Random Rating Global
Investors Service

CREDIT OPINION
23 March 2024

Ratings

Deutsche Bank AG

Domicile	Frankfurt Am Main, Germany
BCA	baa2
Deposits	Aa3
Senior unsecured	A2
CRR	A1
Outlook	Stable

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Deutsche Bank AG

Annual Update

Summary

The Baseline Credit Assesment assigned to Deutsche Bank AG is baa2. We assign Aa3 deposit ratings and A2 long-term senior unsecured debt ratings to Deutsche Bank AG (DB). The long-term ratings carry a stable outlook. We assign Baa1 junior senior unsecured (non-preferred) debt ratings to the bank. Preferred stock and subordinated debt are asigned a score of ba1.

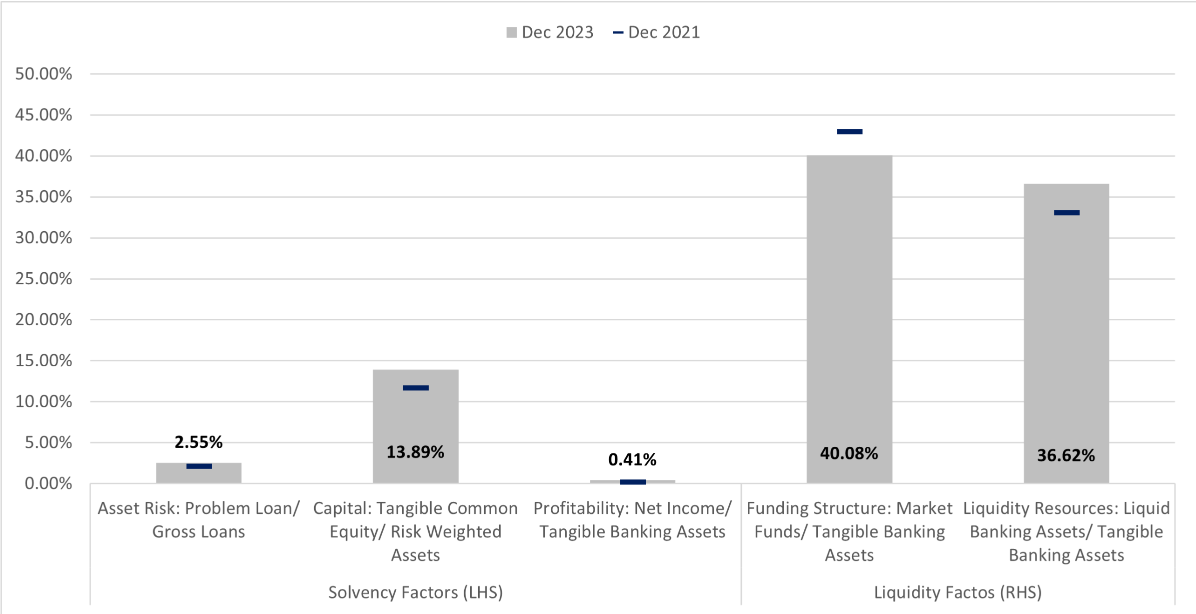
The previous ratings reflect DB's BCA and Adjusted BCA of baa2 and the results of the Loss Given Failure (LGF) analysis under the Advanced approach, which is followed in the case of operational resolution regimes.

In case of DB the LGF analysis resulted in three notches up for deposits and two notches up for senior unsecured debt, as well as a two notch additional uplift to the deposits and a one notch additional uplift to senior unsecured debt due to the expectation of high chance of government support in case of failure.

The baa2 BCA takes account of DB successfully achieving its transformation plan between 2019 and 2022, allowing the bank to sustain improved, yet still relatively modest, profitability. Following that trend, the bank continued improving profitability and efficiency ratios during the year 2023. The bank has also been deleveraging through a reduction of its capital markets activity and by focusing on its core businesses. The problem loan growth has been controlled and the bank has been able to mantain good asset quality with a diversified portfolio. Furthermore, the bank has improved its leverage ratio, moving closer to its peers and mantains strong liquidity and capital ratios.

We expect the bank to further improve its leverage ratio and profitability while mantaining asset quality, achieving its short term goals.

Figure 1: **Evolution of key metrics**



Credit strengths

≫ Strong diversification of revenues across its core businesses.

