including us, the agents, or our respective affiliates, or such market participants may decide, to sell their positions in such futures contracts and other instruments subject to such limits. These consequences could adversely affect the Market Measure and the value of your LIRNs.

In addition, other governmental or regulatory bodies (such as the European Commission) have proposed or may propose in the future legislation or regulations containing restrictions similar to those contemplated by Dodd-Frank, or other legislation or regulations containing other restrictions that could adversely impact the liquidity of and increase costs of participating in the commodities markets. If such legislation or regulations are adopted or other legislation or regulations are adopted in the future, they could have an adverse effect on the value of the applicable Market Measure and your LIRNs.

**LIRNs will not be regulated by the CFTC.** Unlike an investment in the LIRNs, an investment in a collective investment vehicle that invests in futures contracts on behalf of its participants may be regulated as a commodity pool and its operator may be required to be registered with and regulated by the CFTC as a “commodity pool operator” (a “CPO”). Because the LIRNs will not be interests in a commodity pool, the LIRNs will not be regulated by the CFTC as a commodity pool, we will not be registered with the CFTC as a CPO, and you will not benefit from the CFTC’s or any non-U.S. regulatory authority’s regulatory protections afforded to persons who trade in futures contracts or who invest in regulated commodity pools. The LIRNs will not constitute investments by you or by us on your behalf in futures contracts traded on regulated futures exchanges, which may only be transacted through a person registered with the CFTC as a “futures commission merchant” (“FCM”). We are not registered with the CFTC as an FCM 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 FCM.

**A Market Measure may include commodities or futures contracts traded on foreign exchanges that are less regulated than U.S. markets and may involve different and greater risks than trading on U.S. exchanges.** A Market Measure may include commodities or futures contracts that trade on exchanges located outside the U.S. The regulations of the CFTC do not apply to trading on foreign exchanges, and trading on foreign exchanges may involve different and greater risks than trading on U.S. exchanges. Certain foreign markets may be more susceptible to disruption than U.S. exchanges due to the lack of a government-regulated clearinghouse system. Trading on foreign exchanges also involves certain other risks that are not applicable to trading on U.S. exchanges. Those risks include: (a) exchange rate risk relative to the U.S. dollar; (b) exchange controls; (c) expropriation; (d) burdensome or confiscatory taxation; and (e) moratoriums, and political or diplomatic events. It may also be more costly and difficult for participants in those markets to enforce the laws or regulations of a foreign country or exchange, and it is possible that the foreign country or exchange may not have laws or regulations which adequately protect the rights and interests of investors in the relevant contracts. These factors could reduce the value of the applicable Market Measure and the value of your LIRNs.

**If a Market Measure includes a commodity index, future prices of the commodities included in that index that are different from their current prices may have a negative effect on the level of that index, and therefore the value of LIRNs.** A Market Measure may include a commodity index. Commodity indices generally reflect movements in

commodity prices by measuring the value of futures contracts for the applicable commodities. To maintain the index, as futures contracts approach expiration, they are replaced by similar contracts that have a later expiration. For example, a futures contract purchased and held in August may specify an October expiration date. As time passes, the contract expiring in October may be replaced by a contract for delivery in December. This process is referred to as “rolling.” The level of the index is calculated as if the expiring futures contracts are sold and the proceeds from those sales are used to purchase longer-dated futures contracts. The difference in the price between the contracts that are sold and the new contracts for more distant delivery that are purchased is called “roll yield,” and the change in price that contracts experience while they are components of the index is sometimes referred to as “spot return.”

If the expiring futures contract included in the index is “rolled” into a less expensive futures contract with a more distant delivery date, the market for that futures contract is (putting aside other considerations) trading in “backwardation.” In the example above, the purchase of the December contract would take place at a price that is lower than the sale price of the October contract. In this case, the effect of the roll yield on the level of the applicable index will be positive because it costs less to replace the expiring futures contract. However, if the expiring futures contract included in the index is “rolled” into a more expensive futures contract with a more distant delivery date, the market for that futures contract is trading in “contango.” This would occur, for example, if the purchase of the December contract took place at a price that is higher than the sale price of the October contract. In this case, the effect of the roll yield on the level of the index will be negative because it will cost more to replace the expiring futures contract.

There is no indication that the markets for any specific commodity will consistently be in backwardation or that there will be a positive roll yield that increases the level of any applicable index. It is possible, when near-term or spot prices of the constituent commodities are decreasing, for the level of that index to decrease significantly over time even when some or all of the constituent commodities are experiencing backwardation. If all other factors remain constant, the presence of contango in the market for a commodity included in an index could generally result in negative roll yield, even when the near-term or spot prices of the constituent commodities are stable or increasing, which could decrease the level of that index and the market value of LIRNs.

