US and European banks: different implementation of Basel III and stress tests

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Executive summary

The rise in banking risks since the beginning of March raises the question of the solidity of institutions in the United States and Europe. This is partly based on the prudential rules in force. While the Basel III accords of 2010 have led to an improvement in the main prudential ratios of capitalization and liquidity of banks, they have not been applied uniformly in the two regions.

In the United States, the Basel III regulations are fully implemented in a relatively small number of banks. The seven largest, considered systemic, have even stronger constraints than these international standards. In Europe, all banks, regardless of their size, must comply with these principles, even if the ECB and the European Banking Authority warned at the end of last year about the possible consequences of the postponement proposed by the European Commission of the implementation of the final provisions of Basel III (notably relating to the robustness of internal models in the calculation of the weighted risks of banks).

In summary, existing regulation is stricter for US systemic banks than for the European banking sector as a whole, but it is much more flexible for smaller US banks.

Moreover, although the performance of stress tests is not formally part of the Basel III agreements, it is emphasized by regulators and banks to underline the solidity of the sector. However, in the United States, these tests are carried out less frequently (or not at all) for small and medium-sized banks than for larger ones (once a year). Once again, European banks are in an intermediate situation, insofar as they have to do so every two years (regardless of their size). Finally, it should be noted that, in both regions, the scenarios used for the most recent stress tests did not foresee a strong and rapid rise in interest rates.

1. Basel III: differentiated application in Europe and the United States

In the United States, in response to the 2008 financial crisis, the Dodd-Frank Act of 2010 was put in place to strengthen banking regulation, including stricter capital and liquidity rules. Specifically, the act introduced a $50 billion total asset threshold to determine which banks were subject to regulatory requirements. Below this threshold, banks were considered "non-systemic" and were exempt from certain regulatory requirements.

But the constraints imposed by this law were then eased over the next decade. **During the COVID-19 pandemic in the spring of 2020, the U.S. Federal Reserve (Fed) had taken several steps to relieve financial pressures on banks.** In particular, the Fed had lowered capital ratios for large banks and reduced

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capital conservation buffer requirements, to allow banks to lend more and support the economy during the crisis. Finally, the Fed also postponed annual stress tests until late 2020.

Previously in 2018, the *Economic Growth, Regulatory Relief, and Consumer Protection* Act (EGRRCPA) loosened banking regulations by increasing the threshold of total assets at which banks are considered systemic and therefore subject to enhanced supervision to $250 billion. More specifically, this law created **four categories of banks that are distinguished by different levels of regulation**: unsurprisingly, the larger the bank's balance sheet, the stronger the regulation. **The eight banks in category I[1] , also known as *G-SIBs (Global Systemically Important Banks)*, are the most closely supervised, even more so than required by the Basel III principles** (see Table 4). These banks, which account for slightly more than half of the country's banking assets (see Table 1), are subject to enhanced capital requirements (G-SIB surcharge and leverage ratio increased to 5 percent). For the one Category II bank[2] (with more than $700 billion in assets or $75 billion in cross-border exposures but not in Category I), the standard Basel III standards are applied.

Regulation is slightly eased for Category III banks (between $250 billion and $700 billion in assets or with at least $75 billion in non-bank assets) and Category IV banks (between $100 billion and $250 billion in assets), which in 2019 accounted for 13% and 12%, respectively, of the country's total banking assets. Tier III banks are subject to relaxed (or waived for some Tier IV banks) versions of the LCR and NSFR ratios. In addition, **category IV banks, of which SVB was one, are subject to *stress tests* only in even-numbered years**, i.e. at half the frequency of banks in higher categories.

For banks with assets up to $100 billion (Classes V to VIII), the levels of regulation again differ by size but are lower. These institutions are not required to comply with Basel III prudential standards, and only those with assets in excess of $50 billion must meet risk management requirements.

Table 1: Number of banks and share of total bank assets for the top four categories of banks

	Number of banks in 2020		% of total banking assets in 2019
	Domestic banks	Foreign banks	
Category I	8	0	53%
Category II	1	0	1%
Category III	5	7	13%
Category IV	1	5	12%

Sources: Congressional Research Service (CRS)[3] , BNP Paribas, GSA

In Europe, the Basel III rules are applied uniformly, even for the smallest banks. According to ECB data, the number of banks subject to the full Basel standards in the EU amounts to 2,200. The Basel Commission's latest Basel III assessment report indicates that, at the EU level, all prudential ratios are largely met[4] . For example, the CET1 ratio stood at 14.8 percent in the union in the third quarter of 2022 (see chart 1).

Nevertheless, the implementation of the Basel III principles is taking place in two stages in Europe. After the application of the main rules in the early 2010s, finalization of the agreements was adopted in 2017.