≫ Strong liquidity position and diversified loan portfolio. Liquidity ratios well above regulatory requirements. Stable deposit base and decreasing reliance on volatile wholesale funding

≫ Solid position in the German market which is on of the most resilient economies in the euro area.

Credit Challenges

≫ Keep increasing profitability ratios while staying inside the new risk appetite framework.

≫ Continue decreasing Cost to Income ratios to improve efficiency and reach industry levels

≫ Reduce the operating leverage and increase the leverage ratio while mantaining sound business practices and profitability

Outlook

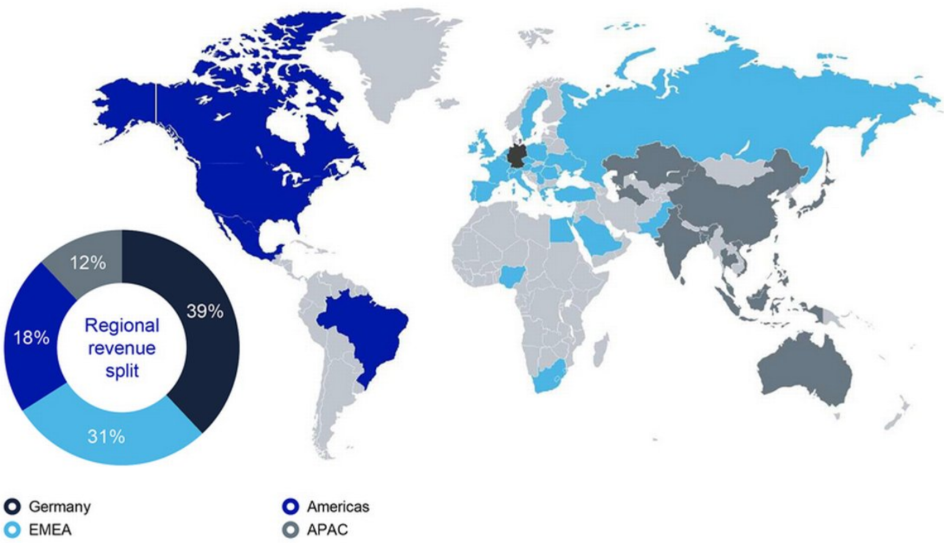
≫ The stable outlook given to the bank reflects our expectations that DB will be able to mantain its profitability in the future. The strong liquidity position of DB, as well as the increasing capital position will allow the bank to offset potential declines on earnings during downturn economic cycles of the capital markets

≫ The stable outlook also reflects the success of the deleveraging and de-risking process carried out by DB during the last 4 years, and our expectations that the bank will mantain sound risk management and asset quality.

Profile

Deutsche Bank AG (DB) is a multinational investment and financial services group headquartered in Frankfurt, Germany, and dual-listed on the Frankfurt Stock Exchange and the New York Stock Exchange. The group operates in 58 different countries, being Germany, the UK and the United States the 3 main countries where the bank operates.

Figure 2: **DB revenue split by regions**



Source: Deutsche Bank Investors' Relations website

Regarding the supervision of the group, the European Central Bank (ECB) in connection with the competent authorities of EU countries which joined the Single Supervisory Mechanism via the Joint Supervisory Team act in cooperation as Deutsche Bank's primary supervisors to monitor the bank's compliance with the German Banking Act and other applicable laws and regulations. Deutsche Bank is considered both a Domestic Systemically Important Bank ("D-SIB) and a Global Systemically Important Bank ("G-SIB"), having buffers of 2% and 1.5% respectively.

In Q4 2023 the group had 1.3 trillion assets, making it the largest financial institutions in Germany by a wide margin and one of the biggest institutions in Europe. The business model of Deutsche Bank can be broadly classified as a a Global Investment Bank, providing multiple financial services. As of December 31, 2023, the bank was organized into the following segments: Corporate Bank, Investment Bank, Private Bank, Asset Management and Corporate & Other.

From 2019 to 2022, Deutsche Bank has undergone a restructuring process to liberate capital that was being consumed by low return assets and businesses that are no longer core to the bank's strategy. The Capital Release Unit was created in July 2018 to carry out this de-risking and cost reduction mandate, and during this period it has been reported as a separate business line. Having fulfilled its purposes, the Capital Release Unit has been incorporated inside the Corporate & Other.

