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COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT REPORT

Accompanying the documents

Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Regulation (EU) No 575/2013 on prudential requirements for credit institutions as regards requirements for credit risk, credit valuation adjustment risk, operational risk, market risk and the output floor

Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2013/36/EU as regards supervisory powers, sanctions, third-country branches, and environmental, social and governance risks, and amending Directive 2014/59/EU

{COM(2021) 663 final} - {SEC(2021) 380 final} - {SWD(2021) 321 final}

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List of abbreviations

Term or acronym	*Meaning or definition*
AIRB	Advanced IRB
BA-CVA	Basic Approached for Credit Valuation Adjustment
BCBS	Basel Committee on Banking Supervision
CCB	Capital Conservation Buffer
CCyB	Countercyclical Capital Buffer
CfA	Call for Advice
CIU	Collective Investment Undertaking
CMU	Capital Markets Union
CRR	Capital Requirements Regulation
CRD	Capital Requirements Directive
CVA	Credit Valuation Adjustment
EAD	Exposure At Default
EBA	European Banking Authority
ECB	European Central Bank
EGD	European Green Deal
ESMA	European Securities Markets Authority
EU	European Union
EUCLID	European Centralised Infrastructure for Supervisory Data
FRTB	Fundamental Review of the Trading Book
GaR	Growth-at-Risk
GFC	Great Financial Crisis
GDP	Gross Domestic Product
GI	Gross Income
ILM	Internal Loss Multiplier
IRB	Internal Ratings Based
LDP	Low Default Portfolio
MRC	Minimum Required Capital
MS	Member State
OF	Output Floor
PD	Probability of Default

P2R	Pillar 2 Requirement
QIS	Quantitative Impact Study
RW	Risk Weight
RWA	Risk-Weighted Asset
SA-CCR	Standardised Approach for Counterparty Credit Risk
SA-CR	Standardised Approach for Credit Risk
SA-CVA	Standardised Approach for Credit Valuation Adjustment
SFT	Security Financing Transaction
SFTR	Securities Financing Transactions Regulation
SME	Small and medium-sized enterprise
SyRB	Systemic Risk Buffer
SSM	Single Supervisory Mechanism
SREP	Supervisory Review and Evaluation Process
TLAC	Total Loss-Absorbing Capacity
TRIM	Targeted Review of Internal Models

1. INTRODUCTION: POLITICAL AND LEGAL CONTEXT

The Great Financial Crisis of 2008-09 (GFC) had its origins in various deficiencies of the financial sector, in particular in the banking sector. According to the 'Report of the de Larosière Group'[1], the origins of the GFC emanated from the combination of several factors, mainly the low cost of borrowing prevailing before the GFC, the financial market search for ever–higher returns and the emergence, and widespread use, of complex financial products created by bundling up new tradable securities from existing underlying risky loans. The deterioration of the credit quality of a large number of these loans triggered a rapid contagion of financial difficulties across the banking sector, highlighting its various deficiencies, including the failure of credit agencies and financial institutions to appropriately assess the risks of these new securities, the excessive interconnectedness of financial institutions worldwide, the inadequacy of banks' prudential framework to impose sufficient loss-absorbing own funds and liquid assets requirements and the insufficiency of supervisory oversight.

The consequences of the GFC on the financial sector resulted in major costs[2] for governments as they had to support the financial sector, and also in a massive contraction[3] of economic activity in the Union and across the world. In response to the GFC, the Union implemented substantial reforms of the prudential framework applicable to banks in order to enhance their resilience and thus help prevent the recurrence of a similar crisis. Those reforms were largely based on international standards adopted since 2010 by the Basel Committee on Banking Supervision (BCBS)[4]. The standards are collectively known as the Basel III standards, the Basel III reforms or the Basel III framework[5]. A summary of the content and timelines of those reforms, as well as their implementation in the Union, is provided at the end of this Section (see *Figure 3*).

The global standards developed by the BCBS have become increasingly important due to the ever more global and interconnected nature of the banking sector. While a globalised banking sector facilitates international trade and investment, it also generates more complex financial risks. Without uniform global standards, banks could choose to establish their activities in the jurisdiction with the most lenient regulatory and supervisory regimes. This might lead to a regulatory race to the bottom to attract bank businesses, increasing at the same time the risk of global financial instability. International coordination on global standards limits this type of risky competition to a large extent and is key for maintaining financial stability in a globalised world. Global

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[1] See "Opinion of the European Economic and Social Committee on the Report of the de Larosière Group (Own-initiative opinion)".

[2] The total amounts of state aid used by Member States to shore up the banking sector during and after the GFC (i.e. over the 2008-2017 period) is estimated to €2 trillion.

[3] While the annual EU GDP growth remained slightly positive in 2008 (+0.8%), it dropped in 2009 (-4.2%) (see https://ec.europa.eu/economy_finance/publications/european_economy/2010/interim_forecast_2010-09_en.htm).

[4] Members of the BCBS comprise central banks and bank supervisors from 28 jurisdictions worldwide. Among the EU Member States, Belgium, France, Germany, Italy, Luxembourg, the Netherlands, and Spain, as well as the European Central Bank are members of the BCBS. The European Commission and the EBA participate in BCBS meetings as observers.

[5] The consolidated Basel III framework is available at https://www.bis.org/bcbs/publ/d462.htm.

standards also simplify the life of internationally active banks – among which are a good number of EU banks – as they guarantee that broadly similar rules are applied in the most important financial hubs worldwide. The EU has therefore been a key proponent of international cooperation in the area of banking regulation

In the Union, the first set of post-crisis reforms that are part of the Basel III framework have been implemented in two steps:

- in June 2013 with the adoption of Regulation (EU) No 575/2013, also known as the Capital Requirements Regulation (CRR)[6], and Directive 2013/36/EU, also known as the fourth Capital Requirements Directive (CRD IV)[7];
- in May 2019 with the adoption of Regulation (EU) 2019/876[8], also known as the second Capital Requirements Regulation (CRR II), and Directive (EU) 2019/878, also known as the fifth Capital Requirements Directive (CRD V)[9].

The reforms implemented so far focused on increasing the quality and quantity of regulatory capital that banks have to hold to cover potential losses. Furthermore, they aimed at reducing banks' excessive leverage, increasing banks' resilience to short-term liquidity shocks, reducing their reliance on short-term funding, reducing banks' concentration risk, and addressing too-big-to-fail problems[10].

As a result, the new rules strengthened the criteria for eligible regulatory capital, increased minimum capital requirements, and introduced new requirements for credit valuation adjustment[11] (CVA) risk and for exposures to central counterparties[12]. Furthermore, several new prudential measures were introduced: a minimum leverage ratio requirement, a short-term liquidity ratio (known as the liquidity coverage ratio), a longer-term stable funding ratio (known as the net stable funding ratio), large exposure limits[13] and macro-prudential capital buffers[14].

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[6] Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012 (OJ L 321, 26.6.2013, p. 6).

[7] Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC (OJ L 176, 27.6.2013, p. 338).

[8] Regulation (EU) 2019/876 of the European Parliament and of the Council of 20 May 2019 amending Regulation (EU) No 575/2013 as regards the leverage ratio, the net stable funding ratio, requirements for own funds and eligible liabilities, counterparty credit risk, market risk, exposures to central counterparties, exposures to collective investment undertakings (CIU), large exposures, reporting and disclosure requirements, and Regulation (EU) No 648/2012.

[9] Directive (EU) 2019/878 of the European Parliament and of the Council of 20 May 2019 amending Directive 2013/36/EU as regards exempted entities, financial holding companies, mixed financial holding companies, remuneration, supervisory measures and powers and capital conservation measures.

[10] See https://www.bis.org/publ/bcbs189.htm.

[11] CVA is an accounting adjustment to the price of a derivative to account for counterparty credit risk. For more details, see Section 1.5 in Annex 5.

[12] These were the only significant changes to the part of the standards that deal with risk-based capital requirements that were introduced as part of the first stage of the Basel III reform.

[13] A minimum requirement on large exposure limits was already a feature of Union legislation, but was a novelty for the Basel standards.

Thanks to this first set of reforms implemented in the Union[15], the EU banking sector has become significantly more resilient to financial shocks. One key indication of this increased resilience is the overall increase in regulatory capital EU banks have: between the end of 2014 and mid-2020[16], the average Common Equity Tier 1 (CET1)[17] capital ratio[18] of EU banks improved by 2.5 percentage points (pp) to 15%[19], as shown in *Figure 1*: Weighted average capital and leverage ratios for EU banks over time.[20].

Figure 1: Weighted average capital and leverage ratios for EU banks over time.

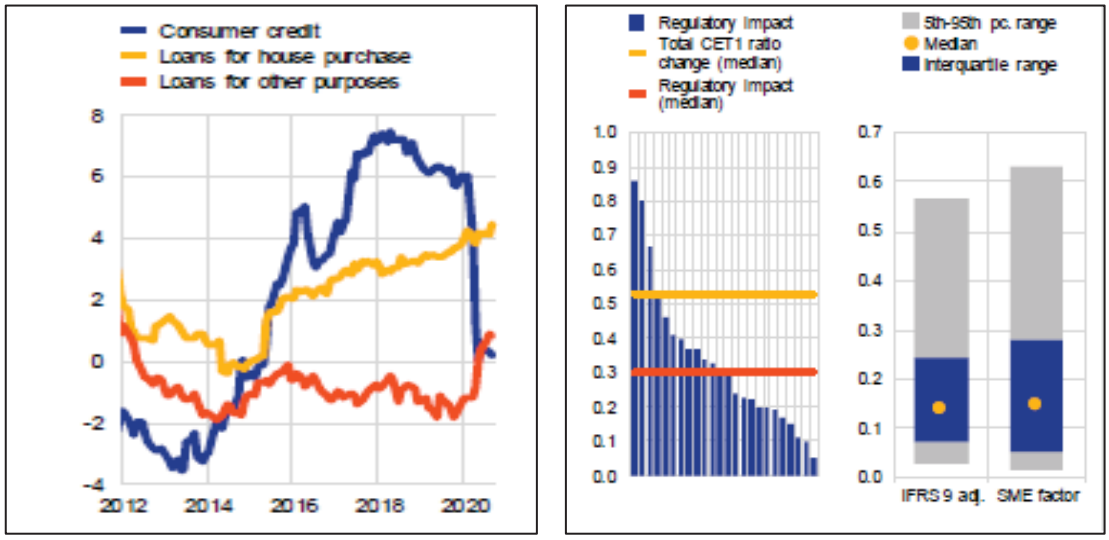
Source: Risk Assessment of the European banking system, EBA, December 2020.
Note: the above ratios are based on the prevailing rules of the prudential framework of the Union at the time, including under the prevailing transitional arrangements.

As a result, the EU banking sector entered the COVID-19 crisis on a significantly more resilient footing when compared to its condition at the onset of the GFC. In addition, temporary relief measures were taken by supervisors and legislators at the outset of the COVID-19 crisis. In its Interpretative Communication on the application of the accounting and prudential frameworks to facilitate EU bank lending - Supporting

[14] More specifically the capital conservation buffer (CCB), the countercyclical capital buffer (CCyB), the systemic risk buffer (SyRB), and capital buffers for global and other systemically important banks (respectively, G-SII and O-SII).
[15] Those first set of reforms have also been implemented in most jurisdictions worldwide as can be observed in the eighteenth progress report on adoption of the Basel regulatory framework published in July 2020 (see https://www.bis.org/bcbs/publ/d506.htm).
[16] Before the publication of this impact assessment, these data will be updated with the latest figures as of Q4 2020 which will be published by the EBA in Q2 2021 it their next Risk Assessment Report.
[17] CET 1 capital is the form of banks' capital recognised by the prudential framework for having the highest capacity to absorb unexpected losses that arise during the normal course of banks' businesses. It is mainly composed of banks' common shares and retained earnings.
[18] The CET 1 ratio is calculated by dividing a bank's CET 1 capital by its total assets weighted by their relative riskiness ("risk-weighted assets" or RWA). The CET 1 ratio is a key indicator of banks' resilience to idiosyncratic risks.
[19] EBA Risk Assessment of the European banking system, December 2020 (see https://www.eba.europa.eu/risk-analysis-and-data/risk-assessment-reports).
[20] Since 2016 the weighted average leverage ratio of EU banks, which will become a binding requirement in June 2021, remained relatively stable and well above the minimum requirement that would be applicable in the EU (3% for all EU banks from June 2021, at least 3.5% for G-SIIs from January 2023). The fact that the leverage ratio did not increase similar to the capital ratios could be explained by the fact that EU banks reduced their exposures to risky assets over the last few years which has no effect on the leverage ratio.

businesses and households amid COVID-19 of 28 April 2020[21], the Commission confirmed the flexibility embedded in the prudential and accounting rules as highlighted by the European Supervisory Authorities and international bodies. In June 2020, co-legislators adopted targeted temporary amendments to specific aspects of the prudential framework – the so-called CRR "quick fix" package[22]. Together with resolute monetary and fiscal policy measures[23], this helped banks to keep on lending to households and companies during the pandemic (as can be observed from *Figure 2* below, which also shows some of the impacts of the relief measures for the Euro area). This, in turn, helped mitigate the economic shock[24] resulting from the pandemic.

Figure 2: Annual growth rate of loans to Euro area households (left hand-side) and some aggregate impacts of the temporary relief measures provided by supervisors and legislators in Q2 2020 on banks' CET1 ratio (right hand-side).



Source: European Central Bank (ECB) Financial stability review, November 2020.

Note: In the two right-hand side charts, the y-axis represents the aggregate impacts of temporary relief measures expressed in percentage points changes between the banks' CET1 ratio between end-Q1 2020 (i.e. before the measures applied) and end-Q2 2020 (i.e. after the measures applied). In the left-hand side chart, the x-axis represents the distribution of the aggregate impacts of temporary relief measures across individual banks supervised by the ECB. In the second chart, the x-axis represents the inter-quantile distribution of the individual banks' impacts of two specific temporary relief measures, specifically the amendments to the CRR related to transitional arrangement for the application of IFRS 9 provisions and the date of application of the SME factor.

