



FCF Bank Monitor

Q4 2023



THE FINANCING SPECIALIST



EXECUTIVE SUMMARY

Executive Summary

The FCF Bank Monitor is a standardized report on Credit Default Swap spreads, ratings and the fundamental performance of German and foreign banks, most active in the German and Austrian midcap market and is a reference for investors, corporates and professionals

More advanced, detailed and / or customized reports are available upon request

FCF Bank Monitor

is a comprehensive quarterly analysis of the historic and current spreads of Credit Default Swaps (CDS), ratings (“Market View”) and fundamental performance indicators (“Fundamental View”) for banks most active in the German and Austrian corporate lending market. The analysis provides the short-term, medium-term and long-term market view on such banks’ credit default risks and is an indicator for banks’ (re-)financing costs in the capital markets. The rating and fundamental performance analysis provides an indication of the solidity and “pedigree” of the banks as lending partners

Selection of Financial Institutions

The selection of financial institutions is based on FCF’s financing expertise in the German midcap market and includes the most relevant institutions with respect to deal volumes of up to EUR 500m

- Only institutions with actively traded CDS instruments are included, and thus, several relevant regional banks are excluded (e.g. BTV, Oberbank, RLBOÖ, Sparkassen)
- Further, public institutions as KfW and the European Investment Bank (EIB) were not considered in the analyses

Customized Information

More advanced, detailed and / or customized reports can be ordered individually, offering subscribers the possibility to customize the following criteria (among others):

- Inclusion of international / US institutions
- Selection / deselection of specific institutions
- Specific solvency analysis (equity or debt analysis)
- Monthly updates

Recipients

The FCF Bank Monitor targets the following audience:

- Financial Institutions
- Investors
- Corporates with existing bank financings and with further financing needs

Availability

The FCF Bank Monitor is available on FCF’s website at 'www.fcf.de'

Data

All input data is provided by S&P Capital IQ and is not independently verified by FCF. Ratio and multiple calculations are driven based on the input data available. For additional information and disclaimer, please refer to the last page

To recommend colleagues to be added to the mailing list, kindly send an email with the respective contact information

If you have questions, comments or ideas, please do not hesitate to contact us. Supporting information on CDS spreads can be found in the Appendix

FCF OVERVIEW



FCF seeks to provide its clients with financing solutions

- (i) at the lowest cost,
- (ii) with the highest flexibility,
- (iii) in the shortest period of time,
- (iv) with the highest closing probability, and with
- (v) financing partners that integrate well into their strategy

Who We Are

- Specialized Investment Bank and Financing Specialist
- Advising public and private small- / midcap companies
- Advisor for structuring and placement of financing transactions:
 - All instruments: Unbiased approach to all available corporate financing instruments (no product selling approach), allowing for customized financing structures
 - All investors: Close and trusted relationships with senior executives of virtually all relevant equity and debt investors
 - Fast process: Process management skills and direct / personal access to institutional debt and equity investors enable fast transactions
- More than 150 transactions with a total placement volume in excess of EUR 5.0 billion since foundation in 2005
- More than 15 professionals headquartered in Munich

Capital Markets Capabilities and Services

Equity	Private / Pre-IPO	<ul style="list-style-type: none"> ■ Venture capital ■ Growth capital 	<ul style="list-style-type: none"> ■ Private equity
	Public	<ul style="list-style-type: none"> ■ Initial Public Offering (IPO) / Capital increase ■ Dual-track (IPO and alternative transaction) 	<ul style="list-style-type: none"> ■ pursued in tandem ■ Private investment in Public Equity (PIPE) ■ Block trade
Debt	Short-term Debt	<ul style="list-style-type: none"> ■ Receivables / Factoring / Asset-backed securities ■ Borrowing base / Inventory 	<ul style="list-style-type: none"> ■ Working capital / Revolving credit facility ■ Guarantees / Letter of credit
	Long-term Debt	<ul style="list-style-type: none"> ■ Bank loan facility / Syndicated loans ■ Sale-and-lease-back / Leasing ■ Corporate bonds (public / private placement) ■ High yield / PIK bond 	<ul style="list-style-type: none"> ■ Promissory note (<i>Schuldscheindarlehen</i>) ■ Second lien / Subordinated loans ■ Venture debt ■ Unitranches
	Hybrid	<ul style="list-style-type: none"> ■ Mezzanine capital 	<ul style="list-style-type: none"> ■ Convertible bonds

Selected Transactions

European Investment Bank Debt Facility In Ovo B.V. EUR 40m August 2023	Debt Facility JORA Holding GmbH & Co. KG ~ EUR 30m June 2023	Acquisition Loan Facility KKA Management GmbH EUR 20m May 2023	Capital Increase aerofols GmbH [confidential] March 2023	M&A (Sell-Side) Energieinsel [confidential] March 2023	M&A (Sell-Side) PMG Projekttraum Management GmbH [confidential] March 2023	M&A (Sell-Side) SER / RUZ Group [confidential] February 2023	European Investment Bank Debt Facility German Bionic Systems GmbH EUR 15m December 2022	Financial Advisory Mitteldeutsche Flughafen AG [confidential] December 2022	Syndicated Loan ante Holding GmbH & Co. KG [confidential] December 2022	Working Capital Facility CHO-Time Group EUR 7m November 2022	Software-Leasing Facility Leading Global Device-as-a-Service Company EUR 10m October 2022
Interest Rate Hedging Mitteldeutsche Flughafen AG EUR 150m October 2022	European Investment Bank Debt Facility Evum Motors GmbH > EUR 12m September 2022	Factoring Facility JORA Holding GmbH & Co. KG EUR 25m September 2022	Equity Transaction – Joint Venture with Family Office Doppstadt Group > EUR 50m September 2022	Acquisition Loan and Working Capital Facility Bencis > EUR 20m May 2022	Acquisition Loan Facility Lloyd Fonds AG [confidential] April 2022	European Investment Bank Debt Facility numares AG EUR 20m February 2022	Syndicated Loan Schnellecke Logistics SE EUR 70m December 2021	Syndicated Loan KWD Automotive AG & Co. KG EUR 70m December 2021	Syndicated Loan Top 25 Pharmaceutical Company EUR 80m November 2021	Syndicated Loan, Factoring, Real Estate Sale & Lease-Back Top 10 German Food Company EUR 85m October 2021	Syndicated Loan Ziegler Holzindustrie GmbH & Co. KG EUR 230m August 2021



1

financing advisor in Germany, purely focusing on corporate financing transactions



More than
15

investment banking professionals



More than
100

years of aggregated, investment banking / financing experience



More than
150

completed transactions



More than
5 bn

total volume of advised & closed transactions since 2005



Network

access to more than 4000 international financial institutions



2000

contacts to family offices and ultra-high-net-worth individuals worldwide



More than
25

international conferences organized



More than
150

articles and research papers published



Leading

advisor for financing transactions with EIB in the DACH region

KEY FINDINGS



Key Findings

The FCF Bank Monitor highlights the key developments of German and foreign banks most active in the German and Austrian mid-cap financing market

The FCF Bank Monitor outlines several key factors that should be considered when selecting banks during a (re)financing of existing financial liabilities

Key Findings (4Q23)