Detailed credit considerations

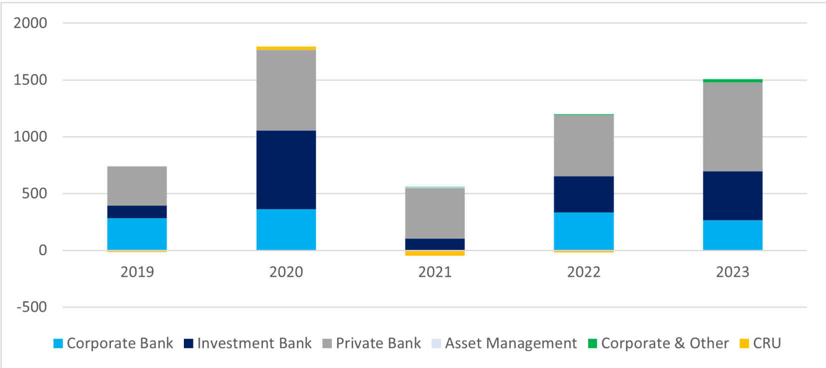
Asset risk

We assign an Asset Risk a3 score to DB, including a one notch downward adjustment. This reflects our view that the level of problem loans will increase DB in a slowing economy. No further adjustments are made due to our expectation that DB will be able to control the levels of problem loans.

The ratio of problem loans over total gross loans increased 42 basis points from the previous year, reaching a level of 2.55%. The NPL ratio defined by the EBA standed at 1.56% in june 2023 (last data available from the EBA), in line with its European peers.

Both of these ratios have increased slightly over the last few years mainly due to high interest rate environments. The war in Ukraine also affected the European financial sector, especially German banks as the country was heavily dependant on natural gas that came from Russia. As the economy further slows down we believe that this trend will continue, and future imparments are expected to rise, driving the provisions for cedit losses up (Figure 3)

Figure 3: **Provisions for credit losses by business line**



Source: Banks reports

Deutsche Bank's loan book porfolio is well diversified across business segments and products. Almost half of the credit exposure originates in Germany (Figures 4a and 4b) with a clear focus on German mortgages. As of december 31, 2023, 65% of the Group's exposure related to the mortgage lending portfolio had a Loan to Value (LTV) ratio below or equal to 50%, compared to 63% as of December 31, 2022.

The delinquency rates on this mortgages are expected to be very low in the future due to the resilience of the German economy, especially the labour market which has one of the lowest unemployment rates in Europe (3.1% as of February, 2024).

More than half of the loans (55%) are directed to Private Banking, i.e retail and wealth customers, while Corporate Banking and Investment Banking represent the remaining 24% and 21% of the loan portfolio respectively.

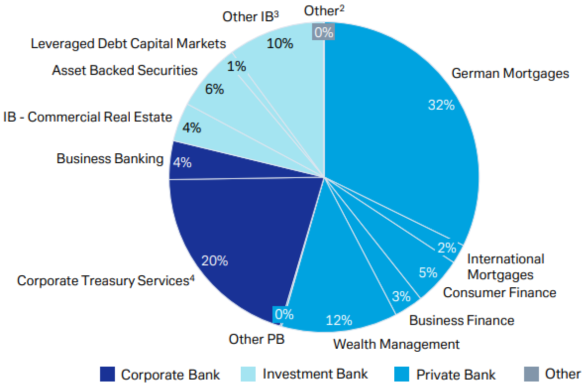
Analizing the loan portfolio by industry we can see that Deutsche Bank is exposed to some sensitive industries in the current macroeconomic landscape.

For instance, DB concentration in real estate totaled just over 50bn which accounts for 10% of the gross loans. The real estate industry can be very volatile as it is quite sensitive to interest rate changes. This risk is partially offset by the geographical diversification, as well as the level of collateralization. As previously mentioned, 65% of the mortgages inside the Private Bank have an LTV lower or equal to 50%. For the Investment Bank and the Corporate Bank we have average LTVs of 66% and 53%.

The prudency in the lending as well as the expectation of a decrease in the interest rates in the middle term, limits the refinancing risk of the counterparties and thus decreases the risk for the Group.

