

Deutsche Bank AG - India Branches
(Incorporated in Germany with limited liability)

Management disclosures under Pillar 3 – Period ended December 31, 2018

1. Scope of application

The BASEL III - Pillar 3 disclosures contained herein relate to Deutsche Bank AG - India Branches (herein also referred to as the 'Bank') for the period ended December 31, 2018. These are compiled in accordance with the Reserve Bank of India (the 'RBI') Master Circular – Basel III Capital Regulation DBR.No.BP.BC.1/21.06.201/2015-16 dated July 1, 2015 and the amendments thereto issued from time to time.

As at December 31, 2018, the Bank is required to maintain minimum Common Equity Tier1 (CET1) capital ratio of 5.50%, Capital conservation buffer (CCB) of 1.875%, Global Systemically Important Banks buffer (GSIB) of 1.50%, minimum Tier-1 capital ratio of 7% and minimum total capital ratio including CCB and GSIB is 12.375%.

The following table lists Bank's associates consolidated for preparation of the consolidated financial statements and their treatment in consolidated capital adequacy computations.

Name of the entity	Included under accounting scope of consolidation	Method of accounting consolidation	Included under regulatory scope of consolidation	Method of regulatory consolidation	Reasons for difference in the method of consolidation	Reasons for consolidation under one of the scope of consolidation
Comfund Consulting Limited	Yes	Consolidated as per AS 23	No	Not Applicable	Not Applicable	Not Applicable - Risk weighted for capital adequacy purposes

List of Group entities operating in India and considered for regulatory scope of consolidation is as under. The bank does not hold any investment in these group entities.

(In Rs '000)

Sr. No.	Name of entity	Principal activity of the entity	Total balance sheet equity *	Total balance sheet assets *
1	Deutsche India Holdings Private Limited (DIHPL)	Holding company	5,231,730	5,236,630
2	Deutsche Investments India Private Limited (DIPL)	Loans and advances / Portfolio management	8,869,040	19,905,180

* Figures as per audited accounts of March 31, 2018

List of Group entities operating in India and not considered for consolidation both under accounting and regulatory scope of consolidation is as under. The bank does not hold any investment in these group entities.

(In Rs '000)

Sr. No.	Name of entity	Principal activity of the entity	Total balance sheet equity*	Total balance sheet assets*
1	Deutsche Asset Management (India) Private Limited	Asset management / Portfolio Management [§]	849,670	1,015,410
2	Deutsche Securities (India) Private Limited	Securities and debt trading and primary dealership [#]	807,467	879,189
3	Deutsche Equities India Private Limited	Stock broker / Merchant banking and advisory services	3,516,560	32,003,910
4	Deutsche Investor Services Private Limited	Fund accounting	309,960	421,810
5	RREEF India Advisors Private Limited	Sub advisory services [#]	226,761	230,741

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(In Rs '000)

Sr. No.	Name of entity	Principal activity of the entity	Total balance sheet equity	Total balance sheet assets
6	Deutsche Trustee Services (India) Private Limited	Act as Trustees of all schemes launched by Deutsche Mutual funds [#]	70,109	72,015
7	Deutsche CIB Centre Private Limited	Global processing centre for Back office processing / support services for business lines.	3,220,460	4,437,010
8	DBOI Global Services Private Limited	Global processing centre for back office / IT enabled services	9,414,920	13,797,640

* Figures as per audited accounts of March 31, 2018

[#] The members have passed a resolution for voluntary winding up

[§] Consequent upon the transfer of schemes of Deutsche Mutual Fund, the company does not carry on any operations

2. Capital Structure

a. Summary information on the terms and conditions of the main features of all capital instruments

CET1 and Tier I Capital primarily comprises of interest free capital received from the Head Office, balance in statutory reserves, capital reserves and remittable surplus retained for CRAR requirement.

Tier II Capital primarily comprises of Provision on Standard Assets, Floating Provision and excess provision on sale of Non Performing Assets (NPA) which are created in accordance with the extant RBI guidelines.

b. Details of Capital Funds of the Bank

(In Rs.'000)

Particulars	31 Dec 2018	31 Mar 2018
Capital - Head Office Account	66,901,087	47,341,087
Statutory Reserve	26,690,675	26,690,675
Capital Reserve	360,607	360,607
Remittable Surplus Retained for CRAR requirement	43,468,052	36,547,133
Less: Intangible assets	(430,492)	(317,060)
CET1 Capital / Tier I Capital	136,989,929	110,622,442
Investment Reserve	193,225	193,225
Provision on Standard Assets	4,556,969	2,921,171
Provision on Country Risk	58,694	70,183
Floating Provision	712,260	712,260
Provision made on Sale of NPA	427,500	427,500
Countercyclical provisioning buffer	150,000	150,000
Tier II Capital	6,098,648	4,474,339
Total Capital	143,088,577	115,096,781

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3. Capital adequacy

a. Approach to assessing capital adequacy for current and future activities

The Bank is committed to maintaining sound capitalisation. Therefore, overall capital demand and supply are constantly monitored and adjusted as necessary in line with the strategic, business and capital plans drawn up annually by the Bank. It should be noted that Deutsche Bank operates as an integrated Group through its business divisions and infrastructure functions. The local Asset and Liability Committee (ALCO) for the Bank is the primary platform for providing strategic direction and follow through action relating to the management of the entity's financial resources. Specifically, the ALCO ensures adequate capitalisation to meet current and future business and regulatory requirements and sets limits for capital usage by business.

Stress testing and sensitivity analysis are used to assess the Bank's ability to sustain operations during periods of stress. They provide an insight into the potential impact of significant adverse events on the Bank's earnings, risk profile and capital position.

b. Capital requirements for credit risk, market risk, operational risk, and Capital ratios per New Capital Adequacy framework

The Bank is subject to the Basel III capital adequacy guidelines stipulated by RBI with effect from April 1, 2013. The guidelines provide a transition schedule for Basel III implementation till March 31, 2020.

Standalone capital ratio as per Basel III is 15.60%

	(In Rs.'000)	
Particulars	31 Dec 2018*	31 March 2018
Capital requirement for credit risk# - (Standardised Approach)		
- Portfolios subject to Standardised Approach	95,399,808	73,440,982
- Portfolios subject to securitisation exposures		
Capital requirement for market risk# (Standardised Duration Approach)		
- Interest rate risk	6,046,394	7,803,882
- Foreign exchange risk (including gold)	3,243,797	3,243,797
- Equity risk	194,453	233,297
Capital requirement for operational risk# (Basic Indicator approach)	8,620,725	8,843,543
Total	113,505,177	93,565,501
Deutsche Bank AG, India Branches		
CET1 Capital / Tier I Capital adequacy ratio	14.94%	14.63%
Total Capital adequacy ratio	15.60%	15.22%
Consolidated Bank		
CET1 Capital / Tier I Capital adequacy ratio	15.88%	15.39%
Total Capital adequacy ratio	16.54%	15.98%

Capital requirement is arrived at after multiplying the risk weighted assets by 12.375%

* Based on unaudited accounts of Bank, DIHPL and DIIPL.

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4. Risk Exposure & Assessment

Risk Governance

The risk governance framework at Deutsche Bank AG (DB) is designed according to a three lines of defence (3LoD) operating model in order to ensure clear accountabilities for and a comprehensive, but non-duplicative, coverage of all risk management activities across DB.

DB requires strict independence between its 3 LoD in order to avoid conflicts of interest by an appropriate separation of functions and responsibilities. DB requires all lines of defence to establish an effective and efficient internal governance structure with well-defined roles and responsibilities

The Supervisory Board exercises strategic control and supervision of DB Group. It monitors DB's risk and capital profile regularly via its designated subcommittee, the Risk Committee. The chair of the Risk Committee reports on items discussed during the Risk Committee's meetings to the Supervisory Board.

The Management Board (MB) provides overall risk & capital management supervision for the Group and is responsible for day to day management of the company with the objective of creating sustainable value in the interest of its shareholders, employees, regulators and other stakeholders. The MB is responsible for defining and implementing comprehensive and aligned business and risk strategies, as well as ensuring well-defined risk management functions and operating processes are in place to ensure that DB's overall performance is aligned to its business and risk strategy. The MB is collectively accountable for DB's risk exposure.

