

Deutsche Bank Trust Corporation

2016 Annual Stress Test Disclosure



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## 1 Overview and Requirements

Deutsche Bank Trust Corporation (“DBTC”, “we” or “our”) is a U.S. bank holding company (“BHC”) regulated by the Board of Governors of the Federal Reserve System (“FRB”) that primarily engages in commercial banking activities through its main depository institution subsidiary, Deutsche Bank Trust Company Americas (“DBTCA”). DBTC is a wholly-owned subsidiary of Deutsche Bank Aktiengesellschaft (“DBAG”, and together with its subsidiaries, “DB Group”). DBTCA is a licensed New York State-chartered insured depository institution regulated by the New York State Department of Financial Services (“NYDFS”).

DBTC and its subsidiaries engage in a variety of lending, deposit taking and other financial services activities. As of December 31, 2015, DBTC operated three primary Lines of Business (“LoBs”): Global Transaction Banking (“GTB”), Asset and Wealth Management (“AWM”), and Corporate Banking & Securities (“CB&S”).<sup>1</sup>

Section 165(i)(2) of the Dodd-Frank Wall Street Reform and Consumer Protection Act (“Dodd-Frank Act”) and the related regulations promulgated thereunder by the FRB require U.S. BHCs with \$50 billion or more of total consolidated assets, such as DBTC, as well as insured depository institutions with \$10 billion or more of total consolidated assets, such as DBTCA, to conduct annual stress tests, generally referred to as the Dodd-Frank Act stress tests or “DFAST”. Under the annual DFAST requirement, DBTC and DBTCA are required to conduct and complete stress tests over a nine quarter time horizon using a set of macroeconomic scenarios (Supervisory baseline, Supervisory adverse and Supervisory severely adverse) provided by the FRB.<sup>2</sup> The results of these stress tests are submitted to the FRB. For the 2016 stress test cycle, the forecast time horizon for the stress tests is the nine-quarter period beginning in the first quarter of 2016 (January 1, 2016) and continuing through the end of the first quarter of 2018 (March 31, 2018).

The DFAST rules require DBTC and DBTCA to publish a summary of our 2016 DFAST results under the Supervisory severely adverse scenario.<sup>3</sup> The projections, which form the basis of the information provided in this report, represent hypothetical estimates that involve an economic outcome that is more adverse than expected and, as such, these estimates do not represent DBTC’s and DBTCA’s expected losses, revenues, net income before taxes, or capital ratios. DFAST for DBTC and DBTCA were conducted in accordance with the 2016 Comprehensive Capital Analysis and Review (“CCAR”) 2016 Summary Instructions published by the FRB on January 28, 2016, and the amended Capital Plan Rule<sup>4</sup> and Stress Test Rules,<sup>5</sup> as applicable.

The results of DBTC’s and DBTCA’s annual DFAST indicate that we would expect to have ample capital throughout a hypothetical severe and protracted economic downturn to allow us to continue operations, maintain ready access to funding, remain a financial intermediary, and meet our

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<sup>1</sup> As part of DBAG’s strategic plan, known as “Strategy 2020,” DBTC LoBs were reorganized effective January 1, 2016. As a result of this reorganization, DBTC now operates four primary LoBs: Corporate & Investment Banking; Private, Wealth & Commercial Clients; Deutsche Bank Asset Management; and Global Markets.

<sup>2</sup> For more information with respect to the scenarios provided by the FRB, see Board of Governors of the Federal Reserve System (Jan. 28, 2016), “2016 Supervisory Scenarios for Annual Stress Tests Required under the Dodd-Frank Act Stress Testing Rules and the Capital Plan Rule,” available at <http://www.federalreserve.gov/newsevents/press/bcreg/bcreg20160128a2.pdf>.

<sup>3</sup> Under FRB regulations, DBTCA’s obligation to publish summary results is satisfied by the publication of summary results by its parent BHC, DBTC. See 12 C.F.R. 252.17(b)(2).

<sup>4</sup> See 12 C.F.R. 225.8.

<sup>5</sup> See 12 C.F.R. 252 Subparts B and F.

obligations to creditors and counterparties and the expectations of internal and external stakeholders.

## 2 Risk Types

DBTC has identified the following risks and risk drivers arising from its strategies and business activities under the Supervisory severely adverse scenario. Material risks, individually and in the aggregate, are incorporated in internally defined idiosyncratic events and in models, and are projected to result in material balance sheet, income statement, or capital impacts.

### 2.1 Credit Risk

Credit Risk arises from any transaction in which an actual, contingent or potential claim against a borrower, obligor or other counterparty exists.

