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THE QUICKLY FADING MEMORY OF WHY AND WHEN BANK CAPITAL IS IMPORTANT

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Less than fifteen years after the global financial crisis of 2007-2008, banks and policymakers are calling for deregulation and lower capital requirements in the financial sector. They dispute that the Basel framework, the global standards for regulating large international banks, should be implemented fully in the European Union. One concern is that stricter capital regulation will affect the competitiveness of European banks compared to those in the United States and will restrict loan provision in the EU, despite Europe's significant investment gap.

However, deregulation should not be confused with reducing capital requirements for banks. On balance, there is only limited empirical evidence that respecting the capital requirements necessary to support financial stability hampers credit to the economy, investment or economic growth in the long term. Only well-capitalised banks can continue financing the economy during economic setbacks, and weakening the implementation of the Basel standards increases the risks of a new financial crisis. Bank lending and access to financing surveys also show there is no credit crunch in the euro area at present and that capital requirements are not the primary constraint on credit provision.

A detailed look at current banking regulation does not support the conclusion that European banks are more strictly regulated overall than US banks. A direct comparison suggests rather the opposite. However, the compliance cost incurred by EU banks from current banking regulation can be reduced by simplifying EU rules.

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1 Introduction

There is a concern in the European Union that regulations are hampering the financial sector in contributing to growth. This concern relates in particular to the Basel Framework, agreed by global financial supervisors and implemented progressively by the EU and in national jurisdictions. The Basel Framework has evolved since the first set of standards were introduced around 1990[1], its complexity increasing from covering primarily capital requirements to covering a wider area of bank regulation, including liquidity standards. Draghi (2024), for example, portrayed the financial sector as vital to unlocking growth in the EU, but noted that the EU banking sector faces "higher regulatory compliance costs" than banks in the United States[2].

Meanwhile, President Macron has asked for the implementation of the Basel rules to be looked at again, saying the EU should *"revise the application of what is done with Basel and Solvency. We cannot be the only economic area in the world that applies it. The Americans, who were at the source of the 2008-2010 financial crisis, have chosen not to apply it to their players"* (Macron, 2024). Subsequently, France's finance ministry, along with its German and Italian counterparts, wrote in early 2025 to the European Commission's Directorate-General for Financial Stability, Financial Services and Capital Markets Union arguing for looser regulatory standards to foster finance for growth[3].

The European Banking Federation argues: *"It is essential for European regulators to monitor global trends in regulation and ensure a level playing field for Europe's banks, especially when compared to the US. Europe also should make sure that it regularly reviews EU regulation to ensure it is aligned with the global environment and applies the existing framework in a reliable and pragmatic manner"*[4].

This paper assesses these demands. We start by explaining the tension between the financial industry's goals (maximising profits and therefore minimising capital and other prudential requirements) and those of society (financial stability and financing economic growth). Section 3 then reviews the argument that higher bank capital requirements stifle lending and consequently growth but concludes that these claims cannot be substantiated by a review of the literature. Moreover, there is no evidence currently of credit scarcity in the euro area and no evidence that capital positions or balance-sheet constraints are the greatest obstacles to lending. Section 4 then evaluates whether

[1] See Bank for International Settlements, 'Background to the Basel Framework', undated, https://www.bis.org/baselframework/background.htm.
[2] Draghi (2024) also noted: *"EU banks also face some specific regulatory hurdles which constrain their capacity to lend. In particular, EU banks cannot rely on securitisation to the same extent as their US counterparts"* (page 64 of Part A). *"For example, China offers attractive leasing for shipowners, while EU commercial banks have slowed their support due to strict prudential requirements"* (page 217 of Part B). He attributed higher compliance costs for the EU banking sector to greater fragmentation *"owing to an incomplete banking union"* (page 287).
[3] Kathryn Carlson, 'We need a Draghi report for banking, say EU's 3 biggest countries', *Politico*, 4 February 2025, https://www.politico.eu/article/we-need-mario-draghi-report-for-banking-say-eu-three-biggest-countries-france-germany-italy/.
[4] European Banking Federation, 'The EBF Board highlights', 27 November 2024, https://www.ebf.eu/ebf-media-centre/updates/ebf-board-highlights-november-2024/.

European banks are more regulated than their competitors and concludes that while their compliance costs are high, their regulation is less stringent.

Section 5 concludes, finding that capital and other standards that underpin financial stability should not be lowered, though in some ways EU financial regulation is more complex than it needs to be. What is important for generating economic growth in the EU is deepening capital markets[5]. Banks play a limited role in deepening capital markets in a way that promotes growth. Bank contracts – loans with a return in the form of interest payments – are not geared to finance venture capital, on which returns vary greatly. Bank contracts would suffer when the return is low and will not recoup a sufficient share of high returns.

The best contribution banks can make to economic growth in the long run comes from a well-capitalised banking sector that can supply credit even during economic setbacks. Governments should not again face a situation in which the choice is between banks lifting solvency percentages through a reduction in balance sheets, including less lending, and governments bailing out the banking sector.

2 The rationale for capital regulation

Most banks maintain capital ratios – the capital they hold relative to their assets and an indicator of how able banks are to meet their obligations – that are only marginally higher than capital requirements (the legal minimum capital ratio). Only a few maintain capital ratios that are significantly higher than the legal capital requirements. This behaviour suggests there is a cost to maintaining a high capital ratio.

However, what may be optimal for banks may not be optimal for society. There is a moral hazard problem associated with deposit insurance – protecting depositors when a bank is unable to pay its debts – and relying on the lender of last resort role of central banks, for example. A credit crunch is another risk associated with low capital ratios. Fear of a credit crunch was a major factor behind governments throwing trillions of euros into the banks during the financial crisis that started in 2009.

To understand the issue, we need to make a digression into modern capital structure theory – optimising the liability shares of debt and equity (Modigliani and Miller, 1958) – according to which the financing of companies does not matter. Capital is riskier than debt and therefore more expensive. However, the more capital, the less risk there is to both capital and debt, and as a result both are less expensive. Therefore, one could wonder, why are banks fuzzy about capital requirements?

Subsequent modifications to capital structure theory have shown that capital structure does matter. The first modification was the introduction of taxes, with the tax deductibility of interest as opposed to dividends making debt more attractive. Subsequent modifications include the cost of bankruptcy and

[5] Though capital-market deepening is not the subject of this paper.

principal agent problems associated with information asymmetries (Brealey *et al*, 1977). The function of deposits as a means of payment also adds to the attractiveness of debt for banks as depositors accept a lower interest rate than the market rate because of this function. For banks, deposit insurance also reduces the cost of deposits.

Information asymmetries make a difference because insiders know more about the state of a company than outsiders and have different incentives. Therefore, internal finance is less expensive than external finance. This applies both to banks and to borrowers. Posting collateral is one way to reduce information asymmetries. For banks, both the capacity to raise liquidity and capital can be a constraint. During economic downturns, there is less possibility to raise either. Among other things, the value of collateral declines and there is less internal capital generation. Therefore, the risk premium increases.

Cyclical movements in the risk premium can amplify business cycles. Bernanke (2007) and others have argued that bank credit standards matter for economic developments, and thus monetary policy, using the term *"financial accelerator"* to describe how financial conditions can amplify a turndown in the economy.

The credit channel of monetary transmission is usually split into two parts: the balance sheet channel and the bank lending channel. The balance sheet channel relates to conditions on the balance sheets of borrowers. The bank lending channel relates to conditions on the balance sheets of banks. In both channels, an increase in the external finance premium can amplify a downturn. Tight bank lending standards lower credit (Bondt *et al*, 2010; Ciccarelli *et al*, 2010). Moreover, studies have linked the conditions of individual banks to developments of credit to their customers. Jensen and Johannesen (2017) showed that banks in Denmark that were particularly exposed to the financial crisis subsequently lowered their lending to household customers disproportionally. It was not possible for their customers to find alternative sources of finance and as a result their consumption fell. Hviid and Schroeder (2024) showed the same results for corporate customers. Better-capitalised banks are less likely to restrict lending and cause downturns in the economy.

3 The potential costs of capital regulation

EU banks and policymakers raise the concern that full implementation of the Basel standards could decrease investment and growth. This is related to the argument that higher minimum capital requirements will negatively impact bank profitability, either by reducing lending volumes to the economy or by making borrowing by businesses and households more expensive, thereby disincentivising investment and impacting growth in the overall economy.

However, a survey of empirical studies on the actual implementation of Basel III (the current version of the standards; see section 4 for details of the Basel III rules and the EU's financial regulation) does not substantiate these concerns. Boissey *et al* (2019) analysed the BIS Repository of Studies on the Effects of Financial Regulations and found that an increase in bank capital ratios in most studies has

no negative impact on lending to the economy; rather, it increases lending a little. This can be explained by the reasoning that higher capital ratios (commonly used are CET 1, the sum of common shares, retained earnings and other parts of high quality regulatory capital divided by the risk weighted assets, or Tier 1 capital that adds other capital that can become loss absorption on a going-concern basis, while not meeting all the criteria for CET1) raises the cost of bank equity but lowers the borrowing costs of those banks, thereby contributing to a decrease in the overall lending costs of those banks (see annex 2).

In relation to the wider economy, Slovik and Cournède (2011) estimated the medium-term impact of Basel III on the level of GDP on average to be a reduction of 0.23 percent five years after its implementation by banks, or an approximate average impact on GDP growth of –0.05 percentage points per annum. This is supported by European Central Bank studies, which have found that under normal economic conditions, the implementation of the main EU-specific approach to Basel III results in less than a 0.5 percentage-point reduction in annual GDP growth from the second to the fourth year after the phase-in (Budnik *et al*, 2021).

EBA (2019) even found that, despite negative short-term impacts on lending of the Basel III capital requirements, the impact on GDP growth would turn positive and converge to zero at the end of the transition period. Beyond the direct impact on GDP, EBA (2019) also found that the implementation of Basel III would reduce the probability of a financial crisis by about 1.2 percentage points, implying a sizeable long-term net benefit for GDP of around 0.6 percent.

