

2023 EU Wide EBA Stress Test Our First Glance at Results

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Highlights

2023 EBA Stress Test Results are out – Although results show the second highest capital depletion in stress history, given strong capital positions, remaining buffers and improved profitability, most banks will be able to increase dividends and share buybacks.



Stress Test Impacts

1

While 2023 EBA Stress Test impacts display second highest capital depletion in EU stress test history...

- Impact of 2023 EBA Stress Tests shows average capital depletion (2022 CET1 to adverse) of 459bps, 26bps lower than depletion observed in 2021 EBA Stress Tests (485bps)
- Higher depletion explained by more severe scenario and higher quality assurance impact estimated at 175bps vs. 100bps average in the past (1/3 of impact)
- As expected EBA Stress Test results do not generate any major surprises and demonstrate strong capital resilience of the banking sector



Capital Distribution

2

...banks demonstrate strong resilience to weather a stress due to improved NII and NPL starting positions.

- No incremental capital needs with only one bank falling below the 5.5% old CET1 minimum threshold and 18 banks falling below 9% CET1 (25% of total)
- Capital flexibility (measured as the buffer between CET1 post stress test and minimum threshold of 5.5%) increases to 488bps from 466bps in 2021
- Regardless high stress test capital depletion and due to improving profitability trends in the sector we expect further increases in bank dividend and buybacks
- Report shows winners and losers after application of P2G approach

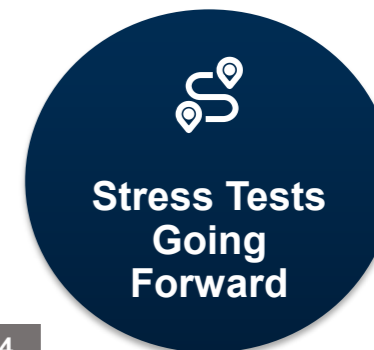


Summary by Country

3

Countries most impacted are those with least income generation capabilities to offset capital depletion

- Worst 5 countries by CET1 depletion:
 - Denmark: -625bps
 - France: -592bps
 - Germany: -577bps
 - Ireland: -549bps
 - Netherlands: -523bps
- Best 5 countries by CET1 depletion:
 - Hungary: -77bps
 - Poland: -170bps
 - Norway: -212bps
 - Greece: -228bps
 - Spain: -242bps



Stress Tests Going Forward

4

ECB will run a Cyber Resilience Stress and EBA will lead a Climate Risk Stress Test during 2024

- The ECB Cyber Resilience Stress Test arrives in 2024 expected to target the integrity of the database(s) supporting the main core banking system and simulate loss impact, response and recovery actions undertaken by the Bank.
- Climate Stress Test 2024 – Fit-for-55 exercise to assess the resilience of the financial sector, focusing on the capacity of the financial system to support the transition to a lower carbon economy, even under conditions of stress



Section **1** | Capital Stress Test Impacts



1. EBA Stress Test Impacts

2023 EBA Stress Test capital depletion decreased compared to depletion observed in last EBA Stress Test 2021 (459bps vs. 485bps Fully Loaded).

Total Depletion	Depletion by Bank	Depletion by Country	Capital Waterfall	Credit Risk Projections
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- Impact of 2023 EBA Stress Tests shows average capital depletion (2022 CET1 fully loaded to adverse 2025) of 459 bps, 26bps lower than depletion created by 2021 EBA Stress Tests (485bps)

Capital Depletion	All Banks	European G-SIBs	Worst 3 Countries 	Best 3 Countries 	Worst 3 Banks 	Best 3 Banks 
CET Fully Loaded Adverse	-459bps	-463bps	Denmark, France and Germany	Hungary, Poland and Norway	La Banque Postale, de Volksbank and Barclays	Bank Polska, Länsförsäkringar Bank and Caixa Geral de Depositos

- European G-SIBs display average capital depletion of 463 bps in line with total average
- Worst 3 capital depletion countries measured on fully loaded basis (measured as Adverse CET1 depletion) are Denmark, France and Germany. Top 3 countries are Hungary, Poland and Norway.
- Worst 3 capital depletion banks measured on fully loaded basis (La Banque Postale, de Volksbank and Barclays)
- Best 3 capital depletion banks measured on fully loaded basis (Bank Polska, Länsförsäkringar Bank and Caixa Geral de Depositos)

- Lower depletion despite a more severe scenario. By main driver of CET1 depletion impacts are as follows:

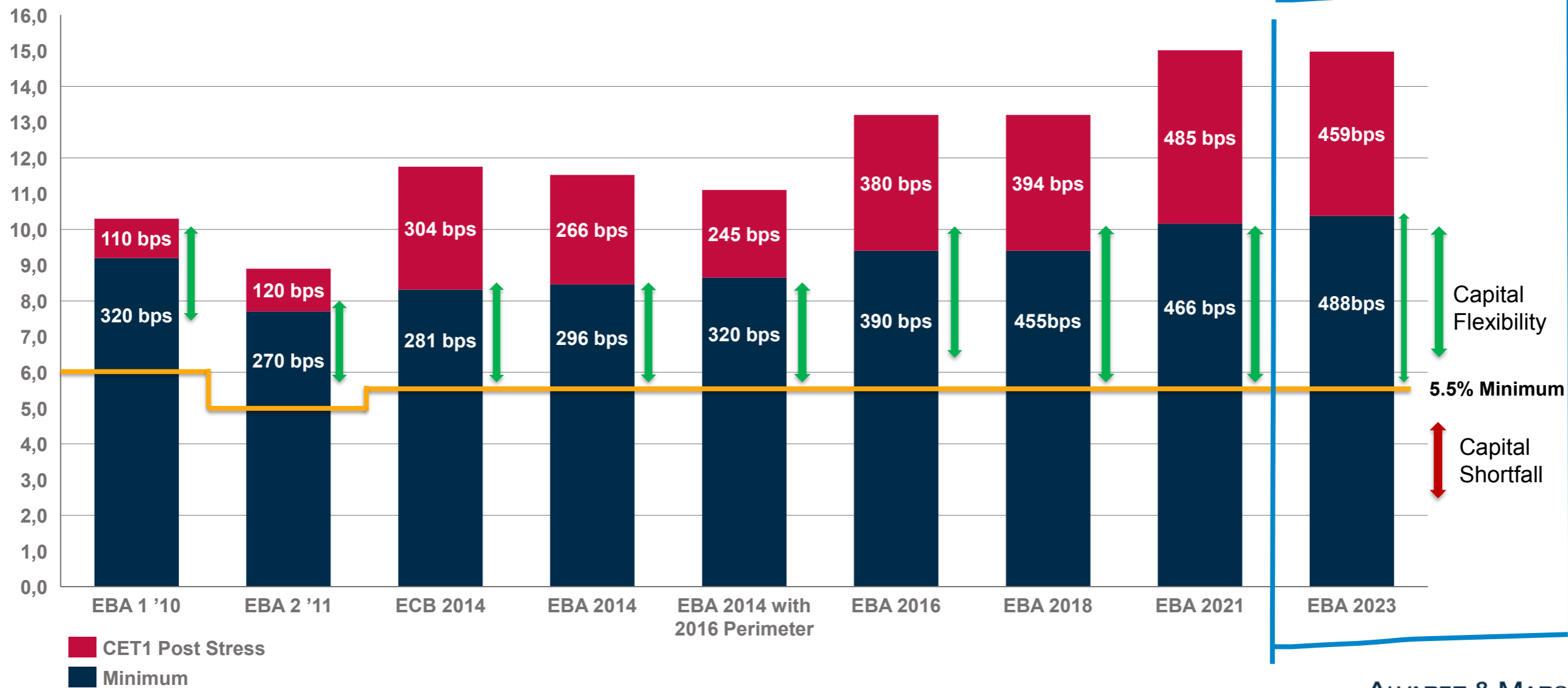
- Credit Risk: - 405 bps
- Market Risk (inc. CCR): -112 bps
- Conduct & Other Op. Risk: -62 bps
- NII & NFCI: impact of -143 bps and -125 bps respectively, measured as lower capital formation respectively compared to constant starting point

1. EBA Stress Test Impacts

2023 EBA Stress Test impact shows less capital depletion compared to ST'21 (measured as 2022 CET1 to adverse FL) (459bps vs. 485bps). Also, capital flexibility shows better results (488bps vs. 466bps).