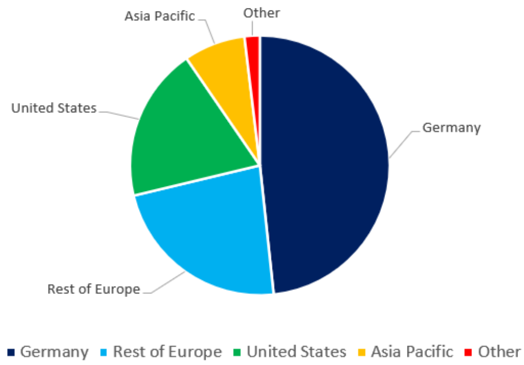
Figure 4: **Loan portfolio**

(a) **Loan book composition by segment and product type as Q3 2023**



Source: Q4 2023 Fixed Income Call. Deutsche Bank's website

(b) **Credit risk exposure by region as of Q3 2023**

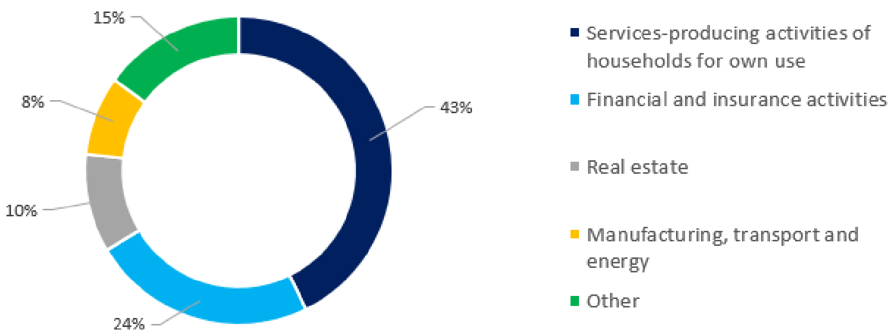


Source: Company reports and presentations

Another significant exposure in the loan portfolio of DB is the manufacturing, transport and energy sector. The war between Russia and Ukraine caused a spike in the price of energy, especially natural gas, which is a key necessity in the above mentioned industries. Many companies received financial support from the government during the crisis, helping them stay afloat and thus maintaining the level of non performing loans. A prime example of this policy was Uniper, the energy giant, who received a rescue package of 60bn.

During 2022 and 2023 the European governments have been approving policies to reduce the dependency on the Russian gas and ensure the energy supply. These policies combined with the lowering natural gas market prices at the end of 2023 and beginning of 2024 will limit the credit deterioration of corporates and households.

Figure 5: **Solid segmentation of exposure to different industries**



Source: Company reports and presentations

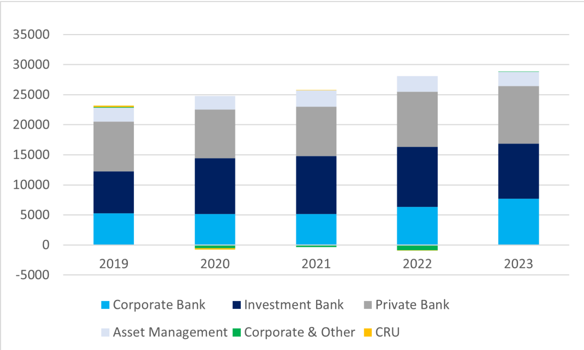
Increasing profitability sets DB on track for its 2025 goals

Deutsche Bank succesfully completed its transformation in 2022 by deleveraging and focusing on its core business models. We assign a ba1 Profitability score to DB, wich includes a one notch upward adjustment from the baseline rating that captures our expectations that the momentum gained during this past years will continue in the medium term.

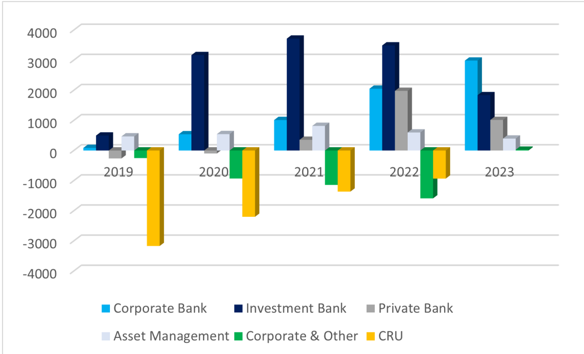
Net revenues have been steadily increasing since 2019, totaling 28.8bn in 2023. The main driver of this increase has been the investment banking activities, as well as a fast increase in the revenues of the Corporate Bank. The profits before taxes have also increased significantly, totalling 6.25bn in 2023 and after having faced losses of up to 1bn during 2019.