**Regulatory developments and investigations may result in changes to the rules or methodology used to determine the value of a Market Measure or Basket Component, which may adversely affect the value of LIRNs.** The methodologies used to determine the value of certain “benchmarks” (e.g., commodity price sources), which may be used in determining the Starting Value and Ending Value of one or more Market Measures 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. If the calculation agent determines that such changes in its opinion do not fairly represent the value of the Market Measure or Basket Component had those changes or modifications not been made, the calculation agent will make adjustments to such Market Measure or Basket Component in good faith as necessary to arrive at a calculation of a value of such Market Measure or Basket Component as if those changes had not been made, and calculate the closing value of such Market Measure or Basket

Component, as so adjusted. Such adjustments could adversely affect the value of LIRNs. In addition, if such Market Measure or Basket Component ceases to be published or determined, the calculation agent will select a successor market measure or, if a successor market measure is not selected, the calculation agent will compute a substitute value for such Market Measure or Basket Component in accordance with the procedures last used to calculate the value or level of the Market Measure or Basket Component before any discontinuance. See “Description of LIRNs—Adjustments to a Market Measure” and “—Discontinuance of a Market Measure.”

#### **Other Risk Factors Relating to the Applicable Market Measure**

The applicable term sheet may set forth additional risk factors as to the Market Measure that you should review prior to purchasing LIRNs.

## USE OF PROCEEDS AND HEDGING

Unless otherwise specified in the relevant term sheet, the net proceeds we receive from the sale of the LIRNs 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 LIRNs as more particularly described in “Use of Proceeds” on page 22 of the accompanying prospectus.

On or prior to the date of the relevant term sheet, we, through our affiliates or others, expect to hedge some or all of our anticipated exposure in connection with the LIRNs by taking positions in the relevant Market Measure, its components, or instruments whose value is derived from the relevant Market Measure or its components. From time to time, prior to maturity of the LIRNs, we may pursue a dynamic hedging strategy which may involve taking long or short positions in the relevant Market Measure, the components of the relevant Market Measure, or instruments whose value is derived from the relevant Market Measure or its components.

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.

*The hedging activity discussed above may adversely affect the market value of LIRNs from time to time. See “Risk Factors —Trading and hedging activities by us, the agents, and our respective affiliates may affect your return on the LIRNs and their market value” and “—Our trading, hedging and other business activities, and those of the agents or one or more of our respective affiliates, may create conflicts of interest with you” in this product supplement for a discussion of these adverse effects.*

## DESCRIPTION OF LIRNS

### General

Each issue of LIRNs will be part of a series of notes entitled “Global Notes, Series A” referred to in the accompanying prospectus supplement. The LIRNs will be issued by Deutsche Bank AG under an indenture among us, Delaware Trust Company, as the successor trustee to Law Debenture Trust Company of New York, and Deutsche Bank Trust Company Americas, as issuing agent, paying agent, authenticating agent and registrar (the “**senior indenture**”). The senior indenture is described more fully in the prospectus and prospectus supplement. The following description of LIRNs supplements and, to the extent it is inconsistent with, supersedes the description of the general terms and provisions of the notes and debt securities set forth under the headings “Description of Notes” beginning on page PS-7 of the prospectus supplement and “Description of Debt Securities” beginning on page 36 of the prospectus. These documents should be read in connection with the applicable term sheet.

The maturity date of the LIRNs and the aggregate principal amount of each issue of LIRNs will be stated in the term sheet. If the scheduled maturity date is not a business day, we will make the required payment on the next business day, but no interest will accrue as a result of such delay.

We will not pay interest on LIRNs. LIRNs do not guarantee the return of principal at maturity. LIRNs will be payable only in U.S. dollars.

The LIRNs are our direct, unconditional, unsecured and unsubordinated obligations and will rank equally and *pari passu* with the claims of all our other unsecured and unsubordinated creditors, subject to any statutory priority regime of the jurisdiction of our incorporation (or, in the case of LIRNs issued by Deutsche Bank AG through a branch, of the law of the jurisdiction where the branch is established).

Unless otherwise specified in the applicable term sheet, holders of LIRNs issued on or after January 1, 2015 will be bound by and will be deemed irrevocably to consent to the imposition of any Resolution Measures by the competent resolution authority, which may include the write down of all, or a portion, of any payment on the LIRNs or the conversion of the LIRNs into ordinary shares or other instruments of ownership. Please see the section “Risk Factors” beginning on page 13 and the section “Resolution Measures” beginning on page 50 in the accompanying prospectus for more information.

The LIRNs are not deposits or savings accounts and are not insured or guaranteed by the FDIC or any other U.S. or foreign governmental agency or instrumentality.

Prior to the maturity date, LIRNs are not redeemable at our option or repayable at the option of any holder. LIRNs are not subject to any sinking fund. LIRNs are not subject to the defeasance provisions described in the section “Description of Debt Securities—Discharge and Defeasance” on page 43 of the accompanying prospectus.