- Total Depletion
- Depletion by Bank
- Depletion by Country
- Capital Waterfall
- Credit Risk Projections

CET1 Ratio (%)



1. EBA Stress Test Impacts

We use our Picasso graphing to compare stress test results across the globe. While US and UK stress tests have moved to the green zone of low depletion and high capital flexibility, European stress tests continue to deliver high capital depletion to reduce flexibility.

Total Depletion

Depletion by Bank

Depletion by Country

Capital Waterfall

Credit Risk Projections

EUR



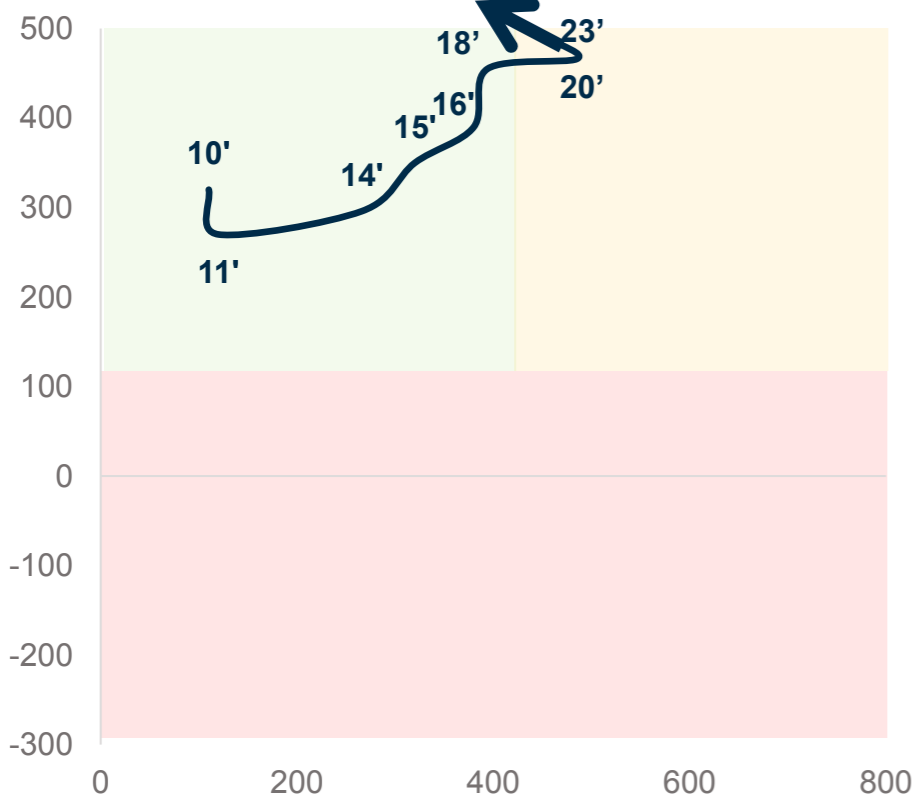
US



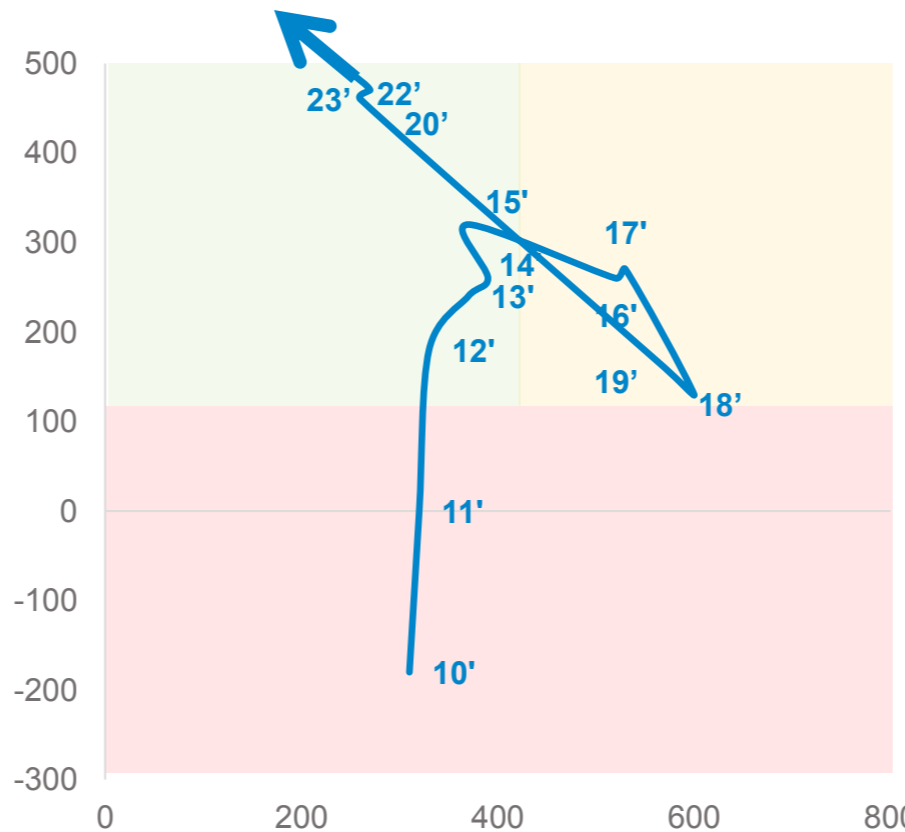
UK



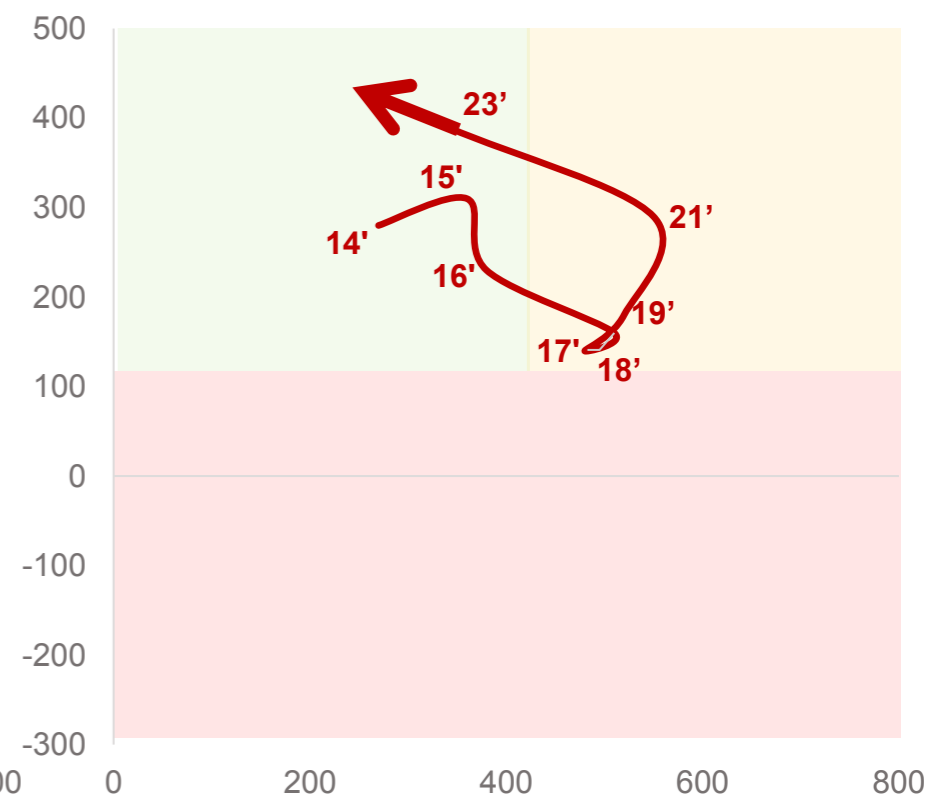
Capital Flexibility (bps)
(CET1 Adverse – Hurdle Rate)



CET1 Depletion (bps)



CET1 Depletion (bps)



CET1 Depletion (bps)

1. EBA Stress Test Impacts

Capital flexibility has improved as compared to ST'21 due to higher CET1 starting point level. Only one bank falls below 5.5% (Banque Postale) and only 17 banks ends with low levels of buffer and CET1 post stress below 9%.