However, while the overall level of capital in the EU banking system is now considered satisfactory on average, some of the problems that were identified in the wake of the GFC have not yet been addressed. Analyses performed by the EBA and the ECB (see Section 2.1.1) have shown that the capital requirements calculated by EU banks using

[21] See https://ec.europa.eu/info/publications/200428-banking-package-communication_en.
[22] See https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R0873&from=EN.
[23] A comprehensive list of such measures has been collected by the ESBR, see "Policy measures in response to the COVID-19 pandemic".
[24] In its COVID-19 vulnerability analysis published in July 2020, the ECB showed that the largest euro area banks would be sufficiently capitalised to withstand a short-lived deep recession and that the number of those banks with insufficient capital resources in case of a more severe recession would be limited (see https://www.bankingsupervision.europa.eu/press/pr/date/2020/html/ssm.pr200728_annex~d36d893ca2.en.pdf).

internal models demonstrated a significant level of variability that was not justified by differences in the underlying risks, ultimately undermining the reliability and comparability of their capital ratios. In addition, the lack of risk-sensitivity in the capital requirements calculated using standardised approaches results in insufficient or unduly high capital requirements for some financial products or activities (and hence specific business models primarily based on them). In December 2017, the BCBS agreed on a final set of reforms[25] to the international standards to address these problems. In March 2018, the G20 Finance Minister and Central Bank Governors welcomed these reforms[26]. In 2019, the Commission announced its intention to table a legislative proposal to implement these reforms in the EU prudential framework.[27]

In light of the COVID-19 pandemic, the preparatory work has been delayed, reflecting the BCBS's decision of 26 March 2020 to postpone the previously agreed implementation deadlines for the final elements of the Basel III reform by one year[28]. Beyond the temporary measures adopted to facilitate bank lending in the context of COVID-19 referred above, this delay has allowed the Commission services to reassess the impact of the planned reform in light of the potential consequences of the COVID-19 pandemic. The temporarily stressed economic conditions have not altered the Commission services' views on the need to deliver on this structural reform. Completing the reform will address the outstanding issues highlighted above and will thus further strengthen EU banks' financial soundness, putting them in a better position to support economic growth and withstand potential future crises. It will also give banks the necessary regulatory certainty, completing a decade-long reform of the prudential framework for banks. The Commission services consider that the reform can be carried out in a manner that will not disrupt the recovery from the COVID-19 crisis.

This would also be in line with the actions of other members of the BCBS that are committed to implementing the reform timely and faithfully. Indeed, major jurisdictions, (US, UK, JP, HK, CA, AU and SG), have publically committed to adopting rules implementing the reform by 1 January 2023. Some of them, namely JP, CA, HK and SG, have already published draft rules. Those jurisdictions expect the EU to stick to its commitment to implement the reform on time.

Figure 3 below provides an overview of the first and final set of Basel III reforms, as well as the timelines of their adoption in the prudential framework applicable to EU banks.

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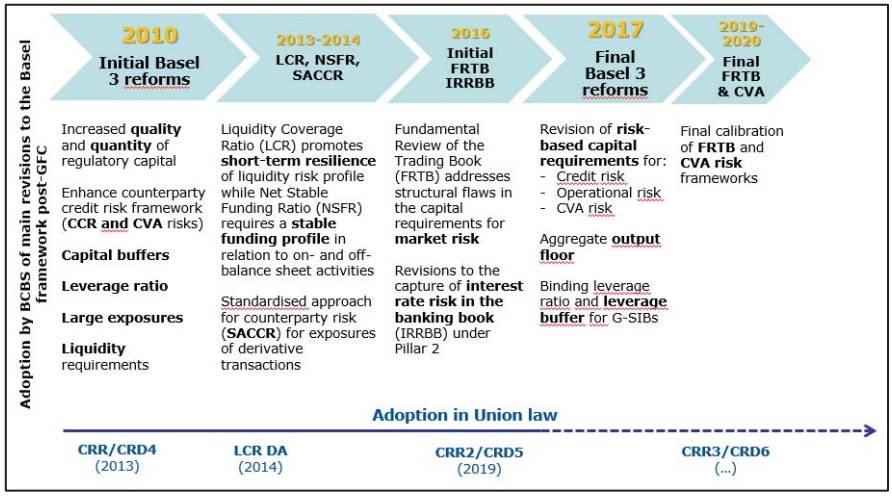
[25] See https://www.bis.org/bcbs/publ/d424.htm

[26] See http://www.g20.utoronto.ca/2018/2018-03-30-g20_finance_communique-en.pdf. The relevant passage of the statement - the latter was agreed by the European Union as a member of the G20 - reads: "*We welcome the finalisation of Basel III, which completes main elements of the post crisis reforms. We remain committed to the full, timely and consistent implementation and finalisation of the reforms and their evaluation to help identify and address any material unintended consequences and ensure that the reforms accomplish their objectives.*" The message has regularly been repeated in subsequent G20 press statements.

[27] See https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_19_6269.

[28] More specifically to 1 January 2023 for the starting date of application and to 1 January 2028 for the full application of the final elements of the reform.

Figure 3: Summary of the main revisions to the Basel framework adopted by the BCBS post-GFC and their implementation timelines in the Union.



Source: European Commission.

Note: The dates coloured in yellow at the top are the dates of adoption of the various Basel III standards by the BCBS. The dates coloured in blue at the bottom are the dates of adoption of standards in Union law.

The completion of the reform of the prudential framework for banks following the GFC is not the only important initiative related to the banking sector.

Another initiative is linked to the Commission's ongoing work on the transition to a sustainable economy. The Commission Communication on the European Green Deal (EGD)[29] clearly set out the Commission's commitment to transform the EU economy into a sustainable economy while also dealing with the inevitable consequences of climate change. It also announced a Sustainable Finance Strategy[30] that will build on previous initiatives and reports, such as the action plan on financing sustainable growth[31] and the reports of the Technical Expert Group on Sustainable Finance[32], but will reinforce the Commission's efforts in this area to bring them in line with the ambitious goals of the EGD. The Taxonomy Regulation[33] will play an important enabling role in this context, by establishing a list of environmentally sustainable economic activities.

Bank-based intermediation will play a crucial role in financing the transition to a more sustainable economy. At the same time, the transition to a more sustainable economy is likely to entail risks for banks that they will need to properly manage to ensure that risks to financial stability are minimised. This is where prudential regulation can play an important role. The abovementioned Strategy acknowledged this and highlighted the need to include a better integration of climate and environmental risks into the EU prudential framework.

[29] See https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1588580774040&uri=CELEX:52019DC0640.
[30] See https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12635-Renewed-sustainable-finance-strategy
[31] See https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0097.
[32] https://ec.europa.eu/info/publications/sustainable-finance-high-level-expert-group_en
[33] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32020R0852

Work in that direction has already started. In the CRR II, the co-legislators introduced a requirement for large, listed banks to disclose environmental, social and governance (ESG) risks and mandated the EBA to prepare two reports on how the treatment of ESG risks could be incorporated in the prudential framework. In October 2019, the EBA published its Action Plan on sustainable finance[34], outlining how it intends to achieve the three actions above. In this report, among other things, the EBA encouraged banks to integrate ESG risks, identify simple climate-risk metrics, adopt climate change related scenarios and use scenario analysis.

Work is also ongoing within the international supervisory community. In 2017, central banks and supervisors launched the Network for Greening the Financial System (NGFS)[35]. The aim of the network is to enhance the role of the financial system to manage risks and to mobilise funding for green and low-carbon investments in the broader context of environmentally sustainable development. In May 2020, it has published a handbook for supervisors on how to incorporate climate-related risks into supervision.[36]

The final area of focus is the proper enforcement of prudential rules. Both supervisors and markets play a crucial role in this respect. In order for rules to achieve their intended effect, they need to be properly enforced. For this to happen, supervisors need to have at their disposal the necessary tools and powers (e.g. powers to authorise banks and their activities, require information from them, or sanction them in case they break the rules). The Commission keeps monitoring the functioning of the supervisory framework laid down in the CRD, including through close dialogue with national supervisors, the ECB and the EBA, in order to ascertain whether the powers and tools made available to supervisors are adequate, complete and used appropriately.

Market discipline is another important tool. In order to for investors to properly exercise they role of monitoring the behaviour of banks, they need to access the necessary information. This is why the CRR requires banks to disclose certain information to the markets. As in the case of the supervisory framework, the Commission keeps monitoring disclosure rules, including through dialogue with market participants, to gauge whether the information disclosed by banks is sufficient and easy to obtain.

The above monitoring activity allows the Commission to identify areas where rules need to be adjusted in order to address identified issues.

[34] https://www.eba.europa.eu/sites/default/documents/files/document_library/EBA%20Action%20plan%20on%20sustainable%20finance.pdf.
[35] See https://www.ngfs.net/en.
[36] https://www.ngfs.net/sites/default/files/medias/documents/ngfs_guide_for_supervisors.pdf

2. PROBLEM DEFINITION

2.1. What are the problems and problem drivers?

2.1.1. Deficiencies in the current framework for calculating risk-based capital requirements

Banks are exposed to different types of risk as part of their day-to-day business. While the specific types of risks (as well as the intensity of those risks) a bank will be exposed to will depend on the business model of that bank, the four main types of risk that might result in financial losses for banks are credit risk, operational risk, market risk and counterparty risk[37]. In order to ensure that banks have sufficient amounts of regulatory capital to cover unexpected financial losses caused by those risks, banks are subject to binding risk-based capital requirements under the prudential framework (*Figure 4* below shows the aggregate level of risk weighted assets[38] (RWA) for those risks for EU banks over the last few years).

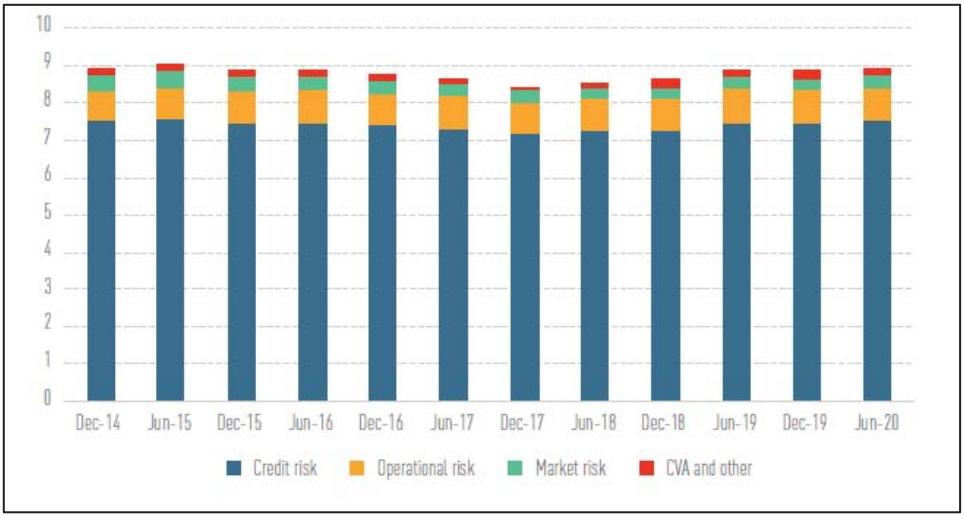
Despite the wide-ranging first set of reforms implemented in the Union after the GFC, increased levels of capital (as shown in *Figure 1*: Weighted average capital and leverage ratios for EU banks over time.) have not yet allowed to fully restore the confidence in the EU banking sector and some problems identified during the GFC remain. One important reason for this is the lack of trust in the risk-based capital requirements calculated by using internal models[39].

[37] Counterparty risk relates to bilateral transactions (e.g. derivatives or securities financing transactions) and include two types of risks: the risk of losses upon the default of the counterparty (default risk) and the risk of market value losses on bilateral transactions due to the decrease in the creditworthiness of the counterparty (CVA risk).

[38] In the prudential framework, banks have first to calculate the corresponding RWAs for those risks (the RWAs are calculated by multiplying the size of a bank's exposure (e.g. a loan) with the appropriate risk weight, which captures the degree of riskiness of the exposure) and then determine the capital requirements as a small portion of those RWAs.

[39] See for instance https://www.wsj.com/articles/basel-committee-to-stop-banks-gaming-risk-models-1446472711; https://blogs.cfainstitute.org/marketintegrity/2015/03/17/bank-risk-weighted-assets-how-to-restore-investor-trust/; or p. 53 of https://voxeu.org/sites/default/files/file/Post_Crisis_Banking_Regulation_VoxEU.pdf.

Figure 4: Amount in EUR trillions of risk weighted assets by type of risk for EU banks over time[40].



Source: Risk Assessment of the European banking system, EBA, December 2020.

Indeed, banks can use two types of approaches to calculate their risk-based capital requirements: the standardised approaches, which banks have to use by default, or the internal model approaches (based on banks' own modelling assumptions), which banks may use upon the permission from their supervisors.

Standardised approaches are benchmark risk measurement techniques which banks have to us by default unless they have been granted permission to use the internal model approaches. Under these approaches, banks have to calculate their risk-based capital requirements according to standard formulas and pre-defined parameters (e.g. regulatory risk weights, loss-given default parameters, market volatilities, etc.) specified in the legislation. This ensures that banks apply those approaches in a uniform manner which makes the calculation of capital requirements under those approaches largely comparable across banks for similar risks. The standardised approaches' parameters are intended to capture a conservative estimate of the average risk of an exposure in a way that is sufficiently simple for a widespread use. The majority of EU banks relies on standardised approaches to calculate their capital requirements.

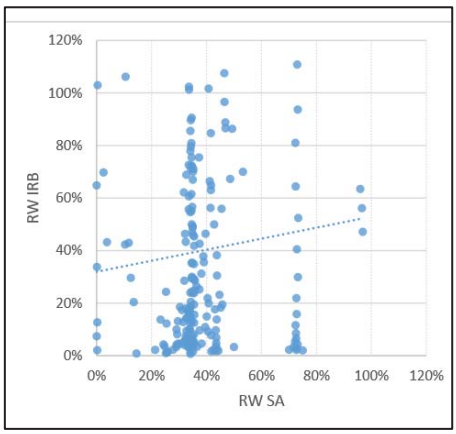
Standardised approaches have shown a number of weaknesses during the GFC which prevent them from acting as solid benchmark. First, some observations of actual losses incurred by banks during the GFC showed that the existing standardised approaches do sometimes underestimate the risks of certain types of exposures leading to insufficient amounts of capital required. The opposite was also found to be true: sometimes standardised approaches overestimated risks, leading to excessive amount of capital required. This can be explained, to an important extent, by the fact that they are designed to be simple. They hence do not always properly reflect the various characteristics of financial products, especially the most complex ones. This may, in turn, have an impact on banks' activities. For example, if the capital requirement for a certain type of loan is

[40] Before the publication of this impact assessment, these data will be updated with the latest figures as of Q4 2020 which will be published by the EBA in Q2 2021 it their next Risk Assessment Report

too low compared to the riskiness of that loan, then the bank may grant too many of those loans while having insufficient capital if those loans start defaulting (and vice versa).

The lack of risk-sensitivity of standardised approaches has been observed for all types of risks, although to different extents. For example, in its 2019 benchmarking exercise of internal models for credit risk[41], the EBA highlighted the high variability of the ratio between the risk weights generated by banks' internal models for credit risk and the corresponding risk weights under the standardised approaches, for different types of credit exposures. As shown in *Figure 5* below, the high discrepancies of those ratios across institutions cannot be explained solely by the high variability in banks' internal model approaches but also by the lack of risk-sensitivity in the standardised approaches.