Despite this upward trend, DB's profitability is still modest.

Figure 6: **Profitability metrics have been improving**



(a) Revenues per business lines



(b) Profits per business lines

Source: Company reports and presentations

Deutsche bank has gained some operating leverage since 2019. The restructuring process, which was started at the end of 2018, had two principal goals.

Firstly it aimed to free up capital by retained by many low performing assets that the bank had been accumulating in its balance sheet. The second main objective of the plan was to reduce expenses and bring the efficiency ratios closer to its peers. It can be seen in Figure 7a that the bank has gained some operating leverage back. However its efficiency ratio is still worse than most of its peers.

This increase in the operational leverage is mainly due to the reduction of costs carried out by the Capital Release Unit. However it is hard to believe that this trend will continue down as the Capital release unit has effectively completed its mission. On top of that, high inflation has driven up the costs again during 2023 and interest rates will likely remain high in the short term.

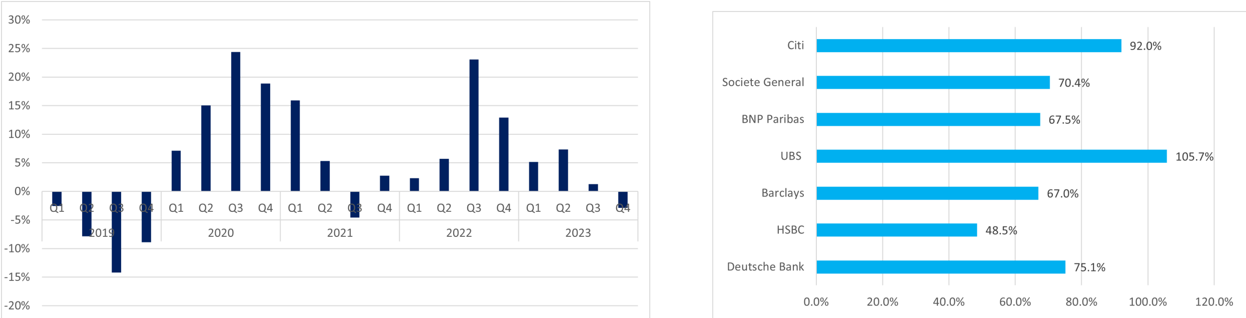
The updated cost-to-income ratio goal announced by DB has been set to fall below 62.5% before 2025. To achieve this objective DB has invested heavily in IT during the last 4 years. IT administrative expenses amounted to 20.6bn during the period from 2019 to 2023, representing 39% of the total administrative expenses.

This focus on technology will likely boost DB's performance and further reduce costs but the realisation of its 2025 efficiency goals will be mainly determined by the revenue side and the capacity of the bank to keep generating profits in a slowing economy.

Strong capital position and loss absorbing capacity

We assign an a3 Capital score to DB due to its strong capital position among the Global Investment Banks.