The Group Risk Committee (GRC) established by the MB is the central forum for review and decision on all material risk topics. Sub-committees are established to cover the different risk types. The GRC is chaired by the Chief Risk Officer (CRO) and covers the following tasks and duties:

- Review inventory of risks and decide on materiality classification
- Review and recommend DB Group Risk Management Principles to the MB for approval
- Support the MB during group-wide Risk & Capital Planning process and recommend risk appetite parameters to the MB, review risk appetite per material risk type, set risk appetite targets and establish a sanctioning system for excesses
- Review Group-wide Stress Testing results and discuss/recommend actions as required
- Advise the MB on recovery measures in times of crisis and oversee their execution as decided by the MB and decide upon mitigating actions to be taken during periods of anticipated or actual stress. Recommend the Group Risk Appetite Statement to the MB
- Recommend the Group Recovery Plan and the Contingency Funding Plan to the MB for approval and support the authorities in executing the Group resolution plan and coordinate internally
- Review high-level risk portfolios & risk exposure developments as well as overall risk level vs. recovery triggers
- Monitor the development of Risk Culture across DB Group

Country Chief Risk Officer

DB India's chief risk officer (CRO), who is also a member of the EXCO, has DB India-wide, responsibilities for review and control of all credit, market and operational risks as well as for the continuous development and enhancement of methods for measurement of these risks. CRO also supports the development of DB India risk appetite setting and associated capital planning. CRO oversees the development and execution of local objectives, plans and policies and seeks to improve the bank's competitive position. In addition, the CRO is responsible for comprehensively monitoring and analyzing risks.

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The Bank has aligned its management structure in line with the global management structure of Deutsche Bank AG. The Management of the overall affairs of the Bank is vested with the Executive Committee ('EXCO'). The Bank has various committees to monitor its functioning and provide necessary direction in view of external / internal developments, including changes in the regulatory environment. An overlap in membership between these committees facilitates a constant and comprehensive information flow. CRO is a key personnel in the Bank and represents in the various decision making committees such as EXCO, ALCO, RMC, ICRC, etc

Specific Banking Risks:

Credit risk

Credit risk arises from all transactions where actual, contingent or potential claims against any counterparty, borrower or obligor (referred collectively as "counterparties") exist, including those claims that the Bank plans to distribute.

The Bank understands the below dimensions as key drivers for credit risk:

Risk type level 2	Risk type level 3	Risk definition (short description)
Counterparty Default Risk	-	The risk that a counterparty or country defaults on its payment obligations. This risk is relevant only if there is Exposure Risk to the defaulting counterparty.
Exposure risk	Cash	The risk that arises from any counterparty, borrower, or obligor failing to make required payments on any loan or loan type transaction where claim(s) for payment exist.
Exposure risk	Contingent	The risk arising from any transaction where a potential (or contingent) claim for payment may appear against any counterparty, borrower or obligor.
Exposure risk	Margin	The risk that arises from any counterparty, borrower, or obligor failing to make required payments in relation to any derivative transaction where actual or potential (subject to deal structure and market movement) claims for payment exist.
Exposure risk	Transfer risk	The risk that otherwise solvent and willing debtors are unable to meet their obligations owing to an inability to transfer assets to non-residents or to obtain foreign exchange due to direct sovereign intervention or debt moratorium.
Exposure risk	Settlement, Collection or Intraday-clearing risks	The risk that arises from the incorrect or failed settlement and/or clearing of a transaction (same day or aggregate forward looking).
Exposure risk	Other	Other 'pro-memoria' (or 'below the line') risk, usually with low probability given underlying deal structure (and not able to be allocated to other risks), eg. Inventory Risks / assets held by (and to be claimed from) a 3rd party.
Risk mitigation failure	Collateral risk	The risk of loss arising from errors in the nature, quantity, pricing or characteristics of collateral securing a transaction. Types of collateral typically include cash, securities (equity, bonds - both potentially with corresponding wrong way risk), collateral assignments of other claims or inventory, equipment (eg. plant, machinery and aircraft) and real estate.
Risk mitigation failure	Third party risk	The risk that a third party, where such third party has undertaken to answer for the payment or performance of the counterparty, borrower or obligor who is primarily responsible for fulfilling a payment obligation, is unable to honour its undertaking. Examples of products that give risk to third party risk include letters of credit, insurance contracts, export credit insurance, guarantees, credit derivatives and risk participations.

The risk assessment also covers concentrations in the credit risk portfolio across the above mentioned dimensions.

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Market risk

Market risk arises from the uncertainty concerning changes in market prices and rates (including interest rates, equity prices, foreign exchange rates and commodity prices), the correlations among them and their levels of volatility.

Operational risk

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

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.

Other risks

Other risks such as Reputational Risk, Business Risk including Strategic Risk also consider at Local/Group Level.

Risk Management Tools

The Bank uses a comprehensive range of quantitative and qualitative methodologies for assessing and managing risks. As a matter of policy, the Group continually assesses the appropriateness and the reliability of its quantitative tools and metrics in light of the Group's changing risk environment. Some of these tools may be common to a number of risk categories, while others are tailored to the particular features of specific risk categories.

4.1 Credit risk

a. Credit Risk Management Organisation and structure

The Bank has established a Risk Management Council (RMC) by the Executive Committee (EXCO). The Risk Management Council is mandated to oversee credit risk, market risk and operational risk related matters. The committee comprise of Chief Operating Officer, Head-Credit Risk Management (CRM) Corporate & Investment Bank (CIB), Head- Market Risk Management (MRM), Head-CRM Wealth Management (WM), Head-CRM Private and Commercial Bank (PCC), , Head-Compliance, Chief Financial Officer (CFO), India Internal Capital Adequacy Assessment Process (ICAAP) coordinator, Treasurer, Head-Legal and Head-Non Financial Risk (NFR) .

b. CRM CIB

(i) Credit Risk policies and procedures

All business requests that involve credit risk need to be presented to CRM for its approval. Loan policy is updated annually and is also approved by the Risk Management Council. CRM uses its global ratings model for all risks and every counterpart is internally rated. CRM CIB has a policy of annual reviews of all risk limits. This policy is strictly followed and any overdue reviews are regularly monitored and explained. The annual review is a comprehensive exercise which covers the Industry scenario, key business drivers, key risk factors, business and financial risk (including forex risk), management quality and transparency and a peer analysis along with downside scenarios in projections.

CRM CIB in India has significant delegation of approval authority, to enable timely credit decisions, based on an understanding of local market conditions. In line with the global policy, CRM takes decisions in India on the 4 eyes principle.

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In the event the credit authority of the local CRM team is not equipped to take a decision on complex / structured products, large ticket transactions, etc, the local CRM team forwards its recommendation on the request to senior CRM officers in Asia Pacific (APAC) or globally, for the final decision, depending on the defined delegated authority.

Bank has established an India Credit Risk Council (ICRC) to approve significant credit risk and underwriting proposal in line with the regulatory requirements. ICRC has a Terms of Reference (ToR) approved by the EXCO highlighting roles and responsibilities, membership, etc

CRM globally operates on the “Batch Strategy” concept, where each Industry / sector is reviewed globally in detail for risk drivers, along with an analysis of DB’s exposures in that sector globally – exposure amounts, counterparty ratings, products, risk profile, etc. This system enables DB to quantitatively focus on its global exposures in different Industries / sectors, as well as the credit ratings / facility ratings of the exposures within those sectors.

The Bank globally subjects all risk types covered under its Economic Capital (EC) concept and liquidity risk to regular stress tests. The Bank’s stress tests consider macroeconomic, business related and quantitative aspects to derive implications for its risk profile.

Risk limits and exposures on lower rated counterparties are intensively monitored. There is a quarterly CRM exercise to discuss all watch-list names. Deutsche Bank in India follows all the exposure norms and provisioning requirements as laid down by the RBI in its master circulars.

Within the CRM CIB portfolio, concentration risk monitoring and mitigation plays an important role. CRM has guidelines in terms of maximum exposures on counterparties at different rating levels, with different levels of market access and in different categories of country risk.

The credit risk assessment of exposures that are off-balance sheet are subject to the same vigorous scrutiny and approval process, as is followed for the balance sheet exposures. There is no differentiation between balance sheet and off-balance sheet exposures in the Bank’s risk assessment and monitoring standards.

(ii) Credit risk on trading instruments

CRM CIB has global systems in place to monitor the Mark to Market risk on all foreign currency and rates derivative transactions undertaken by the clients. DB uses the Potential Future Exposure at 95% confidence levels as the basis to determine the limit requirements for such products.