Figure 5: Comparison between risk weights implied by individual banks' internal models for credit risk or 'Internal Rating Based' (RW IRB) and risk weight of the credit risk standardised approach (RW SA) for mortgage exposures.



Source: EBA.

Notes: Each point represent one EU bank participating to the exercise.

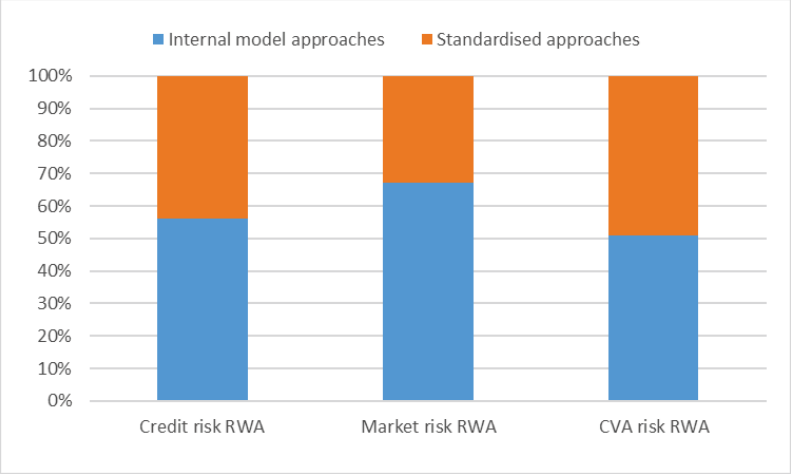
Unlike the standardised approaches, internal model approaches allow banks to estimate most or all the parameters required to compute capital requirements on their own. Since putting in place and maintaining such internal models requires significant resources, the cost of operating internal model approaches are significantly higher than the costs of using standardised approaches. This is why the number of banks that use internal models is much smaller than the number of banks using standardised approaches: according to the EBA's 2019 study of the impact of the final elements of the Basel III reform, , only 79 banks out of 189 participating to the EBA data collection were using internal models[42]. However, those banks tend to be the largest ones in the EU, accounting for a large proportion of the total EU assets. Hence, the capital requirements calculated under the internal model approaches by those banks represent more than half of the overall capital requirements of EU banks as shown in

Figure ***6***.

[41] See https://eba.europa.eu/regulation-and-policy/supervisory-benchmarking-exercises.

[42] In reality, the proportion of EU banks using internal model approaches would be much smaller since the EBA data collection does not include the vast majority of the thousands of small and medium-sized banks established in the EU, most of which do not use internal model approaches.

Figure 6: Breakdown of EU banks' RWAs calculated under the standardised and internal model approaches of the current prudential framework for credit, market and CVA risks.



Source: Basel III reforms: Impact study and key recommendations, August 2019, EBA.

When using internal models, banks can capture risks more accurately by taking into account their own assessment of the characteristics of exposures, such as loans (e.g. the likelihood that the borrower would default and the size of the loss the bank would incur in case there is a default). Since the use of internal models is predicated on close monitoring and assessment of the risks banks are exposed to, banks have a better understanding of how to manage and mitigate those risks.

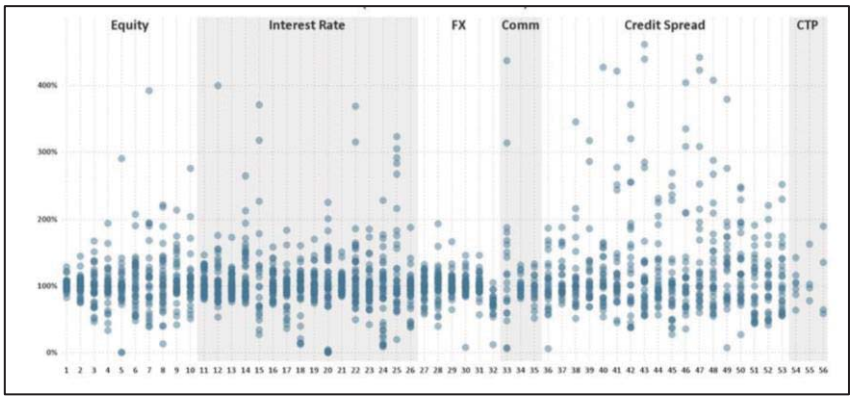
However, the freedom that internal model approaches give to banks has potential downsides. Depending on how these models are built and on the modelling assumptions underpinning them, internal models of different banks can produce different estimates of risks and hence different levels of capital requirements. Given that each bank originates loans to different clients, invests in different assets and trades with different counterparties, a certain degree of variation is to be expected. However, a range of studies conducted at both international[43] and EU[44] levels found a level of variation in capital requirements across banks using internal models that cannot be explained solely by differences in the riskiness of banks' exposures. In fact, those studies have shown that internal models can produce very different capital requirements for very similar or even identical exposures. In some cases, capital requirements for the exact same portfolios of exposures have shown a variation of more than 600%, as illustrated by *Figure 7* below in the area of market risk[45]. This variation makes it difficult to compare capital ratios across banks, puts in question their calculation and undermines confidence in capital ratios and distorts competition across banks.

[43] For the BCBS Regulatory Consistency Assessment Program reports on the variability of risk-weighted assets, see https://www.bis.org/bcbs/publ/d363.htm, https://www.bis.org/publ/bcbs267.htm, and https://www.bis.org/bcbs/publ/d337.htm.

[44] For EBA benchmarking exercises see https://eba.europa.eu/regulation-and-policy/supervisory-benchmarking-exercises.

[45] Risk of losses due to adverse price movements in trading activities.

Figure 7: Variability of capital requirements produced by internal models for market risk for different types of trading activities. Ratio between the individual bank "Value-at-Risk" risk measures for a given portfolio with the median for that portfolio.



Source: EBA report - results from the 2019 market risk benchmarking exercise.

Notes: The category 'FX' refers to trading portfolios with foreign-exchange rate risk, 'Comm' to trading portfolios with commodity risk (e.g. energy or agricultural goods) and 'CTP' to trading portfolios with subject to the specific Correlation Trading Portfolio capital requirement (e.g. collateralised debt obligations).

Moreover, a recent study[46] published by the Bank for International Settlements (BIS) illustrates that, besides a wide degree of variability in capital requirements among banks using internal models, the market perception of the financial risks that banks face is persistently higher than banks' own assessment of risk when calculating capital requirements with internal models. As shown by *Figure 8* **Figure *8***below, this problem of perceived underestimation of risks by internal models is significant for certain banks.

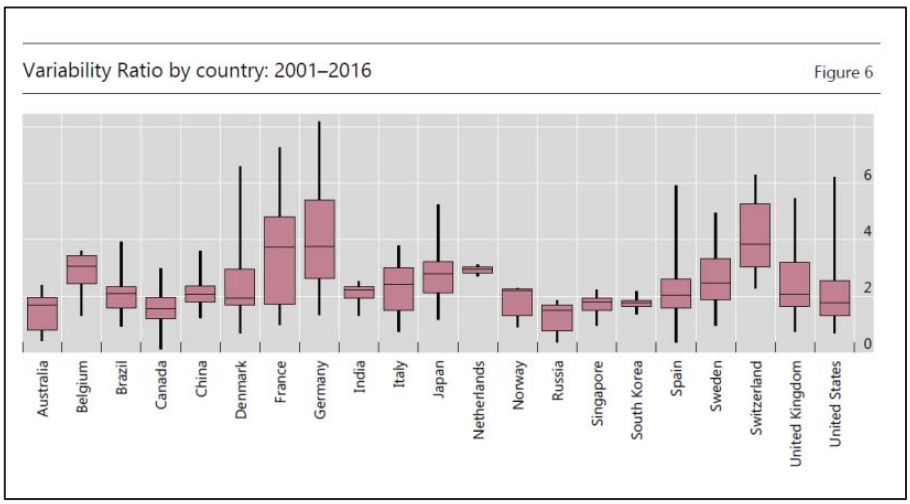
The reliability and robustness of the capital requirements produced by internal models is predicated on the condition that banks should not use internal models to reduce their capital requirements to levels which jeopardise the very objectives of safeguarding financial soundness and covering potential losses. For this purpose, the current prudential framework already provides a number of safeguards, most notably the need for supervisory approval to use an internal model as well as its regular monitoring and review. However, given the growing number and sophistication of models used by banks and the updates made to those models[47], their supervision is becoming more complex and more resource intensive.[48] Furthermore, a reliable internal model requires sufficient data of sufficient quality to be available. This condition is not always met: in some cases the amount of available data is insufficient to allow for reliable and robust modelling of losses. This in turn produces unreliable estimates of the size of the risks a bank is exposed to and hence leads to inaccurate capital requirements.

[46] See https://www.bis.org/publ/work844.htm.

[47] Banks change the design and calibration of (parts of) models to keep pace with changing portfolios, new data and modelling techniques.

[48] In principle, supervisors have the ability to withdraw the permission to use internal models from a bank. However, such measure can have a significant impact on the bank that loses the permission, which is why it is usually used as a very last resort.

Figure 8: Comparison of the Variability Ratio* across countries.



Source: "Variability in risk-weighted assets: what does the market think?", BIS, 2020.

Notes: * The *variability ratio* is defined as the risk perception by the market compared to the risks measured in the regulatory framework across banks in a given country. The higher the ratio, the larger the perceived underestimation of risk.

The identified problems have raised doubts on the adequacy of internal models. Supervisory approval is required for banks to use internal models and supervisors can naturally decide not to allow a bank to use inappropriate internal models. However, the supervisors' approval process of internal models cannot prevent in itself the variability observed across the outcomes of banks' internal models. The supervisory authorities have already undertaken dedicated initiatives to reduce to some extent such variability. In 2016, the EBA produced a roadmap to comprehensively review the current rules for credit risk internal models and in order to issue guidelines, opinions or develop technical standards[49]. Also since 2016, the ECB/SSM has carried out a large-scale targeted review of internal models (TRIM) for the banks under its direct supervision in cooperation with the national supervisory authorities[50]. However, there is a limit to the number of interventions supervisors can make to address issues with individual models used by individual banks, because supervisors have limited resources at their disposal. Once that limit is reached, more structural solutions, like changes to the rules governing models, may need to be contemplated.

2.1.2. No dedicated capture of ESG risks in the prudential framework

Climate change and the profound economic transformations that are needed to contain it pose significant risks to banks, primarily in the form of transition risk (whereby the transition to a sustainable economy can result in big shifts in asset values) and physical risks (whereby more frequent or more severe weather events impact banks and their

[49] For the current status of this exercise, EBA report on progress made on its roadmap to repair IRB models, July 2019 (see https://eba.europa.eu/eba-publishes-report-on-progress-made-on-its-roadmap-to-repair-irb-models).

[50] In April 2021, the ECB published the outcomes of the TRIM exercise which resulted in Euros 275 billion increase in RWAs over the last three years and more than 5,000 findings for banks to remediate (see https://www.bankingsupervision.europa.eu/press/pr/date/2021/html/ssm.pr210419~94c010eb9d.en.html).

customers). Climate (and, more broadly, environmental) risks are often considered together with social risks[51] and governance risks[52] under the heading of ESG risks, as these risks share a number of characteristics and are often intertwined.[53] ESG risks, in turn, are closely linked with the concept of sustainability, as ESG factors represent the main three pillars of sustainability.

ESG risks affect different types of banks' exposures differently: over the longer term, exposures related to the financing of sustainable activities are most likely less risky for banks than exposures financing unsustainable activities. If these risk differentials are not adequately reflected in banks' decision-making, banks may underestimate the overall level of risk that they face, which raises financial stability concerns. For example, Alessi, L., Di Girolamo, F., Petracco-Giudici, M. and Pagano, A. (2021) argue that transition risks might result in an increase of bank losses by 4% in a crisis. Also, banks may also underestimate the risks of unsustainable activities compared to sustainable activities and as a result may overinvest in unsustainable activities while underinvesting in sustainable activities. An adequate reflection of ESG risks in banks' decision-making in turn would help addressing this misallocation of resources and hence make it more likely that banks finance sustainable activities, enabling the Union to reach the EGD's goals.

Against this background, it is essential that banks are able to measure and monitor their exposure to ESG risks, also to enable supervisors and market participants to appropriately assess the ESG risks faced by each bank in order for supervision and market discipline to function effectively.

The current legal framework does not prevent banks from considering ESG risks in their decision-making nor from disclosing information on their exposure to such risks. While availability of relevant data for banks has been an obstacle in this context, steps have been taken to facilitate banks' access to such data, for example by means of requirements under the Corporate Sustainability Reporting Directive (CSRD)[54] and the Taxonomy Regulation. These measures should put banks in a better position to manage ESG risks.

Also, EU co-legislators have deemed that a dedicated approach to capture ESG risks in banks' financial activities could help address the aforementioned challenges and

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[51] According to the EBA Discussion Paper on management and supervision of ESG risks for credit institutions and investment firms, "[s]ocial risks are the risks posed by the exposure of institutions to counterparties that may potentially be negatively affected by social factors", with social factors in turn being "related to the rights, well-being and interests of people and communities, which may have an impact on the activities of the institutions' counterparties".

[52] According to the EBA Discussion Paper on management and supervision of ESG risks for credit institutions and investment firms, "[g]overnance risks are the risks posed by the exposure of institutions to counterparties that may potentially be negatively affected by governance factors", with governance factors in turn covering "governance practices of the institutions' counterparties, including the inclusion of ESG factors in policies and procedures under the governance of the counterparties".

[53] According to the EBA Action Plan on Sustainable Finance, "[e]nvironmental and social considerations are often intertwined, as especially climate change can exacerbate existing systems of inequality. The governance of public and private institutions, including management structures, employee relations and executive remuneration, plays a fundamental role in ensuring the inclusion of social and environmental considerations in the decision-making process.

[54] See https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/non-financial-reporting_en.

introduced in CRR II provisions aimed at improving the capture of ESG risks. First, large banks with publicly listed issuances will start disclosing information on ESG risks from 2022 onwards. Second, the EBA has been mandated to assess by June 2021 the potential inclusion of ESG risks in the supervisory review and evaluation process (SREP) performed by supervisors. Third, the EBA has been mandated to assess by 2025 whether a dedicated prudential treatment of exposures related to assets or activities associated substantially with environmental and/or social objectives would be justified. However, the immediate effectiveness of these provisions is limited, as a large number of banks are outside of the scope of the CRR disclosure rules, and any advice from the EBA on the other two areas under investigation would require subsequent changes to the CRR.

