

DB USA Corporation

# 2018 Annual Stress Test Disclosure



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## 1 Overview and Requirements

DB USA Corporation (“DB USA Corp.”, “we” or “our”) is a U.S. bank holding company (“BHC”) regulated by the Board of Governors of the Federal Reserve System (“FRB”), and is the U.S. intermediate holding company (“IHC”) of Deutsche Bank Aktiengesellschaft (“DB AG”, and together with its subsidiaries, “DB Group”). DB USA Corp. operates through its subsidiaries, including Deutsche Bank Trust Company Americas (“DBTCA”), a licensed New York State-chartered insured depository institution regulated by the New York State Department of Financial Services (“NYDFS”) and by the FRB.

DB USA Corp. and its subsidiaries engage in a variety of lending, deposit taking, broker-dealer and other financial services activities. As of December 31, 2017, DB USA Corp. operated under three primary business divisions in the U.S.: the Corporate & Investment Bank (which includes the Fixed Income & Currencies and Equities, Corporate Finance and Global Transaction Banking businesses); Deutsche Asset Management;<sup>1</sup> and the Private & Commercial Bank.

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 certain BHCs and IHCs, such as DB USA Corp., to conduct stress tests, generally referred to as Dodd-Frank Act stress tests or “DFAST”. Under the annual DFAST requirement pursuant to the FRB’s regulations, DB USA Corp. is required to conduct and complete stress tests over a nine-quarter time horizon using a set of macroeconomic scenarios (Supervisory baseline, Supervisory adverse<sup>2</sup> and Supervisory severely adverse) provided by the FRB.<sup>3</sup> In addition to the macroeconomic scenarios, for the 2018 annual DFAST, DB USA Corp. was subject to interim market risk components (the “2018 Market Risk Component”) to assess potential losses and capital impact in connection with its trading and counterparty activities.<sup>4</sup> The 2018 Market Risk Component is a formula-driven simplified GMS and counterparty default scenario component.

The results of these stress tests are submitted to the FRB. For the 2018 annual DFAST, the forecast time horizon for the stress tests is the nine-quarter period beginning in the first quarter of 2018 (January 1, 2018) and continuing through the end of the first quarter of 2020 (March 31, 2020). The “as of” date for the 2018 Market Risk Component applicable to DB USA Corp. for the 2018 annual DFAST is December 29, 2017, the last trading day of 2017.

The DFAST rules require DB USA Corp. and DBTCA to publish a summary of our 2018 DFAST results under the Supervisory severely adverse scenario.<sup>5</sup> The projections, which form the basis of the

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<sup>1</sup> On February 14, 2018, the FRB approved DB AG’s request to establish a second IHC to hold DB AG’s U.S. asset management business. As of April 2, 2018, following this approval and the establishment of the second IHC, the Deutsche Asset Management business no longer operates within DB USA Corp. For further details, see the FRB’s February 14, 2018 letter, available at <https://www.federalreserve.gov/supervisionreg/regulation-yy-foreign-banking-organization-requests.htm>.

<sup>2</sup> The Economic Growth, Regulatory Reform, and Consumer Protection Act, enacted on May 24, 2018, removes the requirement for a Supervisory adverse scenario.

<sup>3</sup> For more information with respect to the scenarios provided by the FRB, see Board of Governors of the Federal Reserve System (February 2018), “Supervisory Scenarios for Annual Stress Tests Required under the Dodd-Frank Act Stress Testing Rules and the Capital Plan Rule - February 2018” (the “2018 FRB Scenario Release”), available at <https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20180201a1.pdf>.

<sup>4</sup> See the 2018 FRB Scenario Release, pages 7-8. As noted in the 2018 FRB Scenario Release, DB USA Corp. will be subject to the global market shock (“GMS”) component beginning in Comprehensive Capital Analysis and Review (“CCAR”) 2019.

<sup>5</sup> Under FRB regulations, DBTCA’s obligation to publish summary results is satisfied by the publication of summary results by its indirect parent BHC, DB USA Corp. See 12 C.F.R. 251.17(b)(2).