We will issue LIRNs in denominations of whole units. Unless otherwise set forth in the applicable term sheet, each unit will have a principal amount of \$10. The CUSIP number for each issue of LIRNs will be set forth in the applicable term sheet. You may transfer LIRNs only in whole units.

## Payment at Maturity

At maturity, subject to our credit risk as issuer of LIRNs, you will receive a Redemption Amount, denominated in U.S. dollars. The “**Redemption Amount**” will be calculated as follows:

- If the Ending Value is greater than the Starting Value, then the Redemption Amount will equal:

$$\text{Principal Amount} + \left[ \text{Principal Amount} \times \text{Participation Rate} \times \left( \frac{\text{Ending Value} - \text{Starting Value}}{\text{Starting Value}} \right) \right]$$

Your participation in any upside performance of the Market Measure underlying your LIRNs will also be impacted by the Participation Rate. The “**Participation Rate**” may be equal to or greater than 100%. The Participation Rate applicable to your LIRNs will be set forth in the term sheet. If the applicable term sheet specifies that the Participation Rate is 100%, your participation in any upside performance of the Market Measure will not be leveraged. If your LIRNs are Capped LIRNs, the Redemption Amount will not exceed a “**Capped Value**” set forth in the term sheet.

- If the Ending Value is equal to or less than the Starting Value, but is equal to or greater than the Threshold Value, then the Redemption Amount will equal the principal amount.
- If the Ending Value is less than the Threshold Value, then the Redemption Amount will equal:

$$\text{Principal Amount} - \left[ \text{Principal Amount} \times \left( \frac{\text{Threshold Value} - \text{Ending Value}}{\text{Starting Value}} \right) \right]$$

The Redemption Amount will not be less than zero.

The “**Threshold Value**” will be a value of the Market Measure that equals a specified percentage of the Starting Value which will be less than or equal to 100%. The Threshold Value will be determined on the pricing date and set forth in the term sheet. If the Threshold Value is equal to 100% of the Starting Value, then the Redemption Amount for LIRNs will be less than the principal amount if there is any decrease in the value of the Market Measure from the Starting Value to the Ending Value, and you may lose all of your investment in LIRNs.

Each term sheet will provide examples of Redemption Amounts based on a range of hypothetical Ending Values, and, for Capped LIRNs, a hypothetical Capped Value.

The term sheet will set forth information as to the specific Market Measure, including information as to the historical values of the Market Measure. However, historical values of the Market Measure are not indicative of its future performance or the performance of your LIRNs.

An investment in LIRNs does not entitle you to any ownership interest in any commodities or futures contracts that are represented by or included in a Market Measure.

## **The Starting Value and the Ending Value**

### **Starting Value**

Unless otherwise specified in the term sheet, the “**Starting Value**” will equal the closing value of the Market Measure on the pricing date. However, if a Market Disruption Event occurs on the pricing date, the Starting Value will be determined as described in the section “—Market Disruption Events—Starting Value.”

### **Ending Value**

Unless otherwise specified in the term sheet, the “**Ending Value**” will equal the closing value of the Market Measure on the calculation day. However, if a Market Disruption Event occurs on the scheduled calculation day, the Ending Value will be determined as described in the section “—Market Disruption Events—Ending Value.”

The “**calculation day**” means a Market Measure Business Day shortly before the maturity date, on which a Market Disruption Event has not occurred.

A “**Market Measure Business Day**” means a day on which the index level, spot price or official settlement price (as applicable) is determined and published by the applicable Market Measure Publisher (as defined below).

If the Market Measure consists of a Basket, the Starting Value and the Ending Value of the Basket will be determined as described in “—Basket Market Measures.”

## **Market Disruption Events**

“**Market Disruption Event**” means, unless otherwise set forth in the applicable term sheet or defined specifically for a Market Measure, a Basket Component or an index component, any of the following events, as determined by the calculation agent:

- (1) a material limitation, suspension, or disruption of trading in a Market Measure, a Basket Component or in one or more index components which results in a failure by the exchange on which the Market Measure, each applicable Basket Component or index component is traded to report an exchange published settlement price for such contract on the day on which such event occurs or any succeeding day on which it continues;
- (2) the exchange published settlement price for the Market Measure, Basket Component or any index component is a “limit price,” which means that the exchange published settlement price for such contract for a day has increased or decreased from the previous day’s exchange published settlement price by the maximum amount permitted under applicable exchange rules;
- (3) failure by the applicable exchange or other price source to announce or publish the exchange published settlement price for the Market Measure, Basket Component or any index component;



- (4) a suspension of trading in the Market Measure, Basket Component or one or more index components, for which the trading does not resume at least 10 minutes prior to the scheduled or rescheduled closing time; or
- (5) any other event, if the calculation agent determines in its sole discretion that the event materially interferes with our ability or the ability of any of our affiliates to unwind all or a material portion of a hedge that we, the agents or any of our respective affiliates has effected or may effect as to the LIRNs.