A similar conclusion was set out by the Chair of the Single Supervisory Mechanism (SSM), Claudia Buch, in a 28 October 2024 letter to member of the European Parliament Eero Heinäluoma: *"a stable and well-functioning banking system provides a strong foundation for economic growth. Resilient banks have a stronger capacity to lend and thus to support the real economy. Well-regulated and appropriately supervised banks can perform their roles without taking undue risks or threatening financial stability, ensuring the sustainable provision of financing. Well-capitalized banks are better able to absorb losses during economic downturns, reducing the risk of a systemic banking crisis, which would present severe consequences for the real economy"*[6].

Curiously, the findings depend on institutional affiliations. Academic studies find that there is a small negative effect of around 0.2 percent on GDP in response to an increase in the capital ratio by 1 percentage point. But Fidrmuc and Lind (2020) observed that estimates of the impact of bank regulation and bank capital requirements on the economy are systematically influenced by the author's affiliations: official estimates only find small negative effects, while the banking sector finds large negative impacts.

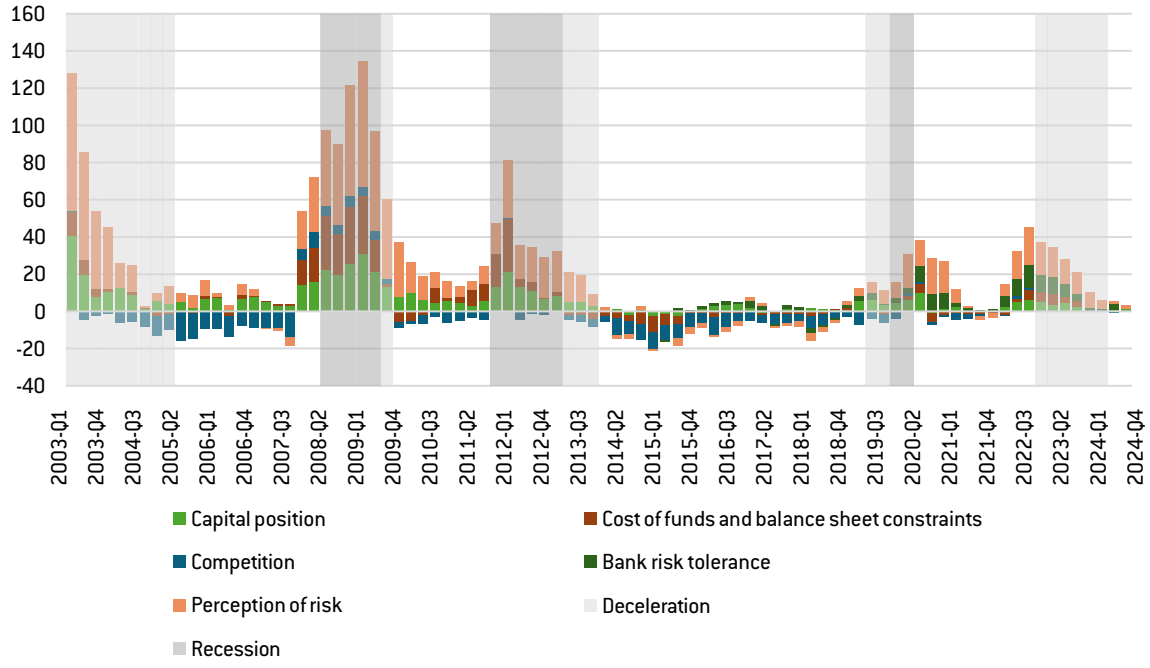
[6] The letter is available at https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.mepletter241028_Heinaluoma~25885c19ec.en.pdf.

Overall, however, studies suggest that what matters most is that there is sufficient capital when the economy moves into a downturn. The cost of additional capital during an upturn is at worst very limited (Box 1). But raising additional capital during a downturn in the economy is to be avoided. The economic impact of Basel III might be hard to measure – but is likely not very significant – but the consequences of the global financial crisis of 2007-2008 should not be forgotten: a negative impact for the euro area of about 9 percent of GDP (Chen *et al*, 2018).

Box 1: Euro-area credit conditions and contributors

There is little evidence of credit scarcity in the euro area, or that capital positions or other balance-sheet constraints are a primary obstacle to credit provision (ECB, 2024). Figure 1 shows the net share of euro-area banks that have tightened their credit standards in each quarter. Clear spikes occurred during the global financial crisis, sovereign debt crisis, COVID-19 pandemic and Russia's invasion of Ukraine. During periods of economic expansion, competition from other banks and non-banks, as well as balance-sheet positions, is a primary contributor to the lowering of credit standards. During periods of economic deceleration, risk perception is the single greatest contributor to credit-standard tightening, followed by capital positions and balance-sheet constraints. Risk perception plays a dominant role in every period of credit-standard tightening. Over the observable period, the importance of capital constraints in credit standard tightening has diminished.

Figure 1: Contributors to net credit standard changes, euro-area banks, Q1 2003-Q4 2024



Source: Bruegel based on ECB Bank Lending Survey and European Commission Business Cycle Clock.

4 Are European banks regulated more tightly than their competitors?

National authorities implement the Basel standards in national legislation, but there are variations in implementation. In the EU, the Basel standards are implemented via EU regulations and directives, as well as national legislation, including national legislation that implements the EU directives.

The EU is finalising implementation of Basel III through several laws including the sixth Capital Requirements Directive (CRD VI, Directive (EU) 2024/1619), which EU countries must transpose into their national statures by early 2026, the Capital Requirements Regulation III (CRR III, Regulation (EU) 2024/1623) and a directive on bank resolution-related matters (Directive (EU) 2024/1174, the so-called daisy chains directive).

European banks, including Santander, BNP Paribas and Deutsche Bank, argue that Basel III, agreed because of the global financial crisis, is implemented too strictly in the EU, creating a competitiveness handicap for them compared to banks in other jurisdictions[7]. However, what the implementation of Basel III in the EU does – assuming that the Basel requirements will be implemented fully – will be to reduce a current competitive advantage that European banks have relative to US banks.

The Basel Committee on Banking Supervision (BCBS, 2024) concluded that the Basel III rules result in:

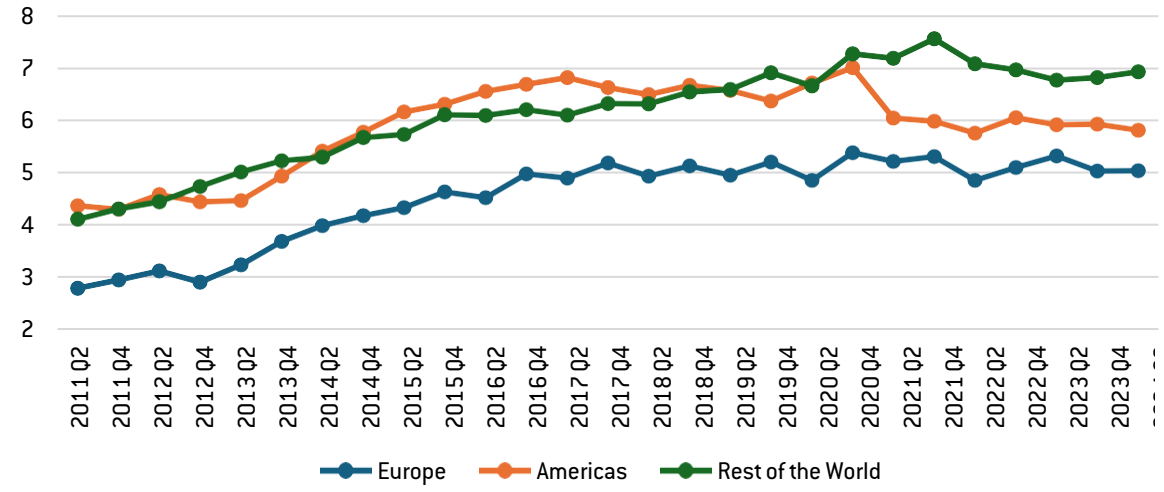
1. Capital requirements for EU banks will increase more than for US banks.
2. But this reflects prior relative leniency of EU capital requirements, particularly because of the use of internal rating-based (IRB) models (self-estimated risk parameters banks are allowed to use instead of risk parameters imposed under the standardised approach[8]).
3. Requirements relative to Basel standards are still more lenient in the EU.
4. In both the EU and the US, banks already have enough capital to meet final Basel requirements.

BCBS (2025) also calculated the leverage ratios (a bank's total capital divided by total assets) for Group 1 banks (the largest banks, internationally active) and Group 2 banks (all other banks). For Group 1 banks, this ratio is lower in Europe (5.0 percent) than in the Americas (5.8 percent) and the rest of the world (6.9 percent; Figure 2).

[7] See for example, *Reuters*, 'Santander's Botin wants EU to let banks use buffers for defence investment', 27 March 2025, https://www.reuters.com/business/finance/santanders-botin-wants-eu-let-banks-use-buffers-defence-investment-2025-03-27/.

[8] Under the standardised approach, banks are required to use ratings from external credit rating agencies to quantify required capital for credit risk.