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 DB USA Corp.'s and DBTCA's expected losses, revenues, net income before taxes, or capital ratios. DFAST for DB USA Corp. and DBTCA was conducted in accordance with the CCAR 2018 Summary Instructions published by the FRB in February 2018 and the amended Capital Plan Rule<sup>6</sup> and Stress Test Rules,<sup>7</sup> as applicable.

The results of DB USA Corp.'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, satisfy our obligations to creditors and counterparties and meet the expectations of internal and external stakeholders.

## 2 Risk Types

DB USA Corp. 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, in models and in non-model estimation approaches, 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, issuer or other counterparty exists. It captures the risk of loss due to a deterioration of a counterparty's creditworthiness, increase in DB USA Corp.'s exposure to that counterparty or deterioration or lack of enforceability of any collateral mitigating such exposures.

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

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

### 2.2 Market Risk

Market risk is the risk of loss in the value of our inventory, as well as certain other financial assets and liabilities, due to changes in market conditions, such as changes in market prices and rates across various asset classes.

Market Risk in the trading book and fair value banking book is driven by the inventory DB USA Corp. holds and the impact of changes in market conditions on that inventory. DB USA Corp. holds inventory primarily for market making, capital market, investing and lending activities.

### 2.3 Liquidity Risk

Liquidity Risk is the risk arising from the potential inability to meet all payment obligations when they come due or only being able to meet these obligations at excessive costs.

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<sup>6</sup> See 12 C.F.R. 225.8.

<sup>7</sup> See 12 C.F.R. 252 Subparts B and F.

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

- Deposit outflows;
- Loss of funding sources; and
- Inability to monetize illiquid assets.

With respect to Liquidity Risk, our primary objective is to ensure that DB USA Corp. has the ability to fulfill its payment obligations at all times and manage liquidity and funding risks. To meet this objective, we have in place a comprehensive and conservative liquidity management framework to identify, measure, monitor and manage Liquidity Risk in light of DB USA Corp.'s defined risk appetite and limits.

DB USA Corp.'s 2018 annual DFAST process took certain liquidity risks into account through measuring funding adequacy across the nine-quarter projection horizon and projecting higher interest expense on DB USA Corp.'s funding under stress conditions.

## 2.4 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 DB USA Corp. fails to adjust quickly to changing conditions.

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

- An economic downturn or a sudden, volatile market decline depressing (new) business activity;
- Changes in competition and the regulatory framework applicable to DB USA Corp. that result in significant business impact; and
- Departure of key personnel, which in turn causes the firm to lose important client relationships.

## 2.5 Reputational Risk

Reputational Risk is the risk of possible damage to DB USA Corp.'s brand and reputation, and the associated risk to earnings, capital or liquidity, arising from any association, action or inaction by DB USA Corp. and/or its affiliates, which could be perceived by stakeholders to be inappropriate, unethical or inconsistent with DB USA Corp.'s values and beliefs.

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

- Entering into transactions or products without substantive business or economic purpose, or with non-standard structures or terms;
- Associating with certain counterparties, industries, or sectors;
- Executing transactions with environmental or social issues; and
- Executing transactions or products perceived to be unethical, inappropriate or inconsistent with DB USA Corp.'s values and beliefs.

## 2.6 Non-Financial Risk

Non-Financial Risk is the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events. Non-Financial Risk, as referred to in this document, includes legal risk, but excludes business risk and reputational risk (see Section 2.4 and Section 2.5, respectively).

Non-Financial Risk may arise from mistakes, inadequate controls, or individual misconduct, and from various sources, including, but not limited to:

- Treatment of customers;
- Resiliency of technology and operations;
- Overly manual processes;

- Management of third parties;
- Information security;
- Compliance with laws, rules and regulations (including anti-financial crimes); and
- Employee lifecycle.