### **Starting Value**

For a Market Measure that is a commodity or futures contract, if a Market Disruption Event occurs on the pricing date, the Starting Value will be the closing value of the Market Measure on the next Market Measure Business Day during which no Market Disruption Event shall have occurred or is continuing, provided that the closing value of the Market Measure will be determined (or, if not determinable, estimated) by the calculation agent in a commercially reasonable manner no later than the close of business in New York, New York on the second Market Measure Business Day following the pricing date, regardless of the occurrence of a Market Disruption Event on that day.

For a Market Measure that is a commodity index, if a Market Disruption Event occurs on the scheduled pricing date with respect to a component of the index or the scheduled pricing date is determined by the calculation agent not to be a Market Measure Business Day with respect to a component of the index due to an extraordinary event, occurrence, declaration, or otherwise (each such component of the index, an “**Affected Component**” on the pricing date), the calculation agent will determine the Starting Value as follows:

- (1) With respect to each commodity or futures contract included in the index that is not an Affected Component on the pricing date, the Starting Value will be based on the exchange published settlement price or other applicable price of that commodity or futures contract on the pricing date.
- (2) With respect to each Affected Component on the pricing date:
  - a. The Starting Value will be based on the exchange published settlement price or other applicable price of each Affected Component on the first Market Measure Business Day following the pricing date on which no Market Disruption Event occurs with respect to that Affected Component. If a Market Disruption Event continues to occur on the second Market Measure Business Day following the pricing date, the calculation agent will estimate on that date the price of that Affected Component in a manner that it considers commercially reasonable under the circumstances.
  - b. The final term sheet will set forth a brief statement of the facts relating to the establishment of the Starting Value (including a description of the relevant Market Disruption Event(s)).
- (3) The calculation agent will determine the value of the Market Measure by reference to the exchange published settlement prices or other prices determined in clauses (1) and (2) above using the then current method for calculating the index. The exchange or other price source on which an applicable commodity or futures contract is traded or valued for purposes of the above definition means the exchange

or other price source used to value that commodity or futures contract for the calculation of the index.

### **Ending Value**

For a Market Measure that is a commodity or futures contract, if a Market Disruption Event occurs on the scheduled calculation day or the scheduled calculation day is determined by the calculation agent not to be a Market Measure Business Day due to an extraordinary event, occurrence, declaration, or otherwise, the Ending Value will be the closing value of the Market Measure on the next Market Measure Business Day during which no Market Disruption Event shall have occurred or is continuing, provided that the closing value of the Market Measure will be determined (or, if not determinable, estimated) by the calculation agent in a commercially reasonable manner on a date no later than the second scheduled Market Measure Business Day prior to the maturity date, regardless of the occurrence of a Market Disruption Event on that day.

For a Market Measure that is a commodity index, if a Market Disruption Event occurs on the scheduled calculation day with respect to a component of the index or the scheduled calculation day is determined by the calculation agent not to be a Market Measure Business Day with respect to a component of the index due to an extraordinary event, occurrence, declaration, or otherwise (each such component of the index, an **“Affected Component”** on the calculation day), the calculation agent will determine the Ending Value as follows:

- (1) With respect to each commodity or futures contract included in the index that is not an Affected Component on the calculation day, the Ending Value of the Market Measure will be based on the exchange published settlement price or other applicable price of that commodity or futures contract on the scheduled calculation day.
- (2) With respect to each Affected Component on the calculation day, the Ending Value of the Market Measure will be based on the exchange published settlement price or other price of that Affected Component on the first Market Measure Business Day following the scheduled calculation day on which no Market Disruption Event occurs with respect to that Affected Component. If a Market Disruption Event continues to occur on the second Market Measure Business Day prior to maturity, the calculation agent will estimate on such date the price of that Affected Component used to determine the value of the Market Measure in a manner that the calculation agent considers commercially reasonable under the circumstances.
- (3) The calculation agent will determine the value of the Market Measure by reference to the exchange published settlement prices or other prices determined in clauses (1) and (2) above using the then current method for calculating the index. The exchange or other price source on which an applicable commodity or futures contract is traded or valued for purposes of the above definition means the exchange or other price source used to value that commodity or futures contract for the calculation of the index.

### **Adjustments to a Market Measure**

After the applicable pricing date, the relevant Index Publisher, exchange or other price source for a Market Measure or Basket Component (a **“Market Measure Publisher”**) may make a material change in the method of determining the price or level of a Market Measure or

Basket Component, or in any other way that changes the Market Measure or Basket Component, such that it does not, in the opinion of the calculation agent, fairly represent the value of the Market Measure or Basket Component had those changes or modifications not been made. In this case, the calculation agent will, at the close of business in New York, New York, on each date that the closing value of the Market Measure or Basket Component is to be calculated, make adjustments to the Market Measure or Basket Component. Those adjustments will be made in good faith as necessary to arrive at a calculation of a value of the applicable Market Measure or Basket Component as if those changes or modifications had not been made, and calculate the closing value of the Market Measure or Basket Component, as so adjusted.