Figure 2: Leverage ratios of large internationally active banks by region (%)

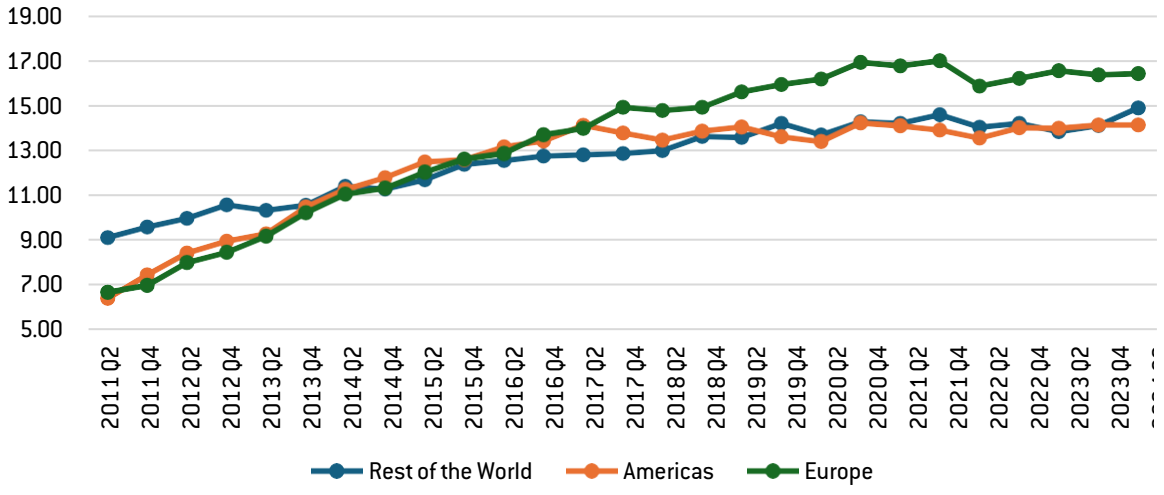


Source: Bruegel based on Basel Committee on Banking Supervision, Highlights of the Basel III monitoring exercise as of 26 March 2025. Note: the 'Americas' includes 13 US banks, six from Canada, two from Brazil and two from Mexico.

The leverage ratio for global systematically important banks (G-SIBs, a subset of Group 1 banks) is even a bit lower than for the other Group 1 banks, while for Group 2 banks, it is higher.

If we use the Tier 1 capital ratio (Tier 1 capital, ie core capital, divided by risk-weighted assets), this picture changes (Figure 3): European banks become better capitalised than their counterparts from the Americas (see note to Figure 2). This is because the IRB models used by EU banks allow for greater divergence in terms of risks, thereby lowering their risk-weighted assets (RWA – an adjustment to assets depending on how risky they are) compared to American competitors.

Figure 3: Tier 1 capital ratios by region (%)



Source: Bruegel based on Basel Committee on Banking Supervision, Highlights of the Basel III monitoring exercise as of 26 March 2025. Note: see Figure 2 for definition of the 'Americas'.

Tier 1 capital ratios are currently higher for smaller banks (Group 2) than for Group 1 banks: 20.1 percent versus 15.2 percent (15.0 percent for the G-SIBs). After the full phasing-in of Basel III, in 2028, the Tier 1 ratio would decrease to 14.8 percent for Group 1 banks (14.6 percent for the G-SIBs) and to 18.7 percent for Group 2 banks.

In sections 4.1 to 4.3, we present more evidence that EU banks are not handicapped in terms of capital and other Basel requirements, compared to their US and United Kingdom counterparts.

4.1 Basel III implementation in the EU and other regions

The different levels and diverging evolutions of the leverage ratios (total assets are used in the denominator) versus the capital ratios (risk weighted assets are used) of European and US banks arises largely from the different application of the agreed rules under the so-called Basel Endgame, the final piece of the Basel III post-crisis reforms concluded in 2017. Other measures also play a role. The focus of Basel III is on the denominator of the risk-based capital ratio, namely the risk-weighted assets (RWA), based on banks' internal models (IRB).

The EU's finalisation of Basel III deviates from the Basel agreement in ways that imply a significant watering down. Deviations include several exemptions and delays for RWA for credit risk, operational risk and market risk (which has been delayed until the beginning of 2026).

The use of the IRB models was constrained via the introduction of 'output floors', agreed by the BCBS. Under Basel III, if the output floor is fully implemented, RWAs computed using internal models cannot fall below 72.5 percent of the RWAs computed using the standardised approach. The output floor is being only gradually implemented in EU legislation and will not be binding before 2030; transitional arrangements mean it will only be fully binding in 2032.

Large EU, US and UK banks are allowed to use IRB models, but the internal models of EU banks generate lower RWAs compared to the standardised approach. This is because EU banks benefit more from favourable internal risk weightings for residential mortgages, while US and UK regulators and supervisors apply more conservative capital requirements, thereby limiting the divergence between internal model outputs and standardised calculations. US regulators have already implemented a strict output floor, limiting the lowering of RWAs through the use of IRB modelling (known as the Collins floor for the Collins Amendment of the US Dodd-Frank Act).

Because EU banks start from looser regulation, the Basel output floor will have a bigger impact on large EU banks than on large US and UK banks. This explains why EU negotiators proposed an output floor of 60 percent to 65 percent during the Basel negotiations, while the US negotiators wanted 90 percent to 100 percent. After lengthy negotiations, a compromise was found at 72.5 percent.

In October 2021, the European Commission calculated the impact for EU banks of Basel III finalisation through CRR III/CRD VI as follows:

Table 1: Impact for EU banks of the final implementation of Basel III

	Impact in 2023 at start of application (start of transitional period)		Impact in 2028 under full application (end of transitional period)	
	Average % change in total MRC*	Total capital shortfall (€ billions)**	Average % change in total MRC***	Total capital shortfall (€ billions)**
Full alignment with Basel III	+11.8	27.5	+18.5	52.2
Basel III implementation including EU variations***	Between +0.7 and +2.7	Below 7.5	Between +6.4 and +8.4	Below 26.3

Source: European Commission, Staff Working Document Impact Assessment Report, Brussels, 27.10.2021 SWD(2021) 320 final. Note: these estimates do not take the mitigating effects of the treatment of low-risk residential mortgage lending into account. Consequently, the impact of Basel III implementation is over-estimated. * MRC= minimum required capital. ** Under the Commission's 'moderate recovery scenario'. *** Variations from Basel III as proposed in the Commission proposal.

Table 1 shows that the EU-specific application of Basel III reduces the capital requirements for banks significantly[9]. EBA (2023) estimated the impact of Basel III on EU banks compared to the current implementation of the Basel standards, taking into account the most impactful EU-specific adjustments that are part of CRR III and CRD VI, and found that the difference in minimum required capital would amount to a shortfall of €0.8 billion in Tier 1 capital and of €0.3 billion of CET1 only.

The implementation of the final Basel III standards in the EU-specific scenario is expected to increase European banks' Tier 1 minimum required capital by 4.4 percentage points less than in the standard scenario. G-SIIs (global systemically important institutions[10]) benefit most from the EU-specific implementation.

Clearly, the many EU deviations from full alignment with Basel IIIsignificantly reduce the impact for banks.

Chair of the Supervisory Board of the Single Supervisory Mechanism (SSM), Claudia Buch, has estimated that *"the current risk-based capital ratio requirements for banks under the supervision of the SSM are not significantly different from those in other large economies, such as the United States. The average Common Equity Tier 1 requirement of European global systemically important banks (G-*

[9] The estimates are based on the EBA's methodology: minimum capital requirements take into account the Pillar 1 minimum requirement, the Pillar 2 requirements and the fully loaded combined buffers requirement.

[10] G-SII (Global Systemically Important Institution) and G-SIB (Global Systemically Important Bank) have slightly different meanings: a G-SIB is globally significant because of its size, interconnectedness, complexity and potential impact on the financial system if it fails. The term G-SII is used especially in the EU's regulatory framework. It includes banks and other financial institutions that are deemed systemically important within the EU. The EU's G-SII framework aligns with G-SIB rules but applies within the European regulatory context, meaning that all G-SIBs in the EU are G-SIIs, but not all G-SIIs are necessarily classified as G-SIBs at the global level.

SIBs) was equal to 10.2% of risk-weighted assets (RWAs), compared with 11.0% for US G-SIBs in mid-2024"[11].

In 2021, EU and national supervisors and authorities asked the European Commission for the Basel III agreement to be implemented fully[12]. These interventions illustrate the concern of supervisors and central banks that any watering down of the Basel III rules could undermine financial stability.

It is argued[13] that European banks face unfair competition from US banks, because the US does not apply Basel to smaller banks, but only to their larger domestic banks and G-SIBs. However, EU-UK-US competition is not between smaller banks but between the G-SIBs, for which the US and UK require higher CET1.

Moreover, the US in some ways imposes stricter capital requirements than Basel III on its G-SIBs. Hence, as currently capital requirements are higher for US banks than for their EU counterparts, the playing field is tilted in favour of EU banks (notwithstanding the arguments made by EU banks). This means that, if Basel III were not implemented in the US, the playing field would become more, rather than less, equal.

One example is the application by the Federal Reserve of an 'enhanced supplementary leverage ratio' (eSLR), requiring US banks to hold more capital relative to their total assets than required under Basel III. Also, US implements the leverage ratio more strictly than required under Basel.

UK implementation is similar to the US, with higher capital requirements for certain large banks, through systemic risk buffers, exceeding Basel III's minimal requirements. The UK Prudential Regulation Authority has also imposed stricter capital buffers on G-SIBs, such as HSBC and Barclays, which face additional requirements beyond Basel's minimums. However, the UK has said it will delay implementation of the Basel rules until 1 January 2027[14].