Risk drivers for Credit Risk include, but are not limited to:

- Counterparty default risk related to loans;
- Loss severity due to a decline in collateral values or inability to utilize collateral; and
- Changes in commitment and utilization.

### 2.2 Operational Risk

Operational Risk is the risk of loss resulting from inadequate or failed internal processes, people and systems as well as from external events. This includes legal risk and excludes strategic and business risk.

Risk drivers for Operational Risk include, but are not limited to:

- Anti-financial crime risks (including anti-money laundering/Bank Secrecy Act risks);
- Transaction processing risks;
- Information security risks (e.g., cyber security, identity risk); and
- Technology and infrastructure disruption risks.

Many of the key drivers of reputational and compliance risks, as described below, are also drivers of the Operational Risk exposure of DBTC.

### 2.3 Market Risk

In general, Market Risk arises from the uncertainty concerning changes in market prices and rates (including interest rates, foreign exchange rates, equity prices and commodity prices) and other relevant parameters. As of December 31, 2015, aggregate trading assets and liabilities represented less than 1% of DBTC's total assets and fall below the thresholds for application of the Market Risk Capital Rule.<sup>6</sup>

### 2.4 Liquidity Risk

Liquidity Risk is the risk arising from the potential inability to meet payment obligations when they come due.

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<sup>6</sup> See 12 C.F.R. 217.201.

Given that over 95% of DBTC's assets reside in DBTCA and are funded solely with stable deposits and equity capital, Liquidity Risk (e.g., extensive deposit withdrawal and inability to fund assets) is low with respect to DBTC.

## 2.5 Business Risk

Business Risk is the risk assumed due to potential changes in general business conditions, such as changes in markets, client behaviors and technological developments. This can affect business results if DBTC fails to adjust quickly to changing conditions.

Risk drivers for Business Risk include, but are not limited to:

- An economic downturn driving a decline of (new) business activity coupled with increased utilization of unfunded commitments and resulting credit losses; and
- Changes in competition and the regulatory framework applicable to DBTC that result in significant business impact.

## 2.6 Reputational Risk

Reputational Risk is the risk that publicity concerning a transaction, counterparty or business practice will negatively impact the public's trust in DBTC and/or its affiliates. An impact on the public's trust can negatively affect DBTC across several dimensions, including: client, counterparty and employee perception, credibility with regulators and other governmental entities or investor confidence.

Potential sources of Reputational Risk include, but are not limited to:

- Unsuitable products or transactions;
- Regulatory actions;
- Dealings with certain clients; and
- Employee misconduct.

## 2.7 Compliance Risk

Compliance Risk is defined as the current or prospective risk to earnings, capital and/or public trust arising from violations or non-compliance with laws, rules and regulations or ethical standards. Such violations or non-compliance may lead to fines, damages and/or the voiding of contracts and may diminish an institution's reputation (as discussed above).

Potential sources of Compliance Risk include, but are not limited to:

- Duties to customers risk (e.g., client suitability, fiduciary risk); and
- Supervisory control risks and regulatory compliance risks.

# 3 Methodology

For purposes of DFAST, DBTC uses quantitative models and expert judgment methodologies to project asset and liability balances, revenue, losses, risk weighted assets ("RWA") and capital over the planning horizon. All quantitative models and expert judgment methodologies undergo a thorough review and challenge process and are validated for their conceptual soundness.

## 3.1 Pre-Provision Net Revenue

Net interest income ("NII") is the product of projected balances and rates. Asset and liability balance projections take into consideration contractual maturity information, prepayments, new business, and

non-accruals. Projected rates take into consideration contractual pricing for existing exposures and projected pricing on new business. Balances, prepayments, non-accruals, and pricing on new business are projected using quantitative and expert judgment models leveraging the historical relationship between modeled outcomes and drivers identified by the LoBs.

Non-interest income is projected using quantitative and expert judgment models that incorporate key drivers and scenario inputs for fee income, shortfall income, trading gains/losses, other gains/losses, transfer pricing, and cash management.

Non-interest expense is driven by internal policies and spending strategy. Management uses historical information and internal operating variables to project the sub-components of non-interest expense, including: salary expense, benefits expense, other personnel expenses, premises and fixed assets, communication and data services, and intercompany expenses.

## 3.2 Losses and Provisions

### Credit Risk

DBTC projects credit losses under stress using an expected loss approach, where expected losses depend on the probability of default (“PD”), loss given default, and exposure at default. These risk parameters are projected under stress and then utilized to estimate DBTC’s potential net charge-offs, Allowance for Loan and Lease Losses, and Provision for Loan and Lease Losses (“PLLL”) over the projection horizon.