Macro findings

- In 4Q23, CDS spreads of most banks trended down approximately 15% from 3Q23 following strengthening market confidence in the global economy and higher than previously expected interest rate cuts in 2024. Market expectations regarding inflation have declined and probability of a "soft landing" following rate hikes has increased
- Mean CDS spreads of 69.5 bps (German and Foreign Institutions), although considerably higher compared to 2021 levels (42.9 bps; all-time low levels), are slowly trending downwards
- The FCF ranking of German and foreign banks operating in the German and Austrian midcap segments, based on CDS spreads across 1-, 5- and 10-year terms, major credit ratings and key fundamental performance criteria gives an indication about the banks' expected future stability and crisis resistance:
 - Bayern LB (score: 110.2) heads the league table followed by ING (score: 88.5) and Credit Agricole (score: 86.2)
 - Deutsche Bank (score: 36.0) completes the league table ranking behind NORD/LB (score: 39.0) and Natixis (score: 46.5)
- The variation in CDS spreads and ratings highlights the differences in actual and expected bank stability, important considerations when selecting an institution as a lending bank ("Hausbank") or transaction counterparty:
 - Across 1-year CDS spreads, the lowest CDS spread lies at 13.2 bps (ING) whilst the highest spread lies at 102.0 bps (RBI), 7.7x higher
 - Across 5-year CDS spreads, the lowest CDS spread lies at 35.3 bps (ING) whilst the highest spread lies at 185.0 bps (RBI), 5.2x higher
 - Across 10-year CDS spreads, the lowest CDS spread lies at 56.5 bps (ING) whilst the highest spread lies at 221.0 bps (RBI), 3.9x higher
 - Across S&P ratings, the highest rating is AA- (Helaba, LBBW and Bayern LB) whilst the lowest rating is BBB (UniCredit)
- The relationship between backward- and forward-looking indicators has weakened over the last quarter, whereby the correlation & explanatory power decreased to an R² of 17%. RBI and HCOB are the largest outliers in 4Q23, suggesting these institutions show a higher probability of a future rating downgrade (displaying higher CDS spreads than their current rating would indicate)

Individual bank findings

- The Austrian RBI shows the highest CDS spreads in 4Q23 as investors continue to evaluate the full impact of the ongoing sale / spin-off of its highly profitable Russia business as well as the high exposure to Rene Benko's Signa Group (now in insolvency proceedings)
- Despite solid fundamentals, HCOB shows very high CDS spreads in 4Q23, reflecting overall investor caution in relation to higher perceived risk, asset-based lending activities (especially commercial real estate and shipping finance)

Combined Ranking Overview (Market & Fundamental)

Q4 2023

FCF allocated scores of 1 (low) to 22 (high) to the 22 banks, based on the **Market View** (CDS spread & volatility, public credit rating) and the **Fundamental View** (profitability, equity, liquidity and non-performing loan ratios)

The combination of both single scores results in a **Combined View**, giving an indication on the banks' expected future stability, crisis resistance and overall wholesale funding costs – across maturities, rating agencies and fundamental criteria

Bayern LB (score 110.2) heads the league table, whereas Deutsche Bank ranks 22nd (36.0)

Rank	Trend	Bank	Country	CDS 1Y Score	CDS 5Y Score	Market View		Market View Score	Fundamental View					Fundamental View Score	Combined Total Score	Delta vs Market View	
						CDS 10Y Score	Rating Score		RoE	RoA	Tier 1 Cap	% NPL	Cost Eff.				LCR
1	→	Bayern LB		19	21	20	20	59.7	15	13	17	20	14	22	50.5	110.2	0
2	→	ING		22	22	22	12	56.0	16	12	6	12	12	7	32.5	88.5	0
3	→	CRÉDIT AGRICOLE		21	20	18	12	50.7	17	10	3	17	10	14	35.5	86.2	0
4	→	LB BW		10	17	20	20	50.7	13	11	8	21	8	3	32.0	82.7	-1
5	↗	J.P.Morgan		17	19	17	2	36.7	22	21	10	22	13	2	45.0	81.7	4
6	→	Santander		19	15	13	12	43.0	14	15	4	1	19	17	35.0	78.0	0
7	→	DZ BANK		7	17	20	12	41.0	6	5	19	15	5	13	31.5	72.5	0
8	↗	ERSTE Group		7	9	9	12	28.0	18	19	12	11	17	11	44.0	72.0	6
9	↗	BNP PARIBAS		18	18	17	12	46.7	9	6	9	8	7	5	22.0	68.7	-4
10	↗	ABN-AMRO		11	15	15	7	33.7	12	14	14	13	4	12	34.5	68.2	1
11	↘	中國銀行 BANK OF CHINA		15	7	6	12	29.7	11	16	2	18	22	6	37.5	67.2	2
12	↗	HSBC		19	10	7	2	25.7	20	17	16	10	15	4	41.0	66.7	4
13	↗	UniCredit		11	5	5	1	14.0	19	18	22	6	18	17	50.0	64.0	6
13	↘	Helaba		8	10	13	20	40.0	2	1	5	14	6	20	24.0	64.0	-5
15	↘	Crédit Mutuel		6	8	9	12	27.0	5	7	20	3	16	16	33.5	60.5	0
16	→	Raiffeisen Bank International		1	1	1	2	4.0	21	22	17	7	21	21	54.5	58.5	6
17	→	Hamburg Commercial Bank		2	2	2	2	6.0	10	20	20	5	20	19	47.0	53.0	4
18	↗	COMMERZBANK		13	9	8	2	21.3	7	9	14	9	11	9	29.5	50.8	-1
19	↘	SOCIETE GENERALE		12	12	11	7	30.3	4	4	10	2	9	10	19.5	49.8	-7
20	↘	NATIXIS BEYOND BANKING		13	14	14	7	34.0	3	2	1	16	2	1	12.5	46.5	-10
21	→	NORD/LB		3	4	7	7	16.0	1	3	7	19	1	15	23.0	39.0	-3
22	→	Deutsche Bank		4	4	3	7	14.0	8	8	13	4	3	8	22.0	36.0	-3

Combined Ranking Overview (Market & Fundamental)

LTM Development

The German Bayern LB secures the top of the league table once again, replacing LBBW at the top of the rankings from 2Q23 onwards

The French Credit Agricole and American J.P. Morgan continue their upward trajectory with Credit Agricole climbing five ranks since 1Q23 to maintain third place on the latest ranking and J.P. Morgan improving by six ranks to fifth place over the same time period

Q1 2023		Q2 2023		Q3 2023		Q4 2023	
1.	LB≡BW	1.	Bayern LB	1.	Bayern LB	1.	Bayern LB
2.	ING	2.	LB≡BW	2.	ING	2.	ING
3.	ERSTE	3.	Helaba	3.	CRÉDIT AGRICOLE	3.	CRÉDIT AGRICOLE
4.	Bayern LB	4.	ING	4.	LB≡BW	4.	LB≡BW
5.	DZ BANK	5.	Santander	5.	Helaba	5.	J.P.Morgan
	Santander	6.	CRÉDIT AGRICOLE	6.	Santander	6.	Santander
7.	ABN-AMRO	7.	DZ BANK	7.	DZ BANK	7.	DZ BANK
8.	CRÉDIT AGRICOLE	8.	ABN-AMRO	8.	J.P.Morgan	8.	ERSTE
9.	中國銀行	9.	J.P.Morgan	9.	ERSTE	9.	BNP PARIBAS
10.	Helaba	10.	中國銀行	10.	Crédit Mutuel	10.	ABN-AMRO
11.	J.P.Morgan	11.	Crédit Mutuel	11.	ABN-AMRO	11.	中國銀行
12.	BNP PARIBAS	12.	ERSTE	12.	中國銀行	12.	HSBC
13.	Crédit Mutuel	13.	BNP PARIBAS	13.	BNP PARIBAS	13.	UniCredit
14.	HSBC	14.	HSBC	14.	HSBC		Helaba
15.	Raiffeisen Bank International	15.	UniCredit	15.	UniCredit	15.	Crédit Mutuel
16.	UniCredit	16.	Raiffeisen Bank International	16.	Raiffeisen Bank International	16.	Raiffeisen Bank International
17.	NATIXIS	17.	Hamburg Commercial Bank	17.	Hamburg Commercial Bank	17.	Hamburg Commercial Bank
18.	SOCIETE GENERALE	18.	SOCIETE GENERALE	18.	SOCIETE GENERALE	18.	COMMERZBANK
19.	Hamburg Commercial Bank	19.	NATIXIS	19.	NATIXIS	19.	SOCIETE GENERALE
20.	COMMERZBANK	20.	COMMERZBANK	20.	NORD/LB	20.	NATIXIS
21.	NORD/LB	21.	NORD/LB	21.	COMMERZBANK	21.	NORD/LB
22.	Deutsche Bank	22.	Deutsche Bank	22.	Deutsche Bank	22.	Deutsche Bank