### **Discontinuance of a Market Measure**

After the pricing date, a Market Measure Publisher may discontinue publication or determination of the Market Measure, or one or more Basket Components. The Market Measure Publisher or another entity may then publish or calculate a successor or substitute market measure that the calculation agent determines, in its sole discretion, to be comparable to that Market Measure or Basket Component (a “**successor market measure**”). If this occurs, the calculation agent will substitute the successor market measure and calculate the Ending Value as described above under “—The Starting Value and the Ending Value” or “—Basket Market Measure,” as applicable. If the calculation agent selects a successor market measure, the calculation agent will give written notice of the selection to the trustee, to us, and to the holders of LIRNs.

If a Market Measure Publisher discontinues publication or determination of the Market Measure before the calculation day and the calculation agent does not select a successor market measure, then on the calculation day, the calculation agent will compute a substitute value for the Market Measure in accordance with the procedures last used to calculate the value of the Market Measure or Basket Component before any discontinuance as if that day were the calculation day. The calculation agent will make available to holders of LIRNs information as to each such value by means of Bloomberg L.P., Thomson Reuters, a website, or any other means selected by the calculation agent in its reasonable discretion.

If a successor market measure is selected or the calculation agent calculates a value as a substitute for a Market Measure or Basket Component as described above, the successor market measure or value will be used as a substitute for that Market Measure or Basket Component for all purposes, including for the purpose of determining whether a Market Disruption Event exists.

Notwithstanding these alternative arrangements, any modification or discontinuance of the publication of the Market Measure or any Basket Component may adversely affect trading in LIRNs.

### **Basket Market Measures**

If the Market Measure to which your LIRNs are linked is a Basket, the Basket Components will be set forth in the term sheet. We will assign each Basket Component a weighting (the “**Initial Component Weight**”) so that each Basket Component represents a percentage of the Starting Value of the Basket on the pricing date. We may assign the Basket Components equal Initial Component Weights, or we may assign the Basket Components unequal Initial Component Weights. The Initial Component Weight for each Basket Component will be stated in the term sheet.

### Determination of the Component Ratio for Each Basket Component

The “**Starting Value**” of the Basket will be equal to 100. We will set a fixed factor (the “**Component Ratio**”) for each Basket Component on the pricing date, based upon the weighting of that Basket Component. The Component Ratio for each Basket Component will equal:

- the Initial Component Weight (expressed as a percentage) for that Basket Component, multiplied by 100; *divided by*
- the closing value of that Basket Component on the pricing date.

Each Component Ratio will be rounded to eight decimal places.

The Component Ratios will be calculated in this way so that the Starting Value of the Basket will equal 100 on the pricing date. The Component Ratios will not be revised subsequent to their determination on the pricing date, except that the calculation agent may in its good faith judgment adjust the Component Ratio of any Basket Component in the event that Basket Component is materially changed or modified in a manner that does not, in the opinion of the calculation agent, fairly represent the value of that Basket Component had those material changes or modifications not been made.

The following table is for illustration purposes only, and does not reflect the actual composition, Initial Component Weights, or Component Ratios, which will be set forth in the term sheet.

Example: The **hypothetical** Basket Components are Commodity ABC, Commodity XYZ, and Commodity RST, with their Initial Component Weights being 50.00%, 25.00% and 25.00%, respectively, on a **hypothetical** pricing date:

Basket Component	Initial Component Weight	Hypothetical Closing Value <sup>(1)</sup>	Hypothetical Component Ratio <sup>(2)</sup>	Initial Basket Value Contribution
Commodity ABC .....	50.00%	500.00	0.10000000	50.00
Commodity XYZ .....	25.00%	2,420.00	0.01033058	25.00
Commodity RST .....	25.00%	1,014.00	0.02465483	<u>25.00</u>
Starting Value .....				100.00

(1) This column sets forth the **hypothetical** closing value of each Basket Component on the **hypothetical** pricing date.

(2) The **hypothetical** Component Ratio for each Basket Component equals its Initial Component Weight (expressed as a percentage) multiplied by 100, and then divided by the closing value of that Basket Component on the **hypothetical** pricing date, with the result rounded to eight decimal places.

Unless otherwise stated in the term sheet, with respect to any Basket Component which is affected by a Market Disruption Event on the scheduled pricing date or the scheduled pricing date is determined by the calculation agent not to be a Market Measure Business Day by reason of an extraordinary event, occurrence, declaration, or otherwise (each such Basket Component, an **“Affected Basket Component”** on the pricing date), the calculation agent will establish the closing value of each Basket Component on the pricing date, and as a result, each Component Ratio, as follows:

- (1) With respect to each Basket Component that is not an Affected Basket Component on the pricing date, the value of such Basket Component will be based on the exchange published settlement price or other applicable price of that commodity or futures contract or closing level of that index on the pricing date.
- (2) The value of an Affected Basket Component on the pricing date will be determined in the manner described above in “—Market Disruption Events—Starting Value,” provided that references to “Market Measure” will be references to “Basket Component” and references to “Starting Value” will be references to “closing value of the Basket Component on the pricing date.”