DBTC uses a structural model for estimating the impact of the macroeconomic cycle on default rates. Stressful macroeconomic conditions impact PDs differently for each credit portfolio using bespoke sets of macroeconomic variables. The macroeconomic variables considered include, but are not limited to, Gross Domestic Product, the US unemployment rate, oil prices, and the Dow Jones Industrial Average.

To supplement and benchmark the results from the structural model, DBTC developed a suite of regression-based models that are calibrated using internal historical DB Group default data. The regression models use macroeconomic drivers, which are identified by portfolio, based on a combination of statistical analysis and business judgment.

### Operational Risk

DBTC’s approach to the operational risk loss projections includes results from quantitative models and expert judgment methodologies.

Management projects legal and non-legal related operational risk losses utilizing a suite of quantitative models, scenario analyses, and qualitative expert judgment. Operational risk is assessed in terms of:

- Baseline and stressed losses based on internal operational loss data;
- Baseline and stressed losses related to current and pending litigation exposures; and
- Idiosyncratic tail risk losses based on current and expected future risk profile.

Results are then compared against historical benchmarks and challenger model projections using internal and external data to assess appropriateness of overall loss estimates.

## Market Risk

Mark-to-Market losses/gains from trading assets and liabilities are included in non-interest revenue. Non-interest revenue projections associated with Market-to-Market positions are driven primarily by macroeconomic drivers. DBTC is exposed to only a limited amount of Market Risk.

## 3.3 Changes in Capital Ratios

Capital projections utilize a framework which is based upon exposure identification and data sourcing, risk weight classification, exposure calculation, aggregation, and report line item mapping. Using balances as of December 31, 2015, capital supply was projected based on anticipated activity over the planning horizon and the resulting balance and Pre-Provision Net Revenue ("PPNR") projections under the Supervisory severely adverse scenario.

RWAs were projected using a rule-based approach based on interpretations of the U.S. Basel III capital rules. Exposure attributes were used to classify exposures and determine the corresponding risk weights and Credit Conversions Factors ("CCFs"). Once the RWA classification of exposures was determined, the risk weights and CCFs were applied to actual and projected balances for all assets. All measures were calculated utilizing the standardized approach.

## 3.4 Capital Actions

For purposes of the DFAST results set forth herein, standardized capital action assumptions were applied as required by 12 C.F.R. 252.56(b), as follows:

- (1) For the first quarter of the planning horizon, the bank holding company must take into account its actual capital actions as of the end of that quarter; and*
- (2) For each of the second through ninth quarters of the planning horizon, the bank holding company must include in the projections of capital:*
  - i. Common stock dividends equal to the quarterly average dollar amount of common stock dividends that the company paid in the previous year (that is, the first quarter of the planning horizon and the preceding three calendar quarters) plus common stock dividends attributable to issuances related to expensed employee compensation or in connection with a planned merger or acquisition to the extent that the merger or acquisition is reflected in the covered company's pro forma balance sheet estimates;*
  - ii. Payments on any other instrument that is eligible for inclusion in the numerator of a regulatory capital ratio equal to the stated dividend, interest, or principal due on such instrument during the quarter;*
  - iii. An assumption of no redemption or repurchase of any capital instrument that is eligible for inclusion in the numerator of a regulatory capital ratio; and*
  - iv. An assumption of no issuances of common stock or preferred stock, except for issuances related to expensed employee compensation or in connection with a planned merger or acquisition to the extent that the merger or acquisition is reflected in the covered company's pro forma balance sheet estimates.*

## 4 Annual DBTC and DBTCA Stress Test Results

### 4.1 Pre-Provision Net Revenue, Provisions, Other Gains/Losses and Net Income before Taxes

Figure 4-1: DBTC Projected Nine-Quarter Cumulative PPNR, PLLL, Other Gains/Loss and Net Income before Taxes under the Supervisory Severely Adverse Scenario

Projected PPNR, PLLL, Other Gains/Losses and Net Income before Taxes – DBTC	
\$ millions	Cumulative 9Qtrs
PPNR <sup>7</sup>	21
Other Revenue	0
Less	:
Provision for Loan and Lease Losses	186
Realized Losses/(Gains) on Securities (AFS/HTM)	0
Other Losses/(Gains)	0
Equals	
Net (Loss)/Income Before Taxes	(165)

### 4.2 Cumulative Loan Losses

Figure 4-2: DBTC Projected Nine-Quarter Cumulative Loan Losses by Loan Type under the Supervisory Severely Adverse Scenario<sup>8</sup>

Projected Loan Losses – DBTC		
\$ millions	Cumulative 9-Quarters	Portfolio Loss Rates (%) <sup>9</sup>
Loan Losses	216	1.27
First Lien Mortgages, Domestic	30	0.88
Junior Liens and HELOCs, Domestic	3	0.68
Commercial and Industrial	109	3.38
Commercial Real Estate, Domestic	5	0.26
Credit Cards	N/A	N/A
Other Consumer	1	0.80
Other Loans	69	0.86

<sup>7</sup> Trading and counterparty losses are included in PPNR.