5-YEAR CDS SPREADS



10-Year CDS Spreads Overview & Historical Analysis

1 Over the last 3 years, CDS spreads have generally trended downwards. In 4Q23, CDS spreads of foreign & domestic banks trade at a mean of 69.5 bps. Since 2021, all banks showed a significant increase (e.g.,

deterioration) in CDS spreads, in particular driven by the Russian invasion into Ukraine and the ensuing sanctions, high inflation and increased economic uncertainty

2 In 4Q23, Deutsche Bank's rating was upgraded by S&P, and ABN AMRO's by Moody's, each by one notch, in recognition of their improved solvency profiles

German Institutions	10-Year Price Development (in bps)											1 3-Year Changes (in %)			Volatility	2 Long-Term Ratings		
	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Δ 20-23	Δ 21-23	Δ 22-23	90 Days	S&P	Moody's	Fitch
Bayern LB	101.0	77.2	75.8	68.6	32.9	38.3	35.3	64.4	37.4	57.2	43.1	-33.2%	15.2%	-24.7%	2.7%	-	Aa3	A
Commerzbank	110.7	83.6	90.6	117.3	54.5	124.7	35.2	38.7	44.4	85.9	64.2	66.0%	44.6%	-25.2%	1.4%	A-	A2	-
Deutsche Bank	84.3	79.7	96.5	162.3	72.4	204.6	60.9	54.5	45.8	123.0	89.0	63.3%	94.3%	-27.7%	1.4%	A	A1	A
DZ Bank	82.4	75.9	78.1	78.6	70.2	66.1	62.0	62.5	33.6	57.7	53.1	-15.0%	57.9%	-7.9%	3.3%	A+	Aa2	AA
Hamburg Commercial	189.3	193.8	187.0	172.1	147.6	149.0	109.0	75.2	66.1	198.5	146.9	95.3%	122.4%	-26.0%	3.2%	-	A3	-
Helaba	67.2	58.3	58.2	52.3	46.2	46.9	42.3	56.0	39.7	67.3	67.1	19.9%	69.1%	-0.2%	3.9%	-	Aa3	AA-
LBBW	80.8	61.4	64.8	50.0	36.6	38.8	48.0	46.9	33.1	48.3	51.1	8.9%	54.4%	5.8%	1.5%	-	Aa3	A
NORDLB	na	104.6	114.1	115.8	72.8	93.5	67.2	95.1	69.2	109.0	99.0	4.1%	43.2%	-9.2%	2.8%	-	A3	A
Min	67.2	58.3	58.2	50.0	32.9	38.3	35.2	38.7	33.1	48.3	43.1	-33.2%	15.2%	-27.7%	1.4%	-	-	-
Max	189.3	193.8	187.0	172.1	147.6	204.6	109.0	95.1	69.2	198.5	146.9	95.3%	122.4%	5.8%	3.9%	-	-	-
Median	84.3	78.4	84.3	97.2	62.4	79.8	54.5	59.2	42.1	76.6	65.7	14.4%	56.1%	-16.9%	2.8%	-	-	-
Mean	102.2	91.8	95.7	102.1	66.6	95.3	57.5	61.7	46.2	93.4	76.7	26.2%	62.6%	-14.4%	2.5%	-	-	-

Foreign Institutions	10-Year Price Development (in bps)											1 3-Year Changes (in %)			Volatility	2 Long-Term Ratings		
	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Δ 20-23	Δ 21-23	Δ 22-23	90 Days	S&P	Moody's	Fitch
ABN AMRO	90.2	62.1	66.2	65.4	45.0	64.0	19.6	21.2	39.4	59.4	51.4	143.1%	30.5%	-13.5%	1.4%	A	Aa3	A+
Bank of China	113.6	120.1	130.4	142.4	66.1	81.8	35.5	34.3	56.6	94.1	70.2	104.8%	24.1%	-25.4%	2.5%	A+	Aa3	A
BNP Paribas	83.3	69.6	70.8	85.6	22.5	73.0	25.4	32.0	33.7	63.2	48.3	51.1%	43.5%	-23.5%	1.6%	A+	Aa3	AA-
Credit Agricole	104.1	70.3	70.6	73.7	19.8	65.0	23.1	27.7	30.9	55.9	44.6	61.2%	44.3%	-20.3%	1.5%	A+	Aa3	AA-
Crédit Mutuel	109.1	64.8	41.9	24.0	26.5	40.6	37.2	44.2	39.6	63.3	74.5	68.6%	87.8%	17.6%	3.4%	A+	Aa3	AA-
Erste Group Bank	116.8	159.3	123.2	127.7	47.3	52.8	47.5	42.6	39.6	62.5	62.4	46.5%	57.5%	-0.1%	2.5%	A+	A1	A
HSBC	65.4	52.1	83.1	81.2	35.3	91.3	50.2	44.1	45.6	91.6	60.3	36.7%	32.1%	-34.2%	1.7%	A-	A3	A+
ING Bank	81.2	54.8	52.4	64.4	16.9	39.1	19.6	21.4	23.8	44.4	35.3	65.0%	48.1%	-20.7%	2.0%	A+	A1	AA-
JP Morgan	67.0	62.9	72.7	63.8	37.4	69.0	33.0	46.7	48.1	79.5	44.4	-5.0%	-7.7%	-44.2%	2.1%	A-	A1	AA-
Natixis	100.9	58.3	68.5	80.2	30.2	62.0	50.6	34.1	35.8	63.7	54.3	59.0%	51.5%	-14.8%	1.8%	A	A1	A+
RBI	126.4	239.6	211.5	142.4	62.8	80.8	75.5	47.0	38.7	186.9	185.0	293.2%	377.8%	-1.0%	0.8%	A-	A1	-
Santander	123.2	79.6	139.7	119.3	31.8	74.9	27.9	35.3	37.8	67.9	52.2	47.9%	38.1%	-23.2%	1.5%	A+	A2	A-
Societe Generale	102.1	93.7	69.7	84.6	23.4	74.0	26.7	32.8	37.0	68.7	57.1	74.4%	54.4%	-16.9%	1.5%	A	A1	A
UniCredit	146.6	128.0	132.7	173.8	61.4	177.4	76.3	71.2	67.8	121.9	75.1	5.5%	10.8%	-38.4%	1.3%	BBB	Baa1	BBB
Min	65.4	52.1	41.9	24.0	16.9	39.1	19.6	21.2	23.8	44.4	35.3	-5.0%	-7.7%	-44.2%	0.8%	-	-	-
Max	146.6	239.6	211.5	173.8	66.1	177.4	76.3	71.2	67.8	186.9	185.0	293.2%	377.8%	17.6%	3.4%	-	-	-
Median	103.1	69.9	71.7	82.9	33.6	71.0	34.3	34.8	39.1	65.8	55.7	60.1%	43.9%	-20.5%	1.7%	-	-	-
Mean	102.1	93.9	95.2	94.9	37.6	74.7	39.2	38.2	41.0	80.2	65.4	75.1%	63.8%	-18.5%	1.8%	-	-	-