Total Depletion	Depletion by Bank	Depletion by Country	Capital Waterfall	Credit Risk Projections
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- Overall, second highest capital depletion in EBA Stress Test history (CET1 decline of 459bps, 26bps lower than in 2021)
- In addition, results show much higher dispersion among banks, from +59bps of Bank Polska to -1462bps of Banque Postale
- Banque Postale results in a no buffer zone due to its capital depletion, and 16 banks end the 2023 adverse CET1 within a low buffer zone

Note: CITI, DEA, GSBE, HASPA, JMP, MSE, NRW, SYD, ABA, KXA, KXB, UNI, BOFA, ALPHA, AUROER, NBG, PIRAGH, BARC, CITIH, BPER, CCB, IBICCC, VOLKS assumes 2021 equal to 2023

1. EBA Stress Test Impacts

Worst capital depletion banks on fully loaded basis are La Banque Postale, de Volksbank and Barclays. Best capital depletion banks on fully loaded basis are Bank Polska, Länsförsäkringar Bank and Caixa Geral de Depositos.

Total Depletion

Depletion by Bank

Depletion by Country

Capital Waterfall

Credit Risk Projections

Country	Bank Name	EBA 2023 Stressed CET1 Depletion 2022-2025			EBA 2021 Stressed CET1 Depletion 2020-2023			Depletion Chg. 23 vs 21 (FL)
		Fully Loaded	Impact Bps	Qrt.	Fully Loaded	Impact Bps	Qrt.	
AT	Erste Group Bank AG		-341			-401		-60
AT	Raiffeisen Bank International AG		-316			-462		-146
BE	Belfius Banque SA		-412			-270	1st	142
BE	KBC Group NV		-386			-351		35
DE	Bayerische Landesbank		-786	4th		-590		197
DE	Citigroup Global Markets Europe AG		-860	4th				
DE	Commerzbank AG		-464			-502		-38
DE	Deutsche Apotheker- und Ärztebank eG		-521					
DE	Deutsche Bank AG		-528			-620	4th	-92
DE	DZ BANK AG Deutsche Zentral-Genossenschaftsbank		-652	4th		-489		163
DE	Goldman Sachs Bank Europe SE		-712	4th				
DE	HASPA Finanzholding		-294	1st				
DE	J.P. Morgan SE		-587	4th				
DE	Landesbank Baden-Württemberg		-547			-643	4th	-96
DE	Landesbank Hessen-Thüringen Girozentrale AdöR		-561	4th		-585		-24
DE	Morgan Stanley Europe Holding SE		-877	4th				
DE	Norddeutsche Landesbank - Girozentrale -		-747	4th				
DE	Volkswagen Bank GmbH		-350			-262	1st	88
DK	Danske Bank		-657	4th		-673	4th	-16
DK	Jyske Bank		-649	4th		-634	4th	14
DK	Nykredit Realkredit		-585	4th		-631	4th	-46
DK	Sydbank A/S		-479					
ES	ABANCA Corporacion Bancaria S.A.		-275	1st				
ES	Banco Bilbao Vizcaya Argentaria S.A.		-295	1st		-303	1st	-9
ES	Banco de Sabadell S.A.		-374			-548		-174
	Total G-SIBs Weighted Avg.		-463			-501		-37
	Total EU Weighted Avg.		-459			-485		-26

1. EBA Stress Test Impacts

Worst capital depletion banks on fully loaded basis are La Banque Postale, de Volksbank and Barclays. Best capital depletion banks on fully loaded basis are Bank Polska, Länsförsäkringar Bank and Caixa Geral de Depositos.

Total Depletion

Depletion by Bank

Depletion by Country

Capital Waterfall

Credit Risk Projections

Country	Bank Name	EBA 2023 Stressed CET1 Depletion 2022-2025			EBA 2021 Stressed CET1 Depletion 2020-2023			Depletion Chg. 23 vs 21 (FL)
		Fully Loaded	Impact Bps	Qrt.	Fully Loaded	Impact Bps	Qrt.	
ES	Banco Santander S.A.		-170	1st		-258	1st	-88
ES	Bankinter, S.A.		-159	1st		-104	1st	55
ES	CaixaBank, S.A.		-313					
ES	Kutxabank, S.A.		-195	1st				
ES	Unicaja Banco, S.A.		-326					
FI	Nordea Bank Abp		-330			-369		-39
FI	OP Osuuskunta		-549			-619	4th	-70
FR	BNP Paribas		-392			-440		-48
FR	BofA Securities Europe SA		-968	4th				
FR	Confédération Nationale du Crédit Mutuel		-735	4th		-525		209
FR	Groupe Crédit Agricole		-731	4th		-634	4th	97
FR	Groupe BPCE		-520			-580		-60
FR	La Banque Postale		-1462	4th		-916	4th	546
FR	Société Générale S.A.		-513			-562		-49
GR	ALPHA SERVICES & HOLDINGS S.A.		-307					
GR	Eurobank Ergasias Services and Holdings S.A.		-220	1st				
GR	National Bank of Greece S.A.		-136	1st				
GR	Piraeus Financial Holdings S.A.		-240	1st				
HU	OTP Bank Nyrt.		-77	1st		-303		-227
IE	Allied Irish Banks Group plc		-632	4th		-677	4th	-45
IE	Bank of Ireland Group plc		-393			-532		-139
IE	Barclays Bank Ireland PLC		-974	4th				
IE	Citibank Holdings Ireland Limited		-323					
IT	Banca Monte dei Paschi di Siena S.p.A.		-551			-996	4th	-446
IT	Banco BPM S.p.A.		-384			-622	4th	-237
IT	BPER Banca S.p.A.		-415					
	Total G-SIBs Weighted Avg.		-463			-501		-37
	Total EU Weighted Avg.		-459			-485		-26

1. EBA Stress Test Impacts

Worst capital depletion banks on fully loaded basis are La Banque Postale, de Volksbank and Barclays. Best capital depletion banks on fully loaded basis are Bank Polska, Länsförsäkringar Bank and Caixa Geral de Depositos.

Total Depletion

Depletion by Bank

Depletion by Country

Capital Waterfall

Credit Risk Projections

Country	Bank Name	EBA 2023			EBA 2021			Depletion Chg. 23 vs 21 (FL)
		Stressed CET1 Depletion 2022-2025			Stressed CET1 Depletion 2020-2023			
		Fully Loaded	Impact Bps	Qrt.	Fully Loaded	Impact Bps	Qrt.	
IT	Cassa Centrale Banca - Credito Cooperativo Italiano S.p.A.		-261	1st				
IT	Iccrea Banca S.p.A. – Istituto Centrale del Credito Cooperativo		-435					
IT	Intesa Sanpaolo S.p.A.		-268	1st		-466		-198
IT	Mediobanca - Banca di Credito Finanziario S.p.A.		-530			-478		51
IT	UniCredit S.p.A.		-349			-592		-243
NL	ABN AMRO Group N.V.		-484			-418		65
NL	Coöperatieve Rabobank U.A.		-453			-679	4th	-226
NL	de Volksbank N.V.		-1025	4th				
NL	ING Groep N.V.		-554			-443		111
NO	DNB Bank Group		-212	1st		-252	1st	-40
PL	Bank Polska Kasa Opieki SA		59	1st		-98	1st	-40
PL	Powszechna Kasa Oszczednosci Bank Polski SA		-322			-120	1st	202
PT	Banco Comercial Português, SA		-449			-406		43
PT	Caixa Geral de Depósitos, SA		-76	1st		-288	1st	-212
SE	Länsförsäkringar Bank AB (publ)		40	1st		-80	1st	-40
SE	SBAB Bank AB – group		-136	1st		-108	1st	28
SE	Skandinaviska Enskilda Banken - group		-407			-357		50
SE	Svenska Handelsbanken - group		-371			-410		-40
SE	Swedbank - group		-163	1st		-217	1st	-53
	Total G-SIBs Weighted Avg.		-463			-501		-37
	Total EU Weighted Avg.		-459			-485		-26

1. EBA Stress Test Impacts

Worst 3 capital depletion countries measured on fully loaded basis (measured as Adverse CET1 depletion 2023-2025) are Denmark, France and Germany. Top 3 countries are Hungary, Poland and Norway.