According to the Basel Committee on Banking Supervision (BCBS), as at end-2024, the EU's implementation of Basel was materially non-compliant for risk-based capital. As such, the EU was one of the world's two worst performers, the other lagging jurisdiction being the UK (Table 2). The EU was also considered only 'largely compliant' on three other standards (liquidity coverage ratio, net stable

[11] See footnote 7 and Martin Arnold, 'ECB split over report showing big EU banks' capital requirements lower than US rivals', *Financial Times*, 18 November 2024, https://www.ft.com/content/48f84e00-836d-4659-9d78-60ababfa83ed.
[12] See letters of 7 September 2021 from EU prudential supervisors and central banks, and from the European Central Bank and Banking Authority to EU Commissioner for Financial Stability, Financial Services and Capital Markets Union Mairead McGuinness, https://www.nbb.be/doc/ts/other/basel_III_en.pdf and https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.ECB-EBA_letter_on_B3_implementation~88fdb33210.en.pdf.
[13] See for example Nicholas Comfort, Levin Stamm, and Arno Schuetze, 'European Banks Warn of Competitive Hit from uneven capital rules', *Bloomberg*, 17 January 2025, https://www.bloomberg.com/news/articles/2025-01-17/european-banks-warn-of-competitive-hit-from-uneven-capital-rules.
[14] Bank of England news of 17 January 2025, 'The PRA announces a delay to the implementation of Basel 3.1', https://www.bankofengland.co.uk/news/2025/january/the-pra-announces-a-delay-to-the-implementation-of-basel-3-1. The UK had already delayed its Fundamental Review of the Trading Book in line with the delay in the EU and a possible delay in the US.

funding ratio and large exposure framework), while most other jurisdictions are considered 'compliant'. It also remains to be seen how the second Trump administration will change current prudential policy in the US. Any deregulation in the US will likely be followed by a cry for looser regulation in the EU.

Table 2: Overview of jurisdictional assessments (December 2024)

Jurisdiction	Standard and grade				
	Risk-based capital	Liquidity coverage ratio (LCR)	Net-stable funding ratio (NSFR)	Large exposures framework (LEX)	G-SIB / D - SIB
Argentina					
Australia					
Brazil					
Canada					
China					
European Union *					
Hong Kong					
India					
Indonesia					
Japan					
Korea					
Mexico					
Russia					
Saudi Arabia					
Singapore					
South Africa					
Switzerland					
Türkiye					
United Kingdom **					
United States					

Compliant
Largely compliant
Materially non-compliant

Source : https://www.bis.org/bcbs/implementation/rcap jurisdictional.htm. * Eight EU countries participate in the Basel Committee: Belgium, France, Germany, Italy, Luxembourg, the Netherlands, Spain and Sweden.** Until end-2020, the United Kingdom was assessed as an EU member state.

The most recent Regulatory Consistency Assessment Programme (RCAP), created by the BCBS in 2012 to monitor the adoption of the Basel III standards by member jurisdictions and banks, concluded that the implementation of Basel by the EU is materially non-compliant[15] for risk-based capital; the EU was

[15] The RCAP defines the following classes of the state of play of implementing the Basel rules: Compliant, Largely Compliant, Materially Non-Compliant and Non-Compliant. No jurisdiction falls into the last category.

one of the world's two worst performers, the other being the UK. But the EU was also considered only 'largely compliant' on three other standards (liquidity coverage ratio, net stable funding ratio and large exposure framework), while most other jurisdictions are considered 'compliant'.

It must be seen to what extent the Trump administration will change the current prudent policy. A weakening of US bank standards under Trump could happen via:

- Appointment of new agency heads, including at the Office of the Comptroller of the Currency (OCC), Federal Deposit Insurance Corporation (FDIC) and Consumer Financial Protection Bureau (CFPB), who are 'friendlier' to the financial industry;
- Restructuring of banking regulators and reductions in their capacity. On 9 February 2025, it was decided to suspend all CFPB activities, while its funding would be cut[16]. One of the ideas could be to abolish the FDIC and insert it in the Treasury[17];
- Revising banking legislation, eg the Dodd-Frank Act;
- Basel III Endgame proposals put forth by the prudential authorities (ie the Federal Reserve, the FDIC and the OCC) are expected to be significantly delayed and/or re-proposed, benefitting both large and medium-sized banks;
- Other likely regulatory changes include a rolling back of green energy measures, support for digital asset innovation and growth and regulations on big-tech platforms and on the anti-trust front.

However, supervisors in Democratic states stand ready to *"fill the gaps"* left by the Trump administration[18]. Adrienne Harris, head of the New York Department of Financial Services plans, if needed, to increase scrutiny of banks, insurance companies and cryptocurrency groups. Some of the largest financial institutions are licensed by this supervisor.

So, the jury is still out. However, it must be remembered that US banks at the outset are subject to stricter capital regulation than EU banks. Nevertheless, one certain outcome is that any step in the direction of deregulation in the US will be followed by a cry for looser regulation in the EU.

4.2 Regulations outside the Basel III framework

The Basel Committee failed to agree on the risk weights for sovereign exposures. These were kept at zero. There are strong economic reasons why the sovereign debts of euro-area countries is no longer risk free since national currencies and central banks were replaced by a common currency and the European System of Central Banks (De Grauwe, 2011). Northern euro-area countries argued in favour of positive risk weights, but Spain and especially Italy were fiercely opposed, supported by Japan.

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[16] Douglas Gillison, 'Consumer protection agency neutralized by Trump's new chief', *Reuters*, 10 February 2025, https://www.reuters.com/world/us/trumps-acting-cfpb-chief-halts-all-supervision-companies-2025-02-09/.
[17] Gina Heeb, 'Trump Advisers Seek to Shrink or Eliminate Bank Regulators', *The Wall Street Journal*, 12 December 2024, https://www.wsj.com/finance/regulation/trump-advisers-bank-regulations-fdic-efa761dc.
[18] Joe Miller, 'New York vows to "fill the gaps" left by Donald Trump's regulation rollback', *Financial Times*, 24 December 2024, https://www.ft.com/content/e7db351b-bd38-415a-87cd-a13aad2762a3.

After the global financial crisis, many jurisdictions, including the EU, UK and US, considered ringfencing retail operations from investment banking, in order to protect consumer deposits from investment banking risks[19]. Basel rules do not ask for ringfencing, but a comparison of the three main jurisdictions also shows that in this respect, EU banks are less constrained than their US and UK counterparts.

In the UK, the Financial Services (Banking Reform) Act 2013 introduced a ringfencing requirement, compelling major banks to separate their retail banking operations from riskier investment activities. The US has a form of ringfencing under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. It restricts banks from engaging in proprietary trading (ie trading for their own profit rather than on behalf of clients) and limits their investments in hedge funds and private equity.

In the EU, ringfencing was never implemented because of political disagreement. France and Germany were reluctant, while the financial industry lobbied against ringfencing, arguing that it would undermine the EU's banking competitiveness. Some EU countries, including France, introduced their own versions of ringfencing.

On the resolution of G-SIBs, the international Financial Stability Board (FSB) established practices including requirements for total loss-absorbing capital (TLAC)[20]. The TLAC requirements are greater than the Basel capital requirements, but also cover lower-quality capital than the Basel requirements.

The EU Bank Recovery and Resolution Directive (2014/59/EU) implemented a similar concept to TLAC, named minimum requirement for own funds and eligible liabilities (MREL). MREL is a more flexible standard and may in some circumstances result in higher requirements than FSB's TLAC requirements. However, the interaction between capital requirements and TLAC/MREL requirements is complex. For US banks, the higher floor for risk weights is likely to make TLAC/MREL requirements for US banks *de facto* higher than for EU banks.

Furthermore, most EU authorities, including the Single Supervisory Mechanism, have in practice pursued a forbearance strategy, with banks allowed to drift well below capital requirements before authorities acted. When they acted, the result was typically bail-in instead of bail-out. US authorities have, since the savings-and-loan crisis in the early 1990s, predominantly pursued a prompt corrective action strategy, acting on capital shortages[21]. Therefore, EU banks have benefitted from an implicit government guarantee.

In summary, EU prudential standards are certainly not more restrictive than those for large US banks or UK banks. If anything, EU standards are looser. Large EU banks lose market share to large US banks for other reasons (eg Di Vito *et al*, 2023).

[19] In the EU, this was proposed in the Liikanen report (HLEG, 2012), and in the UK and US, in the Vickers and Volcker reports, respectively.
[20] See https://www.fsb.org/2015/11/total-loss-absorbing-capacity-tlac-principles-and-term-sheet/.
[21] See https://www.fdic.gov/federal-deposit-insurance-act/section-38-prompt-corrective-action.

4.3 Compliance costs

Draghi (2024) compared the general level of EU regulatory activity to that of the US: *"While direct comparisons are obscured by different political and legal systems, around 3,500 pieces of legislation were enacted and around 2,000 resolutions were passed in the US at the federal level over the past three Congress mandates (2019-2024). During the same period, around 13,000 acts were passed by the EU."*

Denmark's financial supervisor added up the number of pages in the EU single rule book in the financial area, including directives, regulations, technical standards and guidelines, and arrived at a sum of more than 15,000 pages[22]. Since that exercise, thousands more pages have been added, and more are to come.

Lannoo *et al* (2024) listed 17 directives and regulations in the financial area that were adopted under the first Ursula von der Leyen Commission (2019-2024). An additional eight were proposed but at time of writing have yet to be adopted. These numbers exclude 15 directives and regulations in the digital, sustainability and tax areas that are also relevant for the financial sector. Lannoo *et al* (2024) also showed how complexity of financial rules, in terms of numbers of articles and delegated acts, has increased. The EU Capital Requirements Regulation contains 519 articles (the Capital Requirements Directive contains an additional 165), and has also resulted in 53 level-2 measures (regulations) and 282 level-3 measures (guidelines).

The EU distinguishes itself from most other jurisdictions by implementing the Basel rulebook not only for internationally active banks but for all banks. The US, Canada, Switzerland, Japan and Brazil are among the many countries that have implemented simpler rulebooks for smaller non-internationally active banks. Some observers have argued that the demise in 2023 of Silicon Valley Bank in the US shows that the EU has been well served by implementing the full Basel standards for all banks. However, more proportional standards do not need to be weaker standards, as pointed out in the Basel Committee's report on proportionality (BCBS, 2022).

Reporting requirements is one area that drives compliance costs. The EBA (2021) estimated that reporting requirements on an annual basis costs banks in the European economic area more than €13 billion (Table 3). However, reporting requirements are most likely a small part of overall compliance costs. The underlying driver of reporting requirements and also of other compliance costs is the complexity of regulation.

[22] Simon Lund Christiansen, 'Ny tilsynsdirektør vil rydde regeljungle og plante principper i stedet', *Finanswatch*, 2 May 2024, https://finanswatch.dk/Finansnyt/Pengeinstitutter/article17075027.ece.