All Institutions	10-Year Price Development (in bps)											1 3-Year Changes (in %)			Volatility	Long-Term Ratings		
	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Δ 20-23	Δ 21-23	Δ 22-23	90 Days	S&P	Moody's	Fitch
Min	65.4	52.1	41.9	24.0	16.9	38.3	19.6	21.2	23.8	44.4	35.3	-33.2%	-7.7%	-44.2%	0.8%	-	-	-
Max	189.3	239.6	211.5	173.8	147.6	204.6	109.0	95.1	69.2	198.5	185.0	293.2%	377.8%	17.6%	3.9%	-	-	-
Median	101.0	76.6	77.0	82.9	41.2	71.0	39.7	44.1	39.5	67.6	58.7	55.1%	46.4%	-20.5%	1.8%	-	-	-
Mean	102.2	93.2	95.4	97.5	48.2	82.2	45.8	46.7	42.9	85.0	69.5	57.3%	63.4%	-17.0%	2.1%	-	-	-

5-Year Govt. Interest Rates	10-Year Price Development (in bps)											3-Year Changes (in %)			Volatility	Long-Term Ratings		
	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Δ 20-23	Δ 21-23	Δ 22-23	90 Days	S&P	Moody's	Fitch
EU Central Government Bond	107.1	7.1	1.7	-47.3	-16.6	-26.3	-44.6	-72.4	-47.9	245.1	188.4	360.2%	493.6%	-23.1%	1.6%	AA+	Aaa	AAA
United Kingdom Government Debt	204.2	113.1	125.6	48.0	72.0	90.7	60.6	-11.2	73.1	366.3	336.3	3,102.7%	360.1%	-8.2%	1.4%	AA	Aa3	AA-

Source: S&P Capital IQ as of December 31st, 2023

Notes: All calculations based on mid prices

* A change in Long-Term Ratings is indicated with color (upgrade / neutral / downgrade)

5-Year CDS Spreads

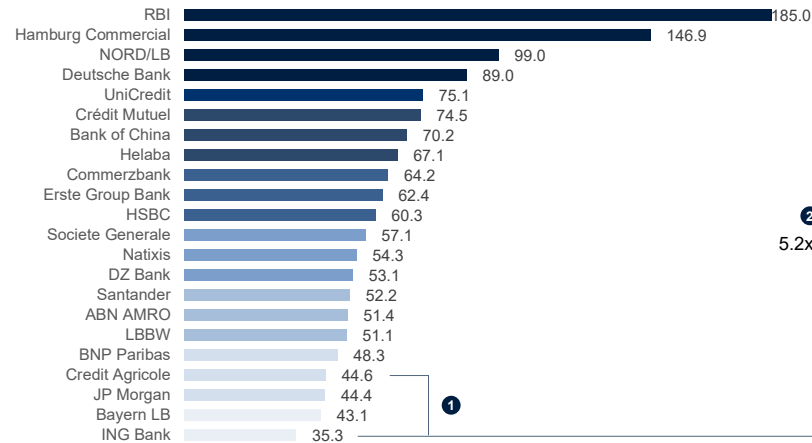
Pricing, Rating, Volatility & Development

1 Based on the latest 5-year CDS spreads, the most solvent banks are the Dutch ING Bank, German BayernLB alongside American J.P. Morgan and French Credit Agricole with CDS spreads below 45 bps

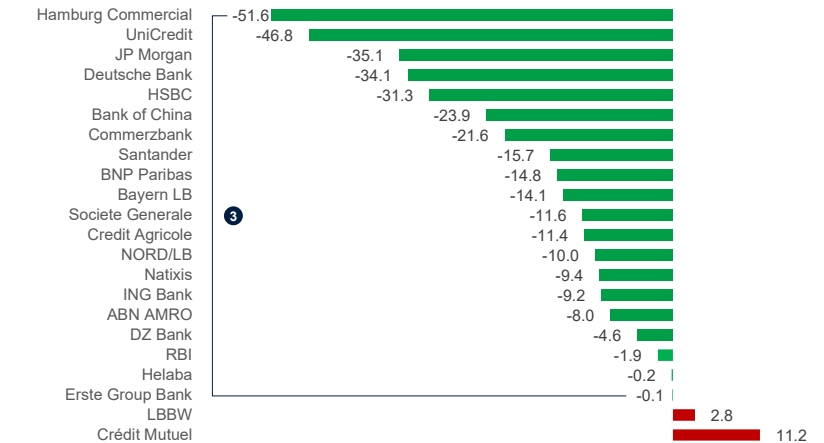
2 The ratio between the least and most solvent bank increased from 4.1x (in 3Q23) to 5.2x (185.0 bps vs. 35.3 bps)

3 Majority of banks experienced lower CDS spreads than 12 months prior. The largest improvements in CDS spreads were seen with German Hamburg Commercial, Italian UniCredit and American J.P. Morgan

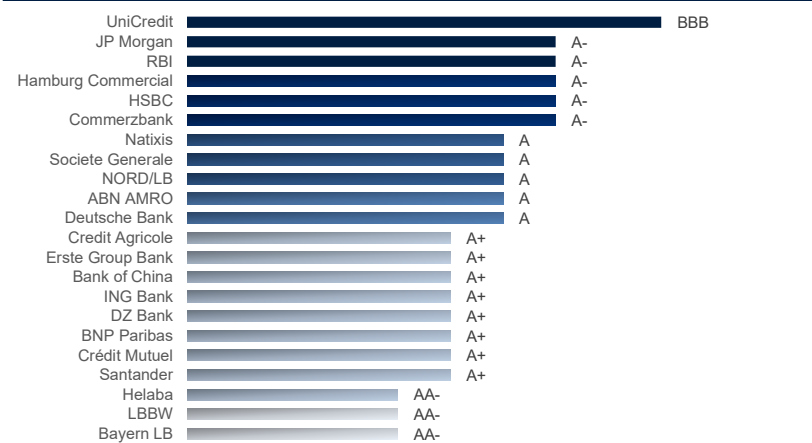
CDS Mid-Price as of 31/12/2023 (in bps)



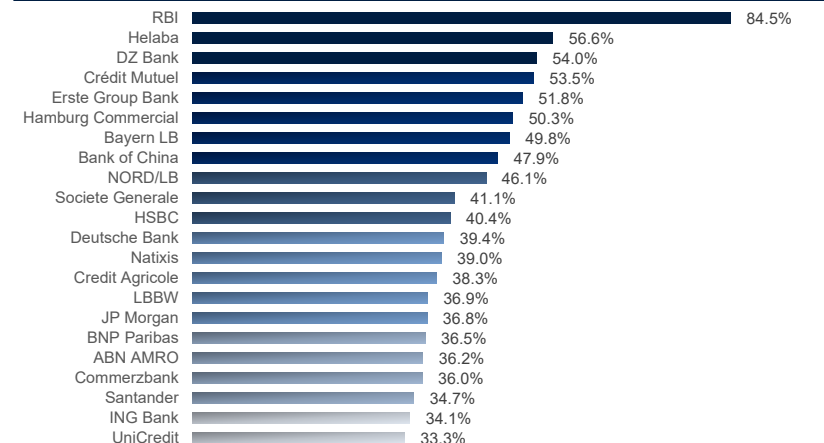
12 Month Change in CDS Mid-Price (in bps)