Internally, the Bank manages credit risk on all trading instruments by reference to three measures:

- Current Credit Exposure (“CCE”), which is the current value of any contract, at current market rates, as shown in the Bank’s records. CCE will be reported net of enforceable collateral, and may be aggregated to reflect enforceable netting arrangements
- Potential Future Exposure (“PFE”), which is an estimate of the Current Credit Exposure that trading instruments could potentially assume in the future
- Stress Testing, which reflects the short term sensitivity of the portfolio CCE to market parameters.

To reduce derivatives-related credit risk, the Bank regularly seeks the execution of master agreements (such as the “International Swap and Derivatives Association” - ISDA contract) with clients. A master agreement allows the offsetting of the obligations arising under all of the derivatives contracts that the agreement covers upon the counterparty’s default, resulting in one single net claim against the counterparty (called “close-out netting”).

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The Bank also enters into credit support annexes (CSA) to master agreements in order to further reduce the derivatives related credit risk. These annexes generally provide risk mitigation through periodic, usually daily, margining of the covered exposure. The CSAs also provide for the right to terminate the related derivative transactions upon the counterparty's failure to honour a margin call. As with netting, when the bank believes the annex is enforceable, it reflects this in the exposure measurement.

Certain CSAs to master agreements provide for rating dependent triggers, where additional collateral must be pledged if a party's rating is downgraded. We also enter into master agreements that provide for an additional termination event upon a party's rating downgrade. These downgrading provisions in CSAs and master agreements usually apply to both parties but may also apply to us only. The bank analyses and monitors its potential contingent payment obligations resulting from a rating downgrade in its stress testing approach for liquidity risk on an ongoing basis.

For credit exposure measurement purposes, as the replacement values of the portfolios fluctuate with movements in market rates and with changes in the transactions in the portfolios, the Bank also estimates the potential future replacement costs of the portfolios over their lifetimes. This is based on the Current Exposure method as per RBI master circular on Exposure norms.

(iii) Credit rating policy

The Bank's rating system uses a granular, transparent 21 grade rating scale, which is in compliance with the Internal Ratings Based approach in Basel III. The credit ratings are the core element of the Bank's risk management framework and determine the –

- Level of authority required for approval
- The SEC classification (performing / non performing) and FED classification (Special Mention, Sub standard, Doubtful, Loss)

The accuracy and consistency of ratings are ensured through Front End Management, Portfolio Reviews including independent Asset Quality Reviews and validation by Risk Analytics and Instruments.

Each and every facility in the banking book is rated based on the internal rating model of DB. For each counterparty, the Credit Risk management assigns a Counterparty Probability of Default ('CPD') and for each facility, a Facility Probability of Default ('FPD') is assigned, along with the Loss Given Default ('LGD') and Country of Risk.

The Bank's ratings scale closely mirrors the scales used by key global rating agencies such as S & P and Moody's.

(iv) Definition and classification of past due and impaired

Loans and Advances are classified into performing and non-performing loans in accordance with the extant RBI guidelines.

Past due advances understood to mean Non Performing Advances are identified by periodic appraisals of the portfolio by the management and appropriate provisions are made which meets the prudential accounting norms prescribed by the RBI for asset classification, income recognition and provisioning after considering subsequent recoveries.

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c. CRM PCC - Credit risk policies and procedures

CRM PCC India manages the credit risk of Retail Banking portfolio in India. All lending product launched within PCC are approved by CRM PCC before the launch. Credit Risk policies are clearly documented through Product Program for each product.

The scope of India Credit Policy covers the credit process for the PCC unit in India and details the following.

- Credit principles
- Generic credit process
- Credit authority guidelines
- Loan Loss Allowance / Write off guidelines

The precise nature of the credit assessment, decision and monitoring process depends primarily on the type of product, exposure and the existence and quality of collateral.

The credit decision on a loan request involves rule based risk assessment which takes into account the following:

- Customer information given in the application form (general customer data / financial information)
- Information on the borrower's behaviour (external data/account movements, where available)
- Specific information of the application itself (credit volume / collateral)

When deciding on a loan request, all required information and documents are considered. The credit officer assesses the profile of the applicant and ability to repay the loan based on various reports available, viz. verification, bureau and policy results etc. as part of the loan file. The portfolio is reviewed at periodic intervals and analysis is made to understand the behaviour of the portfolio in terms of repayment, delinquency, transactions etc.

d. CRM WM

Credit in WM is governed by the Business – aligned Risk Management (BRM) WM – Credit Policy and Process Guide. Other related policies governing the credit linked business in WM are the Principles for Managing Credit Risk–DB Group, the India Credit policy and local regulations.

The above credit policy framework details the following:

- Credit principles
- Credit Risk Management process (including initial due diligence, credit reports, rating models used, annual rating review process, credit approval process, credit review process)
- Credit Rating and Credit Limit guidelines (including the relevant rating model to be applied, one-obligor principle)
- Credit Authority guidelines (including delegation of credit authority, approvals under '4-eye')
- Credit Risk Mitigation and Monitoring of risk positions (including collateral monitoring and credit limit excess monitoring)
- Management of distressed exposures (covering watch-list and workout accounts)
- Risk Tools (including credit systems, stress testing)

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e. Total Gross Credit exposures

Category	(In Rs.'000)	
	31 Dec 2018	31 March 2018
Bills purchased and discounted	119,219,286	103,419,540
Cash credits, overdrafts and loans repayable on demand	203,474,568	165,032,122
Term loans	159,482,994	131,206,900
Inter Bank	43,159,822	12,369,078
Others	691,820	863,547
Total Fund-based Exposures	526,028,490	412,891,187
Guarantees given on behalf of customers	170,190,783	151,244,123
Acceptances, endorsements and other obligations	45,868,087	51,243,208
Derivative exposures	294,277,789	221,642,498
Undrawn Commitment	48,659,625	68,145,900
Total Non-fund based Exposures	558,996,284	492,275,729

Exposure for the purposes of tables in this section reflect actual notional, except for derivative exposures which is based on the current exposure method prescribed by RBI vide its master circular on Exposure norms.

The Bank renders its services within one geographical segment and has no offices outside India

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f. Industry Type distribution of exposures (period ended 31 Dec 2018)

(In Rs.'000)

Sector ID	Sector Name	Funded	Non Funded	Total	Percentage of Total
1	Mining & Quarrying	45,154	1,014,263	1,059,417	0.10%
2	Food Processing	6,276,512	1,624,146	7,900,658	0.73%
3	Beverages	6,144,039	937,638	7,081,677	0.65%
4	Textile	11,609,361	143,530	11,752,891	1.08%
5	Leather & Leather Products	752,345	2,146	754,491	0.07%
6	Wood and Wood products	1,035,664	13,630	1,049,294	0.10%
7	Paper and paper Products	2,283,271	28,747	2,312,018	0.21%
8	Petroleum, Coal Products and Nuclear Fuels	2,643,853	8,833,506	11,477,359	1.06%
9	Chemical and chemical products	26,372,565	12,967,883	39,340,448	3.63%
10	Rubber Plastic and their products	5,471,701	563,832	6,035,533	0.56%
11	Glass & Glassware	585,742	282,447	868,189	0.08%
12	Cement and Cement Products	953,776	21,368	975,144	0.09%
13	Basic Metal and Metal Products	29,551,509	9,913,105	39,464,614	3.64%
14	All Engineering	42,314,401	55,749,353	98,063,754	9.04%
15	Vehicles, Vehicle Parts and Transport Equipments	17,861,532	22,714,984	40,576,516	3.74%
16	Gems and Jewellery	9,490,658	45,000	9,535,658	0.88%
17	Construction	748,120	533,613	1,281,733	0.12%
18	Infrastructure	23,038,727	34,499,278	57,538,005	5.30%
19	Other Industries	54,217,724	4,609,182	58,826,906	5.42%
20	Residuary Other	284,631,836	404,498,633	689,130,469	63.50%
Total		526,028,490	558,996,284	1,085,024,774	100.00%

Industry Type distribution of exposures (year ended 31 March 2018)

(In Rs.'000)