As a result, the present legal requirements alone are insufficient to provide incentives for a systematic and consistent management of ESG risks by banks. This has also been recognised by the EBA in its aforementioned discussion paper, which states that it "sees the need for enhancing the incorporation of ESG risks into institutions' business strategies, business processes and proportionately incorporate ESG risks in their internal governance arrangements". The EBA considers the current legal requirements insufficient for this purpose and therefore "recommends to incorporate ESG risk-related considerations in directives and regulations applicable to the banking sector (e.g. CRD and CRR)".

2.1.3. Inconsistency of powers and tools made available to supervisors across the Union

In order to perform their duties, national and European[55] competent authorities in charge of banking supervision have to use their powers under national laws transposing the CRD. In this regard, the CRD requires Member States (MS) to provide competent authorities with a minimum set of powers to exercise their supervisory functions[56] (thereafter "supervisory powers") and to impose sanctions through administrative measures[57] and administrative penalties[58] (thereafter "sanctioning powers") for banks breaching regulatory requirements (as set out in the CRR rules or national laws transposing the CRD). While the CRD ensures a minimum level of harmonisation across the Union, some MS have identified[59] a number of areas for which they considered it

[55] Since its entry into force in November 2014, the Single Supervisory Mechanism (SSM), established within the ECB, is in charge of the direct supervision of 115 significant banks of the Members of the Eurozone (82% of banking assets in those countries) and of non-Eurozone Member States which have entered, on voluntary basis, into close cooperation with the ECB. The other banks of those Member States (the less significant banks) continue to be supervised by their national supervisors, in close cooperation with the SSM. The action of the SSM is framed by the SSM Regulation and the SSM Framework Regulation, which specifies the functioning and powers of the SSM, within the remit of the broader supervisory framework set at European level by the CRD and transposed in national laws.

[56] For instance, the power to require institutions to have additional own funds in excess to those required pursuant to Pillar 1 requirements; or the power to restrict or limit the business, operations or network of institutions.

[57] For instance, the withdrawal of a banking license.

[58] For instance, fines paid to the supervisory authority.

[59] The difference of approaches from MS in this area may come from, differences in their legal system prior to the application of Union law, the structure of the national banking sector or the supervisory culture of the MS.

necessary to further elaborate the rules and/or to introduce additional powers for supervisory authorities. Consequently, these MS introduced additional provisions in their national laws, making use of the discretion allowed under the CRD. This has led to a situation where supervisors in different MS have different powers.

In the area of sanctioning powers, some MS included additional provisions in order to, inter alia, sanction banks for breaches[60] other than those contained in the minimum list provided in the CRD[61], and determine administrative penalties[62] incurred by banks in case of breaches of CRD/CRR, including the maximum amount[63] of administrative penalties.

In the area of supervisory powers, some MS further specified the assessment of the prudential soundness of banks in case of acquisitions of material holdings in entities other than banks[64], material transfers of assets and liabilities between a bank and a third party, and mergers or de-mergers with other banks.

As regards the supervision of members of a bank's management body and of key function holders[65], the CRD sets a number of principles to assess their suitability ('fit-and-proper assessment'). However, the CRD lacks details on how and when supervisors should conduct fit-and-proper assessments of board members and how to identify the key function holders and assess their suitability. While the publication of joint guidelines[66] by the EBA and the European Securities Markets Authority (ESMA) published in 2017 and the guide to fit and proper assessments published by the SSM[67] in 2018 improved the harmonisation[68] of practices across MS, material divergences in national laws remain. For instance, the supervisors in some MS assess the suitability of board members only a significant period of time after their appointment[69] while in the majority of MS supervisors perform this assessment prior to their appointment. In the case of key function holders, some supervisors do not properly identify them and therefore do not

[60] For instance, breaches of capital requirements, internal models approval and remuneration requirements.
[61] The SSM estimates that for several significant institutions under its direct supervision breaches of CRD/CRR requirements with material impacts cannot be sanctioned due to the lack of powers in the relevant national laws.
[62] Some MS introduced additional powers to impose periodic penalty payments, for instance daily payments until the breach justifying this penalty has ended.
[63] Some MS further specified the definition of 'total annual net turnover' (used in the determination of the maximum amount of administrative penalties) since the CRD lacks details on the inclusion of important elements reflecting the ordinary activities of institutions, for instance interest payables and similar charges, commissions and fees, net profit on financial operations.
[64] Some MS introduced an ex ante notification requirement for banks that allows supervisory authorities to oppose the operation in case of prudential concerns.
[65] According to the applicable EBA/ESMA guidelines key function holders means persons who have significant influence over the direction of an institution, but who are neither members of the management body and are not the CEO. They include the heads of internal control functions and the CFO, where they are not members of the management body.
[66] See https://www.eba.europa.eu/regulation-and-policy/internal-governance/joint-esma-and-eba-guidelines-on-the-assessment-of-the-suitability-of-members-of-the-management-body.
[67] See https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.fap_guide_201705_rev_201805.en.pdf.
[68] For example, the Guidelines identified more specifically key functions holders as the heads of the internal control functions and the CFO, where they are not members of the management body, and provide provisions identify other key functions holders based on an assessment of their materiality by institution.
[69] Assessment is carried out ex post in eight MS (DK, DE, EE, EL, FR, FI, IT, AT), and partially ex post in four MS (CZ, PL, SI, SE).

carry out an assessment of their suitability to perform their duties, while other do it in a variety of ways[70].

This fragmented regulatory landscape in the definition of certain powers and tools available to supervisors and their application across MS undermines the level playing field in the Single Market and raises doubts about the sound and prudent management of EU banks and their supervision. This problem is particularly acute in the context of the Banking Union, as already highlighted in the Commission's report on the SSM[71]. Differences across 19 different legal systems prevents the SSM from performing its supervisory functions effectively and efficiently[72]. Moreover, as a result of the diverse transposition of the CRD at national level, cross-border banking groups have to deal with a number of different procedures for the same prudential issue, unduly increasing their administrative costs. Banks as well as supervisors, in particular in the SSM, and MS have therefore acknowledged the problem (for more details see Section 6.3. and Annex 2).

2.1.4. Fragmentation and inefficiency in the disclosure of banks' prudential information

Prudential regulation requires banks to publicly disclose financial and other quantitative and qualitative information[73] so that investors, clients, depositors and other interested stakeholders can gauge their level of risk. Banks' disclosure of financial information also contributes to enhanced transparency and market discipline, thereby promoting sound risk management.

In the Union, the CRR II implemented the revised BCBS framework[74] on public disclosure (also known as the 'Pillar 3' framework), and adjusted the content[75] and scope of bank disclosures to make them applicable to all EU banks in a proportionate manner. Under the CRR II, the amount of information that banks need to disclose depends on the size and complexity of their activities (the larger and more complex a bank is, the more information it is required to disclose).

Banks are currently required to disclose all relevant prudential information in one single document or a separate section of their financial report prepared under the applicable accounting standards. Information on banks are therefore scattered on their individual

[70] For instance, some MS will only identify key function holders as those performing anti-money laundering or audit duties within an institution while others MS will rely on the definition provided in the EBA/ESMA guidelines, or even extend the scope of this definition.
[71] Cf. SWD(2017) 336 final.
[72] On the issue of fit-and-proper assessments see the in-depth analysis requested by the ECON committee: Is the current "fit and proper" regime appropriate for the Banking Union?, March 2020.
[73] The institution's capital and liquidity ratios are examples of the former, while a description of the institution's processes for managing credit risk is an example of the latter.
[74] Pillar 3 requirements have been developed in stages and finalised in December 2018. For more information, please be referred to https://www.bis.org/bcbs/publ/d455.htm.
[75] With limited exceptions, the CRR currently gives institutions a certain degree of freedom in terms of the detail of the information to be disclosed and a significant degree of freedom in terms of the format of the disclosure. The entry into application of the amendments to the disclosure rules (introduced by the CRR II) will bring about a significant harmonisation of disclosures. In particular, this will be done through implementing technical standards to be developed by the EBA, which will contain detailed templates (and related instructions to fill those templates) that institutions will need to use for their disclosures.

websites and other media platforms. However, stakeholders (e.g. investors making investment decisions or analysts making recommendations to their clients) are interested in gathering, analysing and comparing information across several banks.

At present, it is considered difficult and burdensome for these stakeholders to access and aggregate this information. For example, available information on smaller, non-publicly listed banks tends to be harder to find and is usually only available in the language of the Member State in which the bank is established. The current difficulties related to the access to prudential information deprive market participants from the information they need about banks' prudential situations. This ultimately reduces the effectiveness of the prudential framework for banks and potentially raises doubt about the resilience of the banking sector, especially in periods of stress.

In addition to having to disclose certain information, banks must also report certain information[76] to their supervisors as part of a separate process. Two separate processes to share similar financial information imply undue administrative costs for banks[77]; this also makes these processes more vulnerable to a certain type of operational risk (i.e. the risk of misalignment in the same type of information communicated through two different channels).

Since 2018, the EBA, in cooperation with the ECB and national competent authorities, has been working on the creation of the European Centralised Infrastructure for Supervisory Data (EUCLID) to aggregate in a centralised integrated system the reporting information shared by supervisors on the largest EU banks[78]. This system will be particularly useful to feed public reports and analysis with aggregated data and risk indicators on the overall EU banking sector. However, the prudential framework does not yet grant powers to the EBA to disclose individual bank data that is reported to supervisors. Introducing those powers would allow banks to only report information to their supervisors and the EBA which would then proceed to disclose the required parts of that information on behalf of banks. Banks, in particular small and non-complex ones, have repeatedly called to further reduce the administrative burden stemming from reporting[79] and disclosure requirements whereas other market participants (investors, analysts) highlighted the need for a centralised and easy access to banks' prudential information.

2.2. How will the problems evolve?

As far as the **deficiencies of internal models in the current framework for calculating risk-based capital requirements are concerned,** confidence in the risk based capital requirements could be partially restored through the supervisory exercises run by the

[76] There is an overlap between the information that must be disclosed and the information that must be reported, although the amount of information that needs to be reported is normally much larger (and more detailed).
[77] The size of the undue costs cannot be estimated due to lack of data.
[78] EUCLID is expected to be launched in 2021.
[79] See, for example, https://op.europa.eu/en/publication-detail/-/publication/4b62e682-4e0f-11ea-aece-01aa75ed71a1.

EBA and the ECB[80]. Those exercises aim at 'model repair' by means of harmonising certain modelling assumptions across EU banks. However, the completion of those exercises could not fully resolve the issues, given the amount of flexibility the current rules still provide banks to design their individual internal models. In addition, enhanced supervisory review would not address the deficiencies identified in the standardised approaches for calculating risk-based capital requirements. In this context it has to be recalled that capital requirements calculated under the standardised approach represent a significant share of total capital requirements across the Union.

In the absence of changes to address the identified deficiencies related to internal model approaches, the risk-based capital requirements calculated by banks using those models would remain incomparable across banks and in some cases may be too low in relation to the risks of certain exposures. If the deficiencies related to the standardised approaches would remain unaddressed, some financial products or activities (and hence specific business models primarily based on them) would attract either insufficient or unduly high capital requirements. In both cases the potential mispricing of risks by individual banks and consequently the inadequate capitalisation of those risks by those banks would persist.

As a consequence, some mistrust in the EU banking sector would persist with negative consequences for banks' market valuations and funding costs which could in turn undermine their ability to finance the EU economy. The lack of confidence in the EU banking sector could ultimately lead to a higher probability that future periods of stress, whatever their origins, could turn into more severe financial crises.

As regards the **capture of ESG risks in the prudential framework**, the problems that such capture could potentially address (i.e. inadequate management of ESG risks) would become ever more pressing. Both transition risks and physical risks to banks would inevitably increase as the economic restructuring gains speed and as environmental events increase in magnitude and frequency. In the absence of timely legislative action to address these problems (in addition to the limited measures included in CRR II and elsewhere, see Section 2.1.2), banks might continue to misprice ESG risks, which would in turn lead to inadequate financing of the transition to a more sustainable economy risks. It could also lead to undercapitalisation of banks which could lead to financial stability issues.

On the **supervisory and sanctioning powers**, in absence of a legal initiative the discrepancies observed across national laws transposing the CRD would continue to exist, maintaining the current fragmentation and the un-level playing field with regard to the application of supervisory powers and the imposition of sanctions. This would have negative consequences in two respects. On the one hand, some MS would maintain a relative low degree of supervision, allowing some of their banks to perform certain operations that could be risky, thus fuelling mistrust in the soundness of banks. Furthermore, in some MS supervisors would still not be empowered to impose sanctions

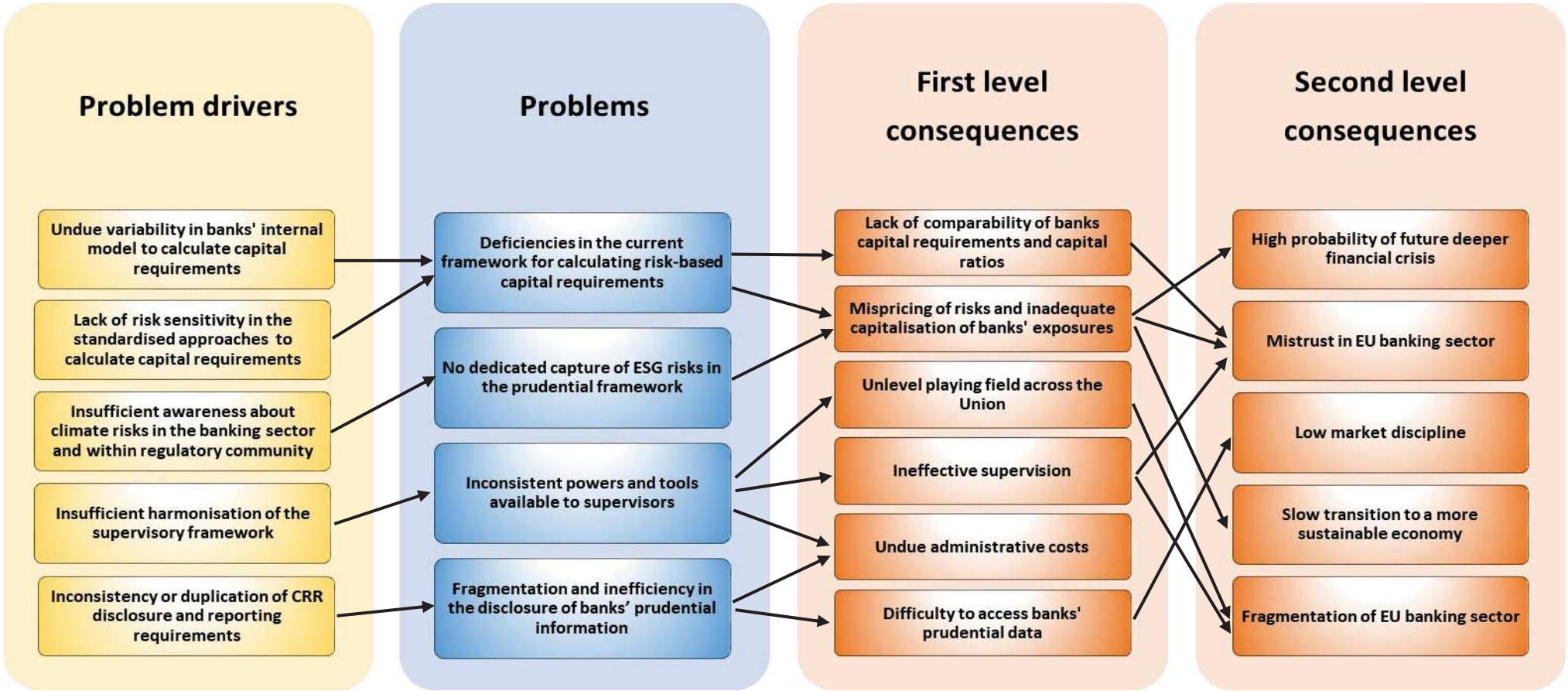
[80] See https://www.eba.europa.eu/regulation-and-policy/supervisory-benchmarking-exercises and https://www.bankingsupervision.europa.eu/banking/tasks/internal_models/trim/html/index.en.html for EBA and ECB, respectively.

for breaches of certain prudential requirements and would thus continue to lack an important supervisory tool. On the other hand, other MS would continue to exercise the legal flexibility available in the CRD in a more conservative manner. Additional supervisory and sanctioning powers in these MS could incentivise some banks to carry out certain activities in other MS without such powers. Finally, without a change, the ECB/SSM would not be able to apply the same supervisory tools and exercise the same powers to all banks under its supervision in a consistent way which would impede the effectiveness of its supervision.