#### **Ending Value of the Basket**

The calculation agent will calculate the value of the Basket by summing the products of the closing value of each Basket Component on the calculation day and its Component Ratio. The value of the Basket will vary based on the increase or decrease in the level of each Basket Component. Any increase in the level of a Basket Component (assuming no change in the level of the other Basket Component or Basket Components) will result in an increase in the value of the Basket. Conversely, any decrease in the level of a Basket Component (assuming no change in the level of the other Basket Component or Basket Components) will result in a decrease in the value of the Basket.

The **“Ending Value”** of the Basket will be the value of the Basket on the calculation day.

Unless otherwise specified in the term sheet, if, for any Basket Component, a Market Disruption Event occurs on the scheduled calculation day or the scheduled calculation day is determined by the calculation agent not to be a Market Measure Business Day by reason of an extraordinary event, occurrence, declaration, or otherwise (each such Basket Component, an **“Affected Basket Component”** on the calculation day), the calculation agent will determine the closing value of each Basket Component on the calculation day, and as a result, the Ending Value, as follows:

- (1) The value of each Basket Component that is not an Affected Basket Component on the calculation day will be based on the exchange published settlement price or other applicable price of that commodity or futures contract, or the closing level of that index, as applicable, on the scheduled calculation day.
- (2) The value of an Affected Basket Component on the calculation day will be determined in the manner described above in “—Market Disruption Events—Ending Value,” provided that references to “Market Measure” will be references to “Basket Component” and references to “Ending Value” will be references to “closing value of the Basket Component on the calculation day.”

## **Role of the Calculation Agent**

The calculation agent has the sole discretion to make all determinations regarding LIRNs as described in this product supplement, including determinations regarding the Starting Value, the Threshold Value, the Ending Value, the Redemption Amount, any Market Disruption Events, a successor market measure, Market Measure Business Days, business days, the calculation day, and determinations related to any adjustments to, or the discontinuance of, any Market Measure or Basket Component. Absent manifest error, all determinations of the calculation agent will be conclusive for all purposes and final and binding on you and us, without any liability on the part of the calculation agent.

We or one of our affiliates may act as the calculation agent, or we may appoint MLPF&S or one of its affiliates to act as the calculation agent for LIRNs. Alternatively, we or one of our affiliates and MLPF&S or one of its affiliates may act as joint calculation agents for LIRNs. When we refer to a “calculation agent” in this product supplement or in any term sheet, we are referring to the applicable calculation agent or joint calculation agents, as the case may be. We may change the calculation agent at any time without notifying you. The identity of the calculation agent will be set forth in the applicable term sheet.

## **Same-Day Settlement and Payment**

LIRNs will be delivered in book-entry form only through The Depository Trust Company against payment by purchasers of LIRNs in immediately available funds, as discussed under “Forms of Securities” beginning on page 56 of the accompanying prospectus. We will pay the Redemption Amount in immediately available funds so long as the LIRNs are maintained in book-entry form.

## **Events of Default and Acceleration**

Under the heading “Description of Debt Securities — Events of Default” beginning on page 41 of the accompanying prospectus is a description of events of default relating to the LIRNs. Unless otherwise specified in the relevant term sheet, in case an event of default with respect to the LIRNs shall have occurred and be continuing, the amount declared due and payable per unit of LIRNs upon any acceleration of the LIRNs will be determined by the calculation agent and will be an amount in cash equal to the amount payable at maturity per unit of the LIRNs as described under the caption “— Payment at Maturity,” determined as if the date of acceleration were the maturity date of the LIRNs and as if the calculation day were the fifth Market Measure Business Day prior to the date of acceleration.

If a bankruptcy proceeding is commenced in respect of us, your claim may be limited under applicable bankruptcy law. In case of a default in payment of the LIRNs, whether at their maturity or upon acceleration, they will not bear a default interest rate.

## **Listing**

Unless otherwise specified in the applicable term sheet, the LIRNs will not be listed on a securities exchange or quotation system.

**Modification**

Under the heading “Description of Debt Securities — Modification of an Indenture” on page 44 of the accompanying prospectus is a description of when the consent of each affected holder of debt securities is required to modify the terms of the LIRNs or the indenture.

**Governing Law**

The LIRNs and the senior indenture will be deemed to be a contract under the laws of the State of New York, and for all purposes will be construed in accordance with the laws of the State of New York, except as may otherwise be required by mandatory provisions of law.