Long-Term Rating* as of 31/12/2023



3 Month (90 days) Volatility as of 31/12/2023



5-Year CDS Spreads

36 Month Spread Development of German vs. Foreign Institutions

German and foreign banks have showed similar trends over the past 3 years

- 1 In 1Q22, CDS spreads started to increase following the Russia / Ukraine war, peaking in 3Q22 due to increased fears of energy shortages, high inflation and a global recession
- 2 Significant market uncertainty following the collapse of major financial institutions (SVB, Credit Suisse)
- 3 Growing investor / market confidence in the global economy and expected rate cuts in 2024 pull CDS spreads lower



5-Year CDS Spreads

36 Month Spread Development of German Institutions

Over the last 3 years, HCOB and Deutsche Bank were the most volatile German banks with standard deviations of 63 bps and 37 bps, respectively

LBBW and DZ Bank were the least volatile (standard deviations 9 bps and 12 bps, respectively)

1 Growing investor fears of a deep recession peaked in 3Q22 due to fears of a widespread energy shortage and aggressive monetary tightening

2 The collapse of major banking institutions in the USA (SVB) and in Europe (Credit Suisse) have caused market uncertainty and rising CDS spreads



5-Year CDS Spreads

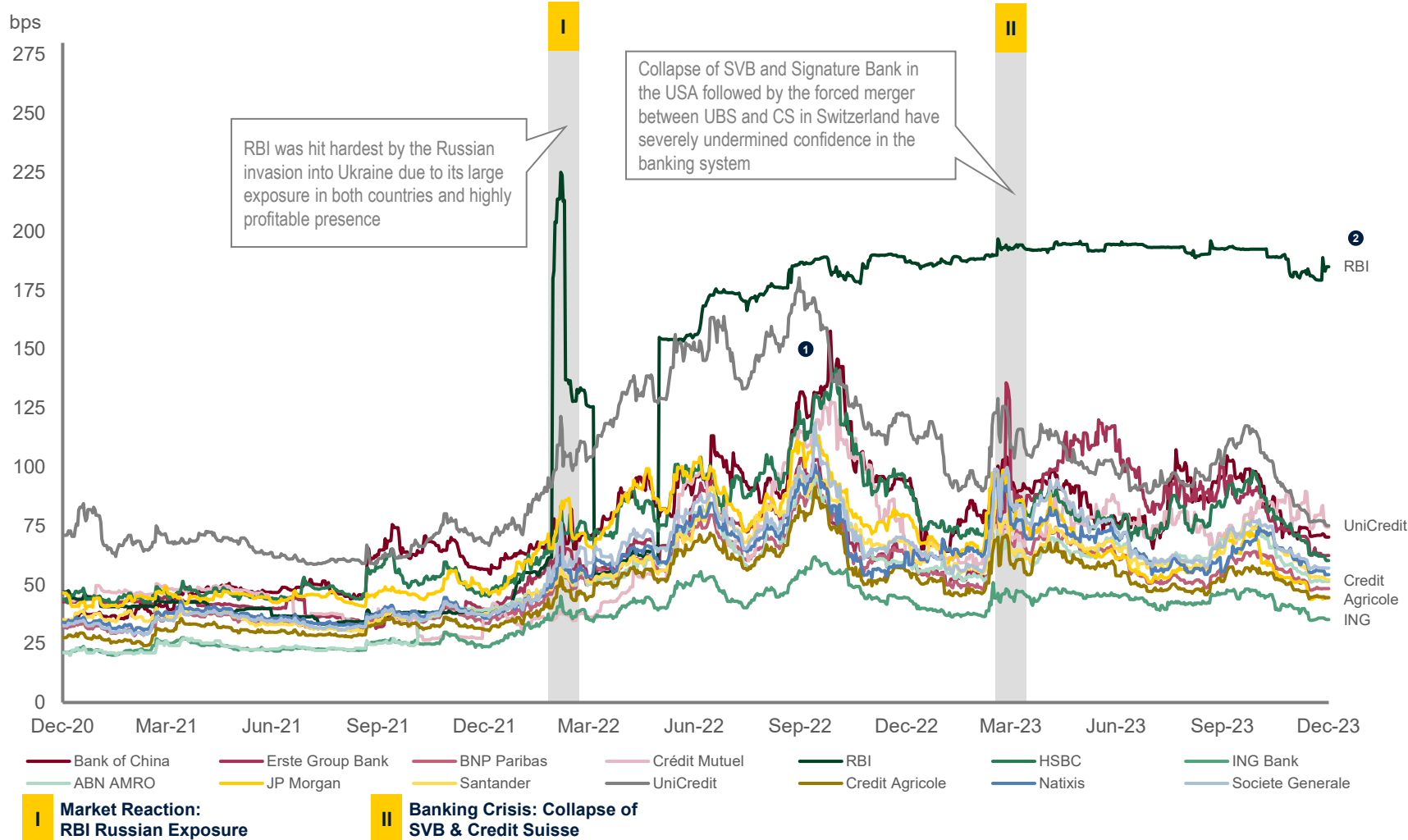
36 Month Spread Development of Foreign Institutions

Over the last 3 years, RBI and UniCredit were the most volatile foreign banks with standard deviations of 71 bps and 30 bps, respectively

ING Bank and Credit Agricole were the least volatile (standard deviations of 11 bps and 15 bps, respectively)

① Growing investor fears of a deep recession peaked in 3Q22 due to fears of a widespread energy shortage and aggressive monetary tightening

② CDS spreads remain high for RBI as the divestiture process of the highly profitable Russian subsidiary drags on