The existing **inconsistencies and identified deficiencies of the application of fit-and-proper requirements** lead to a less effective and efficient supervision regime. In a number of MS, members of the management body would continue to take up their position without having been vetted upfront by supervisors. This involves the risk that unqualified managers could contribute to key decisions for the banks' businesses and its risk management. In the absence of proper definitions of key function holders and rules for their assessment the current un-level playing field across institutions within the Union would continue to exist, creating reputational risk for EU banks and their supervisors, undermining trust in the banking sector.

Finally, in the absence of actions to address the **fragmentation and the inefficiency in the disclosure of banks' prudential information to the public**, analysing and comparing information on individual banks would remain burdensome and costly for the relevant stakeholders and would continue to undermine the effectiveness of market discipline. In addition, banks' processes to report information to supervisors and to disclose information to the public would continue to run in parallel, unduly maintaining unnecessary administrative costs.

Figure 9: Mapping of problems, problem drivers and their consequences if not addressed



3. WHY SHOULD THE EU ACT?

3.1. Legal basis

All actions considered frame the taking up, pursuit and supervision of the business of banks within the Union, with the objective of ensuring the stability of the internal market. One of the fundamental components of the Union's financial system, banking is currently providing the largest part of financing within the internal market. The Union has a clear mandate to act in the area of the internal market and the appropriate legal basis consists of the relevant Treaty Articles[81] underpinning Union competences in such area.

The legal basis falls within the internal market area, which is considered a shared competence, as defined by Article 4 TFEU. Most of the actions considered represent updates and amendments to Union law, and as such, they concern areas where the Union has already exercised its competence and does not intend to cease exercising such competence. A few actions (particularly those amending the CRD) aim to introduce an additional degree of harmonisation in order to achieve consistently the objectives defined by that Directive.

3.2. Subsidiarity: Necessity of EU action

In the context of global cooperation on financial stability, supervisors and regulators meeting within the BCBS, including from several EU Member States, the ECB, the EBA and the Commission, have developed common international standards that members jurisdictions should apply to their internationally active banks. Following the GFC, the BCBS launched a fundamental review of the international standards to strengthen the resilience of the global banking system and improve comparability across banks worldwide. A number of the revised standards have already been incorporated into Union law by means of the CRR and the CRD IV, as subsequently amended by the CRR II and CRD V. However, a number of additional revisions adopted by the BCBS in December 2017 in relation to credit risk, operational risk, CVA risk, market risks and the replacement of the Basel I floor by an aggregate output floor have still to be transposed in Union law. These proposed revisions address remaining shortcomings in the international prudential framework as identified during and after the GFC.

The objectives pursued by those revisions of international standards can be better achieved at Union level rather than by different national initiatives as they represent adjustments to the EU prudential framework. The identified problems (see section 2.1.1) and the underlying causes are similar across Member States and potential differences pertain to the behaviour and business model of individual institutions, not their location within the Union. No action by the Union would render the existing prudential framework outdated in relation to evolving market challenges and would create major misalignments with standards applied by other jurisdictions. This would have reputational, financial stability and market impacts.

[81] The relevant Treaty Articles conferring the Union the right to adopt measures are those concerning the freedom of establishment (in particular Article 53 TFEU), the freedom to provide services (Article 59 TFEU), and the approximation of rules which have as their object the establishment and functioning of the internal market (Article 114 TFEU).

The ability of Member States to adopt national measures to address the identified issues is limited, given that the CRR and the CRD already regulate those aspects, and changes at national level would not be able to derogate from Union law currently in force. If the Union were to cease regulating those aspects, the internal market for banking services would become subject to different sets of rules, leading to fragmentation and undermining the recently built single rulebook in this area. National measures would affect the degree of cross-border service provision, capital flows and market integration across Member States. This would be detrimental to effectively ensuring financial stability in the internal market.

With regard to the current rules on supervision (e.g. fit and proper rules, supervisory powers and sanctions), the current national laws supplementing the prudential framework have displayed some substantial differences. The absence of sufficient common rules does not allow for a level-playing field, potentially fuelling regulatory or supervisory competition. Also, in the context of the Banking Union, where the ECB exercises direct supervisory powers set out in national laws transposing the CRD, the ECB does not have the same range of powers with regard to all banks under its supervision. The objective of efficient and harmonised supervision throughout the Union cannot be achieved by individual MS actions.

3.3. Subsidiarity: Added value of EU action

There are clear benefits from action at Union level. The Union's prudential framework for banks would be aligned with the latest international standards, thus becoming more fit for purpose and ensuring a greater resilience of the Union's banking sector. It is more efficient to change the current Union rules than repealing them and replacing them with national rules. EU action also allows for a more homogenous approach, taking into account all EU specificities in a comprehensive way.

As regards those aspects that would supplement existing rules (e.g. fit and proper rules, supervisory powers, sanctions) additional harmonisation will contribute to a more homogenous approach and reduce the fragmentation of the internal market. At the same time EU action contributes to establishing a level playing field and a higher quality of supervision across the Union.

4. OBJECTIVES: WHAT IS TO BE ACHIEVED?

4.1. General objectives

There are **two general objectives** pursued by this initiative:

1. **Contributing to financial stability.** Only a stable and financially sound banking system, which is well capitalised and where risks are adequately managed, will lead to a reduced probability of banking crises, and reduce the impact of such crises should they occur. This will in turn allow to maintain investors' and depositors' confidence in the banking system, especially in periods of stress.
2. **Contributing to steady financing of the economy in the context of the recovery post-COVID-19 crisis**. The EU economy is heavily reliant on financing provided by the

banking sector. While initiatives are underway to develop a Capital Markets Union (CMU) that might over time reduce this reliance, the banking sector will in particular play a key role in financing the medium-to-long term recovery from the COVID-19 crisis.

4.2. Specific objectives

The two general objectives pursued by this initiative can be broken down into the following **four specific objectives**:

1. **Strengthen the risk-based capital framework, without significant increases in capital requirements**. To ensure a resilient and stable banking system, it is essential to have a solid prudential framework in place which ensures that risks are accurately measured and adequately covered by capital. In particular, trust in the banking system is conditional upon trust in the reliability of the risk-based capital framework. Internally modelled approaches that EU banks use for calculating risk-based capital requirements should result in adequate capital levels and produce comparable outcomes. At the same time the prudential framework should provide robust and sufficiently risk-sensitive standardised approaches for banks using them. However, strengthening the risk-based capital framework should not come at the cost of significantly increasing capital requirements as requested by the EU Parliament and the Council[82].
2. **Enhance the focus on ESG risks in the prudential framework**. Including a sustainability dimension in the prudential framework would ensure a better management of ESG risks and a better allocation of bank funding across projects, thus helping the transition to a more sustainable economy.
3. **Further harmonise supervisory powers and tools**. Supervisory tools such as fit-and-proper assessments, supervisory powers and sanctioning powers play a key role in ensuring the safety and soundness of individual banks and the stability of the EU banking system as a whole. Certain tools should therefore be made available to supervisors in all Member States and applied consistently. This would also help reduce administrative costs resulting from the current fragmentation.
4. **Reduce banks' administrative costs related to public disclosures and improve access to banks' prudential data**. Public information on individual banks that is easily accessible and comparable should enhance the ability of bank clients, investors and other market participants to monitor and exert market discipline on banks' behaviour. Banks in turn would benefit from a more efficient system that integrates supervisory reporting and disclosure, and thereby reduces their administrative burden.

[82] See https://www.europarl.europa.eu/doceo/document/TA-8-2016-0439_EN.pdf for the EP and https://www.consilium.europa.eu/media/22659/st11052en16.pdf for the Council.

5. WHAT ARE THE AVAILABLE POLICY OPTIONS?

5.1. What is the baseline from which options are assessed?

The baseline option from which the considered policy options are assessed assumes no legislative change to the prudential framework applicable at Union level.

Under this option, the structural shortcomings of internal models of the current prudential framework as described in Section 2.1.1 would remain unaddressed, and the Commission would solely rely on the supervisory initiatives taken by the EBA and the ECB under their current remits to improve the situation. In addition, the EBA will continue performing its annual supervisory benchmarking exercises on credit and market risk internal models to highlight the degree of variability of EU banks' internal models. The EBA and ECB initiatives could achieve to some extent a reduction of the variability in capital requirements calculated based on internal models for credit, counterparty and market risks[83]. While acting as important complements, these supervisory initiatives cannot substitute for the necessary reforms of the binding requirements included in the current prudential framework. Without those reforms, the problems described in Section 2.1.1 would continue to exist.

In the same vein, without changes to the standardised approaches, they would remain insufficiently risk-sensitive. Since those standardised approaches are legally binding, they are virtually identical for all banks that apply them. Therefore initiatives employed by supervisory authorities cannot be used to tackle the deficiencies identified in Section 2.1.1.

Moreover, under this scenario, the only binding requirement related to ESG risks that would apply would be the requirement for large banks to disclose information on those risks from end-June 2022 onwards, as highlighted in Section 2.1.2. While competent authorities will continue to be able to exercise their Pillar 2 powers to require banks to address ESG risks, due to the lack of an explicit reference to those risks in the CRD, those powers will not be applied systematically and consistently. Any additional requirements that the EBA may propose in the reports due in 2021 and 2025 (see Section 2.1.2) would require legislative action.

Not changing legislation would also mean that divergences among MS in the area of supervisory powers made available to competent authorities under the CRD, identified in Section 2.1.3, would persist. For example, the prudential framework would still not require MS to give competent authorities powers to sanction certain types of regulatory breaches. Furthermore, there would be no legal requirement for an intervention in the case of specific situations that could raise prudential concerns, such as the acquisition of material holdings in entities other than banks, material transfers of assets and liabilities, and (de-)mergers. MS would still have ample leeway to grant the competent authorities these supervisory powers at their own discretion. The CRD would also still not require competent authorities to assess the suitability of key function holders. At the same time, the prudential framework would continue to lack specifications on how competent authorities should conduct fit-and-proper assessments. As a result, the rules would remain subject to broad margins of interpretation by

[83] Internal models used to calculate capital requirements for operational risk are not covered by TRIM.

MS, leaving clearly identified prudential concerns unaddressed. The initiatives conducted by the EBA and the ECB/SSM (see Section 2.1.3) could help increase the harmonisation of the fit-and-proper assessment across Member States but, only if MS would empower supervisors by amending their national frameworks. In absence of such national empowerments, inadequate supervision of key function holders would persist in some MS, as associated with the risks of employing unsuitable individuals as members of the management body.

Finally, under this scenario of no change to the current prudential framework, banks' investors and other stakeholders interested in banks' prudential information would still find it burdensome to collect such information on individual banks' platforms. In addition, banks would continue to have to follow two separate processes to report and disclose the required information, which would continue to generate an undue administrative burden for them, as described in Section 2.1.4.

5.2. Description of policy options

5.2.1. Improve the current framework for calculating risk-based capital requirements

Option 1 *- Implement the Basel III reforms in full alignment with the BCBS standards and implementation timelines*

This option would implement in Union law the final elements of the Basel III reform (adopted by the BCBS between December 2017 and July 2020) in full alignment with the standards and the timelines agreed by the BCBS. The agreement was the result of a strategic review of the international prudential standards for banks, which was conducted by the BCBS in the wake of the GFC, with a view to improving the balance between simplicity, comparability (mainly of the internal model approaches) and risk-sensitivity (mainly of the standardised approaches) of those standards.

This option would entail implementing the final elements of the Basel III reform agreed in December 2017, namely:

- the revisions to the standardised approach for credit risk (SA-CR) to improve the robustness and risk sensitivity of the existing approach;
- the revisions to the IRB approaches for credit risk to reduce unwarranted variability in banks' calculations of RWAs;
- the minimum haircut floors for non-centrally cleared securities financing transactions[84] (SFTs) to limit the pro-cyclicality of these transactions and the build-up of excessive leverage in the financial system;

[84] SFTs are secured funding or lending transactions that imply a temporary exchange of assets with one leg of the transaction serving as a guarantee (collateral). Repurchase agreements (repos) constitute the most important category of SFTs in terms of outstanding amounts and turnover. They are generally motivated by the need to borrow cash. From the borrower's point of view, the transaction consists of selling securities against cash, while agreeing in advance to buy back the securities at a predetermined price. The sold securities serve as collateral for the buyer (provider of cash) in the repo. Securities lending, the second largest category of SFTs, is primarily driven by market demand for specific securities, e.g. for short selling or settlement purposes. In this type of

- the revisions to the CVA risk framework consisting of the removal of the use of an internally modelled approach and the introduction of a new basic approach (BA-CVA) as well as revisions to the standardised approach for CVA (SA-CVA) to enhance the risk sensitivity, strengthen the robustness and improve the consistency of the framework;
- the new standardised approach for operational risk (SA-OR), replacing all the existing standardised and internal model approaches for this risk to simplify the framework and increase comparability; and
- the aggregate output floor (OF) to limit the unwarranted variability in the regulatory capital requirements produced by internal models and the excessive reduction in capital that a bank using internal models can derive relative to a bank using the revised standardised approaches.