[1] *These banks are also called G-SIBs (Global Systemically Important Banks). The eight banks in this category are Bank of America, Bank of New York Mellon, Citigroup, Goldman Sachs, JP Morgan, Morgan Stanley, State Street and Wells Fargo.*

[2] *This category included only one bank in 2019 and 2020 (Northern Trust).*

[3] *Congressional Research Service (CRS): Over the Line: Asset Thresholds in Bank Regulation https://sgp.fas.org/crs/misc/R46779.pdf*

[4] *Source: Basel Committee on Banking Supervision : Basel III Monitoring Report February 2023 https://www.bis.org/bcbs/publ/d546.pdf*

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Nevertheless, the ECB and the European Banking Authority warned at the end of last year about a reform project of the European Commission that could postpone the transposition of the final principles of Basel III. This finalization of the Basel III principles essentially concerns the revision of the calculation of risk-weighted assets (RWA). As explained by the Autorité de contrôle prudentiel et de régulation (ACPR), banks must in fact respect a minimum capital ratio with respect to the risks they take, and can use two approaches to calculate their weighted risks:

- Assessing risk with standard methods, whose parameters are defined by the regulations. They have the advantage of being simple but they are not adapted to take into account the diversity of risks and business models of banks;
- Use internal models that they develop and that allow for a more detailed consideration of risks and that are subject to approval and monitoring by supervisors.

The two main objectives of the revision of the calculation of weighted risks is to improve the robustness of the results produced by the internal models and the relevance of the standard approaches without implying a significant increase in the banks' capital requirements.

It was originally supposed to be introduced in January 2023 (and fully implemented in 2028), but the European Commission proposed to implement it only in January 2025, in order to give banks enough time to adapt to these rules. In a joint article, Luis de Guindos, Vice-President of the ECB, Andrea Enria, Chairman of the ECB Supervisory Board, and José Manuel Campa, Chairman of the European Banking Authority[5] , denounced this postponement as a deviation from the Basel III principles.

Box: What is Basel III?

The Basel Committee, created in 1974, is a forum where banking supervision issues are discussed four times a year. It is hosted by the Bank for International Settlements in Basel. It gave rise to the Basel I (1988) and Basel II (2004) agreements to guarantee a minimum level of capital.

Basel 3 is an international agreement concluded in 2010 and which aims to strengthen the soundness of the banking sector, in order to learn the lessons of the financial crisis of 2008. It follows the Basel I (1988) and Basel II (2004) agreements. **Banks subject to the Basel III regulations are committed to respecting several constraints:**

1) They are first subject to a regulatory capital ratio requiring them to hold sufficient capital. Core Tier 1 capital[6] must be 7% of risk-weighted assets. In addition, total capital must amount to 10.5% of risk-weighted assets.

2) In addition, there is a "**counter-cyclical buffer**" which aims to smooth the economic cycle by requiring banks to increase their capital during periods of economic growth. This additional capital can reach up to 2.5% of risk-weighted assets.

3) **Banks must also comply with a leverage ratio, the objective of which is to limit the maximum use of leverage.** Banks are expected to maintain this leverage ratio (Tier 1 capital[7] to the bank's average consolidated total assets) above 3% under Basel III.

4) **Banks are also required to follow short-term and long-term liquidity requirements**. **The short-term liquidity ratio (SLR),** equal to the ratio of high-quality liquid assets (HQLA) to net cash outflows, must indicate that the bank holds sufficient HQLA to cover 100% of its net cash needs in the event of a crisis over a 30-day

[5] https://www.ecb.europa.eu/press/blog/date/2022/html/ecb.blog221104~34240c3770.en.html

[6] *Core Tier 1 capital (CT1) is a sub-category of Tier 1 capital. It consists solely of the bank's issued common stock and retained earnings, including retained earnings.*

[7] *Tier 1 capital, also known as Common Equity Tier 1 (CET1), is the highest quality capital under regulatory standards for bank solvency. It consists of common stock issued by the bank, the bank's retained earnings, including retained profits, and other equity elements that meet the high quality criteria.*

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period. **The long-term liquidity ratio (NSFR),** equal to the ratio of the available amount of stable funding (capital, liabilities of more than one year) to the required amount of stable funding[8] , must also be at least 100%.

2. In the United States as in Europe, the latest *stress tests* published underlined the solidity of the banks, but the scenarios retained did not foresee a strong and rapid rise in interest rates

On both sides of the Atlantic, *stress* tests *are* therefore part of the prudential rules to be applied to banks. These exercises consist of simulating extreme but possible economic conditions in order to determine whether banks can cope with them, i.e. be able to absorb significant losses while maintaining their activities.