<sup>8</sup> Numbers may not foot due to rounding.

<sup>9</sup> Portfolio loss rates are calculated as cumulative nine quarter loan losses divided by the average nine quarter loan balance. Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option and are calculated over nine quarters.

### 4.3 Risk Weighted Assets

Figure 4-3: DBTC Projected Risk Weighted Assets

Actual 4Q15 and Projected 1Q18 Risk Weighted Assets under the Supervisory Severely Adverse Scenario - DBTC		
\$ millions	Actual 4Q15	Projected 1Q18
		Standardized Approach
Risk Weighted Assets	21,889	18,003

### 4.4 Capital Ratios<sup>10</sup>

Figure 4-4: DBTC Capital Results under the Supervisory Severely Adverse Scenario

Capital Ratios – DBTC			
Capital Ratios (%)	Actual - 4Q15	Stressed Capital Ratios	
		Ending – 1Q18	Projected - 9Qtrs Minimum
Common Equity Tier 1 Capital Ratio	34.1	40.5	31.5
Tier 1 Capital Ratio	34.1	40.5	31.5
Total Capital Ratio	34.3	40.6	32.2
Tier 1 Leverage Ratio	13.9	16.9	13.6

Figure 4-4-1: DBTCA Capital Results under the Supervisory Severely Adverse Scenario

Capital Ratios – DBTCA			
Capital Ratios (%)	Beginning - 4Q15	Stressed Capital Ratios	
		Ending – 1Q18	Projected - 9Qtrs Minimum
Common Equity Tier 1 Capital Ratio	42.5	50.3	38.5
Tier 1 Capital Ratio	42.5	50.3	38.5
Total Capital Ratio	42.7	50.4	39.2
Tier 1 Leverage Ratio	16.5	21.4	16.8

## 5 Drivers of DBTC and DBTCA Stress Test Results

### 5.1 Capital Ratios

As of December 31, 2015, DBTC had Common Equity Tier 1 (“CET1”), Tier 1 capital, Total capital, and Tier 1 leverage ratios of 34.1%, 34.1%, 34.3% and 13.9%, respectively. DBTCA had CET1, Tier 1 capital, Total capital, and Tier 1 leverage ratios of 42.5%, 42.5%, 42.7%, and 16.5%, respectively.

<sup>10</sup> These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. These estimates are not forecasts of expected losses, revenues, net income before taxes, or capital ratios.

DBTC's and DBTCA's capital is mainly composed of CET1, the form of capital with the highest loss absorbing capacity.

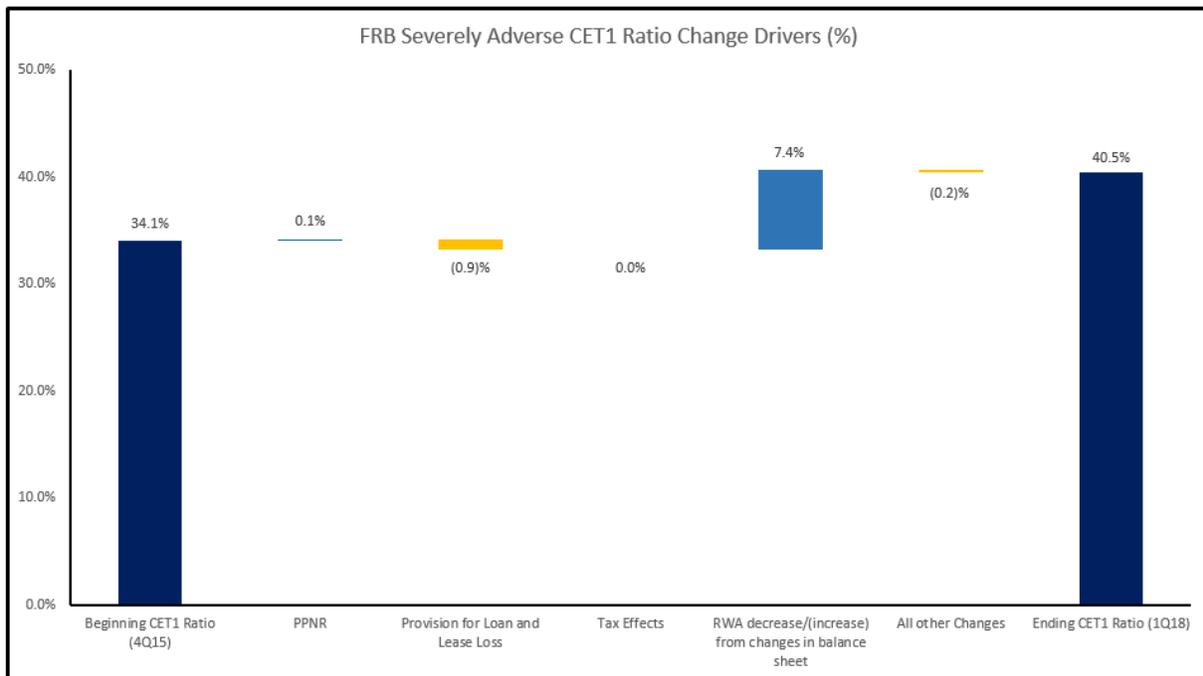
Regulatory capital ratios are calculated and reported under U.S. Basel III-based capital rules as in effect for a given quarter, which became effective on January 1, 2015.