## 3 Methodology

For purposes of DFAST, DB USA Corp. uses quantitative models and non-model estimation approaches to project asset and liability balances, revenue, expenses, losses, risk weighted assets (“RWA”) and capital over the nine-quarter planning horizon. All quantitative models and non-model estimation approaches undergo a thorough review and challenge process and are validated for 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, and non-accruals are projected using quantitative models and non-model estimation approaches, which leverage the historical relationship between modeled outcomes and drivers identified by each business segment.

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

With respect to non-interest expense, DB USA Corp. uses non-model estimation approaches that incorporate key drivers (e.g., spending strategy; historical information) and scenario inputs 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

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

DB USA Corp. utilizes a suite of estimation approaches that reflect the characteristics and risks of each of DB USA Corp.’s sub-portfolios. The estimation approaches link variables (which may include macroeconomic and loan level variables) to the scenario-dependent projections. The macroeconomic variables considered include, but are not limited to: Gross Domestic Product, the US unemployment rate, House Price Index, and Commercial Real Estate Price Index.

With respect to credit valuation adjustment (“CVA”) exposure and counterparty default exposure, DB USA Corp. incorporated counterparty credit risk impacts into its 2018 annual DFAST results under the Supervisory severely adverse scenario through the 2018 Market Risk Component prescribed by the FRB. The 2018 Market Risk Component required the application of loss rates provided by the FRB to

the following specified counterparty exposures: (i) CVA exposure; and (ii) large counterparty default exposure.<sup>8</sup>

Additionally, Credit Risk RWAs are projected across the nine-quarter projection horizon, as described in Section 3.3.

## Non-Financial Risk

DB USA Corp's approach for projecting Non-Financial Risk losses includes three primary components: (i) forward-looking hypothetical idiosyncratic events; (ii) estimates of future legal or regulatory claims for known and unknown matters; and (iii) historical losses. The Non-Financial Risk loss projection process begins with data aggregation and processing, followed by execution of quantitative models and development of idiosyncratic events, comparison to benchmarks, and, finally, comprehensive review and challenge.

## Market Risk

DB USA Corp. incorporated market risk impacts into its 2018 annual DFAST results under the Supervisory severely adverse scenario through the 2018 Market Risk Component prescribed by the FRB and through the macroeconomic scenarios. The 2018 Market Risk Component required the application of loss rates provided by the FRB to the following specified market risk exposures: (i) securitized products exposures; and (ii) trading mark-to-market and trading incremental default risk exposures.<sup>9</sup>

The impacts of the macroeconomic scenarios are incorporated in stressed Market Risk RWA projections, as discussed in Section 3.3.

## 3.3 Changes in Capital Ratios

Capital projections utilize a framework that 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, 2017, 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.

DB USA Corp. projects Credit RWA using a model that forecasts stressed RWAs for DB USA Corp. portfolios in accordance with U.S. Basel III capital rules and supervisory guidance. The Credit RWA projection approach takes into account scenario-specific macroeconomic variable projections, portfolio composition and balance sheet projections. Credit RWA components include counterparty credit risk for repo-style and derivative transactions, default funds, equity exposures, unsettled transactions, and wholesale credit risk arising from lending activities. The projection approach applies tailored methodologies to address balance sheet positions, collateral, and off balance sheet items.

Market Risk RWAs were projected using models for each Market Risk RWA component (i.e., Value at Risk, Stressed Value at Risk, Specific Risk, and De Minimis exposures).<sup>10</sup> Specific Risk is further segmented across Securitized Debt, Non-Securitized Debt and Equity. Market Risk RWA projections utilize macroeconomic scenario inputs and leverage models used for regulatory reporting.

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<sup>8</sup> See the 2018 FRB Scenario Release, p. 7-8.

<sup>9</sup> See the 2018 FRB Scenario Release, p. 7-8.

<sup>10</sup> For further details on the components of the standardized measure for market risk, see 12 C.F.R. 217 Subpart F.