In addition, this option would implement the revised[85] (i.e. January 2019) version of the original (i.e. January 2016) market risk standards, known as the 'fundamental review of the trading book' (FRTB), for the purpose of calculating capital requirements. Most of the revised FRTB standards have already been implemented in EU law as part of the CRR II. Following an agreement between the European Parliament and the Council, they were implemented for reporting purposes only (i.e. banks are not required to use them to determine their capital requirements). Under this option they would be converted into a capital requirement, fully aligned with the final 2019 standards.

transaction, one counterparty lends securities for a fee against collateral in the form of cash or other securities given by another counterparty.

[85] Apart from modifying the calibration of the original FRTB standards, the revised version also aligned the implementation date of the standards with the implementation date of the overall framework (the date was originally set to January 2019).

Table **1** below presents a more detailed list of the key elements of the reforms included in the December 2017 agreement, as well as the revised market risk framework adopted in 2019.

This option would address the main deficiencies, identified in Section 2.1.1, with the current prudential framework for calculating risk-based capital requirements applicable to EU banks[86]. At the same time, this option would entail no adjustments to the final Basel III standards to cater for specificities of the EU economy and would also remove some of the EU-specific rules currently in place to fully align the EU prudential framework with those standards (e.g. it would remove the exemptions from the CVA risk charge and the small and medium-sized enterprise (SME) supporting factor).

[86] Note that the final elements of the Basel III reform were not specifically intended to address the problems identified with the risk-based capital requirements of EU banks; the same problems have been identified with their international peers with similar business models and activities. When developing the reform, the BCBS took a rather global approach in addressing those problems, therefore not necessarily taking into account the specificities of the banking sector of each of the BCBS members.

Table 1: Overview of the main revisions to the Basel framework introduced by the final elements of the Basel III reform.

Risk area	Main revisions
Credit risk – standardised approach	• For rated exposures to banks, some of the RWs have been recalibrated. In addition, the RW treatment for unrated exposures to banks is more granular than the existing flat RW, which depends on the RW applicable to the central government of the Member State in which the bank is established. • For exposures to corporates, a more granular RW treatment has been developed. In addition, a specific treatment for exposures to project finance, object finance and commodities finance was developed. • For real estate exposures (both residential and commercial), more risk-sensitive approaches have been developed to better reflect different funding models and stages in the construction process. • For retail exposures, a more granular treatment was developed, which distinguishes between different types of retail exposures and reflects FX risk. • For subordinated debt and equity exposures, a more granular and generally stringent RW treatment was developed. • For off-balance sheet items, a more risk-sensitive treatment was developed, which is more stringent for unconditionally cancellable commitments.
Credit risk – internal models approach	• The possibility to use of internal models was either limited or altogether removed for portfolios and risk parameters where the BCBS had concluded that the available data was insufficient to ensure reliable modelling (i.e. exposures to financial institutions and large corporates, equity exposures). • New minimum values ('input floors') were introduced for banks' estimates of the probability of default, loss-given default and exposure at default (EAD). • The option for banks to pick and choose between the use of internal models and the standardised approach per asset class was introduced.
Market risk (FRTB)	• More objective rules were introduced to allocate transactions either to the trading book, or to the banking book. • Both the standardised approach and the internal model approach were be completely overhauled to better capture market risk. • New tests were introduced to ensure the robustness of the internal models and leave less flexibility for banks to use their own modelling assumptions.
CVA risk	• Internal models were replaced by standardised approaches, leaving banks with a choice between a more sophisticated and a simpler approach. • For banks with non-centrally cleared derivatives contracts with a combined notional value of less than EUR 100 bn, a simplified approach was made available.
Securities Financing Transactions	• For certain non-centrally cleared SFTs with certain counterparties, minimum haircut floors were introduced; as a result SFTs which do not meet the haircut floors must be treated as unsecured loans.
Operational risk	• The current internal model approach and the three existing standardised approaches were replaced with a single risk-sensitive standardised approach to be used by all banks. • The capital requirement under the new standardised approach depends on the size of the bank (expressed in terms of a refined measure of gross income) and the bank's operational risk-related loss history.
Output floor	• A revised output floor was introduced. The floor sets a lower limit to the capital requirements that are produced by a bank's internal model at 72.5% of the capital requirements that would apply if the bank would calculate its capital requirements using standardised approaches[87].

[87] For more details on the level of application see section "Flexibility in the Basel III standards" below.

Option 2 *- Implement the final Basel III reforms with EU-specific adjustments and in alignment with the BCBS implementation timelines*

Similar to option 1, option 2 would also implement all the final elements of the Basel III reform. Compared to option 1, this option would include a number of targeted adjustments to cater for the specificities of the EU banking sector and the funding structure of the EU economy, and taking into account the context of the recovery, with the objective to avoid disproportionate impacts or unintended consequences of the reforms on essential activities and financial services provided by EU banks. In fact, the Basel standards are designed to capture common financial risks that can be observed across the world. They are calibrated based on averages of data collected across banks and financial markets located in different regions of the world. As a result, the capital requirements under some Basel standards may not capture more specific financial risks appropriately which could lead to disproportionate impacts on the corresponding financial activities. In addition, a few other targeted adjustments under this option would help to ensure an international level playing field for trading activities. Finally, this option would also make use of the flexibility the international standards provide in order to harmonise their application across the Union, in line with the objectives set out for this legislative proposal.

Specificities of the EU banking sector and EU economy

EU businesses (and in particular SMEs, see also Section 3 of Annex 6) rely heavily on bank lending to finance their investment and working capital needs, much more than in other major jurisdictions. However, the international standards do not always sufficiently take into account the specific financing structures and risk management strategies used in the EU. To address this issue, option 2 includes several targeted adjustments:

- Treatment of unrated corporates: corporate lending in the EU is predominantly provided by banks using IRB models. With the implementation of the OF those banks would also need to apply the SA-CR which relies on external ratings to determine the credit quality of the corporate borrower. Most EU corporates, however, do not typically seek external credit ratings, due to the cost of establishing a rating[88] and other factors[89]. Given that capital requirements calculated under the SA-CR are, on average, more conservative for unrated corporates than for corporates that have a rating,[90] the implementation of the OF could cause substantial increases in capital requirements for banks using internal models (because the standardised approach would be used to calculate the OF). To avoid disruptive impacts on bank lending to unrated corporates and provide enough time to

[88] For example, according to one provider of credit ratings the average cost of obtaining a rating for an SME is approximately between EUR 40000 and 50000 for the initial evaluation, and then EUR 30000 to 35000 annually for keeping the rating updated. However, these figures are only indicative, as the cost depends on various factors, such as the complexity of the company, its financial structure, and the size of the debt issue.

[89] For example, according to one ratings provider some of the other reasons why SMEs do not seek to obtain ratings are the availability of financing from banks (ratings are usually sought when debt is sold in the markets), unmet expectations about the quality of the assigned ratings (ratings turn out worse than the company issuing the debt expects), and reluctance to make financial data available.

[90] A bank's exposure to an unrated company is assigned a 100% risk weight under the SA-CR, whereas an exposure to a company with a good credit rating can attract a lower risk weight (20% in case of the highest rating).

establish public and/or private initiatives aimed at increasing the coverage of credit ratings, option 2 would introduce a transitional period. During this period banks using internal models could apply a favourable treatment when calculating their OF for exposures to unrated corporates. This transitional arrangement would be coupled with an empowerment for the Commission to further extend the length of the period, based on a report by the EBA. This would ensure sufficient access to bank funding by unrated corporates during the transition period, as banks could continue to apply lower capital requirements whilst initiatives to foster widespread use of credit ratings would be established. After the transition period banks would refer to credit ratings to calculate capital requirements for most of their exposures to corporates in accordance with the Basel III standards. More details about this specific issue and the dedicated adjustment to address it are provided in subsection 1.1.1 of Annex 5.

- SME supporting factor: Given their fundamental role in creating jobs and economic growth in the EU, EU co-legislators decided that capital requirements for SME exposures should be lower than those for large corporates to ensure appropriate bank financing of SMEs. As a result, an SME supporting factor was introduced in the CRR and its scope extended in CRR II[91]. Option 2 would maintain this SME supporting factor in the prudential framework, which would result in lower capital requirements for SMEs than the specific treatment provided by the Basel III standards.

- Infrastructure supporting factor: bank financing of infrastructure and other specialised projects is also a defining characteristic of the EU economy, as compared with other jurisdictions where such projects are predominantly financed by capital markets. Large EU banks are major providers of funding for specialised projects[92], objects finance[93] and commodities finance[94], in the EU and globally. They have developed a high level of expertise in those areas. A preferential treatment has been introduced in CRR II to foster bank finance and private investment in high quality infrastructure projects ('infrastructure supporting factor'). Option 2 would maintain this treatment, which would result in lower capital requirements for infrastructure projects than the specific treatment provided by the Basel III standards. Furthermore, a new preferential treatment under the standardised approach for "high quality" object finance would be introduced. It would apply where financial risks are specifically managed. Conflicting signals to banks active in this market segment should be avoided.[95] This option would also empower the Commission to adopt delegated acts that would adjust the internal models approach, if such adjustment would

[91] As a result of CRR and CRRII, banks can now apply a 23.81% discount when computing their capital requirements on SME exposures of up to EUR 2.5mn EUR whereby the part of an SME exposure exceeding EUR 2.5mn EUR are subject to a 15 % reduction in capital requirements (so-called SME supporting factor).
[92] Namely, loans funding long-term important infrastructure or industrial projects.
[93] Namely, loans funding the acquisition of physical assets such airplanes, ships, satellites, railcars, fleets, etc.
[94] Namely, financing exchange-traded commodities like crude oil, metals or crops.
[95] This would avoid undermining incentives for proper risk-mitigation of those transactions, for instance through close monitoring and various forms of collateralisation. The EBA would be mandated to develop criteria to determine what constitutes a high-quality project and to determine the calibration of the applicable RW.

be found appropriate based on a comprehensive assessment by the EBA during the implementation period.

- Equity exposures: Many EU banks hold long-standing, strategic[96] equity participations in financial and non-financial corporates. The final Basel III standards increase the RWs for all kinds of equity exposures over a 5-year transition period without providing a specific treatment for strategic equity investments. Applying the more conservative approach embedded in the Basel III standards to the whole stock of existing equity holdings could jeopardise the economic viability of existing strategic relationships. Option 2 would exclude equity holdings in entities within the same banking group or covered by the same institutional protection schemes (IPS)[97] from the application of the more conservative treatment. In addition, it would grandfather existing strategic participations where banks exercise influence, including via holdings in insurance undertakings, whilst applying the new, more conservative treatment to new equity exposures. More details about this specific issue and the dedicated adjustment to address it are provided in subsection 1.1.3 of Annex 5.

- Treatment of Collective Investment Undertakings[98] (CIUs) used for trading purposes: CIUs play a crucial role in facilitating the accumulation of personal savings, whether for investments or for retirement. The seamless provision of CIUs as investment product hinges on banks' ability to continuously offer to their clients the possibility to buy or sell back those instruments. For that purpose, banks must keep inventories of CIUs in their trading books. The revised market risk standards adopted in 2019 rely on a number of conservative assumptions and complex operational requirements[99] that could increase significantly the capital requirements for those instruments, therefore restricting their supply. To avoid this unintended effect on those trading activities, Option 2 would provide a number of adjustments to the treatment of CIUs under the market risk rules. More details about this specific issue and the dedicated adjustment to address it are provided in section 1.3 of Annex 5.

- Treatment of financial products based on the EU emission trading scheme (ETS): banks play an important role in providing liquidity to the EU market for carbon emissions allowances. Banks typically fill their clients' estimated demand for allowances at a future date via derivatives ('forward') transactions. Under the revised market risk rules, the exposures to carbon emission allowances are assimilated to electricity contracts, and

[96] E.g. investments in equities of corporates with which the bank has a long-term business relationship.
[97] An institutional protection scheme (IPS) is defined in the CRR as a contractual or statutory liability arrangement which protects its member institutions and in particular ensures that they have liquidity and solvency needed to avoid bankruptcy where necessary.
[98] Under CRR, a "CIU" means an Undertakings for Collective Investments in Transferable Securities (UCITS) as defined in Article 1(2) of Directive 2009/65/EC of the European Parliament and of the Council or an alternative investment fund (AIF) as defined in point (a) of Article 4(1) of Directive 2011/61/EU of the European Parliament and of the Council.
[99] As described in Annex XX, these requirements include the restricted permission to capitalise exposures to CIUs under the internal model approaches only if the bank can look through the CIUs' composition and the conservative calibration of some of the standardised approaches available for those exposures.

therefore get allocated to the same risk weight (60%). In light of the historical price volatility of EU ETS, this risk weight appears excessively high. Furthermore, in its Communication[100] on fostering openness, strength and resilience of the European economic and financial system, the Commission announced its intention to support further ETS trading activity in the EU, notably as part of the 'green' transition[101]. Option 2 would therefore introduce a specific category for ETS allowances, distinct from electricity, for which RWs would be calibrated to reflect the actual price volatility of this commodity in the EU ETS market. More details about this specific issue and the dedicated adjustment to address it are provided in section 1.3 of Annex 5.

- Exemptions from capital requirements for CVA risk: When implementing the initial Basel III reforms in Union law through the CRR, the EU co-legislators exempted certain transactions[102] from the calculation of capital requirements for CVA risk. These exemptions were agreed to prevent a potential excessive increase in the cost of some derivative transactions triggered by the introduction of the capital requirement for CVA risk, particularly when banks could not mitigate the CVA risks of certain clients[103]. While the introduction of the revised capital requirement for CVA risks adopted as part of the final elements of the Basel III reform would improve to some extent the risk-sensitivity of the standardised approaches for CVA risks, the level of capital requirements would still remain very high for the exempted transactions, notably due to the removal of the internal model approach for CVA risk. In this context, Option 2 would maintain the existing CRR exemptions. To help supervisors monitoring the CVA risks arising from the exempted transactions when they are excessive, option 2 would require institutions to report to their supervisors the calculation[104] of capital requirements for CVA risks of the exempted transactions. In addition, option 2 would introduce EBA guidelines to help supervisors to identify excessive CVA risk. More details about this specific issue and the dedicated adjustment to address it are provided in section 1.5 of Annex 5.