## **SUPPLEMENTAL PLAN OF DISTRIBUTION**

MLPF&S and one or more of its affiliates may act as our agents for any offering of the LIRNs. The agents will act on a principal basis, unless otherwise set forth in the applicable term sheet. Each agent will be a party to a distribution agreement described in the “Plan of Distribution (Conflicts of Interest)” beginning on page PS-48 of the accompanying prospectus supplement and on page 60 of the accompanying prospectus.

Each agent will receive an underwriting discount or commission that is a percentage of the aggregate principal amount of LIRNs sold through its efforts, which will be set forth in the applicable term sheet. You must have an account with the applicable agent in order to purchase LIRNs.

None of the agents is acting as your fiduciary or advisor solely as a result of the making of any offering of the LIRNs, and you should not rely upon this product supplement, the term sheet, or the accompanying prospectus or prospectus supplement as investment advice or a recommendation to purchase any LIRNs. You should make your own investment decision regarding LIRNs after consulting with your legal, tax, and other advisors.

MLPF&S and its affiliates may use this product supplement, the prospectus supplement, and the prospectus, together with the applicable term sheet, in market-making transactions for any LIRNs after their initial sale solely for the purpose of providing investors with the description of the terms of LIRNs that were made available to investors in connection with the initial distribution of LIRNs. Secondary market investors should not, and will not be authorized to rely on these documents for information regarding Deutsche Bank AG or for any purpose other than that described in the immediately preceding sentence.

Neither we nor any agent is making an offer to sell LIRNs in any jurisdiction where the offer or sale is not permitted. This product supplement and the accompanying prospectus supplement and prospectus are not an offer to sell these LIRNs to anyone and are not soliciting an offer to buy these LIRNs from anyone in any jurisdiction where the offer or sale is not permitted.



## U.S. FEDERAL INCOME TAX CONSEQUENCES

The following is a discussion of the material U.S. federal income and estate tax consequences of ownership and disposition of the LIRNs. It applies to you only if you hold your LIRNs as capital assets within the meaning of Section 1221 of the Internal Revenue Code of 1986, as amended (the “**Code**”). It does not 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, 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, an entity classified as a partnership for U.S. federal income tax purposes, or a person holding a LIRN as a part of a “straddle.”

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 LIRNs or a partner in such a partnership, you should consult your tax advisor as to your particular U.S. federal tax consequences of holding and disposing of the LIRNs.

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 advisor concerning the application of U.S. federal income tax laws to your particular situation (including the possibility of alternative treatments of the LIRNs), as well as any tax consequences arising under the laws of any state, local or non-U.S. jurisdictions.**

### Tax Treatment of the LIRNs

The tax consequences of an investment in the LIRNs are uncertain. There is no direct legal authority as to the proper U.S. federal income tax treatment of the LIRNs, and we do not plan to request a ruling from the IRS regarding the LIRNs. Unless otherwise indicated in the relevant term sheet, in determining our tax reporting responsibilities, if any, with respect to a LIRN, we expect to treat it as a prepaid financial contract that is not debt. The following discussion assumes that this treatment is respected, except where otherwise indicated. The relevant term sheet, which you should consult before making a decision to invest in the LIRNs to which it pertains, may indicate other issues or differing consequences applicable to those LIRNs.

### 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 LIRN 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.

### ***Treatment as a Prepaid Financial Contract That Is Not Debt***

Under this treatment, you should not recognize taxable income or loss with respect to a LIRN prior to its taxable disposition (including at maturity). Upon a taxable disposition of a LIRN, you will recognize gain or loss equal to the difference between the amount you realize and your tax basis in the LIRN. Your tax basis in the LIRN should equal the amount you paid to acquire it. Your gain or loss generally should be capital gain or loss, and should be long-term capital gain or loss if you have held the LIRN for more than one year. The deductibility of capital losses is subject to limitations.

### ***Uncertainties Regarding Treatment as a Prepaid Financial Contract That Is Not Debt***

Due to the lack of direct legal authority, even if a LIRN is treated as a prepaid financial contract that is not debt, there remain substantial uncertainties regarding the tax consequences of owning and disposing of it. For instance, you might be required to include amounts in income during the term of the LIRN and/or to treat all or a portion of your gain or loss on its taxable disposition as ordinary income or loss or as short-term capital gain or loss, without regard to how long you have held it. In particular, it is possible that any reconstitution, rebalancing, change in methodology of, or substitution of a successor to, an index that constitutes or is included in a Market Measure (or any component thereof) could result in a “deemed” taxable exchange, causing you to recognize gain or loss (subject, in the case of loss, to the possible application of the “wash sale” rules) as if you had sold or exchanged the relevant LIRN.