### 3.4 Capital Actions

For purposes of DB USA Corp.'s 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 covered 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 covered 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 DB USA Corp. and DBTCA Stress Test Results<sup>11</sup>

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

Figure 4-1: DB USA Corp. Projected Nine-Quarter Cumulative PPNR, Other Gains/Losses and Net Income before Taxes under the Supervisory Severely Adverse Scenario

Projected PPNR, PLLL, Other Gains/Losses and Net Income before Taxes – DB USA Corp.		
\$ millions	Cumulative 9Qtrs	Percent of Average Assets <sup>12</sup>
PPNR	(1,708)	(1.36)%
Other Revenue	0	
Less		
Provision for Loan and Lease Losses	392	
Realized Losses/(Gains) on Securities (AFS/HTM)	9	
Trading and Counterparty Losses	839	
Other Losses/(Gains)	0	
Equals		
Net (Loss)/Income Before Taxes	(2,948)	(2.34)%

### 4.2 Cumulative Loan Losses

Figure 4-2: DB USA Corp. Projected Nine-Quarter Cumulative Loan Losses by Loan Type under the Supervisory Severely Adverse Scenario<sup>13</sup>

Projected Loan Losses – DB USA Corp.		
\$ millions	Cumulative 9-Quarters	Portfolio Loss Rates (%) <sup>14</sup>
Loan Losses	331.0	2.45%
First Lien Mortgages, Domestic	47.5	1.89%
Junior Liens and HELOCs, Domestic	22.1	3.97%
Commercial and Industrial	23.1	1.67%
Commercial Real Estate, Domestic	156.7	5.75%
Credit Cards	-	-
Other Consumer	2.0	2.62%
Other Loans	79.6	1.27%

<sup>11</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.

<sup>12</sup> Average assets are calculated as the nine-quarter average of total assets.

<sup>13</sup> Numbers may not foot due to rounding.

<sup>14</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: DB USA Corp. Projected Risk Weighted Assets

Actual 4Q17 and Projected 1Q20 Risk Weighted Assets under the Supervisory Severely Adverse Scenario – DB USA Corp.		
\$ billions	Actual 4Q17	Projected 1Q20
		Standardized Approach
Risk Weighted Assets	44.1	47.6

### 4.4 Capital Ratios

Figure 4-4: DB USA Corp. Capital Results under the Supervisory Severely Adverse Scenario

Capital Ratios – DB USA Corp.			
Capital Ratios (%)	Actual – 4Q17	Stressed Capital Ratios	
		Ending – 1Q20	Projected - 9Qtrs Minimum
Common Equity Tier 1 Capital Ratio	16.5	9.5	9.5
Tier 1 Capital Ratio	25.8	18.2	18.2
Total Capital Ratio	25.9	18.3	18.3
Tier 1 Leverage Ratio	7.2	6.0	6.0
Supplementary Leverage Ratio <sup>15</sup>	6.6	5.5	5.5

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

Capital Ratios – DBTCA			
Capital Ratios (%)	Actual – 4Q17	Stressed Capital Ratios	
		Ending – 1Q20	Projected - 9Qtrs Minimum
Common Equity Tier 1 Capital Ratio	92.3	92.9	85.3
Tier 1 Capital Ratio	92.3	92.9	85.3
Total Capital Ratio	92.4	93.6	86.6
Tier 1 Leverage Ratio	22.1	20.8	19.0

<sup>15</sup> The Supplementary leverage ratio requirement is applicable to DB USA Corp., but not DBTCA.

## 5 Drivers of DB USA Corp. and DBTCA Stress Test Results

### 5.1 Capital Ratios

As of December 31, 2017, DB USA Corp. had Common Equity Tier 1 (“CET1”), Tier 1 capital, Total capital, Tier 1 leverage, and Supplementary leverage ratios of 16.5%, 25.8%, 25.9%, 7.2% and 6.6%, respectively. DBTCA had CET1, Tier 1 capital, Total capital, and Tier 1 leverage ratios of 92.3%, 92.3%, 92.4% and 22.1%, respectively.