Total Depletion

Depletion by Bank

Depletion by Country

Capital Waterfall

Credit Risk Projections

Country	Bank Name	EBA 2023			EBA 2021			Depletion Chg. 23 vs 21 (FL)
		Stressed CET1 Depletion 2022-2025			Stressed CET1 Depletion 2020-2023			
		Fully Loaded	Impact Bps	Qrt.	Fully Loaded	Impact Bps	Qrt.	
AT	Austria		-325			-428		-103
BE	Belgium		-395			-321		74
DE	Germany		-577	4th		-558	4th	19
DK	Denmark		-625	4th		-651	4th	-26
ES	Spain		-242			-290	1st	-49
FI	Finland		-403			-441		-38
FR	France		-592	4th		-555		37
GR	Greece		-228					
HU	Hungary		-77	1st		-303		-227
IE	Ireland		-549	4th		-607	4th	-59
IT	Italy		-351			-559	4th	-208
NL	Netherlands		-523			-533		-10
NO	Norway		-212	1st		-252	1st	-40
PL	Poland		-170	1st		-112	1st	59
PT	Portugal		-271			-353		-82
SE	Sweden		-292			-299	1st	-7
G-SIBs	Total G-SIBs Weighted Avg.		-463			-501		-37
EU	Total EU Weighted Avg.		-459			-485		-26

1. EBA Stress Test Impacts

A deep dive on credit risk impacts shows Corporates SME and Retail Secured by real estate property – Non-SME as most sensitive asset classes measured by Provision Multipliers for Stage 2 and 3.

	Total Depletion	Depletion by Bank	Depletion by Country	Capital Waterfall	Credit Risk Projections								
ASSET CLASS	Adverse 2025 Exposures			Adv vs. Base Exposure Multiplier			Adverse 2025 Cost of Risk	Adverse 2025 Coverage Ratio			Adv vs. Base Provisions Multiplier		
	Stage1	Stage2	Stage3	Stage1	Stage2	Stage3		Average Annual	Stage1	Stage2	Stage3	Stage1	Stage2
Central banks	99%		1%	x 1.0	x 1.3	x 1.5	1 bps	0.0%	0.5%	7.7%	x 1.3	x 1	x 1.4
Central governments	92%		7%	x 1.0	x 1.4	x 1.3	16 bps	0.1%	1.1%	37.5%	x 1.3	x 1.7	x 1.3
Institutions	91%		8%	x 1.0	x 1.3	x 1.6	15 bps	0.1%	1.5%	36.1%	x 1.7	x 1.5	x 1.6
Corporates	71%		21%	x 0.9	x 1.5	x 1.5	77 bps	0.3%	3.5%	39.5%	x 1.6	x 2.0	x 1.6
Corporates - Specialised Lending	68%		24%	x 0.9	x 1.3	x 1.5	59 bps	0.2%	2.7%	27.3%	x 1.4	x 1.8	x 1.5
Corporates - SME	65%		23%	x 0.8	x 1.6	x 1.5	105 bps	0.5%	4.3%	40.3%	x 1.7	x 2.3	x 1.5
Corporates - Other	74%		20%	x 0.9	x 1.5	x 1.5	71 bps	0.3%	3.4%	41.6%	x 1.6	x 2.0	x 1.6
Retail	77%		15%	x 0.9	x 1.4	x 1.4	79 bps	0.3%	5.2%	38.6%	x 1.6	x 2.0	x 1.5
Retail - Secured by real estate property	80%		14%	x 0.9	x 1.5	x 1.5	36 bps	0.1%	3.0%	22.8%	x 2.1	x 2.2	x 1.7
Retail - Secured by real estate property - SME	68%		21%	x 0.9	x 1.4	x 1.4	80 bps	0.3%	4.2%	29.7%	x 1.7	x 1.8	x 1.6
Retail - Secured by real estate property - Non SME	81%		14%	x 0.9	x 1.5	x 1.5	31 bps	0.1%	2.8%	21.1%	x 2.2	x 2.4	x 1.8
Retail - Qualifying Revolving	77%		14%	x 0.9	x 1.2	x 1.2	163 bps	0.7%	9.9%	61.6%	x 1.2	x 2.3	x 1.3
Retail - Other	69%		17%	x 0.9	x 1.3	x 1.3	196 bps	0.9%	10.2%	54.5%	x 1.5	x 1.9	x 1.4
Retail - Other - SME	65%		20%	x 0.9	x 1.3	x 1.3	161 bps	0.8%	7.3%	50.3%	x 1.5	x 1.8	x 1.3
Retail - Other - Non SME	71%		15%	x 0.9	x 1.3	x 1.2	214 bps	1.0%	12.1%	56.7%	x 1.5	x 1.9	x 1.4
Equity	99%		0%	x 1.0	x 1.2	x 1.6	1 bps	0.0%	0.9%	38.2%	x 2.6	x 2.0	x 2.2
Other exposures	87%		12%	x 1.0	x 1.0	x 1.3	5 bps	0.0%	0.5%	25.0%	x 1.5	x 1.6	x 1.5
TOTAL	81%		13%	x 0.9	x 1.4	x 1.4	55 bps	0.2%	3.9%	38.7%	x 1.6	x 2.0	x 1.5

Note: Average annual cost of risk = average annual impairments / EAD where average annual impairments = 3Yaverage impairments / 3



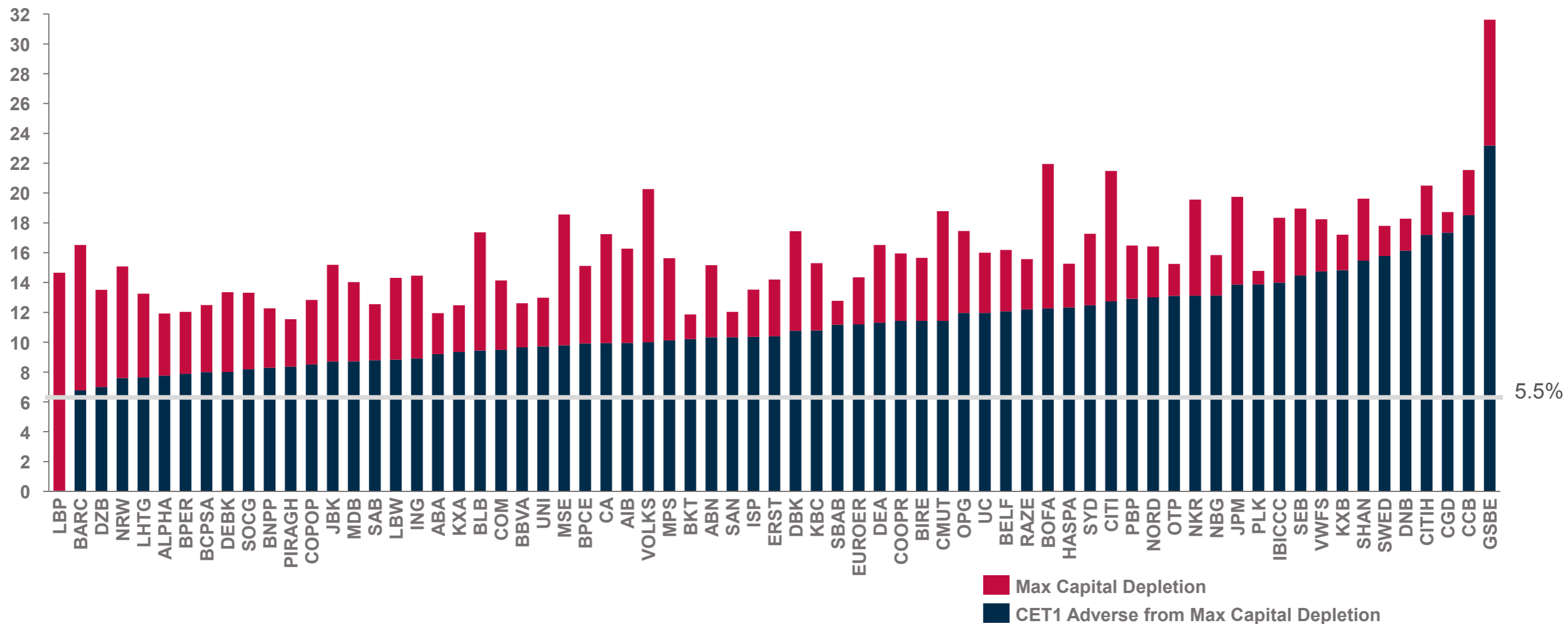
Section **2** | Potential for Capital Distribution – Dividends and Buybacks

2. Potential for Capital Distribution - Dividends and Buybacks

No incremental capital needs with only one bank falling below the old 5.5% CET1 minimum threshold (La Banque Postale)

Capital Flexibility

Pillar 2 Guidance



2. Potential for Capital Distribution - Dividends and Buybacks

When assessing a bank's capital trajectory and its distribution plans, supervisors will take a forward-looking view duly informed by the results of the 2023 EBA Stress Test to calculate P2G. The current analysis assumes the same Methodology as EBA Stress Test 2021.