- Introduction of the minimum haircut floor framework for non-centrally cleared SFTs: SFT markets play an essential role[105] in the EU financial system by allowing financial institutions to manage their own liquidity position and support their securities market-making activities, as well as central banks to transmit, via financial institutions, their monetary policy plans to the real economy. However, SFTs can also enable market participants to recursively leverage their positions by reinvesting cash collateral and re-using non-cash collateral, respectively. To address some concern with respect to the risk

[100] COM(2021) 32 final.
[101] For specific policy options to deliver on the EGD by addressing ESG risks see next section.
[102] The exemptions cover derivative transactions with certain non-financial companies, governments, pension funds, but also intragroup transactions within the same banking group.
[103] These situations arise where banks could not put exchange collateral on derivative transactions with their clients or where they cannot find guarantee provided by third-parties (e.g. via credit derivatives) to protect them from the non-payment of the clients obligations under the derivative transactions.
[104] That is the calculation of capital required for CVA risks if the transactions were not exempted under CRR.
[105] As an example of the importance of the EU SFTs market, the total value of the EU repo market (the most widely traded form of SFTs in the EU) amounted to around EUR 8.3 trillion at the end of 2019, according to the ESRB.

of build-up of excessive leverage outside the banking sector, the Financial Stability Board (FSB) published[106] in 2013 a recommendation to its member jurisdictions to introduce minimum collateral haircuts for some non-centrally cleared SFTs traded between banks and non-banks, either, at the discretion of each jurisdiction, directly via a market regulation or indirectly via a more punitive capital requirement that was later developed by the BCBS[107]. Presently there is still a lack of certainty about the impact of implementing this FSB recommendation on the EU SFTs market and whether its prudential objective could be attained without creating undesirable consequences. In this context, option 2 would propose to delay its implementation in the EU until the EBA and ESMA provide in the coming years a joint report to the Commission assessing its impact and recommending the most appropriate approach. More details about this specific issue and the dedicated adjustment to address it are provided in section 1.6 of Annex 5.

International level playing field for trading activities.

Banks trading activities in wholesale markets can easily be carried out across borders (for certain activities, even between the EU and non-EU countries). The capital requirements applied to these activities should therefore converge as much as possible across jurisdictions to avoid a potential competitive advantage for those banks for which the domestic rules are more lenient.

In this context, option 2 would turn the existing reporting requirement for market risk based on the BCBS FRTB framework into a capital requirement, as proposed under option 1. However, option 2 would contain a safeguard that would allow addressing disruptions to the playing field for EU banks' trading activities that could materialise if other major jurisdictions would delay the implementation of the FRTB framework or adjust its calibration[108]. Specifically, option 2 would introduce an empowerment for the Commission to delay, if necessary, the application of the capital requirement based on the FRTB framework and/or to adjust its calibration considering international developments. More details about this specific issue and the dedicated adjustment to address it are provided in section 1.3 of Annex 5.

A second adjustment under option 2 would address the conservative calibration of the standardised approach for counterparty credit risk (SA-CCR) currently applied to derivative transactions and already transposed[109] in Union law by means of the CRR II. At the time of adoption, the EU co-legislators requested the EBA to report by June 2023 on the current SA-

[106] FSB: Strengthening Oversight and Regulation of Shadow Banking, 29 August 2013.
[107] The implementation of this FSB recommendation has been aligned with the implementation of the Basel III reforms, including the one-year postponement to 1 January 2023.
[108] Hong Kong and Singapore publically announced the application of the final FRTB standards as a reporting requirement from 1 January 2023 and committed to implement the standards as a capital requirements at a later stage. Other jurisdictions have already publically indicated a delay of the application of the final FRTB standards as capital requirement, as compared to the BCBS recommended implementation date: Q3 2023 for Japan; 1 January 2014 for Canada and Australia. Finally other major jurisdictions (e.g. US, CH) have publically announced their commitment to implement the FRTB framework as capital requirements without more details at this stage.
[109] The Basel standards for SA-CCR were adopted in 2014.

CCR calibration. Subsequently, in the Capital Market Recovery Package[110] they requested the Commission to review the appropriateness of the SA-CCR calibration by June 2021. Considering that at least one major jurisdiction[111] has already lowered the calibration of SA-CCR for certain types of derivatives transactions, option 2 would temporarily lower the existing calibration of SA-CCR for all derivatives transactions when calculating the OF. This would provide sufficient time to further discuss this issue at international level. More details about this specific issue and the dedicated adjustment to address it are provided in section 1.7 of Annex 5.

Flexibility in the Basel III standards

The Basel standards usually leave some flexibility for their local implementation, either by explicitly allowing jurisdictions to choose between different implementation options at their own discretion or by implicitly not providing all the technical details for the operationalisation of the standards. Option 2 proposes to make use of this flexibility and would implement those discretions in a harmonised manner.

First, the introduction of the OF in the prudential framework represents one of the key elements of the final Basel III reform, aimed at reducing the excessive variability of banks' capital requirements calculated with internal models and thereby enhancing the comparability of capital ratios. The Basel III standards arguably leave some room for interpretation as regards the requirements[112] to which the OF should apply and, in case of banking groups, the level[113] at which it should apply. Under option 2, the OF would include all the existing capital requirements in scope of Union law, including the systemic risk buffer (SyRB) requirement and the P2R imposed on EU banks by the relevant authorities (i.e. competent authorities or designated authorities). This is coherent with the current prudential framework and consistent with the objective of the OF. In order to avoid disproportionate capital impacts, while still strengthening financial stability and complying with the Basel III standards, option 2 would also prescribe that any overlap between the risks captured by the OF and the risks captured by any of those two requirements must be avoided[114].

Moreover, the Basel standards, including the OF, apply foremost at the level of a banking group (consolidated level). In the EU prudential framework, capital requirements usually apply both at the level of individual banks/subsidiaries (individual/solo level) and at

[110] See EUR-Lex - 32021R0337 - EN - EUR-Lex (europa.eu)

[111] In their implementation of SA-CCR adopted in November 2019, the US authorities introduced a number of adjustments to the Basel standard which would reduce the capital requirements of some derivate transactions with corporates by about 30%.

[112] More specifically the Basel III standards refer to the Pillar 1 requirements, the capital conservation buffer requirement, the countercyclical capital buffer requirement, as well as the buffer requirements for global systemically-important and, respectively, other systemically-important institutions (G-/O-SIIs) and the total loss-absorbing capacity (TLAC) requirements. However, they do not include a reference to the systemic risk buffer requirement (SyRB) and the Pillar 2 requirement (P2R), as these are not implemented, or not implemented in comparable ways, in all member jurisdictions of the Basel Committee.

[113] Capital requirements can be calculated at the level of individual banks ("individual level") or at the level of a banking group ("consolidated level"). The Basel standards, including the OF, apply foremost on a consolidated level. The requirements in the CRR are principally applied at both individual and consolidated level.

[114] The relevant authority would do this by adjusting the calibration of the requirement that would be found to double-count the risks already covered by the OF.

consolidated level. Some concerns have been raised that certain EU banking groups would incur an excessive increase in capital requirement due to the introduction of the OF if it were applied at solo level, in addition to its application at consolidated level. In this context, option 2 would introduce the OF at consolidated level only. However, to adequately capture the risks of both parent entities and their subsidiaries, whilst remaining consistent with the logic of the Single Market, option 2 would require any additional capital resulting from the application of the OF at consolidated level to be distributed fairly across the various entities of the group according to their risk profile as if the OF was applied at individual level[115].

More details about the impacts of the output floor and the different implementation options are provided in section 1.8 of Annex 5.

In addition, the revised standardised approach for operational risk (SA-OR) introduced a discretion to allow jurisdictions to disregard the inclusion of banks' own historical losses related to operational risk through the Internal Loss Multiplier (ILM) indicator in their calculations of capital requirements for operational risk under this approach[116]. While there is empirical evidence showing that banks experiencing greater operational risk losses historically are more likely to experience operational risk losses in the future, the events that have led to the largest operational losses are less amenable to prediction based on historical loss data than for other types of risks. For this reason, option 2 would exercise the discretion provided by the Basel III standards and set the ILM to 1. More details about this specific issue and the dedicated adjustment to address it are provided in section 1.4 of Annex 5.

Finally, option 2 would also exercise the flexibility provided in the Basel III standards to clarify that holdings of unlisted equities with a holding period of at least 3 years would not be considered as speculative holdings and would therefore not be subject to the most conservative treatment.

Option 3 - *Implement the Basel III reforms with EU-specific adjustments and transitional arrangement adapted to the COVID-19 crisis*

This option would mirror option 2, but with a later date of application of the reform. Instead from 1 January 2023, the reform would apply from 1 January 2025, followed by a 5-year transitional period as proposed by the BCBS. This would lead to the full application of the reform by 1 January 2030.

Option 3 would fulfil EU's commitment to implement the international standards, and provide certainty for banks' capital planning and lending decisions, whilst at the same time leaving them more time to comply with the revised capital requirements. The extended implementation period would allow banks to focus on managing their financial risks

[115] This means that the distribution key for any additional capital required by the OF would depend on the contribution of each entity to the consolidated floor requirement.

[116] The inclusion of banks' own historical losses through the ILM indicator would either increase their capital requirement for operational risk in case the banks suffered large operational risk losses in the past (in this case ILM would be higher than 1) or decrease it if banks did not suffer such losses (in this case ILM would be lower than 1). A supervisory discretion introduced in the Basel III standards allows supervisors to set ILM to 1 for all banks in their jurisdictions, in order to disregard banks' own historical losses as a driver of the level of their capital requirement for operational risk.

stemming from the COVID-19 crisis and financing the recovery and give them enough time to adjust before the reform would reach its full effect. In addition, to reinforce the signal that banks would have ample time throughout the recovery phase to adjust to the new rules and thereby help avoid that other market participants would put pressure on banks (in particular the few most impacted banks) to frontload[117] the new requirements, this option would entail dedicated communication efforts to explain the additional implementation period.

5.2.2. Dedicated capture of ESG risks in the prudential framework

***Option 1** - Introduce measures for a better management of ESG risks by banks*

Under this option, several measures would be introduced to improve the management of ESG risks by banks and to reinforce the specific review by bank supervisors as well as the degree of market discipline, without directly targeting banks' minimum capital requirements. These measures would aim to improve the resilience of banks to ESG risks and increase bank funding of sustainable activities by means of an improved understanding of the risks involved and an anticipation of expected market pressures.

As regards risk management, there is currently no explicit requirement for banks to have in place internal processes to manage ESG risks, nor an explicit requirement for ESG risks to be part of the supervisory review and evaluation process (SREP). Under this option, the current CRD V mandate for the EBA to issue a report to assess the inclusion of ESG risks in the SREP would be reinforced by explicitly requiring supervisors to ensure that banks manage ESG risks adequately. To the same end, the EBA's mandate would be clarified to require an assessment of how such risks should be included in the SREP via guidelines. Finally, the EBA would be mandated to specify further how ESG risks should be identified, measured, managed and monitored. This would include internal stress tests on banks' resilience to climate change risks and long-term negative impacts.

The annual stress tests performed by supervisors are an important tool to gauge the viability of banks under adverse conditions. At present, the CRD requires supervisors to perform annual stress tests on the banks they supervise, while the EBA is mandated to define a common stress test methodology via guidelines. Under this option, this requirement would be extended to include regular climate change stress tests and to mandate the EBA together with the other ESAs to develop a methodology for that purpose.

In the area of disclosure, the disclosure requirements related to the disclosure of ESG risks would be extended to a larger universe of banks (i.e. beyond large, listed banks to whom the existing requirement will apply from 2022) while respecting the proportionality principle.

As the EU economy is transitioning towards a sustainable economic model, while at the same time being exposed to sustainability risks, exposures due to the financing of sustainable

[117] NB: Large banks and their supervisors have started to prepare for the implementation of the final elements of the Basel III reform soon after their adoption by the Basel Committee in 2017. This frontloading behaviour is also confirmed by the EBA's Basel III monitoring exercises, which show a steady decline in capital shortfalls at EU banks with respect to the requirements implied by the Basel III reform (see for instance also https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/dutch-banks-unflustered-by-front-loading-of-capital-rules-54955966). The presentation of the Commission proposal is hence not going to cause any additional or accelerated frontloading but rather slow it down.

activities might be expected to be less risky for banks than exposures financing unsustainable activities. While this option would not include comprehensive adjustments to capital requirements for these exposures, it would contain a specific review clause that would allow such adjustments to be made in the near future, once sufficient evidence would be available[118]. In addition, the deadline for the EBA to deliver its report on the prudential treatment of these exposures would be advanced from 2025 to 2023 in order to ensure greater timeliness of any changes to the prudential rules that may be needed.

***Option 2** - Adapt minimum capital requirements to reflect ESG risks*

Option 2 would adapt the minimum capital requirements under so-called "Pillar 1" of the prudential framework for the financing of certain activities and/or products where specific evidence exists that they are more or less risky than comparable exposures as a result of ESG factors. For the exact delimitation of environmentally sustainable activities deemed to be of lower risk based on such evidence, the Taxonomy Regulation and its delegated acts would be used.[119] Under this option, capital requirements for sustainable exposures would be lowered, while capital requirements for unsustainable activities would be increased, to reflect the differences in ESG risks inherent in the two types of exposures. As under option 1, the deadline for the EBA to deliver its report would be advanced from 2025 to 2023.

5.2.3. Improve the consistency in the application of supervisory powers

***Option 1** - Clarify and complement certain provisions on supervisory and sanctioning powers while leaving ample flexibility to Member States*

Under option 1, several elements of the prudential framework related to supervisory and sanctioning powers would be clarified compared to the status quo in order to ensure a more consistent application of the supervisory toolkit. However, this option would still grant flexibility to MS to detail certain supervisory and sanctioning powers in national laws.

As regards supervisory powers, this option would introduce harmonised obligations for banks to notify competent authorities ahead of specific events with prudential relevance (acquisitions of holdings, transfers of assets and liabilities, mergers and demergers). To avoid placing an unnecessary burden on competent authorities and banks alike, the notification obligation would be subject to a materiality threshold. This option would abstain from specifying relevant related powers or obligations for the competent authorities. This means that MS would be left with the discretion to grant competent authorities *ex ante* supervisory powers to oppose or to approve these events.

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[118] Such evidence would primarily come from the EBA report mandated under Article 501c of the CRR.

[119] At present, the work on the taxonomy related to environmental risks is the most advanced one: a first delegated act on sustainable activities for climate change adaptation and mitigation objectives (see https://ec.europa.eu/info/publications/210421-sustainable-finance-communication_en#taxonomy) was formally adopted on 4 June 2021 for scrutiny by the co-legislators. A second delegated act for the remaining objectives will be published in 2022. On 12 July 2021, the Platform on Sustainable Finance has published two draft reports on the potential extensions of the taxonomy framework to cover i) social objectives and ii) activities that are significantly harmful to environmental sustainability, and those that have no significant impact on it (see https://ec.europa.eu/info/publications/210712-sustainable-finance-platform-draft-reports_en).