Throughout the projection horizon under the Supervisory severely adverse scenario, DBTC and DBTCA have capital ratios substantially in excess of minimum CET1, Tier 1 capital, Total capital, and Tier 1 leverage ratio requirements of 4.5%, 6%, 8%, and 4%, respectively. DBTC results show post-stress minimums of 31.5%, 31.5%, 32.2%, and 13.6% for CET1, Tier 1 capital, Total capital, and Tier 1 leverage ratios, respectively, and DBTCA results show post-stress minimums of 38.5%, 38.5%, 39.2%, and 16.8% for CET1, Tier 1 capital, Total capital, and Tier 1 leverage ratios, respectively.

The main drivers of changes in DBTC's and DBTCA's regulatory capital ratios over the nine quarter planning horizon in the Supervisory severely adverse scenario consist of:

- Positive PPNR over the planning horizon, largely offset by operational risk expense, leading to a slight increases in Tier 1 capital, CET 1 and Total capital;
- Projected increase in provisions for loan and lease losses over the planning horizon leading to decreases in Tier 1 capital, CET1, and Total capital; and
- Overall net decrease in RWAs, primarily driven by balance sheet changes, including a reduction in loans due to strategic and market demand factors.

**Figure 5-1: Key Drivers of DFAST Annual Pro Forma CET1 Capital for DBTC under the Supervisory Severely Adverse Scenario<sup>11</sup>**



<sup>11</sup> Numbers may not foot due to rounding.

Cumulative PPNR remains marginally positive over the planning horizon, despite the following factors: (i) reduced net interest income arising from lower interest margin and loan balances; (ii) reduced non-interest income primarily driven by the projected general economic conditions; and (iii) increased operational risk expenses that include losses related to hypothetical idiosyncratic events.<sup>12</sup>

DBTC's and DBTCA's business strategy and risk profile have changed significantly since 2008, with an emphasis on improving the credit quality of the loan portfolio and exiting certain businesses while focusing on other businesses. However, provisions for loan and lease losses drove a projected 0.9% reduction in DBTC's CET1 capital ratio over the nine quarter horizon, primarily related to projected losses with respect to Commercial and Industrial, First Lien Mortgages and Other Loans, as shown in Section 4.2 above.

DBTC's and DBTCA's RWA projections reflected the application of the FRB's capital rules in effect for a given quarter. Our methodology aligned projections of standardized market and credit risk calculations to projected movements in the balance sheet and tied projections of RWAs to the macroeconomic and market variables included in our projections. Reductions in the balance sheet drove a decline in RWA over the nine-quarter projection horizon.

Because DBTCA represents over 95% of DBTC's assets, the same drivers apply to both DBTC's and DBTCA's stress test results.

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DBTC's disclosures of projected results, risks, and assumptions are hypothetical pursuant to the requirements of the DFAST and related instructions. These scenarios and assumptions do not reflect DBTC's future expectations; they involve an economic outcome that is more adverse than expected and, as such, these estimates do not represent DBTC's and DBTCA's expected losses, revenues, net income before taxes, or capital ratios.

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<sup>12</sup> Operational Risk losses flow through PPNR (i.e., non-interest expense) and account for the majority of losses under the Supervisory severely adverse scenario.