Capital Flexibility

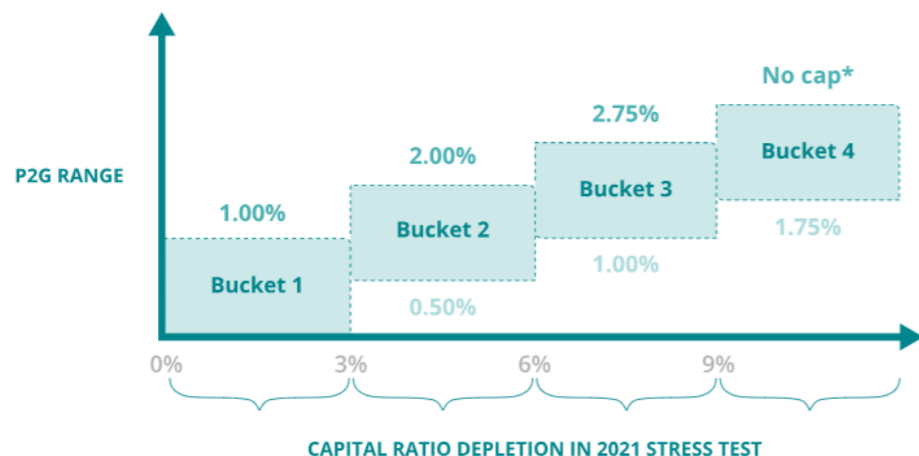
Pillar 2 Guidance

- The Pillar 2 Guidance is a bank-specific recommendation that indicates the level of capital that the ECB expects banks to maintain in addition to their binding capital requirements
- Since 2021, ECB Banking Supervision uses a two-step bucketing approach to determine banks' individual P2G levels

Step 1: Bucketing

- **Place banks in one of four buckets** according to the depletion of their capital ratios in the EBA Stress Test

Buckets with P2G ranges (2021)



*maximum P2G in 2021 is expected to be 4.5%

Source: ECB Banking Supervision

Step 2: JST Adjustment

- **Set the final P2G** for each bank within the range of the bucket or, exceptionally, beyond that range
- Based on **banks' individual situations**, such as their risk profiles and the year in which their capital ratio reached its lowest point during the EBA Stress Test

2. Potential for Capital Distribution - Dividends and Buybacks

Assuming the 2021 EBA Stress Test Methodology, P2G drives winners and losers in the dividend reset race.

Capital Flexibility

Pillar 2 Guidance

Bank Name	P2G Calculation			Capital Flexibility			
	Maximum CET1 Depletion (Bps)	P2G (Bps)	P2G Bucket (%)	CET 1 (%)	Total Capital Requirement (%)	Excess Capital (%)	Qrt.
La Banque Postale	1462	375	From 1.75%	14.66%	13.75%	0.91%	4th
de Volksbank N.V.	1025	275	From 1.75%	20.26%	13.75%	6.51%	1st
Barclays Bank Ireland Plc	974	250	From 1.75%	16.51%	13.80%	2.71%	
BofA Securities Europe SA	968	250	From 1.75%	21.95%	14.19%	7.76%	1st
Morgan Stanley Europe Holding SE	877	225	1% - 2.75%	18.56%	13.00%	5.56%	1st
Citigroup Global Markets Europe AG	875	225	1% - 2.75%	21.49%	14.25%	7.24%	1st
Goldman Sachs Bank Europe SE	844	225	1% - 2.75%	31.62%	13.25%	18.37%	1st
Bayerische Landesbank	792	200	1% - 2.75%	17.37%	12.00%	5.37%	
Norddeutsche Landesbank - Girozentrale	747	200	1% - 2.75%	15.07%	12.50%	2.57%	
Confédération Nationale du Crédit Mutuel	735	200	1% - 2.75%	18.78%	11.75%	7.03%	1st
Groupe Crédit Agricole	731	200	1% - 2.75%	17.24%	11.50%	5.74%	1st
Danske Bank	668	175	1% - 2.75%	17.45%	12.38%	5.07%	
DZ BANK AG Deutsche Zentral- Genossenschaftsbank	652	175	1% - 2.75%	13.52%	11.45%	2.07%	
Jyske Bank	649	175	1% - 2.75%	15.19%	12.52%	2.67%	
Nykredit Realkredit	645	175	1% - 2.75%	19.56%	13.27%	6.30%	1st
AIB Group plc	632	175	1% - 2.75%	16.27%	12.50%	3.77%	
J.P. Morgan SE	587	150	0.5% - 2%	19.74%	12.25%	7.49%	1st
Landesbank Hessen-Thüringen Girozentrale	561	150	0.5% - 2%	13.26%	11.25%	2.01%	
ING Groep N.V.	554	150	0.5% - 2%	14.46%	11.25%	3.21%	
Banca Monte dei Paschi di Siena S.p.A.	551	150	0.5% - 2%	15.64%	12.25%	3.39%	
OP Financial Group	549	150	0.5% - 2%	17.46%	11.75%	5.71%	1st
Landesbank Baden-Württemberg	547	150	0.5% - 2%	14.31%	11.33%	2.98%	
Deutsche Bank AG	535	150	0.5% - 2%	13.36%	12.00%	1.36%	4th
Mediobanca - Banca di Credito Finanziario S.p.A.	530	150	0.5% - 2%	14.03%	11.08%	2.95%	
Deutsche Apotheker- und Ärztebank eG	521	150	0.5% - 2%	16.52%	12.00%	4.52%	

Max Capital depletion = EBA Peak to Trough

P2G starting point calculation based on A&M estimates, measured as maximum CET1 * 0.25 (estimated factor), and rounded up to next 25 bps

2023 EBA Stress Test Results | July 2023

2. Potential for Capital Distribution - Dividends and Buybacks

Assuming the 2021 EBA Stress Test Methodology, P2G drives winners and losers in the dividend reset race.