5-Year CDS Spreads

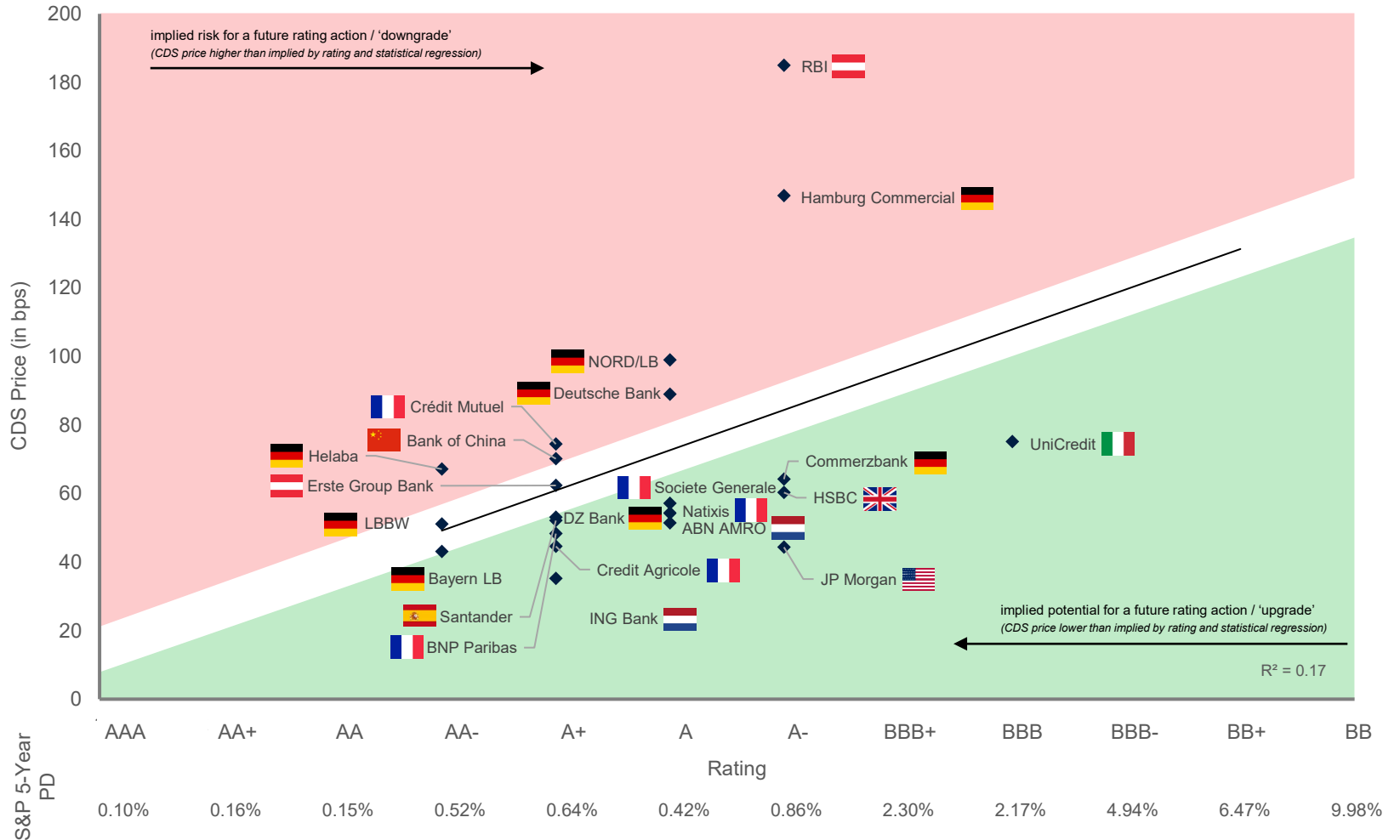
CDS vs. Rating for 5 Year Spreads

The comparison of current CDS spreads with current ratings highlights the relationship between these forward- and backward-looking solvency indicators

The correlation between CDS spreads and ratings decreased slightly from a R^2 of 35% in the previous quarter to 17% in 4Q23

The slope implies that (on average) a 1-notch drop in rating would result in a higher 5-Year CDS price by c. 11.7 bps

Banks above the trendline seem to possess greater solvency risk than their rating would imply; a possible indicator for a future rating 'downgrade'



Source: S&P Capital IQ as of December 31st, 2023

Note: All calculations based on mid prices; rating according to S&P Rating notches, if available. Institutions without S&P Rating converted using best available Moody's or Fitch rating; S&P 5-Year PD represents the 5-year probability of default for each respective rating notch

APPENDIX



Market Ranking Overview













































Q4 2023

FCF allocated scores of 1 (low) to 22 (high) to all banks to determine the market's view on each bank, based on:

- 1-Year CDS spread;
- 5-Year CDS spread;
- 10-Year CDS spread;
- Public ratings (Fitch, Moody's, S&P)

The combined Weighted CDS and Rating Score result in an overall rank in the League Table, providing an indication on the banks' expected future stability and crisis resistance across maturities

The market views BayernLB (59.7) on the top of the ranking, whereas RBI ranks last (4.0)

Rank	Trend	Bank	Country	CDS 1Y				CDS 5Y				CDS 10Y				CDS Weighted CDS Score	Rating		Total Overall Rank
				Last Price	Rank Score	90-Day Ø Price	Rank Score	Last Price	Rank Score	90-Day Ø Price	Rank Score	Last Price	Rank Score	90-Day Ø Price	Rank Score		Last Rating	Rank Score	
1	→	 BayernLB		21.9	18	25.2	20	43.1	21	50.1	21	65.5	21	73.6	18	39.7	4	20	59.7
2	→	 ING		13.2	22	16.0	22	35.3	22	42.6	22	56.5	22	58.4	22	44.0	5	12	56.0
3	↗	 LB BW		36.0	9	40.4	10	51.1	17	57.2	16	65.6	20	72.0	20	30.7	4	20	50.7
3	↗	 CRÉDIT AGRICOLE		18.9	20	23.1	21	44.6	19	50.4	20	66.1	17	72.6	19	38.7	5	12	50.7
5	↗	 BNP PARIBAS		23.7	17	30.0	18	48.3	18	54.9	18	73.2	16	77.4	17	34.7	5	12	46.7
6	↗	 Santander		19.7	19	26.6	19	52.2	15	62.3	14	79.6	14	90.1	12	31.0	5	12	43.0
7	↘	 DZ BANK		39.0	6	42.2	8	53.1	14	53.4	19	65.7	19	66.1	21	29.0	5	12	41.0
8	↘	 Helaba		38.8	7	41.9	9	67.1	8	64.9	11	86.6	12	84.3	13	20.0	4	20	40.0
9	↗	 J.P.Morgan		24.3	16	30.9	17	44.4	20	57.0	17	65.7	18	79.2	16	34.7	7	2	36.7
10	↘	 NATIXIS		27.0	12	34.0	14	54.3	13	61.6	15	80.4	13	83.6	14	27.0	6	7	34.0
11	→	 ABN-AMRO		30.2	10	40.0	11	51.4	16	62.7	13	74.0	15	82.9	15	26.7	6	7	33.7
12	→	 SOCIÉTÉ GÉNÉRALE		29.6	11	35.8	13	57.1	12	64.7	12	88.0	11	93.7	11	23.3	6	7	30.3
13	↗	 中國銀行 BANK OF CHINA		25.7	14	32.9	15	70.2	7	84.2	6	110.2	6	124.3	5	17.7	5	12	29.7
14	↗	 ERSTE Group		38.3	8	46.9	5	62.4	10	83.9	7	94.7	10	111.9	8	16.0	5	12	28.0
15	↘	 Crédit Mutuel		39.0	5	43.2	7	74.5	6	77.5	10	109.3	7	100.6	10	15.0	5	12	27.0
16	→	 HSBC		18.3	21	31.2	16	60.3	11	78.1	9	100.1	8	120.4	6	23.7	7	2	25.7
17	↗	 COMMERZBANK		26.6	13	37.3	12	64.2	9	80.4	8	96.7	9	115.0	7	19.3	7	2	21.3
18	↘	 NORD/LB		78.0	3	73.7	3	99.0	3	94.4	5	111.9	4	107.5	9	9.0	6	7	16.0
19	→	 Deutsche Bank		43.3	4	61.8	4	89.0	4	109.6	3	125.4	3	144.8	3	7.0	6	7	14.0
19	↗	 UniCredit		25.4	15	44.3	6	75.1	5	95.6	4	111.2	5	129.1	4	13.0	9	1	14.0
21	→	 Hamburg Commercial Bank		100.3	2	94.7	2	146.9	2	135.4	2	179.7	2	168.0	2	4.0	7	2	6.0
22	→	 Raiffeisen Bank International		102.0	1	99.6	1	185.0	1	190.2	1	221.0	1	220.2	1	2.0	7	2	4.0

Market Ranking Overview

LTM Development

The German BayernLB again secures the top of the league table, after replacing LBBW at the top of the ranking from 2Q23

In the last quarter, German Helaba and French Crédit Mutuel saw significant declines in their rankings, each dropping five places from their positions in the previous quarter, ending the year at rank 8 and 15, respectively.