Table 3: Estimates of annual ongoing costs related to the EBA supervisory reporting for the entire EEA banking population (€ billions)

		Estimate based on median values obtained from the survey		Estimate based on average values obtained from the survey	
	Number of banks	Total (€ billions)	Per institution (€)	TOTAL (€billion)	Per institution (EUR)
SNCI	2,857	0.9	304,652	4.3	1,518,284
Medium	1,444	1.0	688,496	7.2	4,988,558
Large	386	1.8	4,770,548	2.1	5,336,184
All institutions	4,687	3.7	790,700	13.6	2,901,853

Source: EBA (2021).

There is at least one example of a major bank where 15 percent of staff members are devoted to compliance[23]. Anti-money laundering (AML) work is the major factor. While AML and countering terrorist financing is important, it could be done smarter, based on more technology and exchange of data between banks (FATF, 2021).

More generally, the EU may have moved too far in the direction of harmonisation of details[24]. The personal experience of one of the authors of eight years as an EBA board member suggests that many of the level-2 measures should be revisited and many should be dropped. By its nature, the move from minimum harmonisation to regulations has also increased complexity as room for national variation has had to be included in regulations. A return to minimum harmonisation should be considered seriously.

Principle-based regulation – or giving firms greater flexibility to achieve regulatory aims – got a bad name during the financial crisis, but there may be a good spot in between the present approach and deregulation. Supervision could take on a greater role and regulation could be pushed back somewhat. Harmonisation can then be pursued through peer reviews. There is an arms race between the financial industry and the regulators. Whenever a new rule is written, there are attempts to circumvent it. This requires yet more rules. The financial industry also uses its lobbying power to shift regulation in a direction that benefits their particular business model. Often, most bankers know the proper approach, and supervisory action may be a better enforcement strategy (Berg *et al*, 2022).

However, to shift to a different approach may require more fundamental changes. Draghi (2024) proposed the appointment of *"a new Commission Vice President for Simplification to streamline the acquis, while adopting a single, clear methodology to quantify the cost of the new regulatory 'flow'"*. Fighting bureaucratic complications with more bureaucracy is hardly a winning formula.

[23] Danske Bank.

[24] See for example, a July 2024 letter from the Nordic supervisors to the chairs of the European Supervisory Authorities, https://www.finanstilsynet.dk/Media/638611340778500851/Version%20til%20ftnet.dk,%20Letter%20on%20the%20single%20rulebook%20August%202024%20(D1277894).pdf.

Draghi mentions rightly that national parliaments have failed in their task to enforce subsidiarity. Likewise, one could flag that the EU Court of Justice does not play the same role as the Supreme Court in the US as an arbiter between state and federal roles.

Recently, the European Commission has launched the so-called EU Competitiveness Compass (European Commission, 2025), based on Draghi (2024). It includes the ambition of simplifying the regulatory environment, reducing burdens and favouring speed and flexibility, but it is likely to be some time before the impact of this initiative becomes clear.

5 Conclusion

In the US, the Glass Steagall act separating commercial and investment banking was repealed more than 60 years after the Great Depression began. Less than 10 years later, the Global Financial Crisis (GFC) started. Although there were many drivers of the financial crisis, important seeds were sown in US capital markets and the interaction with US banks – the nexus that Glass Steagall tried to restrict. The European financial system became the biggest victim of the USA born GFC.

Financial regulation evolves over long cycles. Financial crises drive regulatory tightening. Eventually, policymakers forget and there is pressure to liberalise. Liberalisation at some stage goes too far and economic setbacks are accompanied by new financial crises (Hansen, 2014).

In both the US and the EU, it has taken less than 15 years since the global financial crisis for some of the tightened financial regulation to be seriously questioned. Banks in the US, UK and EU are all arguing for a level playing field, stating that authorities in the other jurisdictions are implementing watered-down versions of the Basel standards[25]. Few if any banks argue that jurisdictions should implement the Basel standards fully.

EU banks complain that the EU's application of Basel III undermines their competitiveness compared to large US or UK banks, but that claim is not supported by empirical evidence – rather the opposite. There is no evidence that EU banks are handicapped by an overly strict implementation of Basel III, compared to banks in other jurisdictions. The US already has a floor requirement for risk weights, and at 100 percent, for its banks. Furthermore, credit supply is not a constraint for investment at present.

Higher capital requirements impact the financial system in two ways. In the short run, when banks must hold more capital against their assets, their leverage ratios and return on equity are reduced, which could lower credit supply to the economy.

[25] Lorenzo Bini-Smaghi, 'An action plan for the ECB', *Financial Times*, 20 February 2025, https://www.ft.com/content/86b00510-b19a-47aa-83c4-39e86017e415.

In the longer term, however, higher capital requirements make banks more resilient to financial shocks, enhancing financial stability and improving confidence in the financial system. This contributes to higher savings and investment.

So, if in the short term higher capital requirements might constrain credit provision to the economy, in the long term, increased financial stability will contribute to more, and more stable, credit provision.

It is normal for the financial industry to focus more on the short term and to lobby regulators to water down capital requirements. But public authorities should think and act in the long-term interest of the economy, including by maintaining financial stability, and should resist these lobbying efforts.

Simplification, without lowering standards, is needed. Such simplification also fits in the current priority of the EU to restore competitiveness. As President Macron stated in his Europe speech (Macron, 2024): *"But sometimes we have gone into excessive detail, thus preventing economic actors from making long-term plans and placing them at a disadvantage against their international competitors. We must have the courage to simplify"*.

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Annex 1: Overview of impact studies on bank capital requirements and economic performance

Copenhagen Economics claimed: *"By contrast, the higher levels of required capital will increase the borrowing costs for European households and businesses, leading to a permanent reduction in GDP, as well as giving rise to job losses in the short to medium term. Households and SMEs are likely to be most affected as they cannot seek funding through capital markets. Using methods used by, e.g., BIS, we suggest that the net loss to the EU could correspond to a permanent reduction in GDP of 0.4%"* (Næss-Schmidt *et al*, 2019).

Wuensch *et al* (2023) wrote *"A review of current capital requirements and supervisory processes could, in a hypothetical scenario, provide capacity for €4-4.5 trillion additional bank lending"*.

Note that both studies were commissioned by the European Banking Federation.

For the USA, PwC (2024) calculated *"the impact to GDP is negative, from -17 basis points (bps) to -56 bps"*.

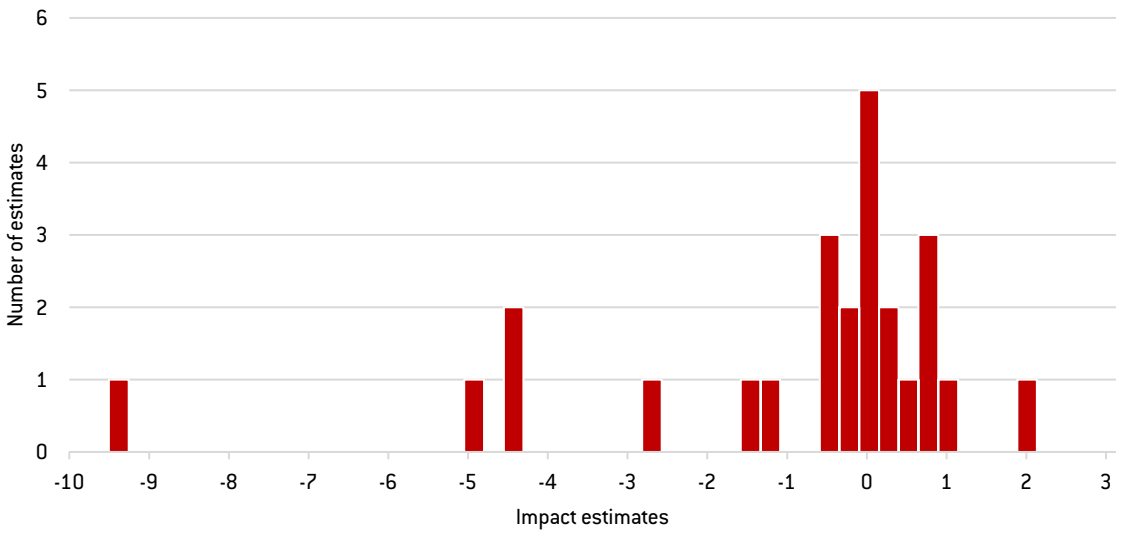
Most impact studies by independent institutions do not confirm these concerns.

The BIS set up the FRAME repository of studies on the effects of financial regulations (Boissey *et al*, 2019). This meta study covered 83 studies and 139 quantitative impact estimates from 15 countries or groups of countries up to 2018. One of the main findings was that an increase in banks' capital ratio[26] in most studies has no negative impact on lending to the economy; it rather increases lending a bit (Figure 4). The reason is that a higher CET1 raises the cost of bank equity but lowers the borrowing costs of these banks (Modigliani and Miller, 1958, on the irrelevance of capital structure plus probably via the confidence effect), thereby contributing to a decrease in the overall lending costs of these banks. This result holds for the long term or steady state; there are no estimates for the transition period in FRAME[27].

[26] The 'bank capital ratio' used by FRAME includes 28 estimates capturing five different definitions: Core Tier 1 capital/RWA, Tier 1 capital/RWA, Tier 1 capital/total assets, Total capital/RWA and Total capital/total assets. These different variables are made comparable by standardising them.

[27] These results should be interpreted with care. The estimates of 'bank capital ratio' on 'bank lending' are to a large extent based on Batiz *et al* (2018). This paper used a general equilibrium model (GEM) calibrated with US data. This suggests the estimates from this study are not based on observational data, but instead on theoretical GEM estimates, which would imply that the FRAME meta-data estimates are also based largely on theoretical estimates, not observational data of CET1/total assets.