In 2007, the U.S. Treasury Department and the IRS released a notice requesting comments on various issues regarding the U.S. federal income tax treatment of “prepaid forward contracts” and similar instruments. The notice focuses in particular on whether beneficial owners of these instruments should be required to accrue income over the term of their investment. It also asks for comments on a number of related topics, including the character of income or loss with respect to these instruments; the relevance of factors such as the nature of the underlying property to which the instruments are linked; whether these instruments are or should be subject to the “constructive ownership” regime, which very generally can operate to recharacterize certain long-term capital gain as ordinary income and impose a notional interest charge; and whether short-term instruments should be subject to any such accrual regime. While the notice requests comments on appropriate transition rules and effective dates, any Treasury regulations or other guidance promulgated after consideration of these issues could materially and adversely affect the tax consequences of your investment in a LIRN, possibly with retroactive effect.

### ***Consequences if a LIRN Is Treated as a Debt Instrument***

If a LIRN is treated as a debt instrument and has a term (from but excluding the settlement date to and including the last possible date that the LIRN could be outstanding pursuant to its terms) that exceeds one year, your tax consequences will be governed by Treasury regulations relating to the taxation of contingent payment debt instruments. In that event, even if you are a cash-method taxpayer, in each year that you hold the LIRN you will be required to accrue into income “original issue discount” based on our “comparable yield” for a similar non-contingent debt instrument, determined as of the time of issuance of the LIRN, even though we will not be required to make any payment with respect to the LIRN prior to its maturity. In addition, any income you recognize upon the taxable disposition of the LIRN will

be treated as ordinary in character. If you recognize a loss above certain thresholds, you could be required to file a disclosure statement with the IRS.

If a LIRN is treated as a debt instrument and has a term not exceeding one year, your tax consequences, although not governed by the regulations applicable to contingent payment debt instruments, could be materially affected. For instance, in such a case, any gain that you recognize at maturity should be treated as ordinary income instead of capital gain.

### **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 LIRN and are: (i) a nonresident alien individual; (ii) an entity treated as a foreign corporation; or (iii) a foreign estate or trust.

This discussion does not describe considerations applicable to an individual beneficial owner of a LIRN who in the taxable year of disposition of the LIRN is (i) present in the United States for 183 days or more 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 should consult your tax advisor.

Subject to the discussion below under “—‘FATCA’ Legislation,” if a LIRN is treated for U.S. federal income tax purposes as a prepaid financial contract that is not debt, any gain you realize with respect to the LIRN generally should not be subject to U.S. federal withholding or income tax, unless the gain is effectively connected with your conduct of a trade or business in the United States. However, as described above under “—Tax Consequences to U.S. Holders—Uncertainties Regarding Treatment as a Prepaid Financial Contract That Is Not Debt,” in 2007 the U.S. Treasury Department and the IRS released a notice requesting comments on various issues regarding the U.S. federal income tax treatment of “prepaid forward contracts” and similar instruments. The notice focuses, among other things, on the degree, if any, to which income realized with respect to such instruments by non-U.S. persons should be subject to withholding tax. It is possible that any Treasury regulations or other guidance promulgated after consideration of these issues might require you to accrue income, subject to U.S. federal withholding tax, in each year that you own a LIRN, possibly on a retroactive basis. We will not pay additional amounts on account of any such withholding tax.

Subject to the discussion below under “—‘FATCA’ Legislation,” if a LIRN is treated as a debt instrument, any income or gain you realize with respect to the LIRN generally will not be subject to U.S. federal withholding or income tax if (i) you provide a properly completed Form W-8 appropriate to your circumstances and (ii) these amounts are not effectively connected with your conduct of a trade or business in the United States.

If you are engaged in a trade or business in the United States, and income or gain from a LIRN 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 advisor with respect to other U.S. tax consequences of the ownership and disposition of the LIRN, including the possible imposition of a 30% branch profits tax if you are a corporation.

## ***U.S. Federal Estate Tax***

Individual non-U.S. holders, and entities whose property is potentially includible in those individuals' gross estates for U.S. federal estate tax purposes (for example, a trust funded by such an individual and with respect to which the individual has retained certain interests or powers), should note that, absent an applicable treaty benefit, the LIRNs are likely to be treated as U.S.-situs property, subject to U.S. federal estate tax. These individuals and entities should consult their own tax advisors regarding the U.S. federal estate tax consequences of investing in the LIRNs.

## **“FATCA” Legislation**

Legislation commonly referred to as “FATCA” and 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. This regime generally applies to financial instruments that are treated as paying U.S.-source interest or other U.S.-source “fixed or determinable annual or periodical” income. Withholding (if the LIRNs were treated as debt instruments) would apply to any amount treated as interest and, for dispositions after December 31, 2018, gross proceeds from the taxable disposition of the relevant LIRN.

We will not pay additional amounts with respect to any such withholding taxes. You should consult your tax advisor regarding the potential application of FATCA, including the availability of certain refunds or credits.

## **Information Reporting and Backup Withholding**

Cash proceeds received from a disposition of a LIRN may be subject to information reporting, and may also be subject to backup withholding at the rate specified in the Code unless you provide certain identifying information and otherwise satisfy the requirements to establish that you are not subject to backup withholding. 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.