Q1 2023	Q2 2023	Q3 2023	Q4 2023
1. LB≡BW	1. Bayern LB	1. Bayern LB	1. Bayern LB
2. ING	2. Helaba	2. ING	2. ING
3. Helaba	3. ING	3. Helaba	3. LB≡BW
4. CRÉDIT AGRICOLE	4. LB≡BW	4. LB≡BW	4. CRÉDIT AGRICOLE
5. Bayern LB	5. DZ BANK	5. CRÉDIT AGRICOLE	5. BNP PARIBAS
6. DZ BANK	6. CRÉDIT AGRICOLE	6. DZ BANK	6. Santander
7. BNP PARIBAS	7. BNP PARIBAS	7. BNP PARIBAS	7. DZ BANK
8. Santander	8. Santander	8. Santander	8. Helaba
9. ABN-AMRO	9. ABN-AMRO	9. NATIXIS BEYOND BANKING	9. J.P.Morgan
10. Crédit Mutuel	10. Crédit Mutuel	10. Crédit Mutuel	10. NATIXIS BEYOND BANKING
11. ERSTE Group	11. NATIXIS BEYOND BANKING	11. ABN-AMRO	11. ABN-AMRO
12. NATIXIS BEYOND BANKING	12. 中國銀行 BANK OF CHINA	12. SOCIETE GENERALE	12. SOCIETE GENERALE
13. 中國銀行 BANK OF CHINA	13. SOCIETE GENERALE	13. J.P.Morgan	13. 中國銀行 BANK OF CHINA
14. SOCIETE GENERALE	14. J.P.Morgan	14. 中國銀行 BANK OF CHINA	14. ERSTE Group
15. COMMERZBANK Group	15. ERSTE Group	15. ERSTE Group	15. Crédit Mutuel
16. HSBC	16. HSBC	16. HSBC	16. HSBC
17. NORD/LB	17. NORD/LB	17. NORD/LB	17. COMMERZBANK Group
18. J.P.Morgan	18. COMMERZBANK Group	18. COMMERZBANK Group	18. NORD/LB
19. UniCredit	19. UniCredit	19. UniCredit	19. Deutsche Bank
20. Hamburg Commercial Bank	20. Deutsche Bank	20. Deutsche Bank	20. UniCredit
21. Raiffeisen Bank International	21. Hamburg Commercial Bank	21. Hamburg Commercial Bank	21. Hamburg Commercial Bank
22. Deutsche Bank	22. Raiffeisen Bank International	22. Raiffeisen Bank International	22. Raiffeisen Bank International

Fundamental Ranking Overview

Q4 2023

FCF allocated scores of 1 (low) to 22 (high) to the 22 banks, based on:

- i. Return-on-Equity (RoE)
- ii. Return-on-Assets (RoA);
- iii. Tier-1 Capital Ratio;
- iv. Percentage of Non-Performing-Loans of Total Loans;
- v. Cost Efficiency (Cost-Income Ratio)
- vi. Liquidity Coverage Ratio

The equal weighting of the fundamental scores results in the Total Overall Score in the League Table

The ranking provides a key indication for each banks' stability and solvency based on the most recent fundamental performance

RBI (109.0) leads the ranking, whereas Natixis is last (25.0)

Rank	Trend	Bank	Country	Return on Equity		Return on Assets		Tier 1 Capital Ratio		% Non-perf. Loans		Cost Efficiency		Liquidity Coverage		Total Overall Rank	Delta vs Market View
				RoE	Rank Score	RoA	Rank Score	Tier 1 Ratio	Rank Score	% NPL	Rank Score	CIR	Rank Score	LCR	Rank Score		
Q4 2023 vs. Q3 2023																	
1	→	Raiffeisen Bank International		16.1	21	1.5	22	17.4	17	2.4	7	36.6	21	192.5	21	109.0	21
2	↗	Bayern LB		12.6	15	0.6	13	17.4	17	0.7	20	56.2	14	195.5	22	101.0	-1
3	↘	UniCredit		14.6	19	1.0	18	18.7	22	2.4	6	47.0	18	161.0	17	100.0	16
4	→	Hamburg Commercial Bank		9.0	10	1.3	20	18.5	20	2.5	5	44.0	20	168.3	19	94.0	17
5	↗	J.P.Morgan		16.9	22	1.3	21	15.9	10	0.6	22	58.0	13	112.0	2	90.0	4
6	↘	ERSTE Group		14.3	18	1.1	19	16.2	12	1.8	11	53.4	17	141.8	11	88.0	8
7	→	HSBC		15.7	20	1.0	17	17.0	16	1.8	10	55.0	15	131.8	4	82.0	9
8	↗	中國銀行 BANK OF CHINA		9.4	11	0.8	16	13.6	2	1.3	18	27.9	22	133.5	6	75.0	5
9	↘	CRÉDIT AGRICOLE		13.9	17	0.5	10	13.7	3	1.3	17	62.3	10	147.9	14	71.0	-6
10	→	Santander		11.4	14	0.6	15	13.8	4	3.3	1	45.8	19	161.0	17	70.0	-4
11	↗	ABN-AMRO		10.8	12	0.6	14	16.5	14	1.6	13	69.2	4	144.0	12	69.0	0
12	↗	Crédit Mutuel		6.7	5	0.4	7	18.5	20	2.9	3	54.6	16	153.3	16	67.0	3
13	↘	ING		13.2	16	0.6	12	14.5	6	1.7	12	60.4	12	134.0	7	65.0	-11
14	↘	LB BW		11.2	13	0.5	11	15.2	8	0.6	21	65.6	8	129.2	3	64.0	-11
15	→	DZ BANK		6.9	6	0.3	5	17.8	19	1.5	15	67.9	5	145.3	13	63.0	-8
16	→	COMMERZBANK		7.5	7	0.5	9	16.5	14	2.1	9	61.8	11	141.1	9	59.0	1
17	→	Helaba		4.5	2	0.2	1	14.5	5	1.6	14	67.5	6	176.9	20	48.0	-9
18	→	NORD/LB		4.1	1	0.2	3	14.9	7	0.8	19	97.6	1	150.2	15	46.0	0
19	↗	BNP PARIBAS		7.6	9	0.3	6	15.6	9	2.2	8	66.8	7	132.3	5	44.0	-14
19	↗	Deutsche Bank		7.5	8	0.4	8	16.3	13	2.6	4	74.9	3	135.0	8	44.0	0
21	↘	SOCIETE GENERALE		5.7	4	0.3	4	15.9	10	3.1	2	64.1	9	141.4	10	39.0	-9
22	→	NATIXIS BEYOND BANKING		5.0	3	0.2	2	13.5	1	1.3	16	78.9	2	110.2	1	25.0	-12

Fundamental Ranking Overview

LTM Development

The Austrian RBI continues to lead the fundamental ranking table for a fourth quarter in a row

The German BayernLB shows the most positive development over the last year, gaining 9 places from rank 11 in 1Q23 to rank 2 in 4Q23