Capital Flexibility

Pillar 2 Guidance

Bank Name	P2G Calculation			Capital Flexibility			
	Maximum CET1 Depletion (Bps)	P2G (Bps)	P2G Bucket (%)	CET 1 (%)	Total Capital Requirement (%)	Excess Capital (%)	Qrt.
Groupe BPCE	520	150	0.5% - 2%	15.12%	11.50%	3.62%	
Société Générale S.A.	513	150	0.5% - 2%	13.32%	11.62%	1.70%	4th
ABN AMRO Group N.V.	484	125	0.5% - 2%	15.17%	11.25%	3.92%	
Sydbank A/S	479	125	0.5% - 2%	17.27%	12.05%	5.22%	
Commerzbank AG	464	125	0.5% - 2%	14.14%	11.25%	2.89%	
Coöperatieve Rabobank U.A.	453	125	0.5% - 2%	15.96%	11.15%	4.81%	
KBC Group NV	450	125	0.5% - 2%	15.30%	11.11%	4.19%	
Skandinaviska Enskilda Banken — group	449	125	0.5% - 2%	18.96%	11.27%	7.69%	1st
Banco Comercial Português, SA	449	125	0.5% - 2%	12.49%	11.75%	0.74%	4th
Iccrea Banca S.p.A. – Istituto Centrale del Credito Coop	435	125	0.5% - 2%	18.34%	12.08%	6.26%	1st
Banco BPM S.p.A.	432	125	0.5% - 2%	12.83%	11.50%	1.33%	4th
Bank of Ireland Group Plc	422	125	0.5% - 2%	15.66%	11.50%	4.16%	
ALPHA SERVICES & HOLDINGS S.A.	417	125	0.5% - 2%	11.93%	12.25%	-0.32%	4th
Svenska Handelsbanken — group	416	125	0.5% - 2%	19.62%	11.32%	8.30%	1st
BPER Banca S.p.A.	415	125	0.5% - 2%	12.04%	11.86%	0.18%	4th
Belfius Banque SA	412	125	0.5% - 2%	16.19%	11.38%	4.81%	
UniCredit S.p.A.	403	125	0.5% - 2%	16.00%	11.00%	5.00%	
BNP Paribas	398	100	0.5% - 2%	12.27%	10.39%	1.88%	4th
Erste Group Bank AG	381	100	0.5% - 2%	14.20%	10.75%	3.45%	
Banco de Sabadell S.A.	376	100	0.5% - 2%	12.55%	11.15%	1.40%	4th
Powszechna Kasa Oszczednosci Bank Polski SA	357	100	0.5% - 2%	16.48%	9.00%	7.48%	1st
Volkswagen Bank GmbH	350	100	0.5% - 2%	18.25%	11.25%	7.00%	1st
Nordea Bank Abp	341	100	0.5% - 2%	16.43%	10.75%	5.68%	1st
Raiffeisen Bank International AG	336	100	0.5% - 2%	15.57%	11.20%	4.37%	
Citibank Holdings Ireland Limited	330	100	0.5% - 2%	20.49%	11.50%	8.99%	1st

Max Capital depletion = EBA Peak to Trough

P2G starting point calculation based on A&M estimates, measured as maximum CET1 * 0.25 (estimated factor), and rounded up to next 25 bps

2023 EBA Stress Test Results | July 2023

2. Potential for Capital Distribution - Dividends and Buybacks

Assuming the 2021 EBA Stress Test Methodology, P2G drives winners and losers in the dividend reset race.

Capital Flexibility

Pillar 2 Guidance

Bank Name	P2G Calculation			Capital Flexibility			
	Maximum CET1 Depletion (Bps)	P2G (Bps)	P2G Bucket (%)	CET 1 (%)	Total Capital Requirement (%)	Excess Capital (%)	Qrt.
Unicaja Banco, S.A.	326	100	0.5% - 2%	12.98%	11.15%	1.83%	4th
Piraeus Financial Holdings S.A.	318	100	0.5% - 2%	11.54%	12.00%	-0.46%	4th
Intesa Sanpaolo S.p.A.	317	100	0.5% - 2%	13.53%	10.79%	2.74%	
Eurobank Ergasias Services and Holdings S.A.	316	100	0.5% - 2%	14.35%	12.00%	2.35%	
CaixaBank, S.A.	313	100	0.5% - 2%	12.48%	10.65%	1.83%	4th
Cassa Centrale Banca - Credito Cooperativo Italiano S.p	303	100	0.5% - 2%	21.55%	11.50%	10.05%	1st
Banco Bilbao Vizcaya Argentaria S.A.	295	75	0% - 1%	12.61%	10.25%	2.36%	
HASPA Finanzholding	294	75	0% - 1%	15.27%	10.00%	5.27%	
ABANCA Corporacion Bancaria S.A.	275	75	0% - 1%	11.95%	10.75%	1.20%	4th
National Bank of Greece S.A.	271	75	0% - 1%	15.84%	11.75%	4.09%	
Kutxabank, S.A.	237	75	0% - 1%	17.21%	9.95%	7.26%	1st
DNB Bank Group	215	75	0% - 1%	18.28%	10.85%	7.43%	1st
OTP Bank Nyrt.	214	75	0% - 1%	15.24%	10.75%	4.49%	
Swedbank - group	202	75	0% - 1%	17.80%	11.02%	6.78%	1st
Banco Santander S.A.	170	50	0% - 1%	12.04%	10.08%	1.96%	4th
Bankinter, S.A.	165	50	0% - 1%	11.86%	9.79%	2.07%	
SBAB Bank AB – group	160	50	0% - 1%	12.77%	11.85%	0.92%	4th
Caixa Geral de Depósitos, SA	139	50	0% - 1%	18.73%	10.50%	8.23%	1st
Bank Polska Kasa Opieki SA	90	25	0% - 1%	14.79%	8.25%	6.54%	1st

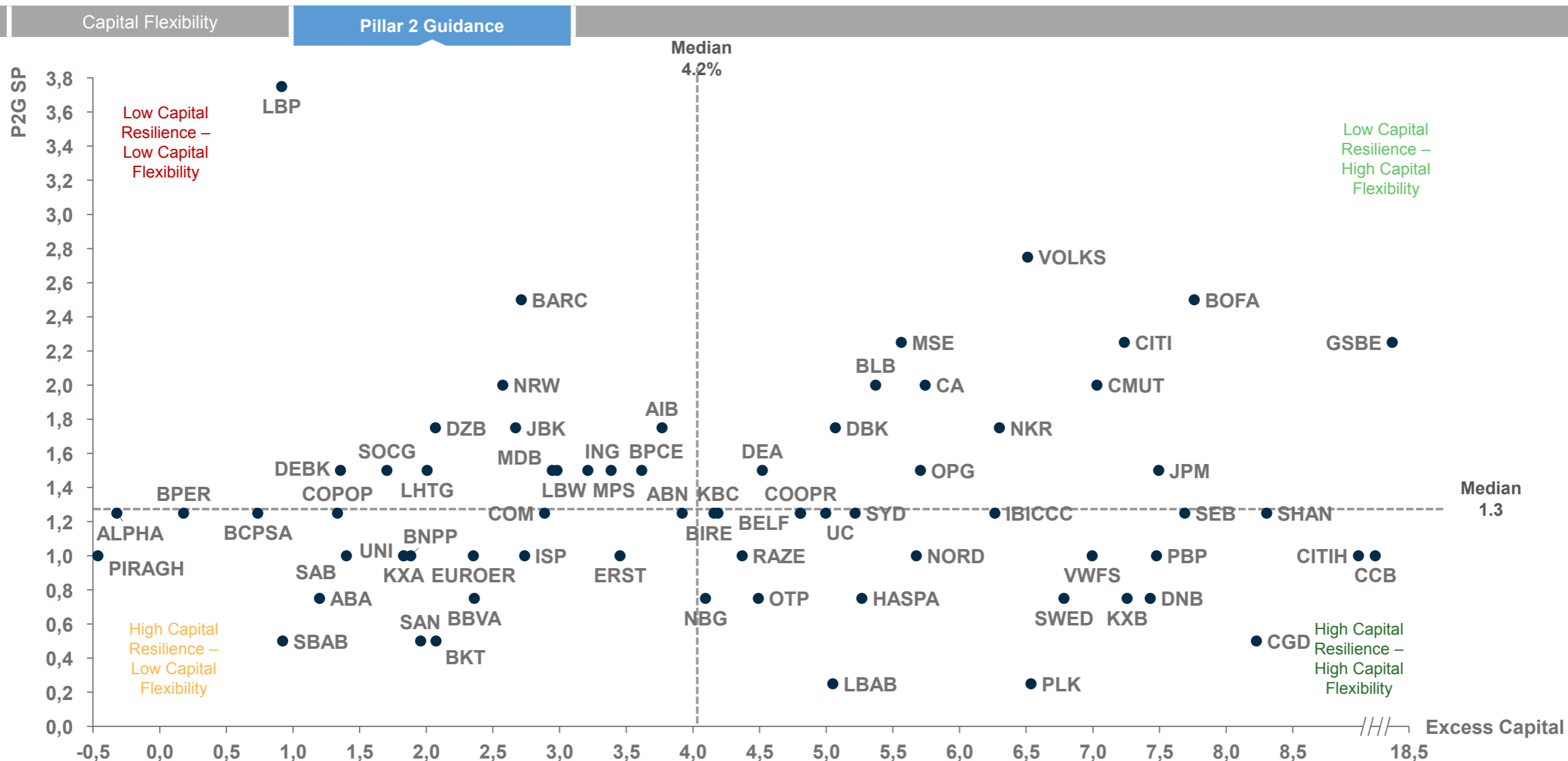
Max Capital depletion = EBA Peak to Trough

P2G starting point calculation based on A&M estimates, measured as maximum CET1 * 0.25 (estimated factor), and rounded up to next 25 bps

2023 EBA Stress Test Results | July 2023

2. Potential for Capital Distribution - Dividends and Buybacks

Assuming the 2021 EBA Stress Test Methodology, P2G drives winners and losers in the dividend reset race.