In the United States, the Federal Reserve (Fed) imposes *stress tests* every year on banks with more than $250 billion in assets (Category I, II and III banks, or even the appendix) **and every two years on Category IV banks** (those with a balance sheet between $100 billion and $250 billion). Banks with less than $100 billion in assets are not subject to these tests. Prior to 2018 and the EGRRCPA, the rules were stricter for some banks: banks in Category IV were required to conduct *stress tests* on an annual basis, while those with assets between $50 billion and $100 billion were then required to conduct these assessments every two years. Given these rules in effect since 2018, Silicon Valley Bank (SVB) was not subject to stress tests in either 2022 or previous years (despite warnings from the Fed in 2019 about the bank's risk management systems).

In the European Union, the European Banking Authority (EBA) and the European Central Bank (ECB) conduct *stress tests* on the zone's major banks every two years. In 2021, the tests applied to a set of 50 banks. 70 banks, or about 75% of total assets in the union, will be covered this year.

The latest stress tests have concluded that the banks are sound. The Fed's 2022 stress test shows that large U.S. banks have sufficient capital to absorb more than $600 billion in losses and continue lending to households and businesses under stressful conditions[9] . In the very adverse scenario, the overall CET1 ratio would fall from 12.4% to a low of 9.7%, before rising to 10.3% in early 2024. In Europe, the 2021 stress test showed that in the risky scenario, the CET1 ratio of the European banking sector would decline by almost 500 basis points by the end of 2023, but would remain above 10%[10] .

However, these *stress tests* did not include a scenario of high and rapidly rising inflation and interest rates comparable to what the US and European economies have been experiencing since last year. In 2022, the Fed developed the scenario for the tests in January, thus before the start of the war in Ukraine and its impact on world commodity prices and therefore inflation and interest rates. The very adverse *stress test* scenario at the time was characterized by a deep global recession, accompanied by rising unemployment, and a period of heightened stress in the commercial real estate and corporate debt markets[11] . In this risk scenario, inflation is lower and short- and medium-term interest rates are permanently lower (see Table 2).

In the European Union, the 2021 stress test also assumed a very different situation than the one we are currently experiencing. The adverse scenario in this latest *stress test* envisaged a prolonged low interest

[8] *The amount of stable funding available to a bank is the portion of its capital and liabilities that will remain with the institution for more than one year. A bank's stable funding requirement is the amount of stable funding the bank is required to hold given the liquidity characteristics and remaining maturities of its assets and the potential liquidity risk from its off-balance sheet exposures.*

[9] *Source: 2022 Federal Reserve Stress Test Results* https://www.federalreserve.gov/publications/files/2022-dfast-results-20220623.pdf

[7]Source*: 2021 EU-wide stress test results* https://www.eba.europa.eu/sites/default/documents/files/document_library/Risk%20Analysis%20and%20Data/EU-wide%20Stress%20Testing/2021/ST%20results/1017864/2021-EU-wide-stress-test-Results.pdf

[11] *Source: Federal Reserve 2022 Stress Test Scenarios* https://www.federalreserve.gov/publications/2022-Stress-Test-Scenarios.htm

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rate and pandemic environment, in which negative confidence shocks prolonged the contraction of the economy[12] (see Table 3).

Table 2: Economic assumptions of the different scenarios of the Fed's stress tests in 2022 (%)

	GDP growth		Unemployment rate		Inflation		3 month Treasury rate		5 year Treasury rate		10 year Treasury rate	
	Baseline scenario	Adverse scenario	Baseline scenario	Adverse scenario	Baseline scenario	Adverse scenario	Baseline scenario	Adverse scenario	Baseline scenario	Adverse scenario	Baseline scenario	Adverse scenario
Q1 2022	3.3	-1.4	4.0	7.0	3.9	2.3	0.1	0.1	1.3	0.3	1.7	0.7
Q2 2022	3.9	-6.2	3.8	8.1	3.0	1.5	0.3	0.1	1.4	0.3	1.8	0.7
Q3 2022	3.3	-4.0	3.7	8.9	2.5	1.3	0.5	0.1	1.6	0.3	2.0	0.7
Q4 2022	2.7	-1.8	3.6	9.4	2.4	1.3	0.7	0.1	1.7	0.3	2.1	0.8
Q1 2023	2.5	-1.0	3.5	9.8	2.4	1.4	0.9	0.1	1.8	0.3	2.2	0.9
Q2 2023	2.3	1.3	3.5	9.9	2.3	1.4	1.1	0.1	1.9	0.4	2.3	1.0
Q3 2023	2.2	1.3	3.5	10.0	2.3	1.4	1.3	0.1	1.9	0.5	2.4	1.1
Q4 2023	2.2	6.6	3.5	9.5	2.4	1.5	1.4	0.1	1.9	0.5	2.5	1.2
Q1 2024	2.1	6.2	3.5	8.9	2.3	1.5	1.5	0.1	2.0	0.6	2.5	1.3
Q2 2024	2.1	5.8	3.5	8.5	2.2	1.5	1.5	0.1	2.0	0.7	2.5	1.3
Q3 2024	2.0	5.5	3.6	8.1	2.2	1.6	1.5	0.1	2.0	0.8	2.5	1.4
Q4 2024	2.0	5.2	3.6	7.7	2.1	1.6	1.5	0.1	2.0	0.8	2.5	1.5
Q1 2025	2.0	4.9	3.6	7.4	2.2	1.6	1.5	0.1	2.0	0.9	2.6	1.5