The French BNP Paribas stops its downward trend, ranking 19th in 4Q23

	Q1 2023	Q2 2023	Q3 2023	Q4 2023
1.	Raiffeisen Bank International	Raiffeisen Bank International	Raiffeisen Bank International	Raiffeisen Bank International
2.	ERSTE Group	Hamburg Commercial Bank	UniCredit	BayernLB
3.	J.P.Morgan	UniCredit	BayernLB	UniCredit
4.	UniCredit	BayernLB	Hamburg Commercial Bank	Hamburg Commercial Bank
5.	中國銀行 BANK OF CHINA	ERSTE Group	ERSTE Group	5. J.P.Morgan
6.	HSBC	J.P.Morgan	6. J.P.Morgan	6. ERSTE Group
7.	Hamburg Commercial Bank	7. HSBC	7. HSBC	7. HSBC
8.	ABN-AMRO	8. 中國銀行 BANK OF CHINA	8. 中國銀行 BANK OF CHINA	8. 中國銀行 BANK OF CHINA
9.	Santander	9. Santander	9. CRÉDIT AGRICOLE	9. CRÉDIT AGRICOLE
10.	LB BW	ABN-AMRO	10. Santander	10. Santander
11.	BayernLB	11. Crédit Mutuel	11. ING	11. ABN-AMRO
	DZ BANK	LB BW	12. ABN-AMRO	12. Crédit Mutuel
13.	ING	13. ING	13. Crédit Mutuel	13. ING
14.	CRÉDIT AGRICOLE	Helaba ERSTE	LB BW	14. LB BW
15.	Deutsche Bank	15. COMMERZBANK	15. DZ BANK	15. DZ BANK
16.	Crédit Mutuel	16. CRÉDIT AGRICOLE	16. COMMERZBANK	16. COMMERZBANK
17.	BNP PARIBAS	17. DZ BANK	17. Helaba ERSTE	17. Helaba ERSTE
	COMMERZBANK	Deutsche Bank	18. NORD/LB	18. NORD/LB
	SOCIETE GENERALE	19. BNP PARIBAS	19. SOCIETE GENERALE	19. BNP PARIBAS
20.	Helaba ERSTE	20. NORD/LB	20. Deutsche Bank	20. Deutsche Bank
21.	NORD/LB	21. SOCIETE GENERALE	21. BNP PARIBAS	21. SOCIETE GENERALE
22.	NATIXIS BEYOND BANKING	22. NATIXIS BEYOND BANKING	22. NATIXIS BEYOND BANKING	22. NATIXIS BEYOND BANKING

Credit Default Swaps

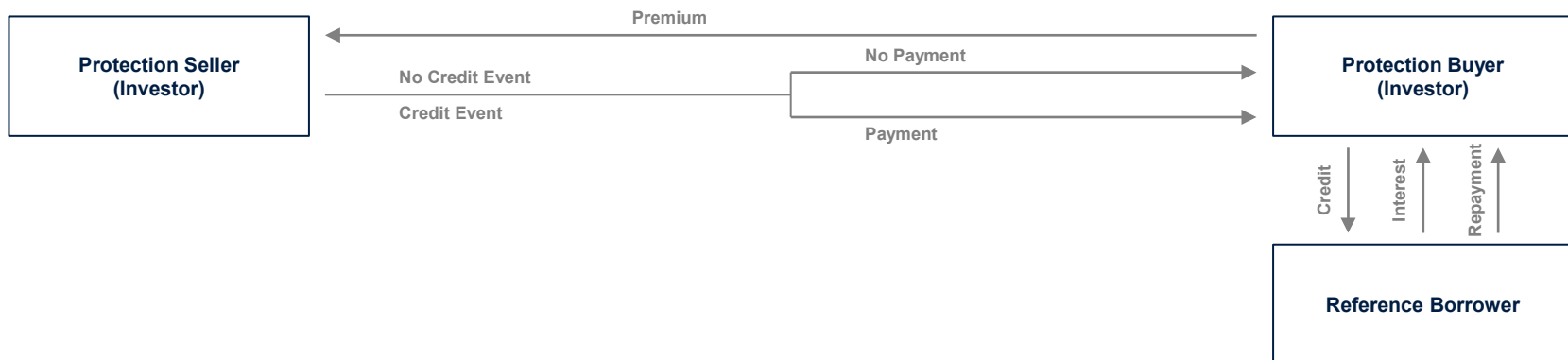
Credit Default Swaps (CDS) are, in simplest terms, very much like insurance policies. The main difference between a classical insurance policy and a CDS is that those buying the CDS can trade in and out of their contracts.

A CDS is a privately negotiated contract in which one party, the Protection Buyer (the one seeking to shed the risk, for example a lender to a bank), pays a fee (also premium or 'spread') to the Protection Seller (the one taking on the risk, for example specialized financial institutions) for protection against a loss that may be incurred from the exposure to a loan in case of unforeseen developments (e.g., non-repayment of / default on the loan). The development is known as a credit event, indicating that the borrower (the reference entity) on which the CDS contract is written is unable to pay its debts. If such a credit event occurs, the Protection Seller will make a payment to the Protection Buyer of the contract.

For example: A typical contract provides for the Protection Buyer to pay the Protection Seller 500 bps per year (5.0% p.a.) for protection against a default of Bank A on its senior debt. The contract's notional size is for EUR 10m. This means that the Protection Buyer pays EUR 500,000 per year (4 quarterly payments of EUR 125,000). If another bank, Bank B, has a CDS spread priced at 250 bps (2.5% p.a.), Bank B is perceived to have a lower credit risk than Bank A.

The higher the credit risk of a bank (as seen in the CDS spread), the greater the funding costs that a bank incurs will be. Funding costs represent the rate at which the bank is able to borrow from the institutional / inter-bank market (funding cost risk premium). As a direct consequence, the funding cost risk premium has a direct impact on the rates that a bank will charge its clients: Bank B will be able to offer i) cheaper, longer financing conditions and ii) greater flexibility during periods of stress with their clients (corporates), ceteris paribus.

Aside from the direct impact on banks' lending rates, the CDS spread is also a good proxy of a banks' current / future behavior towards its corporate clients in times of market (macro) or client specific (micro) volatility / stress.



The FCF Bank Monitor highlights the key developments of German and foreign banks most active in the German and Austrian midcap financing market

The FCF Bank Monitor outlines several key factors that should be considered when selecting banks during a (re)financing of existing financial liabilities

Background Information

- CDS spreads of banks reveal two fundamental market principles that have significant implications for borrowers:
 - **Solvency / crisis resistance:** CDS spreads put a price on the future solvency of a bank according to all information currently available in the market and signal the bank's ability to remain operational in periods of crisis / illiquid markets.
 - Banks with lower, more stable CDS spreads should respond less erratically during periods of stress with their borrowers (i.e., breach of covenant), ceteris paribus
 - **Refinancing costs / ability to lend at low rates:** CDS spreads indicate the perceived solvency of banks, hence their future ability to refinance in the future (funding costs). Consequently, banks with lower, more stable CDS spreads generally have to pay lower risk premia as part of their funding costs, enabling them to offer cheaper, longer financing conditions to their customers / borrowers, ceteris paribus
- Reference bonds of banks and their corresponding CDS spreads are strongly impacted by regulatory changes / events:
 - In '18, the SAG was modified to also allow German commercial banks to issue 'preferred' bonds as of May '19
 - The corresponding reference CDS spreads of German commercial banks (e.g., Deutsche Bank, Commerzbank) decreased sharply in May '19 and can now be compared 'like-for-like' with their European competitors

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DISCLAIMER**



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