Note: Graphs divisions in banks distribution median
 Note: Excess Capital = CET1 2022 – Total Capital Required (SREP Requirement + implied P2G)
 2023 EBA Stress Test Results | July 2023



Section **3** | Stress Tests Going Forward



3. The Future of Stress Test. What to expect going forward?

Climate and Cyber ECB exercises will be conducted during 2024 and expect material changes on 2025 Capital EBA Stress Test to improve relevance, accuracy and efficiency of stress tests going forward.

2024 EBA Fit-for-55 – Climate Risk Scenario Analysis

- EBA Fit-for-55 Climate Risk Scenario analysis to assess the resilience of the financial sector in line with the Fit-for-55 package, focusing on the capacity of the financial system to support the transition to a lower carbon economy, even under conditions of stress.
- It is not expected to directly feed into the setting of micro-prudential capital requirements, but to serve as context for any future considerations on micro and macroprudential policy. Expected to be launched by the end of 2023.
- <https://www.eba.europa.eu/risk-analysis-and-data/climate-risk-stress-testing-eu-banks/one-fit-55-climate-risk-scenario-analysis>

2024 ECB Cyber Resilience Stress Test

- First Cyber Resilience ST, that aims to contribute to the assessment of the overall, broader resilience of the euro area banking system to operational shocks.
- Exercise does not stress banks' capital or liquidity metrics and will not result in any P2G adjustment. Instead, the outcome of the exercise will feed into the 2024 SREP process, mainly via operational risk and qualitative requirements.
- Consultation period + preparation of final methodology between July and Nov 2023. Exercise to be launched in Jan 2024 and run until April 2024.
- Test expected to target the integrity of the database(s) supporting the main core banking system and simulate loss impact, response and recovery actions undertaken by the Bank.

2025 Capital EBA/ECB Stress Test

- Next capital EBA Stress Test exercise in 2025 is expected to bring material new features: (i) supervisory run with top-down EBA Stress Test view using simplified assumptions, (ii) banks run with bottom-up dynamic approach aligned to ICAAP and (iii) comparative results from both views. These changes will allow to improve relevance, accuracy and efficiency of the stress tests going forward.
- <https://www.bankingsupervision.europa.eu/press/speeches/date/2019/html/ssm.sp191127~2f9bdabff9.en.html>

3. 2023 EBA Fit-for-55 – Climate Risk Scenario Analysis

Exercise to assess capacity of the financial system to support the transition to a lower carbon economy, even under conditions of stress.

Background	<ul style="list-style-type: none">▪ Aligned with the latest European Commission’s request that details the existing mandate of the Renewed Sustainable Finance Strategy (RSFS).▪ Cross-sectoral and system-wide approach, led by EBA in collaboration and coordination between ESAs, the ECB and the ESRB.
Objective	<ul style="list-style-type: none">▪ To assess the resilience of the financial sector in line with the Fit-for-55 package, focusing on the capacity of the financial system to support the transition to a lower carbon economy, even under conditions of stress.▪ It will show how stress propagates throughout the financial system and how financial institutions’ reactions might amplify stress.▪ Not expected to directly feed into the setting of micro-prudential capital requirements but serve as context for any future considerations on micro and macroprudential policy.
Scenarios	<ul style="list-style-type: none">▪ Two different ad hoc ESRB climate scenarios:<ol style="list-style-type: none">1. Short-term climate change-related risks (e.g., asset price corrections triggered by a sudden reassessment of transition or physical risks).2. Combination of climate change-related risks with other stress factors, consistent with scenarios for regular stress-testing exercises (compounding risk). This will be an important step forward towards the incorporation of climate risks in a fully fledged stress-test framework.
Sections	<ul style="list-style-type: none">▪ Credit Risk: Starting point information per NACE sector▪ Interest Income and Fee and Commission Income: Information for the top 5 countries▪ Market Risk: starting point data per NACE sector▪ Real Estate Risk: starting point information to assess physical and transitional risk
Timeline	<ul style="list-style-type: none">▪ To be launched by the end of 2023.▪ Results to be published between the end of 2024 and the beginning of 2025.

3. 2024 ECB Cyber Resilience Stress Test (1/2)

First Cyber Resilience ST, aiming to provide findings and recommendations to banks, lessons learned, as well as allow for aggregated view on the results of the exercise. It does not stress banks' capital or liquidity and will not result in any P2G adjustment

Background	<ul style="list-style-type: none">▪ The ECB Supervisory Board in its February 2023 meeting decided that the ECB annual SREP stress test in 2024 should be a cyber resilience stress test.▪ As this is the first Cyber Resilience ST, it will be framed as a learning experience for both banks and supervisors (similar to the 2022 ECB Climate Stress Test).
Objective	<ul style="list-style-type: none">▪ First Cyber Resilience ST, that aims to contribute to the assessment of the overall, broader resilience of the euro area banking system to operational shocks.▪ Exercise does not stress banks' capital or liquidity metrics and will not result in any P2G adjustment. Instead, the outcome of the exercise will feed into the 2024 SREP process, mainly via operational risk and qualitative requirements.
Participants	<ul style="list-style-type: none">▪ In-depth approach for major supervised institutions (c. 20). This includes questionnaire reporting, as well as provide detailed evidence (relevant documentation, results of tests, activity logs...). Exercise focus on simulating loss impacts, response and recovery of a a major cyber attack.▪ Lighter approach for rest of supervised institutions. This includes questionnaire reporting, as well as provide lighter evidence on relevant documents.
Scenarios	<ul style="list-style-type: none">▪ Scenarios will be a common set of severe but plausible cyber-related scenarios, which disrupts the bank core banking system.
Timeline	<ul style="list-style-type: none">▪ July – Nov 2023: Consultation period + preparation of final methodology.▪ Jan 2024: Launch of exercise, that will run until April 2024 (submission and Quality Assurance period). Exercise end by June 2024.

3. 2024 ECB Cyber Resilience Stress Test (2/2)



- Select the **main core banking system** impacted by scenario
- Inventory **impact** across systems and economic functions
- Assess reliance on **third parties**
- Provide **RTO and RPO** for the main core banking system
- Estimate **financial contribution** of the main core banking system (revenue, business volume, number of clients, value of accounts)

- Outline **business continuity plan** triggered by the scenario including governance and coordination with third parties
- Simulate all internal and external **communication** process
- Simulate **access** to system inventory, audit logs and other relevant documentation
- Simulate systems interruption and **mitigation response** actions
- Notify incident to ECB through SSM cyber **incident reporting**

- Test **recovery plans** and process including RTO and RPO for economic functions
- Test **actual recovery** of systems impacted (website, online banking, networks, internal platforms, data management and storage, enterprise software, endpoints/clients, backup infrastructure and virtualization)
- Evaluate **recovery improvements** and communications

- Estimate of **direct gross loss** net of recoveries by economic function
- Measure **business impact** by economic function in terms of change of value of accounts, number of clients, number of accounts, number of transactions, cross-border value, loan outstanding / committed, RWA, etc.
- Estimate **indirect losses** (reputation, loss of business and fines)

- Provide **documentation** evidence:
 - General and policy documents
 - Results of business and IT continuity tests
 - Activity logs
 - Other relevant documentation

Appendix 1

Scenarios Used

Summary of Scenarios – Macro EU Countries



The scenarios narrative shows geopolitical tensions leading to stagflation, with increased energy prices and production costs, further supply chain disruptions worldwide, inflation persistently high and pressures on economic activity.