Sector ID	Sector Name	Funded	Non Funded	Total	Percentage of Total
1	Mining & Quarrying	192,781	192,873	385,654	0.04%
2	Food Processing	6,019,027	1,581,915	7,600,942	0.84%
3	Beverages	1,907,519	1,832,895	3,740,414	0.41%
4	Textile	8,545,912	593,476	9,139,388	1.01%
5	Leather & Leather Products	637,644	25,662	663,306	0.07%
6	Wood and Wood products	731,770	9,563	741,333	0.08%
7	Paper and paper Products	1,892,127	66,261	1,958,388	0.22%
8	Petroleum, Coal Products and Nuclear Fuels	4,184,024	4,189,869	8,373,893	0.93%
9	Chemical and chemical products	15,117,690	14,549,234	29,666,924	3.28%
10	Rubber Plastic and their products	3,275,375	928,428	4,203,803	0.46%
11	Glass & Glassware	663,808	260,393	924,201	0.10%
12	Cement and Cement Products	834,949	782,269	1,617,218	0.18%
13	Basic Metal and Metal Products	23,909,865	23,824,029	47,733,894	5.27%
14	All Engineering	40,653,938	52,929,631	93,583,569	10.34%
15	Vehicles, Vehicle Parts and Transport Equipments	19,183,087	20,807,063	39,990,150	4.42%
16	Gems and Jewellery	5,165,884	45,000	5,210,884	0.58%
17	Construction	1,371,804	331,742	1,703,546	0.19%
18	Infrastructure	28,766,198	25,014,283	53,780,481	5.94%
19	Other Industries	19,385,934	10,892,145	30,278,079	3.35%
20	Residuary Other Advances	230,451,851	333,418,998	563,870,849	62.29%
Total		412,891,187	492,275,729	905,166,916	100.00%

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g. Residual contractual maturity breaks down of Total Assets

(In Rs'000)

Maturity buckets	31 Dec 2018
Day - 1	155,866,732
2-7 Days	97,655,656
8-14 Days	49,364,640
15-30 Days	86,426,755
31 Days to 2 months	26,435,136
Over 2 Months to 3 months	23,179,533
Over 3 Months to 6 months	24,952,933
Over 6 Months to 12 months	24,006,803
Over 1 Year to 3 years	158,081,787
Over 3 Years to 5 years	34,519,847
Over 5 years	260,665,139
Total	941,154,961

(In Rs'000)

Maturity buckets	31-Mar-18
Day - 1	-
2-7 Days	239,235,638
8-14 Days	30,871,052
15-30 Days	66,395,056
31 Days to 2 months	36,483,546
Over 2 Months to 3 months	21,502,655
Over 3 Months to 6 months	36,541,667
Over 6 Months to 12 months	18,982,264
Over 1 Year to 3 years	137,443,281
Over 3 Years to 5 years	36,631,551
Over 5 years	160,153,308
Total	784,240,018

h. Amount of NPA

(In Rs'000)

NPA Classification (31 Dec 2018)	Gross NPAs	Net NPAs
Substandard	5,776,204	4,861,343
Doubtful		
- Doubtful 1	1,807,316	877,253
- Doubtful 2	4,902,900	330,078
- Doubtful 3	282,376	-
Loss	373,989	-
Total	13,142,785	6,068,674
NPA Ratio	2.73%	1.28%

(In Rs'000)

NPA Classification (31March 2018)	Gross NPAs	Net NPAs
Substandard	2,663,169	2,226,280
Doubtful		
- Doubtful 1	1,704,089	578,078
- Doubtful 2	5,241,674	244,803
- Doubtful 3	250,239	-
Loss	373,989	-
Total	10,233,160	3,049,161
NPA Ratio	2.56%	0.78%

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i. Movement in NPAs

	(In Rs'000)	
	31 Dec 2018	31 March 2018
Movement in NPAs (funded)		
(i) Net NPAs to Net Advance (%)	1.28%	0.78%
(ii) Movement of Gross NPAs		
a) Opening balance	10,233,160	9,947,728
b) Additions during the year	6,470,229	3,841,361
c) Reductions during the year	(3,560,604)	(3,555,929)
d) Closing Balance	13,142,785	10,233,160
(iii) Movement of Net NPAs		
a) Opening balance	3,049,161	3,276,886
b) Additions during the year	4,748,031	2,429,128
c) Reductions during the year	(1,728,518)	(2,656,853)
d) Closing Balance	6,068,674	3,049,161
(iv) Movement of Provisions for NPAs		
a) Opening balance	7,183,999	6,670,842
b) Provisions made during the year	1,722,198	1,412,233
c) Write off/write back of excess provisions during the year	(1,832,086)	(899,076)
d) Closing Balance	7,074,111	7,183,999

j. Amount of 'Non Performing Investment'(NPIs)

	(In Rs'000)	
Particulars	31 Dec 2018	31 March 2018
Closing balance for the period	425,804	66,000
Total provisions held	425,804	66,000
Net book Value	-	-

k. Movement in Provision for Depreciation on Investments

	(In Rs'000)	
Provisions for depreciation on investments*	31 Dec 2018	31 March 2018
Opening balance	652,804	428,040
Add: Provisions made during the period / year	330,612	224,764
Less: Write-off/write back of excess provisions during the period	-	-
Closing balance	983,416	652,804

*Includes provision on NPIs.

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4.2 Credit risk – Portfolios subject to Local Standardised Approach

a. Credit rating agencies

The Bank uses short-term and long-term instrument/bank facilities ratings from CARE, CRISIL, ICRA and India Ratings and Research Private Limited (Fitch) to assign risk weights in terms of RBI guidelines.

In respect of claims on non-resident corporate and foreign banks, ratings assigned by international rating agencies such as Standard & Poor's, Moody's and Fitch are used. The Bank uses credit ratings that are publicly available for assigning risk weights.

In accordance with the guidelines of RBI, the bank classifies all cash credit exposures and assets which have a contractual maturity of more than one year as long term exposures and accordingly the solicited long term ratings accorded by the chosen credit rating agencies are assigned.

The Bank uses issuer and issue ratings for both fund as well as non fund based exposures. The Bank has used the solicited ratings assigned by the above approved credit rating agencies for all eligible exposures, both on balance sheet and off balance sheet, whether short term or long term, in the manner permitted in the RBI guidelines. The Bank does not have an assigned ratings agency for a given type of claim.

b. Outstanding amounts

Bucket wise break up of exposure amounts subject to the standardised approach is as under

Exposure Category	(In Rs'000)	
	31 Dec 2018	31 March 2018
Under 100% risk weight	169,589,847	115,602,991
100% risk weight	325,290,995	255,273,954
Above 100% risk weight	31,147,648	42,014,242
Total Fund-based Exposures	526,028,490	412,891,187
Under 100% risk weight	329,178,469	281,723,256
100% risk weight	193,529,348	160,075,440
Above 100% risk weight	36,288,467	50,477,033
Total Non Fund-based Exposures	558,996,284	492,275,729

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4.3 Credit risk mitigation policy

Credit risk is generally mitigated at DB Group level. The Bank employs the different techniques available for the management of credit risk in line with the strategy established at DB Group level. The Bank takes into account the local laws / local market practice for the use of credit risk mitigants. The Bank may also apply guarantees or other instruments to transfer credit risk to DB AG or other legal entities within DB Group.

Mitigation of credit risk on counterparty level

In addition to determining counterparty credit quality and the risk appetite, the bank also uses various Credit Risk mitigation techniques to optimize credit exposure and reduce potential credit losses. Credit Risk mitigants are applied in the following forms:

- Comprehensive and enforceable credit documentation with adequate terms and conditions.
- Collateral held as security to reduce losses by increasing the recovery of obligations.
- Netting and collateral arrangements which reduce the credit exposure from derivatives and repo- and repo-style transactions.

Collateral

The Bank regularly agrees on collateral to be received from or to be provided to customers in contracts that are subject to credit risk. Collateral is security in the form of an asset or third-party obligation that serves to mitigate the inherent risk of credit loss in an exposure, by either substituting the borrower default risk or improving recoveries in the event of a default. While collateral can be an alternative source of repayment, it generally does not replace the necessity of high quality underwriting standards and a thorough assessment of the debt service ability of the counterparty.

The Bank segregates collateral received into the following two types:

- Financial and other collateral, which enables us to recover all or part of the outstanding exposure by liquidating the collateral asset provided, in cases where the borrower is unable or unwilling to fulfil its primary obligations. Cash collateral, securities (equity, bonds), collateral assignments of other claims or inventory, equipment (i.e., plant, machinery and aircraft) and real estate typically fall into this category.
- Guarantee collateral, which complements the borrower's ability to fulfil its obligation under the legal contract and as such is provided by third parties. Letters of credit, insurance contracts, export credit insurance, guarantees, credit derivatives and risk participations typically fall into this category.