Figure 4: Bank capital ratios and bank lending

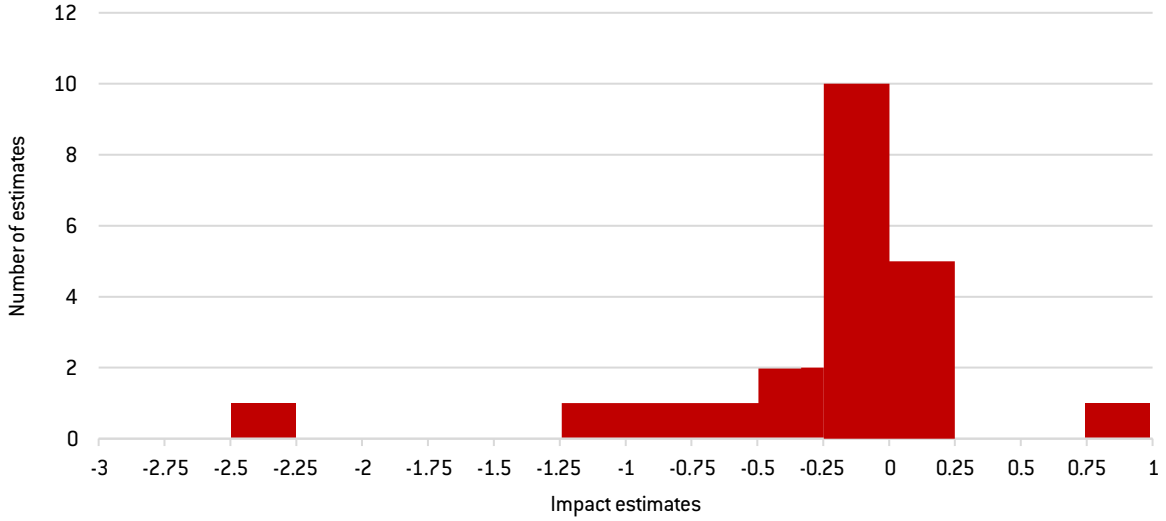


Distribution of effect of banks'capital ratio being 1pp higher on bank lending (increase of the level, in %).
Based on 25 standardised estimates from five studies.

Source: BIS FRAME repository.

Boissey *et al* (2019) also showed that the impact on investment is not significantly different from zero in most studies (Figure 5).

Figure 5: Bank capital ratios and investment

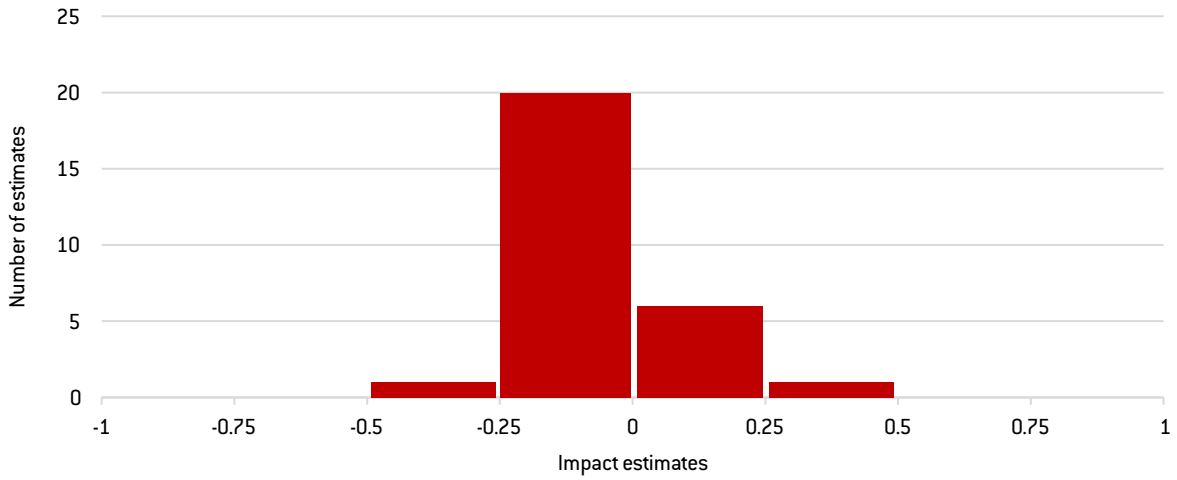


Distribution of effect of banks'capital ratio being 1pp higher on investment (increase of the level, in %).
Based on 22 standardised estimates from three studies.

Source: BIS FRAME repository.

The impact on the level of GDP is slightly negative in most studies (Figure 6)

Figure 6: Bank capital ratio and GDP



Distirbution of effect of banks' capital being 1pp higher on GDP (increase of the level, in %). Based on 28 standardise estimates from eight studies.

Source: BIS FRAME repository.

Fidrmuc and Lind (2020) presented a meta-analysis of the impact of higher capital requirements imposed by the regulatory reforms of Basel III on macroeconomic activity. They analysed 48 primary studies and found that there is a small negative effect of around 0.2 percent on the GDP level in response to an increase in the capital ratio by 1 percentage point. This is in line with Boissey *et al* (2019). Fidrmuc and Lind (2020) concluded: *"The concern that financial regulation will greatly harm the economy is hence not reflected in most empirical studies"*.

The OECD has estimated the medium-term impact of Basel III on the level of GDP on average to be -0.23 percent five years after the implementation by banks, or an approximate average impact on GDP growth of –0.05 percentage points per annum (Slovik and Cournède 2011). To the extent that monetary policy will no longer be constrained by the zero lower bound, this impact could be mitigated by a reduction in monetary policy rates.

These results seem to be confirmed by other, more recent studies. In 2021, the BIS used macro-finance models from the ECB, the FED, the Central Bank of Norway and the Bank of France to simulate the macroeconomic impact of Basel III (Table 4).

Table 4: Long-term impact of a move from Basel II to Basel III (solvency)

Unit	GDP % dev	Bank profitability of default % pts dev	Cost of crisis (%of GDP), % pts dev
Euro area with 3D model	1.2%	-7.5	-2.55% (1)
Euro area with de Bandt and Chahad (2016)	0.2%	-0.15	-0.01%
Euro area with Gerali *et al* (2010) framework (cost approach)	-0.4%	NaN	NaN
United States	0.9%	-9.21	-3.36%(1)
Norway (moderate crisis prob. and severity)	-0.2%	-0.16 (2)	-0.85%(3)
Norway (high crisis prob. and severity)	2.1%	-1.62 (2)	-4.39%(3)

The move from Basel II to Basel III is measured by a 5 percentage point increase in capital requirements. (1) Change in bail out costs. (2) Change in the probability of a financial crisis. (3) Change in the cost of a financial crisis.

Source: BCBS (2021).

While estimates differ depending on the model used, there is, again, overwhelming evidence that, at least in the long run, the Basel III rules have no significant negative long-term impact on GDP growth; the impact may even be positive, as the probability of default decreases as does the costs of a crisis.

EBA (2019) used an ECB econometric model and found that, in the short run, the higher capital requirements under Basel III would have an adverse impact on bank lending, which would lead to an annual reduction in GDP growth of 0.2 percentage points in the first four years after implementation. Thereafter, the impact on GDP growth would turn positive and converge to zero at the end of the transition period. However, Basel III would soften future economic downturns through a reduction in the probability and the intensity of future banking crises. The Basel III reform would also reduce the probability of a financial crisis by about 1.2 percentage points, implying sizeable long-term net benefits of around 0.6 percent of GDP.

The ECB made its own assessment and concluded: *"In 'normal' economic conditions, the implementation of the main EU-specific approach results in a less than 0.05 percentage point reduction in annual GDP growth from the second to the fourth year after the phase-in, compared with a 0.10 percentage point reduction for the plain vanilla package"*[28] (Budnik *et al*, 2021). This indicates that the EU packages have minimal impacts on credit provisions by banks.

French Prudential Supervision and Resolution Authority seminar on 6 September 2023 concluded that Basel III had no detrimental effects on bank lending[29].

[28] If the EU fully implements Basel 3.5.

[29] See Banque de France press release of 12 October 2023, 'Chaire ACPR régulation et risque systémique. Impact de Bâle III sur le financement bancaire européen', https://acpr.banque-france.fr/impact-de-bale-iii-sur-le-financement-bancaire-europeen.

The Fed's estimates for the United States are similar (Van den Heuvel, 2022). It is estimated that the welfare cost of a 10 percent liquidity requirement is equivalent to a permanent loss in consumption of about 0.02 percent, a modest impact. The cost of a similarly sized increase in the capital requirement is roughly ten times greater, but the financial stability benefits of capital requirements are found to be larger.

Fidrmuc and Lind (2020) found that the estimates of the impact of bank regulation and bank capital requirements on the economy tend to be systematically influenced by a selected set of study characteristics:

- Authors' affiliations: official estimates range between -0.15 percent and -0.19 percent, with one outlier, Sweden's FSA, at -0.060 percent. Banking sector estimates are much higher: -0.425 percent;
- Strong selective reporting as researchers discard higher (especially positive) estimates too often because these are not in line with theoretical predictions.

Countercyclical buffers were introduced as part of the Basel III reforms. The idea was that capital requirements could be raised during expansionary times and lowered during recessions (Hanson *et al*, 2011). Bedayo and Galán (2024) found that there were asymmetric effects in the buildup of buffers compared to the release of buffers. There was a greater impact on lending from the release of buffers than from the buildup. In both cases the impact was biggest for the most capital-constrained banks.

Annex 2: Basel III and the EU's transposition: shortcomings

What follows is based on a comparison between the Commission proposals and the Basel III agreement. The Council and the European Parliament made the CRR III requirements even somewhat less stringent than the European Commission proposed.

A 2.1 Basel III standards in a nutshell

Basel III is the final piece of the post global financial crisis (GFC) reforms concluded end-2017.

The focus is on the denominator of the risk-based capital ratio, namely the risk-weighted assets (RWA). There were indeed questions during the GFC about under-calibration, unwarranted variability, complexity and opacity surrounding the calculation of the RWA via the internal models.