Source: Federal Reserve Board

Table 3: Economic assumptions of the different stress test scenarios in the EU in 2021 (%)

	Growth		Inflation		Unempoyment rate		Long-term rates	
	Baseline scenario	Adverse scenario	Baseline scenario	Adverse scenario	Baseline scenario	Adverse scenario	Baseline scenario	Adverse scenario
2021	3,9	-1,5	1,1	0,9	8,7	10,0	0,0	0,6
2022	4,2	-1,9	1,3	0,8	7,7	11,2	0,1	0,7
2023	2,3	-0,2	1,5	0,7	7,1	12,1	0,2	0,7

Source: European Banking Authority

[12] *Source: 2021 EU-wide stress test - Macro financial scenario* https://www.eba.europa.eu/risk-analysis-and-data/eu-wide-stress-testing

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Table 4: Regulation of U.S. Banks by Category

Enhanced prudential standards imposed on banks (BHCs) and US subsidiaries of foreign banks (IHCs)								
			Category I	Category II	Category III		Category IV	
Criteria for designation			G-SIB	> USD 700 bn total assets or > USD 75 bn crossborder exposure	> USD 250 bn and > USD 700 bn total assets or > USD 75 bn non bank assets, short-term market debt or off balance sheet exposure		USD 100 – USD 250 bn total assets	
Capital	TLAC		✓	×	×		×	
	Stress tests internes, DFAST et CCAR	Company-run stress tests	yearly	yearly	every 2 years		×	
		Supervisory stress tests	yearly	yearly	yearly		every 2 years	
		CCAR	yearly	yearly	every 2 years		×	
		Capital plan	✓	✓	✓		✓	
	Requirements on weighted risks	G-SIB overload	✓	×	×		×	
		Advanced approach	✓	✓	×		×	
		Counter cyclical capital buffer	✓	✓	✓		×	
		Recognition of unrealized or deferred gains and losses (AOCI)	✓	✓	possibility of applying prudential filters		possibility of applying prudential filters	
	Leverage ratio		eSLR = 5%	SLR = 3%	SLR = 3%		GAAP LR = 4%	
Liquidity	Standardized requirements (LCR, NSFR)	Level of requirement	min = 100%	min = 100%	min= 100% if wSTWF > USD 75 bn	min= 85% if wSTWF< USD 75 bn	min= 70% if wSTWF> USD 50 bn	×if wSTWF< USD 50 bn
		Frequency of calculation	daily	daily	daily	daily	monthly	×
		Maturity mismatch add-on	✓	✓	✓	✓	✓	×
		Reporting**	daily	daily	daily	daily	monthly	×
		Publication	quarterly	quarterly	quarterly		quarterly	×
	Internal requirements	Stress tests**	monthly	monthly	monthly		monthly	
		Liquidity risk management**	✓	✓	✓		reduced requirements	
Exposure limits		SCCL**	✓	✓	✓		✓	
Settlement plan		Frequency**	every 2 years	every 3 years	every 3 years		× (partial version every 3 years for foreign banks)***	

Source: BNP Paribas[13]

*Notes: * subject to standardized capital and liquidity requirements, ** in the case of IHC constraints: based on the risk profile of all U.S. subsidiaries and branches of the parent company, *** U.S. subsidiaries of foreign banking groups with a consolidated balance sheet exceeding USD 250 billion.*

BHC: Bank Holding Company, IHC: Intermediate Holding Company, G-SIB: Global Systemically Important Bank, TLAC: Total Loss-Absorbing Capacity, DFAST: Dodd-Frank Act Stress Test, CCAR: Comprehensive Capital Analysis and Review, SLR: Supplementary Leverage Ratio, eSLR: enhanced Supplementary Leverage Ratio, LCR: Liquidity Coverage Ratio, NSFR: Net Stable Funding Ratio (rule not finalized), wSTWF: weighted Short-Term Wholesale Funding, SCCL: Single-Counterparty Credit Limits

13 *Source: BNP Paribas - Eco Flash: Increased progressiveness of US banking regulation https://economic-research.bnpparibas.com/pdf/fr-FR/progressivite-accrue-reglementation-bancaire-americaine-04/11/2019,36458*

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