The bank's processes seek to ensure that the collateral we accept for risk mitigation purposes is of high quality. This includes seeking to have in place legally effective and enforceable documentation for realizable and measureable collateral assets which are evaluated regularly by dedicated teams. The assessment of the suitability of collateral for a specific transaction is part of the credit decision and must be undertaken in a conservative way, including collateral haircuts that are applied. We have collateral type specific haircuts in place which are regularly reviewed and approved. In this regard, we strive to avoid "wrong-way" risk characteristics where the borrower's counterparty risk is positively correlated with the risk of deterioration in the collateral value. For guarantee collateral, the process for the analysis of the guarantor's creditworthiness is aligned to the credit assessment process for counterparties.

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Netting and collateral arrangements for derivatives and securities financing transactions (SFT)

Netting is applicable to both exchange traded derivatives and over the counter (OTC) derivatives. Netting is also applied to SFT as far as documentation, structure and nature of the risk mitigation allow netting with the underlying Credit Risk.

All exchange traded derivatives are cleared through central counterparties (CCP), which interpose themselves between the trading entities by becoming the counterparty to each of the entities. The rules and regulations of CCPs usually provide for the bilateral set off of all amounts payable on the same day and in the same currency (“payment netting”) and thereby reducing the settlement risk. Depending on the business model applied by the CCP, this payment netting applies either to all of bank’s derivatives cleared by the CCP or at least to those that form part of the same class of derivatives. Many CCP rules and regulations also provide for the termination, close-out and netting of all cleared transactions upon the CCP’s default (“close-out netting”), which reduced the bank’s Credit Risk. In its risk measurement and risk assessment processes the bank applies close-out netting only to the extent that the bank has satisfied itself of the legal validity and enforceability of the relevant CCP’s close-out netting provisions.

In order to reduce the Credit Risk resulting from OTC derivative transactions, where CCP clearing is not available, the bank regularly seeks the execution of standard master agreements (such as master agreements for derivatives published by the International Swaps and Derivatives Association, Inc. (ISDA) or the German Master Agreement for Financial Derivative Transactions) with its counterparts. A master agreement allows for the close-out netting of rights and obligations arising under derivative transactions that have been entered into under such a master agreement upon the counterparty’s default, resulting in a single net claim owed by or to the counterparty. For parts of the derivatives business (i.e., foreign exchange transactions) the bank also enters into master agreements under which payment netting applies in respect to transactions covered by such master agreements, reducing the settlement risk. In its risk measurement and risk assessment processes the bank applies close-out netting only to the extent it has satisfied itself of the legal validity and enforceability of the master agreement in all relevant jurisdictions.

Also, the Bank enters into CSA to master agreements in order to further reduce its derivatives related Credit Risk. These annexes generally provide risk mitigation through periodic, usually daily margining of the covered exposure. The CSAs also provide for the right to terminate the related derivative transactions upon the counterparty’s failure to honour a margin call. As with netting, when the Bank believes the annex is enforceable, It gets reflected in its exposure measurement.

Certain CSAs to master agreements provide for rating dependent triggers, where additional collateral must be pledged if a party’s rating is downgraded. The Bank also enters into master agreements that provide for an additional termination event upon a party’s rating downgrade. These downgrading provisions in CSAs and master agreements usually apply to both parties but may also apply to us only. The Bank analyses and monitors the potential contingent payment obligations resulting from a rating downgrade in its stress testing approach for liquidity risk on an ongoing basis.

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Concentrations within credit risk (CR) mitigation

Concentrations within Credit Risk mitigations taken may occur if a number of guarantors and credit derivative providers with similar economic characteristics are engaged in comparable activities with changes in economic or industry conditions affecting their ability to meet contractual obligations. The bank uses a range of quantitative tools and metrics to monitor its Credit Risk mitigating activities. These also include monitoring of potential concentrations within collateral types supported by dedicated stress tests.

a. Collateral valuation and management

As stipulated by the RBI guidelines, the Bank uses the Comprehensive Approach for collateral valuation. Under this approach, the Bank reduces its credit exposure to counterparty when calculating its capital requirements to the extent of risk mitigation provided by the eligible financial collateral.

b. Types of collaterals taken by the Bank and main types of guarantor counterparties and Credit risk concentration within mitigation

Collateral Risk Management is undertaken through the mechanism of the Facility Probability of Default (FPD) assignment.

If there is no liquid collateral and no guarantor mitigating the credit risk, then the FPD will be the same as the Counterparty Probability of Default (CPD).

If the facility risk can be shifted to the guarantor, the guarantor CPD becomes the FPD. In cases of received guarantees from un-correlated third parties, covering a Separate primary DB exposure, where for the Bank to incur a loss there needs to be a default by both the primary obligor as well as the guarantor, the Joint Default Probability ('JDP') applies. The Bank has in place a matrix indicating this JDP for the entire scale of primary obligor and guarantor CPDs.

The Bank accepts security in the form of charge on receivables / inventories for working capital facilities, charge on fixed assets in certain cases, besides guarantees for various obligations by the primary obligor and property collateral for mortgage loans to retail banking clients. The guarantees could be received from the local holding company of the obligor, or a stronger company within the same group or from the MNC parent of the local subsidiary. In certain cases, facilities to obligors may be supported by partial / full insurance protection purchased. Hence, since there are varied sources of credit protection acquired through different guarantors, there is no concentration of guarantor risk.

The Bank records the Joint Obligor Risk Limit on the various guarantors, which ensures that the amounts of guarantees received from various sources are monitored for risk management purposes, e.g. the amount of insurance protection acquired from different insurance companies. The facility ratings for Joint Obligor Risk Limits are determined in accordance with the matrix in the Credit Ratings Policy of the Bank. This matrix captures the counterparty Probability of Default of the obligor as well as that of the guarantor, in determining the JPD.

c. Exposure covered by eligible financial collateral:

(In Rs'000)

Exposures covered by financial collateral	31 Dec 2018	31 March 2018
Exposures before Credit Risk Mitigation Technique	86,197,670	88,167,615
Exposures after Credit Risk Mitigation Technique (after application of haircut on collateral)	4,407,317	9,203,229

d. Securitisation Exposure

The Bank did not have any securitisation transactions outstanding as the end of the previous year nor were any new securitization transactions entered into current financial year and hence no disclosures are being made.

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4.4 Market risk in trading book

a. Market risk management framework

The Bank uses a combination of risk sensitivities, Value-at-Risk and stress testing metrics to manage market risks and establish limits. Value-at-Risk is a common metric used in the management of trading market risks.

The MB and Group Risk Committee, supported by Group Market Risk Management, which is part of the independent risk management function, set a Group-wide Value-at-Risk limit for the market risks in the trading book. Group Market Risk Management sub-allocates this overall limit to the Group Divisions. Below that, limits are allocated to specific business lines and trading portfolio groups and geographical regions. In addition to the Bank's main market risk Value-at-Risk limits, also stress testing and sensitivity limits are also operated.

The Bank's Value-at-Risk for the trading businesses is based on internal model. In October 1998, the German Banking Supervisory Authority (now the BaFin) approved the internal Value-at-Risk model for calculating market risk capital for the Group for both general and specific market risks. Since then the model has been periodically refined and approval has been maintained.

b. Types of market risk

Substantially all of the Bank's businesses are subject to the risk that market prices and rates will move and result in profits or losses. The Bank distinguishes among four types of market risk:

- Interest rate risk including credit spread
- Equity price risk (where applicable)
- Foreign exchange risk
- Commodity price risk (where applicable)

The interest rate and equity price risks consist of two components each. The general risk describes value changes due to general market movements, while the specific risk has issuer-related causes.

c. Risk Management Tools

The following are the most important quantitative tools and metrics currently used to measure, manage and report market risk:

- **Value-at-Risk.** The Bank uses the Value-at-Risk approach to derive quantitative measures for trading book market risks under normal market conditions. The Value-at-Risk figures play a role in both internal and external (regulatory) reporting. For a given portfolio, Value-at-Risk measures the potential future loss (in terms of market value) that, under normal market conditions, will not be exceeded with a defined confidence level in a defined period. The Value-at-Risk for a total portfolio represents a measure of diversified market risk (aggregated using pre-determined correlations) in that portfolio.
- **Stress Testing.** While Value-at-Risk, calculated on a daily basis, supplies forecasts for potential large losses under normal market conditions, it is not adequate to measure the tail risks of the portfolios. The Bank therefore also performs regular stress tests in which it values the trading portfolios under severe market scenarios not covered by the confidence interval of the Value-at-Risk model.

d. Value-at-Risk Analysis

The Value-at-Risk approach derives a quantitative measure for the trading book market risks under normal market conditions, estimating the potential future loss (in terms of market value) that will not be exceeded in a defined period of time and with a defined confidence level. The Value-at-Risk measure enables to apply a constant and uniform measure across all of the trading businesses and products. It also facilitates comparisons of market risk estimates both over time and against the daily trading results.