Therefore a 'hybrid approach' was agreed. The use of modelling was constrained via the introduction of 'input and output floors' and other constraining measures for calculating RWA. After long deliberations, it was agreed that if the output floor is fully implemented the RWAs computed using internal models cannot fall below 72.5 percent of the RWAs computed using the standardised approach.

Transitional arrangements were introduced for the output floor, allowing banks to apply reduced risk weights for exposures to real estate and unrated corporates, making the output floor less binding until 2032.

The EU package implementing Basel III is composed of the Capital Requirements Directive (CRD VI, Directive (EU) 2024/1619), the Capital Requirements Regulation III (CRR III, Regulation (EU) 2024/1623) and a directive on bank resolution-related matters (Directive (EU) 2024/1174, the so-called daisy chains directive).

The key elements include: implementing Basel standards, increasing harmonisation of certain supervisory powers and tools (including regulation of third-country branches, fit and proper powers and enhanced sanctioning powers) and rules on management and supervision of environmental, social and governance (ESG) risks (such as inclusion in supervisory review processes and regular climate stress testing).

A 2.2 The implementation of Basel III by the EU: main divergences

We focus in what follows on what is most important for the capital requirements for EU banks and find that CRR III includes numerous deviations from the global Basel III standards, all of them watering down or delaying the implementation for EU banks.

The main deviations are:

1. Credit risk RWA:
    - Lower Risk Weights (RW) for 'high quality' exposures;

- Upward valuation of collateral possible after real estate origination;
- 100 percent RW for non-deducted financial sector participations (Article 49, the so-called Danish Compromise);
- European Commission delegated power (based on EBA report) to lower secured loss given defaults (LGDs)/collateral haircuts for leasing exposure;
- Advanced IRB can still be used for exposures to non-equivalent regional governments and public sector entities, respecting certain conditions;
- Transitional for higher RW equity exposures until end-2029/cancellable commitments until end-2032.

2. Market risk RWA:
   - Fundamental Review of the Trading Book (FRTB) will be implemented as of 2025 (not 2023) and subsequently the Commission decided, via delegated act, a further postponement until the start of 2026, to 'level the playing field' with the US, where heavy lobbying by US banks succeeded in convincing Federal Reserve Chair Jay Powell to change his mind, and agree the same delay. The Bank of England announced on 17 January 2025 that it would delay tougher bank capital rules by a year, to January 2027, to get clarity on what the US will do under President Donald Trump.
3. Operational risk RWA:
   - Disregarding historical operational losses for all institutions. This is using discretion permitted under Basel to lower its impact for banks with higher losses – mainly large French, German and Spanish banks – while increasing its impact for banks with low losses. The UK does the same and the US is expected to follow.
4. Output floor:
   - Gradual implementation only started in 2025 instead of 2023;
   - Lower standardised RW of derivatives and counterparty credit risk until end-2029, certain unrated corporates[30] until and for mortgages until end-2032;
   - Therefore, the output floor will hardly be binding before 2030, even not before 2033.
5. The output floor is implemented only at consolidated level.

While (5) is allowed by Basel, it sets a precedent in terms of not applying prudential standards on the individual level of subsidiaries. CRR III foresees a mechanism to distribute the capital required by the output floor across the entities of the banking group.

These deviations are somewhat moderated because the output floor is implemented using the 'single-stack' approach. This was decided under pressure from governors and supervisory heads. The financial industry and France continue pushing for 'parallel stack'[31].

[30] If probability of default (PD) is lower than 0.5 percent.
[31] For an explanation, see European Commission 'Questions and Answers on the Banking Package 2021' of 27 October 2021, https://ec.europa.eu/commission/presscorner/detail/en/qanda_21_5386.

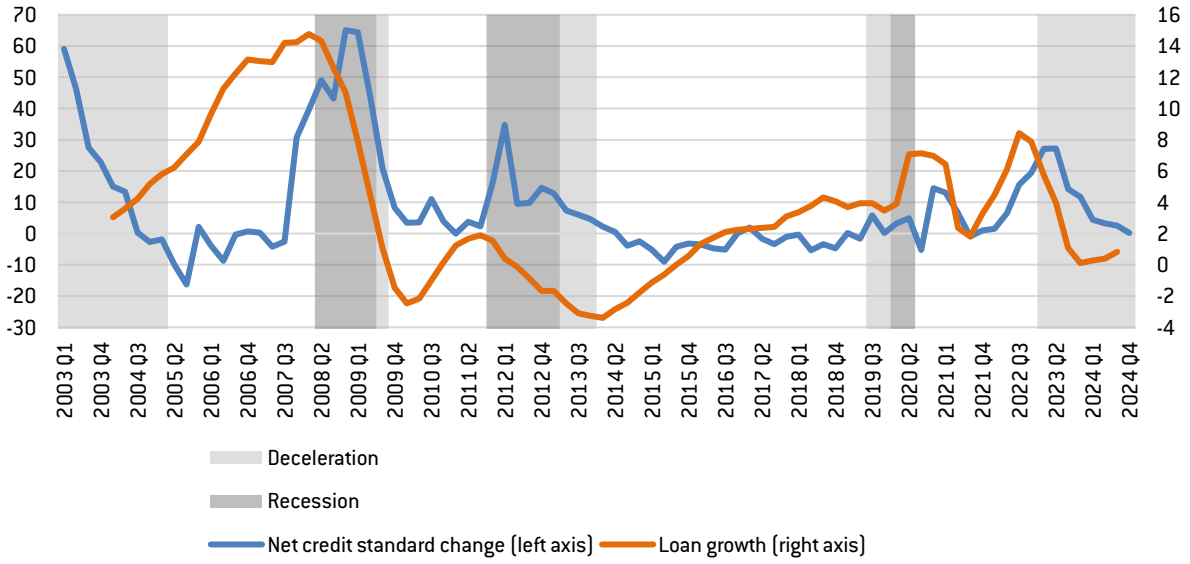
Previous deviations from the Basel standards have also been kept:

- Lower RW for SME exposures;
- Credit valuation adjustment (CVA) risk: exemptions for all derivatives with non-financial counterparties, intra-group transactions, public sector entities, etc, while the Basel Committee on Banking Supervision has expressly revised and recalibrated approaches downwards under EU pressure.

Annex 3: Indicators of credit scarcity (bank capital and bank profitability)

An argument surveyed in this paper is that higher bank capital requirements lower bank credit. However, there is little evidence that bank credit in the euro area is currently low or that it is primarily determined by bank capital positions or balance sheet constraints. The ECB Bank Lending Survey (BLS) and Survey of Access to Finance of Enterprises (SAFE) are two sources of observational data that can provide insights into key indicators associated with credit supply. The BLS has been carried out annually since 2003 to improve the understanding of how credit developments reflect supply as well as demand factors. It was modelled after the Senior Loan Office Survey of the Federal Reserve and asks a sample of banks in each euro-area country to report their views on different aspects of credit development. SAFE started in 2009 and has been carried out annually since 2014. Among other indicators, it records chainging SME perceptions of the availability of credit lines and bank loans. Neither of these surveys suggest that credit scarcity in the euro area is primarily attributable to capital constraints.

Figure 7: Euro-area credit standard changes and loan growth



Source: Bruegel based on the BLS for net credit standard change (left axis), ECB Balance Sheet Items (BSI) statistics for adjusted loan growth vis-a-vis euro-area non-financial corporations (right axis), and the European Commission Business Cycle Clock for 'Recession' and 'Deceleration'.

A key BLS question asks banks to report whether they have tightened or loosened their credit standards in the last three months. Answers are aggregated at country level as the net credit standard change. This is defined as the difference between the share of banks responding that they have tightened their credit standards and the share of banks reporting they have eased or reversed their credit standards. Figure 7 shows the net credit standard change for the euro area[32]. The series shows several peaks of credit standard tightening between 2003 and 2024. The first may reflect the general state of the economy or bank responses to the dot-com crash and several accounting scandals in 2000-2002. The second is concurrent with the GFC, the third with the euro- area sovereign-debt crisis, the fourth with the COVID-19 pandemic and the fifth with Russia's invasion of Ukraine. The strongest relative tightening occurred during the GFC, followed closely by the euro-area sovereign-debt crisis. The magnitude of tightening during the pandemic and Russia's invasion of Ukraine was notably smaller. In part, this could reflect banks' increased capacity to withstand shocks following the tightening of financial regulations in response to the GFC. What remains open is to what extent these differences also reflect other variations between the four economic shocks.

These euro-area credit standard changes strongly reflect those in individual euro-area countries. Figure 8 shows that credit standards in individual euro-area countries are strongly correlated. However, some results for some smaller member states appear odd. For example, Finland showed a significant tightening of bank lending standards during the euro-area sovereign-debt crisis, despite not being particularly affected by the crisis. This suggests that one should exercise care in interpreting the relative size of the net percentage.

[32] While the question concerns change in lending standards, the line fluctuates around zero during periods of economic expansion instead of dropping significantly into negative values. This could suggest that the answers given in the survey reflect the level of lending standards rather than the change.