Figure 7: **Some efficiency ratios**



(a) Deutsche Bank's YoY Revenue/Cost growth

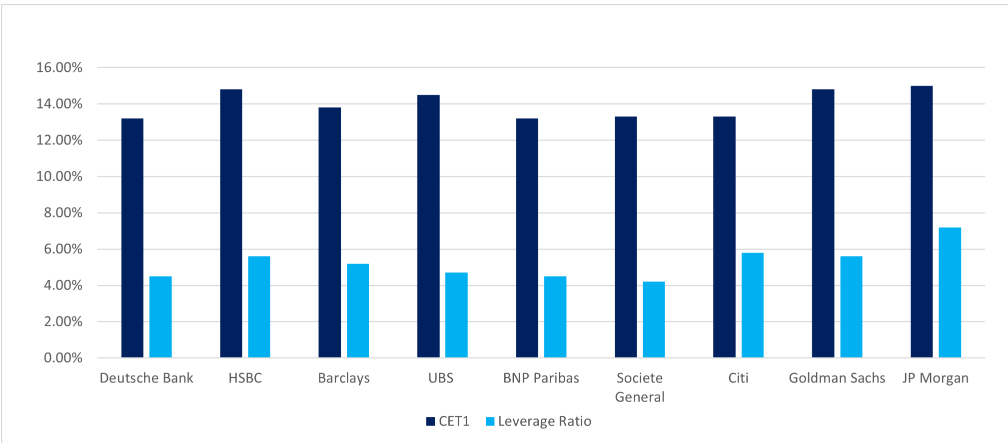
(b) Cost to income ratio of GIB

Source: Company reports and presentations

Deutsche Bank's Common Equity Tier 1 capital ratio (CET1) improved from 13.4% in December 2022 to 13.7% in December of 2023. This represents a surplus of of 250 basis points.

The leverage ratio of the bank at the end of 2023 was 4.5%, 10 basis points lower than the figure obtained at the end of 2022. This stands above the minimum regulatory requirement of 3.85%. While the deleveraging and de-risking progress made by the Capital Release Unit has been notable, DB still lacks behind its peers.

Figure 8: CET1 and Leverage ratios for Global Investment Banks



Source: Company reports and presentations

The Minimum Requirement for Own Funds and Eligible Liabilities (MREL) was 124bn at the end of Q4 2023, which is 17bn above the regulatory requirement.

The Total Loss Absorbing Capacity (TLAC) was also significantly higher than the requirements, in this case 30bn of surplus.

The available MREL/TLAC was mainly comprised of CET1 (39%) and senior non-preferred debt (38%). AT1 and T2 instruments represented 7% and 9% of the total amount respectively. The other 7% was senior preferred debt.

This solid position gives Deutsche Bank flexibility in its issuance of new capital instruments.

Improved funding structure

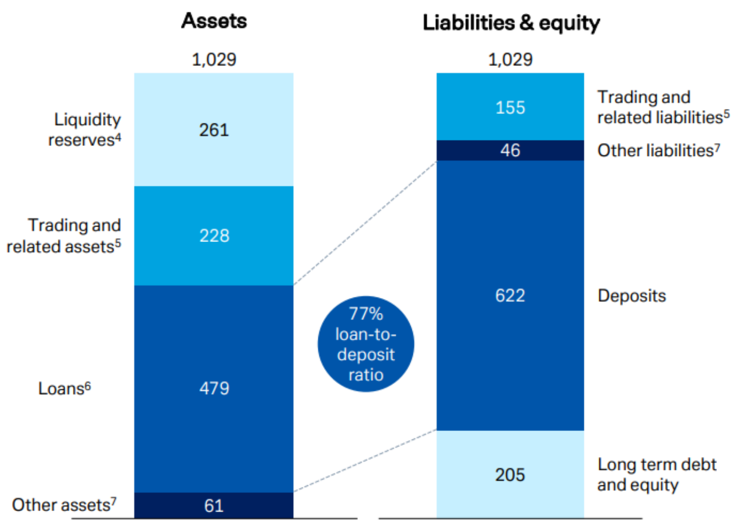
We assign a b2 Funding Structure score to DB, which includes a 1 notch downward adjustment to its baseline rating, due to its improved funding structure but its still moderate reliance on volatile wholesale funding.

With the high interest rate environment and the crisis of the US regional banks as well as the failure of Credit Suisse, Deutsche Bank reported a decline in deposits during the first two quarters of the year. However, with the stabilization of the situation deposits gained some momentum back, returning to December 2022 levels of 622bn.

As it can be seen in Figure 9, the deposits of DB accounted for 60% of the total liabilities (including equity). 77% of global retail deposits are insured via statutory protection schemes. The majority of these deposits (71%) come from the German market. Retail, SME, corporate and sovereign deposits together account for 84% of the total deposits.

The total non-operational overnight funding is limited to 14%, making Deutsche Bank's deposit structure very stable. The loan to deposit ratio was 77% at the end of the 4th quarter of 2023 further confirming the low dependency on wholesale funding which is more volatile and thus riskier.