Much worse GDP, unemployment rate and Residential Real Estate (RRE) shocks, with a 3-year net shock of 6%, 6.1% and 21% respectively.

GDP shocks present low discrepancies across countries compared to ST'21 and is greater than 200 bps vs. ST'21 in all countries except for Portugal, Ireland, Netherlands and Greece. Unemployment rate shows divergences across EU countries, with higher impact compared to ST'21 in Ireland and France. Few countries such as Germany and Spain show slightly lower impacts vs. previous exercise. Netherlands is by far the country most affected by RRE shocks (1391 bps difference compared to ST'21), followed by Germany and Sweden.

	GDP (Net shock) ¹			Unemployment (Net shock) ¹			House Price Index (Net shock) ¹		
	ST 2023	ST 2021	Difference (bps)	ST 2023	ST 2021	Difference (bps)	ST 2023	ST 2021	Difference (bps)
France	-574	-343	+231	595	435	+159	-1974	-1536	+439
Germany	-643	-388	+256	409	485	-76	-2580	-1849	+731
Greece	-548	-357	+191	478	475	+3	-630	-987	-357
Ireland	-378	-302	+77	770	464	+306	-1106	-1323	-216
Italy	-717	-388	+329	465	481	-16	-675	-652	+23
Netherlands	-539	-427	+112	571	497	+74	-3243	-1851	+1391
Portugal	-498	-445	+53	544	405	+140	-2543	-2543	+0
Spain	-536	-323	+213	565	581	-16	-1942	-1697	+245
Sweden	-783	-444	+340	594	607	-13	-3333	-2756	+577
European Union	-601	-356	+245	607	473	+133	-2113	-1611	+502

Note: Net shocks reflect the total adverse effect to the macroeconomic indicator from 2020 levels (3-year shock), measured as bps

Summary of Scenarios – Macro EU Countries



The scenario is more severe than the 2022 scenarios of the Bank of England and the Federal Reserve System, which in part reflects the use of updated data.

Much worse GDP, unemployment rate and Residential Real Estate (RRE) shocks for UK and US. For UK, shocks reaches 8.3%, 6.8% and 22% respectively, whereas for US the shocks hit 4.6%, 3% and 22% for the same macro variables.

	GDP (Net shock) ¹			Unemployment (Net shock) ¹			House Price Index (Net shock) ¹		
	ST 2023	ST 2021	Difference (bps)	ST 2023	ST 2021	Difference (bps)	ST 2023	ST 2021	Difference (bps)
United Kingdom	-831	-414	+418	679	441	+238	-2172	-2328	-156
United States	-460	-373	+88	302	179	+124	-2172	-2328	-156

No FX impact for US and UK, either in baseline or adverse scenarios. Shocks in both countries lower than the implicit FX depreciation.

	FX (Net shock) ¹			Interest Rates Spread (implicit FX depreciation) ²			Interest Rate Disparity
	ST 2023	ST 2021	Difference (pp)	ST 2023	ST 2021	Difference (pp)	ST 2023
United Kingdom	0.0	0.0	+0.0	2.5	2.6	-0.1	-2.5
United States	0.0	0.0	+0.0	5.2	3.7	+1.5	-5.2

Note: Net shocks reflect the total adverse effect to the macroeconomic indicator from 2020 levels (3-year shock), measured as bps

Appendix 2

List of Banks in EBA 2023 ST

List of Banks in EBA 2023 ST

Name of Banks and their respective country.

Country	Bank Name
AT	Erste Group Bank AG
AT	Raiffeisen Bank International AG
BE	Belfius Banque SA
BE	KBC Group NV
DE	Bayerische Landesbank
DE	Citigroup Global Markets Europe AG
DE	Commerzbank AG
DE	Deutsche Apotheker- und Ärztebank eG
DE	Deutsche Bank AG
DE	DZ BANK AG Deutsche Zentral- Genossenschaftsbank
DE	Goldman Sachs Bank Europe SE
DE	HASPA Finanzholding
DE	J.P. Morgan SE
DE	Landesbank Baden-Württemberg
DE	Landesbank Hessen-Thüringen Girozentrale
DE	Morgan Stanley Europe Holding SE
DE	Norddeutsche Landesbank - Girozentrale
DE	Volkswagen Bank GmbH
DK	Danske Bank
DK	Jyske Bank
DK	Nykredit Realkredit
DK	Sydbank A/S
ES	ABANCA Corporacion Bancaria S.A.
ES	Banco Bilbao Vizcaya Argentaria S.A.
ES	Banco de Sabadell S.A.
ES	Banco Santander S.A.
ES	Bankinter, S.A.
ES	CaixaBank, S.A.
ES	Kutxabank, S.A.
ES	Unicaja Banco, S.A.
FI	OP Osuuskunta
FI	Nordea Bank Abp
FR	BNP Paribas
FR	BofA Securities Europe SA
FR	Groupe BPCE
FR	Confédération Nationale du Crédit Mutuel
FR	La Banque Postale
FR	Société Générale S.A.
GR	ALPHA SERVICES & HOLDINGS S.A.
GR	Eurobank Ergasias Services and Holdings S.A.
GR	National Bank of Greece S.A.
GR	Piraeus Financial Holdings S.A.
HU	OTP Bank Nyrt.
IE	AIB Group plc
IE	Bank of Ireland Group Plc
IE	Barclays Bank Ireland Plc
IE	Citibank Holdings Ireland Limited
IT	Banca Monte dei Paschi di Siena S.p.A.
IT	Banco BPM S.p.A.
IT	BPER Banca S.p.A.
IT	Cassa Centrale Banca - Credito Cooperativo Italiano S.p.A.
IT	Iccrea Banca S.p.A. – Istituto Centrale del Credito Cooperativo
IT	Intesa Sanpaolo S.p.A.
IT	Mediobanca - Banca di Credito Finanziario S.p.A.
IT	UniCredit S.p.A.
NL	ABN AMRO Group N.V.
NL	Coöperatieve Rabobank U.A.
NL	de Volksbank N.V.
NL	ING Groep N.V.
NO	DNB Bank Group
PL	Bank Polska Kasa Opieki SA
PL	Powszechna Kasa Oszczednosci Bank Polski SA
PT	Banco Comercial Português, SA
PT	Caixa Geral de Depósitos, SA
SE	Lämförsäkringar Bank AB (publ)
SE	SBAB Bank AB – group
SE	Skandinaviska Enskilda Banken – group
SE	Svenska Handelsbanken – group
SE	Swedbank - group

Appendix 3

A&M Authors

A&M Authors



Fernando de la Mora
Head of Financial Services

European Financial Services Risk & Regulatory Lead and expert in Stress Testing for US and European Banks

Responsible for A&M Spain and Portugal and coleader of the financial services practice in Europe

More than 25 years of experience in bank consulting, in the US and Europe

Expert in risk management, EBA Stress Testing, capital and governance

Clients include global financial services firms, investment bank, regional banks, insurance companies, asset managers and hedge funds



Rocio Falcones
Senior Director

18 years of experience in consulting and financial services in the US, Spain and the UK

Primary areas of concentration are sustainability/ ESG, stress test, risk and regulation

Led EBA-ECB stress test projects during 2023, 2021, 2018 and 2016 exercises for Tier 1 European banks

Former Banco Santander and Bankinter



Alejandro Gil
Senior Associate

7 years of experience in financial services consulting carrying out projects for several European Banks and Insurance companies

Mr. Gil's primary areas of concentration are Financial Planning, Bank Restructuring, Credit Risk and Capital Management

Collaborated in projects related to EBA Capital Stress Testing and Climate Risk Stress Testing



Ivonne Cilio
Associate

6 years of experience in banking analysis

Ms. Cilio' primary areas of concentration are risk and regulatory advisory

Participated in several projects regarding the financial impact of COVID-19 and Climate Change in the Banking Sector

Collaborated in projects related to EBA Capital Stress Testing and Climate Risk Stress Testing



Gonzalo Álvarez
Analyst

2 years of experience in banking analysis

Participated in projects related in the development of tools to quantify the exposure of Spanish banks to Climate Risks.

Took part in developing ESG tools with a specific emphasis on assessing and implementing strategies to enhance the company's climate-related performance

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Alvarez & Marsal

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