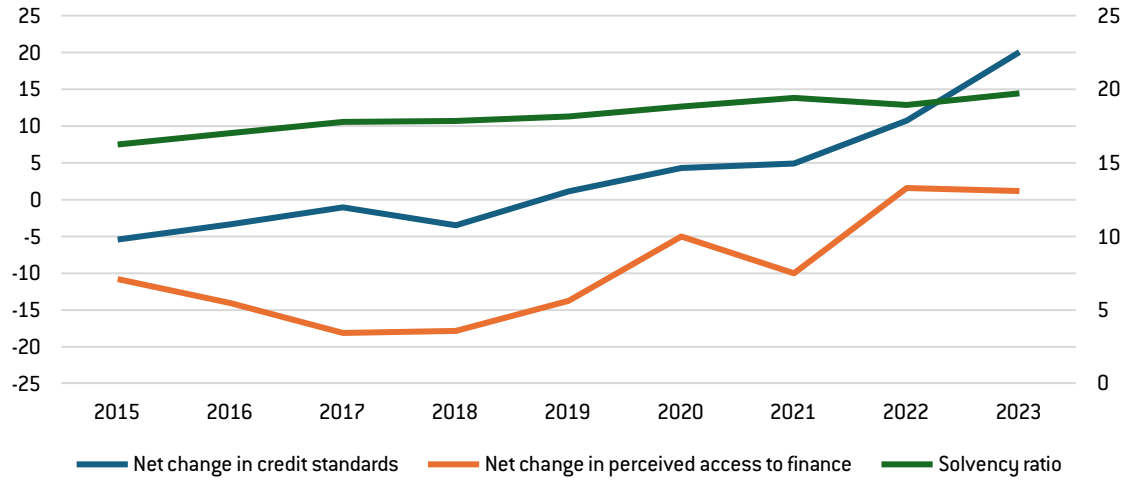
Figure 8: Credit standard correlations between euro-area countries

Country	AT	BE	CY	DE	EE	ES	FI	FR	GR	HR	IE	IT	LT	LU	LV	NL	PT	SI	SK	Euro area
AT	1.00	-0.42	0.32	0.03	-0.19	0.04	-0.47	-0.06	-0.17	-0.25	-0.35	0.13	-0.19	0.09	-0.19	0.17	-0.19	0.03	-0.37	0.01
BE	1.00	-0.32	-0.03	-0.26	-0.32	0.47	-0.34	0.17	0.25	0.35	-0.25	0.65	-0.09	-0.26	-0.17	-0.26	-0.22	0.01	-0.22	
CY	1.00	0.50	0.37	0.46	-0.68	0.59	0.32	0.14	-0.11	0.37	0.37	0.44	0.37	0.80	0.37	0.69	0.02	0.54		
DE	1.00	0.68	0.84	0.26	0.82	-0.20	0.83	0.74	0.82	0.50	0.69	0.68	0.67	0.68	0.74	-0.01	0.90			
EE	1.00	0.81	0.09	0.86	0.26	0.66	0.55	0.79	0.30	0.60	1.00	0.65	1.00	0.86	0.58	0.84				
ES	1.00	0.11	0.97	-0.24	0.82	0.68	0.98	0.37	0.90	0.81	0.80	0.81	0.88	-0.02	0.98					
FI	1.00	-0.02	-0.47	0.53	0.75	0.18	0.09	0.03	0.09	-0.35	0.09	-0.20	-0.03	0.10						
FR	1.00	-0.06	0.75	0.58	0.91	0.40	0.85	0.86	0.85	0.86	0.94	0.12	0.98							
GR	1.00	-0.25	-0.35	-0.25	0.26	-0.23	0.26	0.17	0.26	0.22	0.79	-0.12								
HR	1.00	0.96	0.84	0.66	0.81	0.66	0.60	0.66	0.69	-0.02	0.85									
IE	1.00	0.72	0.55	0.65	0.55	0.35	0.55	0.47	-0.02	0.70										
IT	1.00	0.39	0.91	0.79	0.76	0.79	0.85	-0.02	0.96											
LT	1.00	0.60	0.30	0.65	0.30	0.56	0.02	0.49												
LU	1.00	0.60	0.87	0.60	0.84	-0.21	0.88													
LV	1.00	0.65	1.00	0.86	0.58	0.84														
NL	1.00	0.65	0.94	0.01	0.84															
PT	1.00	0.86	0.58	0.84																
SI	1.00	0.26	0.92																	
SK	1.00	0.06																		
Euro area	1.00																			

Source: Bruegel based on the ECB BLS. Note: 1 is a perfect positive correlation and -1 is a perfect negative correlation.
The darker the blue/red the stronger the positive/negative correlation, respectively.

Nevertheless, the BLS net credit standard change appears to be a strong overall indicator of credit supply. As Figure 7 shows, euro-area loan growth is clearly responsive to changes in credit standards. In other words, credit standard tightening is associated with a decline in loan growth and credit standard loosening with an increase in loan growth. This is also reflected in SMEs' perceptions of access to finance. Figure 9 shows the BLS net credit standard change alongside the net change in perceived access to finance reported by SMEs in the ECB's SAFE. The latter is defined as the difference between the share of SMEs reporting that their perceived availability of credit lines and bank loans has increased and those who report that their availability has decreased. The two show a strong correlation that is consistent across all euro-area countries, despite some differences in individual credit standard developments.

Figure 9: SME perceived access to finance from 2015-2023, euro area

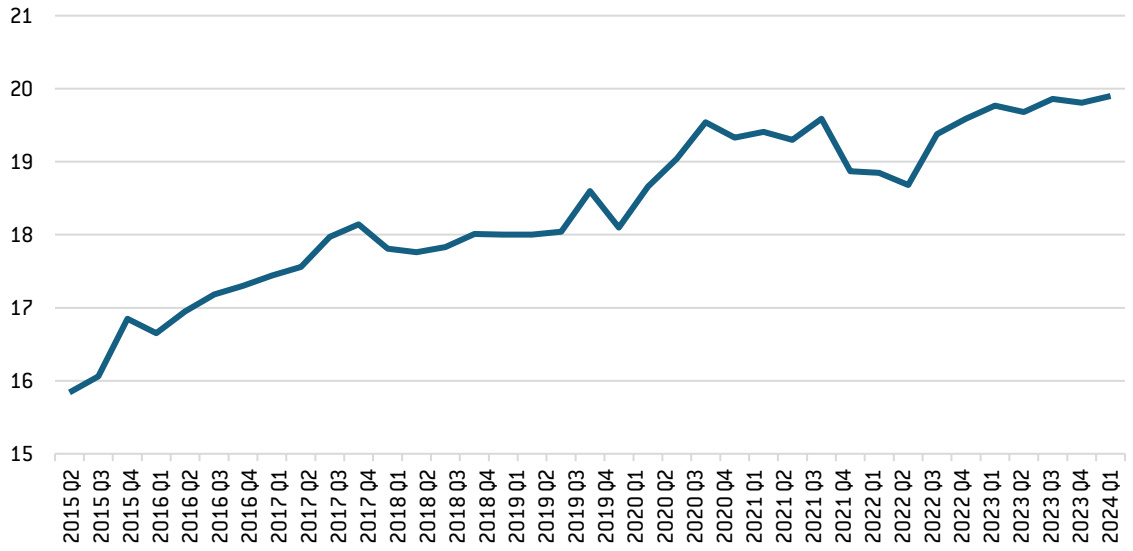


Source: Bruegel based on ECB SAFE, ECB BLS and ECB Supervisory Banking Statistics (solvency ratio). Note: net change in perceived access to finance is based on SAFE question 11f: *"Willingness of banks to provide credit to your enterprise - For each of the following factors, would you say that they have improved, remained unchanged or deteriorated over the past 6 months?"* multiplied by -100. Solvency ratio on the secondary axis.

Insofar as net credit standard changes can be considered an indicator of credit supply, the BLS can provide further insight into some of the contributing factors. Box 1 and Figure 1 in the main text show that the single greatest contributor to credit standard tightening in all periods of economic deceleration is banks' risk perceptions. While this was particularly evident at the onset of the survey and during the GFC, risk perception also played a significant relative role during the pandemic and after Russia's invasion of Ukraine. This is consistent with the expectation that banks would tighten their credit standards under conditions of uncertainty. Similarly, bank's capital positions and balance-sheet constraints have also primarily contributed to the tightening of credit standards. However, Box 1 also shows that their importance has declined in each subsequent period of credit standard tightening. Moreover, after 2008, balance-sheet constraints began to drive down credit standards during periods of economic expansion, alongside competition from other market actors. Overall, the ECB's BLS suggests that banks' risk tolerances are the primarily deterrent to credit provision in the euro area. This trend is consistent across individual euro-area countries, despite some differences in magnitude.

An investigation into the relationship between capital standards and credit supply could be advanced further by an analysis of solvency ratios. Bank solvency has increased since the GFC because of regulatory changes and possibly because of banks' experiences during the GFC. In the years leading up to the crisis, the introduction of Basel II *de facto* lowered capital requirements as the introduction of internal models for credit risk lowered RWA. The Single Supervisory Mechanism has only published data of solvency ratios since 2015. This shows that solvency has increased since 2015 (Figure 10).

Figure 10: Development in solvency percentages from 2015-2024, euro area



Source: ECB Supervisory banking statistics.

However, it is difficult to study systematically the impact of higher solvency on the resilience of the banking sector, even if time series on solvency were longer. Both absolute solvency percentages as well as surpluses to regulatory requirements play a role. We know that credit standards matter, and capital constraints influence credit standards. However, disentangling the interaction between the developments of the economy, credit standards, capital constraints and solvency percentages is econometrically difficult.

Simple correlations between solvency percentages and credit standards show no systematic pattern. The mechanics of the correlation calculation is that solvency percentages have increased since the first observations in 2015, but that during the positive economic developments in the years up to COVID-19, capital was not a constraint. When capital constraints again become an issue at the onset of COVID-19, solvency percentages are higher than they were in the years following COVID-19.

However, simple correlations do not account for the complexity of the underlying system. Among other things, the perception of capital constraints is likely to be influenced both by economic conditions and expectations in general as well as the surplus of capital to solvency requirements. Banks will in their capital planning look at how solvency percentages will develop in the years ahead, given their expectations about economic developments and an objective of a surplus compared to capital requirements.

Considered together, the available observational data from the BLS and SAFE suggests that capital constraints mattered during periods when the economy struggled. In particular, the decreasing importance of capital and balance-sheet constraints in subsequent periods of credit standard tightening could be attributable to increased bank resilience connected with higher capital standards. At the very least, banks' risk perceptions are currently the largest obstacle to credit provision in the euro area, not capital or balance sheet restrictions.

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