Figure 9: **Snapshot of the balance sheet**



Source: Q4 2023 Fixed Income Call. Deutsche Bank's website

Liquidity remains a core strength

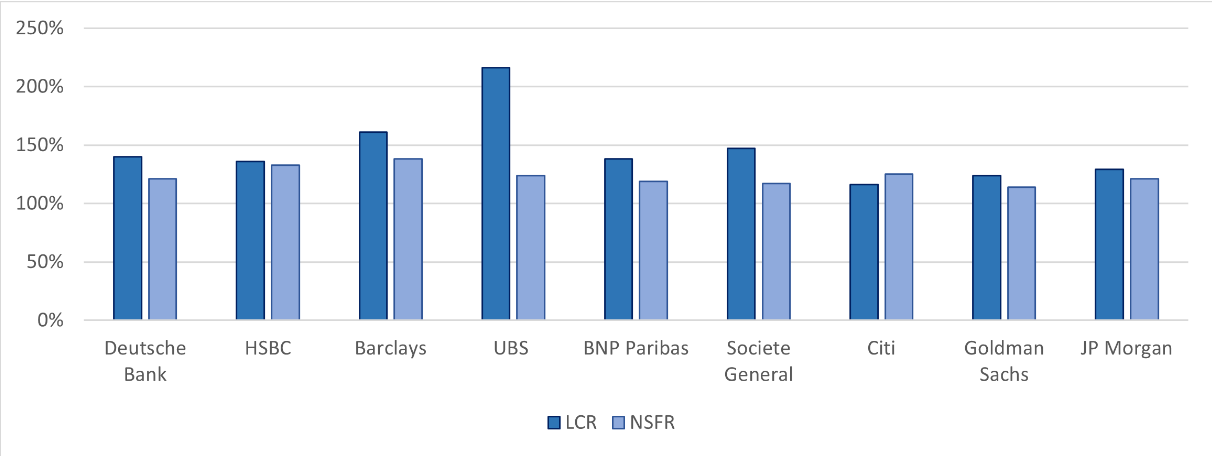
We assign DB a Liquidity Sources score of a2, in line with its base rating.

We assign DB a combined liquidity score of ba1, taking into account both the Funding Structure score of and the Funding Sources score. These scores reflect our view that the bank will mantain its high stock of liquid assets to face potential liquidity shocks in the future.

The bank's 219bn liquidity reserves are largely comprised of cash (71% of High Quality Liquid Assets (HQLA) used to compute LCR) and other high liquid level 1 assets (26% of HQLA). These liquidity levels well above regulatory ratios, with a Liquidity Coverage Ratio (LCR) of 140% which represents a surplus of 62bn above the requirement.

Deutsche Bank liquidity levels are aligned with those of other Global Investment Banks (Figure 10).

Figure 10: **DB liquidity levels remain among industry peers**



Source: Company reports and presentations

The ratio of liquid banking assets over tangible banking assets shows a growing trend over the past three years, reaching a level of 36.6% in December 2023 and confirming the sound liquidity management of DB. The same pattern can be seen in high quality liquid assets, which totaled 219bn in December 2023.

Encumbered assets comprise those on and off-balance sheet assets that are pledged as collateral against secured funding , collateral swaps and other collateralized obligations. DB's asset encumbrance remained moderate in 2023 with a 14.4% of encumbered assets over total assets in line with FY 2022. We don't think that this level of encumbrance is problematic as the bank still has a high stock of non encumbered assets in the case that central bank funding is needed.

Support and Structural Considerations

Loss Given Failure analysis

Deutsche Bank AG is subject to an operational resolution regime so the Advanced LGF approach is applied. The results of the LGF analysis are the following:

- For deposits the analysis concludes that there is very low loss given failure so it uplifts the rating 3 notches up from the BCA.
- The LGF analysis indicates a low loss given failure for the senior unsecured debt, giving it a 2 notch uplift from the BCA.
- For subordinated debt and junior securities issued by DB, our LGF analysis indicates a high loss given failure, given the small volume of debt and limited subordination. Therefore these instruments receive a one notch deduction from the baa2 adjusted BCA.

Government Support

The Single Resolution Board (SRB) and the BaFin have stablished a resolution plan for Deutsche Bank based on a single point of entry bail-in. However, due to the importance of the entity inside the German financial system, it is highly probable that the German Government would bail-out Deutsche Bank if needed. This assumption is based on the following factors:

- Systemic Importance: The group is classified as a D-SIB and as a G-SIB so its failure would be a very big threat to financial stability. Moreover, Deutsche Bank is the largest financial institution in Germany, having more assets than the second and third banks in the ranking combined.
- Previous Bailouts: With the recent war in Ukraine we have seen the German Government bailing out Uniper, to ensure the stability of energy supply in the country.