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The Bank calculates Value-at-Risk using a 99% confidence level and a holding period of one day.

The Bank's Value-at-Risk model is designed to take into account the following risk factors-interest rates, equity prices, foreign exchange rates and commodity prices, as well as their implied volatilities. The model incorporates both linear and, especially for derivatives, nonlinear effects of the risk factors on the portfolio value. The statistical parameters required for the Value-at-Risk calculation are based on a 261 trading day history (corresponding to at least one calendar year of trading days) with equal weighting being given to each observation. The Bank calculates Value-at-Risk using the Monte Carlo simulation technique and assuming that changes in risk factors follow a normal or logarithmic normal distribution.

To determine the aggregated Value-at-Risk, the Bank uses historically observed correlations between different general market risk classes. However, when aggregating general and specific market risks, it is assumed that there is zero correlation between them.

The Value-at-Risk analysis should also be viewed in the context of the limitations of the methodology the Bank uses and are therefore not maximum amounts that can be lost on the market risk positions. The limitations of the Value-at-Risk methodology include the following:

- The use of historical data as a proxy for estimating future events may not capture all potential events, particularly those that are extreme in nature.
- The assumption that changes in risk factors follow a normal or logarithmic normal distribution. This may not be the case in reality and may lead to an underestimation of the probability of extreme market movements.
- The correlation assumptions used may not hold true, particularly during market events that are extreme in nature.
- The use of a holding period of one day assumes that all positions can be liquidated or hedged in that period of time. This assumption does not fully capture the market risk arising during periods of illiquidity, when liquidation or hedging in that period of time may not be possible.
- The use of a 99 % confidence level does not take account of, nor makes any statement about, any losses that might occur beyond this level of confidence.
- The Bank calculates Value-at-Risk at the close of business on each trading day. The Bank does not subject intraday exposures to intraday Value-at-Risk calculations.
- Value-at-Risk does not capture all of the complex effects of the risk factors on the value of positions and portfolios and could, therefore, underestimate potential losses.

The Group acknowledges the limitations in the Value-at-Risk methodology by supplementing the Value-at-Risk limits with other position and sensitivity limit structures, as well as with stress testing, both on individual portfolios and on a consolidated basis.

The calculated Value-at-Risk numbers for India are used for internal control purposes only, the calculation of regulatory capital being based on the Standardised Approach specified by the RBI. At the Group level, however, Value-at-Risk numbers are used for both internal control and Regulatory Capital calculation for market risk.

e. Back-Testing

The Bank uses back-testing in the trading units to verify the predictive power of the Value-at-Risk calculations. In back-testing, the hypothetical daily profits and losses are compared under the buy-and-hold assumption with the estimates from the Value-at-Risk model. The Bank analyzes performance fluctuations and assesses the predictive power of the Value-at-Risk model, which in turn allows improvement of the risk estimation process.

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f. Hedging

The Bank manages its risk from derivatives activity on a portfolio basis. Specific hedges undertaken, if any are ring fenced from the transactions undertaken for trading/market making purposes and held in separate designated portfolio for easy identification and control.

g. Capital requirements for market risk

Particulars	(In Rs'000)	
	31 Dec 2018	31 March 2018
Capital requirement for market risk#		
- Interest rate risk	6,046,394	7,803,882
- Foreign exchange risk (including gold)	3,243,797	3,243,797
- Equity risk	194,453	233,297
Total	9,484,644	11,280,976

Capital requirement is arrived at after multiplying the risk weighted assets by 12.375%

4.5 Operational risk

a. Operational Risk Management Framework (“ORMF”)

Operational Risk means the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events, and includes Legal Risk. Operational Risk excludes Business and Reputational Risk. It forms a subset of the Bank’s Non-Financial Risks, as does Reputational Risk.

The governance of operational risks follows the Three Lines of Defence (“3LoD”) approach, to protect the Bank, its customers and shareholders against risk losses and resulting reputational damages. It seeks to ensure that all operational risks are identified and covered, that accountabilities regarding the management of operational risks are clearly assigned and risks are taken on and managed in the best and long term interest of the Bank. The 3LoD approach and its underlying principles, i.e., the full accountability of the First Line of defence (“1st LoD”) to manage its own risks and the existence of an independent Second Line of Defence (“2nd LoD”) to oversee and challenge risk taking and risk management, applies to all levels of the organization including the Group-level, regions, countries, and legal entities.

Deutsche Bank’s Operational Risk appetite sets out the amount of Operational Risk it is willing to accept as a consequence of doing business. The bank takes on operational risks consciously, both strategically as well as in day-to-day business. While the Bank may have no appetite for certain types of Operational Risk failures (such as serious violations of laws or regulations), in other cases a certain amount of Operational Risk must be accepted if the Bank is to achieve its business objectives. In case a residual risk is assessed to be outside the risk appetite, further risk reducing actions must be undertaken including further remediating risks, insuring risks or ceasing business.

Non-Financial Risk Management (“NFRM”) is the Risk function for the Non-Financial Risk types of the Bank, including Operational Risk and owns the overarching Operational Risk Management Framework (“ORMF”).

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The ORMF is a set of interrelated tools and processes that are used to identify, assess, measure, monitor and remediate operational risks. Its components have been designed to operate together to provide a comprehensive approach to managing the Bank's most material operational risks. ORMF components include the setup of the 1st and 2nd LoD as well as roles and responsibilities for the Operational Risk management process and appropriate independent challenge, the Group's approach to setting Operational Risk appetite and adhering to it, the Operational Risk type and control taxonomies, the minimum standards for Operational Risk management processes including tools, independent governance, and the Bank's Operational Risk capital model

Organisational Risk Management – Governance Standards:

- o Operational Risk Governance Standard I: Non-Financial Risk Management owns the Operational Risk Management Framework and determines the sufficient level of Operational Risk capital.
- o Operational Risk Governance Standard II: Risk Owners as the 1st Line of Defence (LoD) own their operational risks.
- o Operational Risk Governance Standard III: Risk Type Controllers and Cross-Risk Process owners act as the 2nd LoD for operational risks.

Organisational and Governance structure for India:

- o The roles and responsibilities of the NFRM function with respect to Country Coverage are defined as part of the Operational Risk Country Coverage Key Operating Procedure (KOP) Management - Country Coverage Minimum Standards.
- o The Country Head of NFRM is responsible for overseeing the adequate implementation of the local NFRM governance process in India.
- o The Country Head of NFRM is a permanent member of the Operating Committee (OpCo) and Risk Management Council (RMC) Committee of DB AG India the Bank and updates the Committee/Councils about the Operational Risk profile of the country through the Country Flash Card (CFC) that includes, but is not limited to:
 - The aggregated operational OR loss reporting and the outline of material events
 - Relevant Key Risk Indicators
 - Specific insights on divisional relevant risks
 - Operational Risk capital developments
 - Overview of the management of issues and findings

Organisational and Governance structure for DB Group (Global):

While the day-to-day management of Operational Risk is the primary responsibility of the business divisions and infrastructure functions as risk owners, NFRM oversees the Group-wide management of operational risks, identifies and reports risk concentrations and promotes a consistent application of the ORMF across the Bank. NFRM is part of the Group Risk function which is headed by the Chief Risk Officer.

The Chief Risk Officer appoints the Head of Non-Financial Risk Management who is accountable for the design, implementation and maintenance of an effective, efficient and regulatory compliant ORMF, including the Operational Risk capital model.

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The Non-Financial Risk Committee (“NFRC”), which is co-chaired by the Chief Risk Officer and the Chief Regulatory Officer, is responsible for the oversight, governance and coordination of the management of Operational Risk in the Group on behalf of the Management Board by establishing a cross-risk and holistic perspective of the key operational risks of the Group. Its decision-making and policy related authorities include the review, advice and management of all Operational Risk issues which may impact the risk profile of the business divisions and infrastructure functions. Several sub- fora with attendees from both, the 1st and 2nd LoDs support the Non-Financial Risk Committee (NFRC) to effectively fulfil its mandate. In 2017, the bank has established additional councils to enhance the effectiveness of the NFRC with regards to e.g. new technology, framework and culture themes.

b. Managing Operational Risk

The bank manages operational risks by employing the tools and processes provided by ORMF, which enables it to determine the Operational Risk profile in comparison to risk appetite for Operational Risk, to systematically identify Operational Risk themes and concentrations, and to define risk mitigating measures and priorities.