Regulatory capital ratios are calculated and reported under U.S. Basel III-based capital rules as in effect for a given quarter.

Throughout the projection horizon under the Supervisory severely adverse scenario, DB USA Corp. and DBTCA have capital ratios in excess of regulatory minimum CET1, Tier 1 capital, Total capital, Tier 1 leverage and Supplementary leverage ratio<sup>16</sup> requirements of 4.5%, 6.0%, 8.0%, 4.0% and 3.0%, respectively. DB USA Corp. results show post-stress minimums of 9.5%, 18.2%, 18.3%, 6.0% and 5.5%, for CET1, Tier 1 capital, Total capital, Tier 1 leverage, and Supplementary leverage ratios, respectively. DBTCA results show post-stress minimums of 85.3%, 85.3%, 86.6%, and 19.0% for CET1, Tier 1 capital, Total capital, and Tier 1 leverage ratios, respectively.

The main drivers of the change in DB USA Corp.’s regulatory capital ratios over the nine quarter planning horizon in the Supervisory severely adverse scenario, as illustrated in Figure 5-1 below, consist of:

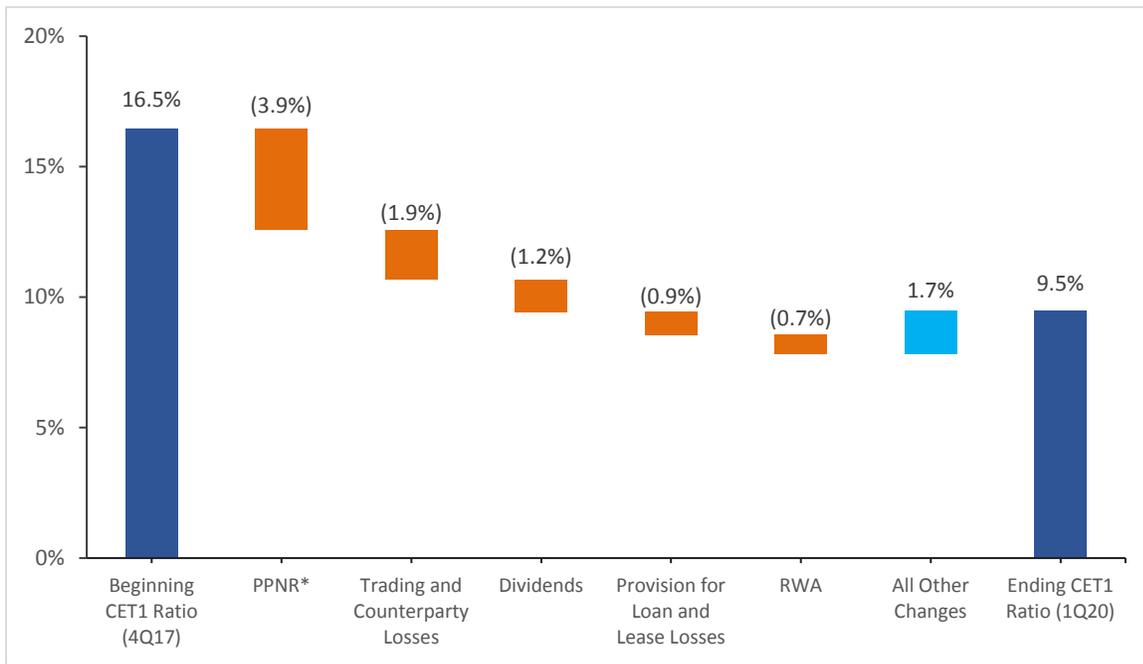
- Negative PPNR projections, driven by non-financial risk expenses, reduced interest income resulting from lower rates and reduced non-interest income resulting from lower fee revenue;
- Trading and counterparty losses based on the simplified 2018 Market Risk Component;
- Payment of preferred dividends during the projection horizon;<sup>17</sup>
- Projected increase in PLLL over the planning horizon;
- Payments pursuant to a tax allocation agreement with affiliates; and
- Market Risk RWA increases driven by increases in volatility.