We then consider that the probability of government support for deposits is high, and thus we assign these instruments an additional one notch uplift.

Scorecard Factors

Deutsche Bank AG					
Macro Factors					
Weighted Macro Profile	**Strong +**				
Factor	**Historic Ratio**	**Initial Score**	**Expected Trend**	**Assigned Score**	**Key driver**
Solvency					
Asset Risk					
Problem Loans / Gross Loans	2.28%	a2	↔	a3	Economic Slowdown
Capital					
Tangible Common Equity / Risk Weighted Assets	12.76%	a3	↑	a3	
Profitability					
Net Income / Tangible Assets	0.36%	ba2	↑	ba1	Expected trend
Combined Solvency Score		baa1		baa1	
Liquidity					
Liquid Banking Assets / Tangible Banking Assets	34.60%	a2	↔	a2	
Funding Structure					
Market Funds / Tangible Banking Assets	41.76%	b1	↓	b2	Moderate reliance
Combined Liquidity Score		ba1		ba1	
Financial Profile				baa2	
Qualitative Adjustments				Adjustment	
Business Diversification				1	
Opacity and Complexity				-1	
Corporate Behaviour				0	
Total Qualitative Adjustments				0	
Sovereign constraint				Aaa	
BCA Scorecard Output Range				baa1 - baa3	
Assigned BCA				baa2	
Affiliate support notching				0	
Adjusted BCA				baa2	

Table 1: Scorecard factors

Balance Sheet	**in-scope (EUR Million)**	**% in-scope**	**at-failure (EUR Million)**	**% at-failure**
Other liabilities	428,510	36.1%	491,958	41.4%
Deposits	622,035	52.3%	558,587	47.0%
Preferred deposits	460,306	39%	437,291[1]	36.8%
Junior deposits	161,729	13.6%	121,297	10.2%
Senior unsecured bank debt	26,139	2.2%	26,139	2.2%
Junior senior unsecured bank debt	55,545	4.7%	55,545	4.7%
Dated subordinated bank debt	11,312	1.0%	11,312	1.0%
Preference shares	9182	0.8%	9182	0.8%
Equity	35,651	3.0%	35,651	3.0%
Total Tangible Banking Assets	1,188,375	100%	1,188,375	100%

Table 2: Balance sheet overview

Loss Given Failure analysis

Debt class	**De jure waterfall**		**De facto waterfall**		**Notching**	
	Instrument volume + subordination	**Sub-ordination**	**Instrument volume + subordination**	**Sub-ordination**	**De jure**	**De Facto**
Counterparty Risk Rating	21.8%	21.8%	21.8%	21.8%	3	3
Counterparty Risk Assesment	21.8%	21.8%	21.8%	21.8%	3	3
Deposits	21.8%	11.6%	21.8%	13.9%	3	3
Senior unsecured bank debt	21.8%	11.6%	13.9%	11.6%	3	2
Junior senior unsecured bank debt	9.4%	4.7%	9.4%	4.7%	0	0
Dated subordinated bank debt	4.7%	3.8%	4.7%	3.8%	-1	-1
Preference shares	3.8%	3%	3.8%	3%	-1	-1

Table 3: LGF analysis

Instrument class	**Loss Given Failure Notching**	**Additional notching**	**Preliminary Rating Assesment**	Government **Support Notching**	**Final Rating**
Counterparty Risk Rating	3	0	a2	1	A1
Counterparty Risk Assesment	3	0	a2	1	A1
Deposits	3	0	a2	2	Aa3
Senior unsecured bank debt	2	0	a3	1	A2
Junior senior unsecured bank debt	-1	0	baa3	0	Baa3
Dated subordinated bank debt	-1	0	baa3	0	Baa3
Preferred shares	-1	-1	ba1	0	Ba1

Table 4: Additional notching and final rating

LGF Assumptions

1. Disclosure of junior deposits is not clear so we asume that 26% of total deposits are junior deposits
2. 5% run off of preferred deposits at failure
3. 25% run off of preferred deposits at failure
4. 80% of total senior unsecured bank debt is junior senior unsecured bank debt. The rest is senior unsecured bank debt.
5. Preference shares represent 20% of total equity + preference shares