In 2017, the bank enhanced the ORMF and the management of operational risks by simplifying the risk management processes, focusing on the identification of the most material operational risks and their effective mitigation, and by promoting an active and continuous dialogue between the 1st and 2nd LoDs. This allows challenge to be raised throughout the various risk management processes and makes the management of operational risks more transparent, meaningful and embedded in day-to-day business decisions.

In order to cover the broad range of risk types underlying Operational Risk, ORMF contains a number of management techniques that apply to all Operational Risk types. These include:

- **Loss Data Collection:** In a timely manner, the bank collects, categorizes and analyses data on internal (with a P&L impact \geq €10,000) and relevant external Operational Risk events. This data is used for senior management information, in a variety of risk management processes and the calculation of Operational Risk capital requirements. In India, Operational Risk Loss-related data are captured per the following thresholds set for each Business Division/Infrastructure Function on the basis of the scale of business:
 - Private & Commercial Clients Business and Operations: All losses (i.e. zero threshold)
 - Wealth Management Business & Operations: €1,000
 - CIB Business & Operations: €10,000
 - Global Markets Business: €10,000
 - Global Markets Operations: €2,500
- Lessons Learned reviews analyse the causes of significant Operational Risk events, identify their root causes, and document appropriate remediation actions to reduce the likelihood of reoccurrence. They are required for all Operational Risk events that meet defined quantitative or qualitative criteria. The area in which the Operational Risk failure occurred that caused the event is formally responsible to complete the review, though engagement with other relevant 2nd LoD functions throughout the process is encouraged. NFRM provides independent review and challenge over the appropriateness of the review’s conclusions. In 2017, the bank harmonized several existing processes, moved to a workshop based approach and, thus, enhanced the consistency and quality of reviews.
- The bank regularly reports and performs analyses on its Top Risks. Top Risks are rated in terms of both the likelihood and the impact on the Bank should they occur. The reporting provides a forward-looking perspective on the impact of planned remediation and control enhancements. It also contains emerging risks and themes that have the potential to evolve as a Top Risk in future. Top Risk Reduction Programs comprise the most significant risk reduction activities that are key to bringing the operational top risk themes back within risk appetite.

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- Key Risk Indicators are used to monitor the Operational Risk profile, including against the Bank's defined risk appetite, and to alert the organisation to impending problems in a timely fashion. Key Risk Indicators enable the monitoring of the Bank's major risks, its control culture and overall business environment and trigger risk mitigating actions. They facilitate the forward-looking management of operational risks, based on early warning signals.

Additional Group-Level Risk Management Tools:

- The bank complements its Operational Risk profile by using a set of scenarios including relevant external cases provided by a public database and additional internal scenarios. The bank thereby systematically utilises information on external loss events occurring in the banking industry to prevent similar incidents from happening to us, for example through particular deep dive analyses or risk profile reviews.
- Read Across reviews take the conclusions of the Lessons Learned process and seek to analyse whether similar risks and control weaknesses identified in a Lessons Learned review exist in other areas of the Bank, even if they have not yet resulted in problems. This allows preventative actions to be undertaken. Read Across reviews may also be undertaken based on events that have occurred at other relevant financial firms where sufficient information exists to allow meaningful analysis.
- The Risk & Control Assessment process (RCA) comprises of a series of bottom-up assessments of the risks generated by businesses and infrastructure functions, the effectiveness of the controls in place to manage them, and the remediation actions required to bring the outsized risks back into risk appetite. This enables both the 1st and 2nd LoDs to have a clear view of the Bank's material operational risks. Through 2017, the bank simplified the RCA process and made it easier to repeat by producing a smaller number of higher quality assessments that are easier to use for decision-making purposes. The bank developed control assessment and consequence management frameworks and held interactive workshops instead of running a sequential process. This increased the continuous engagement between risk owners, NFRM and RTCs and allowed for challenge to be raised throughout the process.

c. Operational Risk Type Frameworks

The ORMF, which provides the overarching set of standards, tools and processes that apply to the management of all risk types underlying Operational Risk, is complemented by the Operational Risk type frameworks, risk management and control standards and tools set up by the respective Risk Type Controllers for the Operational Risk types they control. These include the following with respect to the following risk types:

- Compliance Risk is the risk of incurring criminal or administrative sanctions, financial loss or damage to reputation as a result of failing to comply with laws, regulations, rules, expectations of regulators, the standards of self-regulatory organizations, and codes of conduct/ethics in connection with the Bank's regulated activities (collectively the "Rules"). Failure to appropriately manage Compliance Risk can give rise to fines, penalties, judgments, damages, sanctions, settlements and/or increased costs, limitations on businesses related to regulatory or legal actions due to non-compliance with established policies and procedures and Rules governing the activities of a business or entity, and potential reputational damage. The Compliance department, as the second line of defence control function for the Compliance-owned risk types, identifies relevant effective procedures and corresponding controls to support the Bank's business divisions and Infrastructure functions in managing their Compliance risk. The Compliance department further provides advisory services on the above; performs monitoring activities in relation to the coverage of new or amended material rules and regulations; and assesses the control environment. The results of these assessments are regularly reported to the Management Board and Supervisory Board.

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– Financial Crime risks are managed by the Anti-Financial Crime (“AFC”) function via maintenance and development of a dedicated program. The AFC program is based on regulatory and supervisory requirements. AFC has defined roles and responsibilities and established dedicated functions for the identification and management of financial crime risks resulting from money laundering, terrorism financing, non-compliance with sanctions and embargoes as well as other criminal activities including fraud, bribery and corruption and other crimes. AFC assures further update of its strategy on financial crime prevention via regular development of internal policies and procedures, institution-specific risk assessment and staff training.

– Group Legal is primarily responsible for managing the Bank’s legal risk, and carries out its mandate as infrastructure control function through, among other things, the following legal services: (i) provision of legal advice, (ii) drafting of legal content of documentation that defines rights and obligations of the Bank such as contracts, (iii) the management of all contentious matters and (iv) retaining external counsel. These activities are the key pillars of the legal control framework to mitigate the Bank’s legal risk. Legal has established a Legal Risk Management function responsible for implementing and maintaining the ORMF in respect of legal risk types which includes overseeing Legal’s participation in the Bank’s Risk and Control Assessment process and Lessons Learned reviews as well as managing the interface into the Non-Financial Risk Management function. LRM also conducts quality assurance reviews on Legal’s processes, thereby testing the robustness of the legal control framework, identifying related control enhancements and fostering legal risk management awareness via regular communication and training.

– Non-Financial Risk Management Risk Chief Operating Office Coverage and Resilience (“NFRM COO C&R”) is the Risk Type Controller for a number of operational risks. Its mandate includes controls over transaction processing activities, as well as infrastructure risks to prevent technology or process disruption, maintain the confidentiality, integrity and availability of data, records and information security, and ensure businesses have robust plans in place to recover critical business processes and functions in the event of disruption from technical or building outage, or the effects of cyber-attack or natural disaster. NFRM COO C&R also manages the risks arising from the Bank’s internal and external vendor engagements via the provision of a comprehensive vendor risk management framework.

d. Measuring Operational Risks

Measuring Operational Risk at the India Franchise:

For risk management purposes on a global level, the DB Group uses the Advanced Measurement Approach (“AMA”) methodology across all divisions and legal entities to calculate the regulatory capital requirements for Operational Risk. Locally, the Bank uses the Basic Indicator Approach (“BIA”) to assess its local regulatory capital requirements for Operational Risk. The operational risk capital charge using BIA is equal to the average of a fixed percentage (15%) of positive annual gross income over the previous three years. Gross income figures are categorised into twelve quarters (equivalent to three years) and if the annual gross income for any given year is negative or zero, the figure shall not be included for the purposes of calculating the operational risk charge.

Measuring Operational Risk at DB Group

The bank calculates and measures the regulatory and economic capital requirements for Operational Risk using the Advanced Measurement Approach (“AMA”) methodology. The AMA capital calculation is based upon the Loss Distribution Approach. Gross losses from historical internal and external loss data (Operational Risk data eXchange Association consortium data) and external scenarios from a public database (IBM OpData) complemented by internal scenario data are used to estimate the risk profile (i.e., a loss frequency and a loss severity distribution). The Loss Distribution Approach model includes conservatism by recognizing losses on events that arise over multiple years as single events in the historical loss profile.