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<sup>16</sup> The Supplementary leverage ratio requirement is applicable to DB USA Corp., but not DBTCA.

<sup>17</sup> DB USA Corp.’s dividend projections on preferred stock reflect the application of the FRB’s capital rules and required capital action assumptions, as described in Section 3.4.

Figure 5-1: Key Drivers of Annual DFAST Pro Forma CET1 Capital for DB USA Corp. under the Supervisory Severely Adverse Scenario<sup>18</sup>



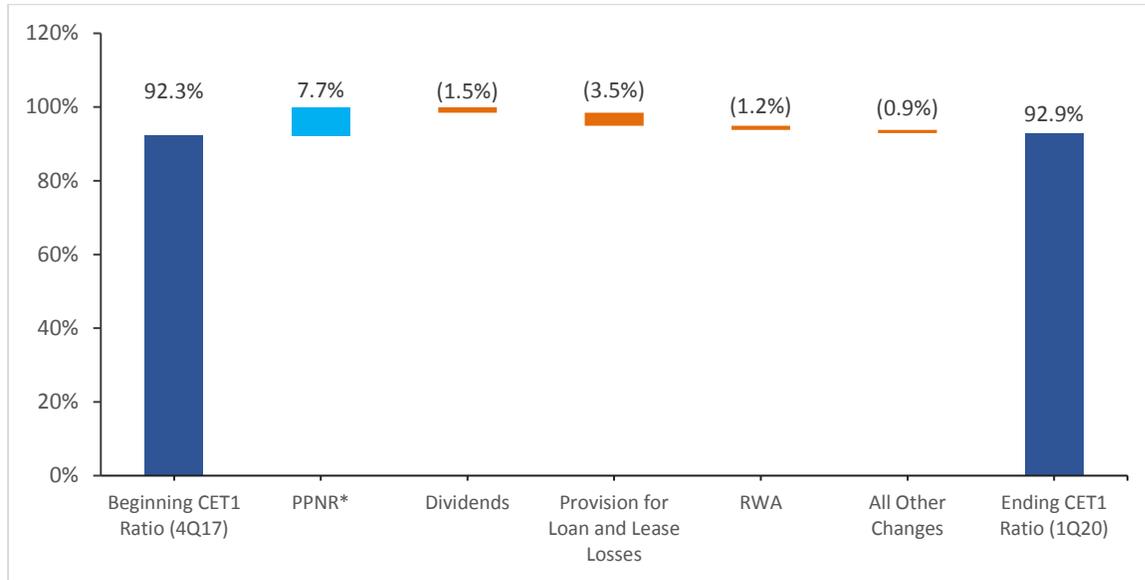
\*PPNR includes non-financial risk expenses.

<sup>18</sup> Numbers may not foot due to rounding.

The main drivers of the change in DBTCA’s regulatory capital ratios over the nine quarter planning horizon in the Supervisory severely adverse scenario, as illustrated in Figure 5-1-1 below, consist of:

- PPNR projections, inclusive of non-financial risk expenses, driven by the net-interest income generated by cash balances and loans;
- Payment of common stock dividends during the projection horizon;<sup>19</sup> and
- Projected increase in PLLL on DBTCA’s loan and lease portfolio over the planning horizon.

**Figure 5-1-1: Key Drivers of Annual DFAST Pro Forma CET1 Capital for DBTCA under the Supervisory Severely Adverse Scenario<sup>20</sup>**



DB USA Corp.’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 DB USA Corp.’s future expectations; they involve an economic outcome that is more adverse than expected and, as such, these estimates do not represent DB USA Corp.’s and DBTCA’s expected losses, revenues, net income before taxes, or capital ratios.

<sup>19</sup> DBTCA’s dividend projections reflect the application of the FRB’s capital rules, guidance and required capital action assumptions per 12 C.F.R. 252.15(b).

<sup>20</sup> Numbers may not foot due to rounding.