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Within the Loss Distribution Approach model, the frequency and severity distributions are combined in a Monte Carlo simulation to generate potential losses over a one year time horizon. Finally, the risk mitigating benefits of insurance are applied to each loss generated in the Monte Carlo simulation. Correlation and diversification benefits are applied to the net losses in a manner compatible with regulatory requirements to arrive at a net loss distribution at Group level, covering expected and unexpected losses. Capital is then allocated to each of the business divisions after considering qualitative adjustments and expected loss.

The regulatory capital requirement for Operational Risk is derived from the 99.9 % percentile. Since Q4 2017, the economic capital is also set at 99.9 % percentile, see the section “Internal Capital Adequacy”. Both regulatory and economic capital requirements are calculated for a time horizon of one year.

The Regulatory and Economic Capital demand calculations are performed on a quarterly basis. NFRM aims to ensure that for the approach for capital demand quantification appropriate development, validation and change governance processes are in place, whereby the validation is performed by an independent validation function and in line with the Group’s model risk management process.

4.6 Liquidity Risk

The Group’s MB defines the Group’s liquidity and funding risk strategy for the group, and sets the risk appetite. The governance process is split into three areas covering risk appetite and limits, model risk and general risk oversight. The key committees and decision making bodies responsible for overseeing liquidity and funding management are the Group MB, the Treasury Executive Committee (“TExCo”), and the Group Risk Committee (“GRC”). TExCo’s mandate is to act as an oversight and escalation point for Treasury matters. It has approval authority for certain key principles, policies, plans and methodologies for strategic matters relating to Treasury globally, across all Treasury functions. At least once every year the Group’s MB will review and approve the limits which are applied to the Group to measure and control liquidity risk as well as the Group’s long-term funding and issuance plan.

Treasury is mandated to manage the overall liquidity and funding position of the Group, with Liquidity Risk management (“LRM”) acting as an independent control function, responsible for the oversight of liquidity and funding risk management strategy and the validation of Liquidity Risk models which are developed by Treasury, to measure and manage the liquidity risk profile. Liquidity and Treasury Reporting and Analysis (LTRA) Team is responsible for the internal reporting on liquidity and funding across the firm on a global and local level.

The Bank’s liquidity risk management approach starts at the intraday level forecasting cash flows and factoring in its access to Central Banks. It then covers tactical liquidity risk management dealing with access to secured and unsecured funding sources. Finally, the strategic perspective comprises the maturity profile of all assets and liabilities (Funding Matrix) and the Group’s issuance strategy.

The Bank’s cash-flow based reporting system provides daily liquidity risk information to global and local management. Stress testing and scenario analysis plays a central role in the Bank’s liquidity risk management framework. This also incorporates an assessment of asset liquidity, i.e., the characteristics of the Bank’s asset inventory, under various stress scenarios as well as contingent funding requirements from off-balance-sheet commitments. Daily stress test results are used to monitor the Group’s ongoing compliance with the Board’s overall liquidity risk appetite. Furthermore, the Group’s short-term wholesale funding profile limits (both unsecured and secured) which are a key tool of the framework are calibrated against the stress test results on a monthly basis.

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5. Interest rate risk in the banking book

The vast majority of the interest rate risk and foreign exchange risk arising from the non-trading assets and liability positions in the Banking book are transferred through internal hedges to the trading desks in Global Markets (w.e.f. May 2016 the position has been transferred is to Treasury) and is managed on the basis of Value-at-Risk as reflected in the trading Value-at-Risk numbers. The treatment of interest rate risk in the Group's trading portfolios and the application of the Value-at-Risk model is discussed above. The bank considers this risk to be a part of the overall market risk framework.

6. Counterparty Credit Risk

Credit Limits and Collaterals

Counterparty credit risk (CCR) is the risk that a Bank's counterparty defaults in a FX, interest rate, commodity or credit derivative contract prior to or at the maturity date of the contract and that the Bank at the time has a claim on the counterparty.

The credit risk arising from all financial derivatives is managed as part of the overall credit limits to both financial institutions and other clients and customers. Exposure values for regulatory capital purposes on over the counter traded products are calculated according to the Current Exposure Method as defined by RBI. This is calculated as the sum of the current replacement cost and the PFE. The current replacement cost is the amount owed by the counterparty to the Bank for various financial derivative transactions. The PFE is an add-on based on a percentage of the notional principal of each transaction. These percentages are prescribed by the RBI in the guidelines and vary according to the underlying asset class and tenor of each trade.

The Bank seeks to negotiate Credit Support Annexes (CSA) to International Swaps and Derivatives Association master agreements with counterparties on a case-by-case basis, where collateral is deemed a necessary or desirable mitigant to the exposure. The credit terms of the CSA are specific to each legal document and determined by the credit risk approval unit responsible for the counterparty. The nature of the collateral will be specified in the legal document and will typically be cash or highly liquid securities. A daily operational process takes place to calculate the MTM on all trades captured under the CSA. Additional collateral will be called from the counterparty if total uncollateralised MTM exposure exceeds the threshold and minimum transfer amount specified in the CSA. Additional collateral may be required from the counterparty to provide an extra buffer to the daily variation margin process.

The Bank further reduces its credit exposures to counterparties by entering into contractual netting agreements which result in a single amount owed by or to the counterparty through netting the sum of the positive (amounts owed by the counterparty) and negative (amounts owed by the Bank) MTM values of these transactions.

In India, the Bank follows the Standardised Approach (SA) for credit risk and hence no credit reserve is set aside. However, provisioning for the exposures on derivative contracts is made as per extant RBI guidelines.

Wrong Way Risk

Wrong way risk occurs when an exposure increase is coupled with a decrease in the credit quality of the obligor. The Group/Bank employs various policies and procedures to ensure that risk exposures are monitored. For example, as the MTM on a derivative contract increases in favour of the Bank, the counterparty may increasingly be unable to meet its payment, margin call or collateral posting requirements.

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Impact of Credit Rating Downgrade

Credit ratings are formally reviewed at least annually and additionally reviewed whenever there is any major credit event / releases of regular earning statements of companies. CRM monitors credit ratings of all counterparties on an on-going basis and initiates rating actions throughout the year based on changes in business conditions / specific credit events /changes in sector outlooks / views of external rating agencies.

In case of a rating downgrade, CRM reviews the credit strategy and gets it approved by the respective authority holder. CRM follows the Global Credit Approval Authority Scheme which defines the authority delegation level per type of counterparty (corporate / bank / financial institution etc), size of facility, credit rating of counterparty and type of approval- limit approval / temporary excess approval.

Also in line with market convention, the Bank negotiates CSA terms for certain counterparties where the thresholds related to each party are dependent on their External Credit Assessment Institution (ECAI) long term rating. Such clauses are typically mutual in nature. It is therefore recognised that a downgrade in the Group's rating could result in counterparties seeking additional collateral calls to cover negative MTM portfolios where thresholds are lowered.

Quantitative Disclosures

Particulars*	(in Rs '000)	
	31 Dec 2018	31 March 2018
Gross positive fair value of contracts	100,110,980	49,018,621
Netting benefits	-	-
Netted current credit exposure	100,110,980	49,018,621
Collateral held (including type, e.g. cash, government securities, etc.)	-	-
Net derivatives credit exposure	100,110,980	49,018,621
Potential future exposure	194,166,809	172,623,877
Measures for exposure at default or exposure amount under CEM	294,277,789	221,642,498
The notional value of credit derivative hedges	-	-
Distribution of current credit exposure by types of credit exposure:	-	-
- Interest Rates	78,491,803	43,460,607
- Fx	215,785,986	178,181,891

* Based on current exposure method

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7. Regulatory Capital Instruments

The Bank has not issued any Regulatory Capital Instruments during the period. Regulatory capital increases for the Bank generally take place via capital infusion from the Head Office, increase in statutory/ regulatory reserves and/or retention of Remittable Surplus for CRAR requirements.

8. Disclosure Requirements for Remuneration

In accordance with the requirements of the RBI Circular No. DBOD.NO.BC. 72/29.67/001/2011-12 dated 13 January 2012, the Asia- Pacific Head Office of the Bank has submitted a declaration to RBI that the Bank's compensation policies including that of CEO's, is in conformity with the Financial Stability Board principles and standards.

9. Comparative figures

Certain comparative figures have been reclassified to conform to the current period's preparation.