As regards sanctioning powers, this option would introduce a generic sanctioning provision, giving competent authorities a general power to sanction all possible breaches of the regulatory framework[120]. This option would also include a clarification of the distinction between the enforcement dimension (e.g. compelling entities to comply with the rules) and the punitive dimension (sanctioning a breach or a misconduct) of sanctioning powers. Lastly, this option would mandate the EBA to harmonise the basis for the calculation of pecuniary sanctions applicable to EU credit institutions (e.g. the total annual net turnover) by means of regulatory technical standards.

Concerning the fit-and-proper framework, this option would introduce harmonised rules for banks by requiring them to carry out an assessment of members of the management body and of key function holders before they take up their positions. This would be mandatory for all the banks in the group in which those persons are supposed to hold their functions. In addition, the option would address the assessment procedure in order to make it more reliable. This would include a specification of competent authorities' powers and processes for the assessment of members of the management body[121] but not for key function holders as this category comprises very different roles[122].

Option 2 - *Ensure a greater level of harmonisation of the provisions on supervisory and sanctioning powers by narrowing down the flexibility of Member States*

This option would go a step further compared to option 1. It would frame the current flexibility of Member States in determining which powers and tools to grant supervisors in national laws.

As regards supervisory powers, based on the notification requirement already foreseen in option 1, option 2 would introduce in the CRD explicit powers for competent authorities to *ex ante* oppose or approve events with prudential relevance (e.g. acquisitions of material holdings, material transfers of assets and liabilities, mergers and demergers).

As regards sanctioning powers, compared to option 1, the list of key CRD/CRR breaches subject to administrative sanctions would be completed based on a risk-based approach[123]. The list of sanctionable breaches would be expanded (e.g. breaches of additional reporting requirements and capital requirements[124] would be included). In this regard, this option would ensure that the breaches to these important regulatory requirements would fall under the scope of the sanctioning regimes of all Member States. Like option 1, this option would introduce a clarification between enforcement and punitive dimension of sanctioning powers. But in addition to that it would grant an additional enforcement tool (periodic penalty

[120] This option would also include a general obligation for Member States to ensure that breaches of all relevant CRD and CRR provisions are sanctioned

[121] For instance, competent authorities should assess them prior to their appointment (and not ex post).

[122] Ranging from e.g. chief financial officers to persons in any other control function.

[123] The additional breaches would concern only elements of the regulatory regime applicable to supervised banks which are, according to national and European competent authorities, as the most sensitive from a prudential perspective.

[124] Financial sanctions would be applicable exclusively to the members of the management bodies of institutions and not to the institutions themselves.

payments[125]) to competent authorities in order to reinforce their ability to ensure a strict application of prudential requirements. Furthermore, this option would include a harmonisation of the definition of total annual net turnover by using the indicator currently used in the calculation of capital requirements for operational risk[126] in order to foster a comprehensive and consistent application of administrative penalties across the EU and ensure comparability of sanctions.

Finally, under this option, the obligation for competent authorities to assess members of the management body and key function holders before they would occupy their positions would be limited to positions in the parent entity and material subsidiaries of large banks only (i.e. those powers would not be extended to small banks) following a risk-based approach. This would allow both supervisors and banks to focus their resources on the most important appointments. As with option 1, EU law would specify the procedural requirements for the fit-and-proper assessment, irrespective of whether the assessment is done ex ante or ex post.

5.2.4. Reduce disclosure costs and improve market access to bank prudential information

***Option 1** - EBA provides a single electronic access to EU banks' quantitative disclosures*

Under this option, the EBA would provide investors and other stakeholders with a single electronic web-based access to quantitative information that EU banks are required to disclose. Specifically, the EBA would publish this information on its website. The data would be sourced directly from the supervisory data that banks are required to report to their competent authorities, with the frequency determined by the disclosure rules. Specifically, they would be sourced from the EUCLID platform which is expected to be launched in 2021. This would be similar to what the EBA does as part of its EU-wide Transparency Exercises. It is important to highlight that the EBA would only provide the platform for the centralised disclosure; the ownership of the data and the responsibility for its accuracy would remain with the banks that produce it. Under this option, any qualitative information that banks have to disclose would not have to be published on the centralised platform; the disclosure of that information would be left to banks to manage.

***Option 2 -** EBA provides a single electronic access to EU banks' quantitative and qualitative disclosures.*

Under this option, the EBA would provide investors and other stakeholders with a single electronic web-based access to both quantitative and qualitative information that EU banks are required to disclose. As under option 1, the quantitative information would be sourced from the EUCLID platform. Conversely, the qualitative information would be sent to the EBA by banks. The qualitative information could be simply sent in the format that institutions currently use (e.g. in the form of a pdf document; that document would then be

[125] The institution concerned has to pay a daily amount – up to 5% of its average daily turnover – for every day the infringement continues during a maximum period of six months.
[126] as defined in Article 316 of the CRR

published on the centralised platform). Subsequently, the format could be amended[127] in line with developments related to other initiatives, e.g. the European Single Access Point (ESAP). As under option 1, the ownership of the information and the responsibility for its accuracy would remain with the banks that produce it.

6. WHAT ARE THE IMPACTS OF THE POLICY OPTIONS AND HOW WOULD THEY COMPARE?

In this section, the policy options identified to address each problem in Section 5 are assessed against three criteria:

- effectiveness: the extent to which the different policy options would achieve the objectives;
- efficiency: the analysis of the costs versus the benefits of the different policy options; and
- coherence: the coherence of the different policy options with the overarching objectives of EU policies

Based on the analysis provided, a score is assigned to each policy option for each criterion. This helps to understand the selection of the preferred policy option, i.e. the policy option with the highest overall score.

6.1. Improve the current framework for calculating risk-based capital requirements

As explained in Section 5.2.1, **option 1** would address the main outstanding deficiencies of the prudential framework identified after the GFC, by strengthening the calculation of risk-based capital requirements and ensuring more comparability in this calculation across banks. Despite the ongoing COVID-19 crisis, these reforms are still needed since they address structural shortcomings of the prudential framework. Those shortcomings undermine the reliability of banks' risk measurement and calculation of capital requirements. This can, in turn, have negative consequences on financial stability in situations of future financial crises or wider economic downturns. In its response to the CfA published in December 2020, the EBA showed that the reforms would meet their purposes to reduce the variability across banks' internal models (due to the introduction of new constraints in using internal models) and to provide banks with more risk-sensitive standardised approaches.

However, the implementation of the final elements of the Basel III reform without adjustments would affect the overall level of EU banks' minimum capital requirements. The EBA's updated impact analysis, which uses the latest available estimates (based on Q4 2019 data), confirmed that implementing the final Basel III reforms under option 1 (i.e. in full alignment) would significantly increase the overall minimum capital requirements for EU banks when the reforms apply in full in January 2028 (i.e. once the transitional period would end). By this date, EU banks included in the EBA sample[128] would face an average[129]

[127] Please note that this would not require any changes to the CRR.
[128] 99 EU banks representing 75% of all EU bank assets according to the EBA.
[129] The EBA impact analysis also shows the distribution of banks' individual total impact in minimum capital requirements as a result of implementing the final Basel III reforms under option 1. It can be noted that a quarter

increase of 18.5% in total minimum capital requirements[130], with 13 out of the 99 banks in the EBA sample that would have a combined capital shortfall[131] of EUR 52.2bn, all else equal (see *Table 2*). As shown in

of EU banks in the EBA sample will incur a total impact in minimum capital requirements lower than +2.2%, while another quarter of these EU banks will incur a total impact in minimum capital requirements higher than +20.5%.

[130] The EBA's methodology estimates the impact of the Basel III reforms on EU banks' minimum capital requirements, i.e. taking into account the Pillar 1 minimum requirement, the Pillar 2 requirements and the fully loaded combined buffers requirement.

[131] Banks incurring a capital shortfall as the result of implementing the final Basel III reforms would have to procure collectively that capital amount by the date of application of the reforms to meet the revised minimum requirements introduced by the reforms. The calculation of capital shortfalls in the EBA's methodology therefore does not take into potential capital management buffers that banks often hold in addition to the minimum required capital amount. A potential management buffer could in theory be used to compensate the capital shortfall incurred by the implementation of the final Basel III reforms.

Table **4**, this impact would be driven by the introduction of the output floor (contributing to an average increase of 6.7% in total minimum capital requirements), the revisions to the operational risk framework (+3.8%), the revisions to the credit risk framework (+2.6% for the IRB and +2.4% for the SA) and the revisions to the CVA risk framework (+2.1%).

In the updated impact analysis published in December 2020, the EBA also estimated, based on a smaller sample of 45 banks[132] out of the 99banks of the EBA sample, the total shortfall in eligible liabilities (TLAC and MREL requirements) resulting from the introduction of the final Basel III standard under option 1: between EUR 7bn to EUR 8.6bn (for the purposes of comparison, the combined capital shortfall for these 45 banks represents EUR 41bn out of the EUR 52.2bn combined capital shortfall for the 99 banks of the EBA sample). Naturally, institutions could not only use own funds, but also MREL-eligible instruments to cover this shortfall. It has to be noted, however, that the shortfalls calculated are an approximation and these estimates should be considered with great caution[133].

The impacts of option 1 would be less significant in January 2023, when the revised rules would start to be phased in under the transitional arrangements, mainly due to the lower value of the output floor (i.e. 50%). However, they would remain relatively important: there would be an average increase of 11.8% in total minimum capital requirements, with 10 out of the 99 banks in the EBA sample having a combined capital shortfall of EUR 27.6bn.

Table 3 below highlights the profile of the EU banks that would incur a capital shortfall under option 1. The vast majority of the combined capital shortfall in 2028 is due to those EU banks that would continue to use internal models under the Basel III standards and for which the OF would become the binding capital requirement[134]. It is important to note that the capital shortfall of those banks would build up progressively during the transitional period. In addition, the EBA updated impact analysis published in December 2020 indicates that the combined capital shortfall under option 1 would be concentrated within the largest banks in the EU, while small and medium-sized banks would incur negligible capital shortfalls or no shortfalls at all (as highlighted in Section 2 of Annex 6, capital requirements of small banks would even decrease on average as a result of the reform). Due to their simpler business models and usually very limited use of internal model approaches, small and medium-sized banks would be mainly affected by the revisions to the standardised approach for credit risk. Indeed, for these banks, the impacts of the revision would remain relatively contained, as the increases for some types of credit risk exposures would be offset by capital requirements decreases for other types of credit risk exposures.

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[132] The reduced sample included 45 of the 99 banks of the EBA sample used to calculate the estimates of the final Basel III reforms impacts on own fund requirement, accounting for roughly 85% of the total RWAs of these 99 banks (see Annex 5 of the CfA December 2020 report)

[133] For instance, the calculations do not take into account the significant discretion of a resolution authority to adjust MREL decisions upwards or downwards, which is meant to ensure that MREL remains a bank specific requirement. In addition, any changes introduced from BRRD2 besides the subordination requirements have been excluded from the analysis.

[134] A bank will be bound by the OF where its total minimum capital requirements calculated by its internal models would be lower than 72.5% of its total minimum capital requirements calculated under the standardised approaches, for the same exposures.

Although the updated analysis shows that the overall impacts would decrease compared to the previous EBA impact analysis[135], option 1 would still not meet the specific objective of "no significant increase" in the minimum capital requirements of EU banks. As a consequence, EU banks that would have a substantial capital shortfall under this option might find it difficult over the next few years to build up[136] the amount of capital required under the revised rules, especially in the current low profitability environment. Consequently, EU banks might be obliged to significantly reduce their activities in certain segments, or sell existing assets ("deleverage"), which may be detrimental to the real economy. Therefore, option 1 would not meet one of the general objectives of this legislative initiative, i.e. to contribute to the steady financing of the EU economy in the context of the recovery post COVID 19 crisis.

In the two public consultations launched by the Commission services in 2018 and 2019 on the implementation of the final elements of the Basel III reform, most respondents from the banking sector and some banks' clients raised concerns regarding the increase in capital requirements resulting from the implementation of the reform without any adjustments (see Annex 2 for a full summary of the responses). In its responses to the Commission's CfA on the impact of the reform, the EBA supported the overall implementation of the final elements of the Basel III reform under option 1. While Member States share the overall view that those reforms are necessary to address the outstanding deficiencies of the prudential framework (see Annex 2), some of them also expressed concerns about the impacts if the international standards would be implemented without adjustments.

The introduction of EU specific adjustments in the implementation of the final Basel III reforms as proposed under **option 2** would more than halve the estimated impact of option 1, as shown in *Table 2.* In fact, when the reforms would apply in full in 2028, the estimated average increase in total minimum capital requirements under this option would be between 6.4% and 8.4%, with 10 banks out of 99 banks that would have a combined capital shortfall of less than[137] EUR 27bn. The lower impact of option 2 would be even more pronounced at

[135] In its report published in December 2020, the EBA also provided the impacts on the same sample of 99 banks but based on Q2 2018 data which was used in their previous impact analysis. From Q2 2018 to Q4 2019, the total increase in minimum capital requirements decreased by over 5 percentage points (i.e. from +24.1% to +18.5%), while the capital shortfall across these banks has more than halved (from EUR 109.5 bn to EUR 52.2 bn). According to the EBA, this reduction can be mostly explained by the strengthening in the total capital positions of EU banks between the two dates, but also by the reduction in the overall impact of the output floor for few large banks and the revision of the calibration of the CVA risk framework adopted by the BCBS in July 2020.

[136] Banks can usually build up additional amount of regulatory capital by either retaining more earnings or by issuing new common shares or other forms of regulatory capital. While the former strategy is inherently difficult in a low profitability environment, the later strategy can also be challenging because the future expected profitability of a bank is reflected in its share price. The lower the profitability outlook, the lower the share price and the larger the number of new shares that have to be issued to raise a given amount of capital, making it more difficult to reach a given new issuance target.

[137] The impact of option 2 in terms of % change to the total MRC includes the Commission estimates for some of EU specific adjustments proposed in Section 5.2.1 that the EBA has not been able to quantify in its impact study (see

Table **4** for the breakdown of these estimates). However, the Commission services did not have the ability to reflect these estimates in the TC shortfall under this option which would require to have access to individual banks data. Therefore, the TC shortfall amounts shown in this table, which only reflect the EU specific

the beginning of the transitional period (i.e. in 2023): the estimated average increase in total minimum capital requirements would range between 0.7% and 2.7%, with only 7 out of 99 banks that would have a combined capital shortfall of less than EUR 7.5bn.

adjustments quantified by the EBA, should be interpreted as an upper bound of the actual TC shortfall incurred by banks in the EBA sample.

Table **4** below provides more details on the mitigating impacts of the various EU specific adjustments under option 2 as compared to option 1.

Under option 2, the estimated shortfall in eligible liabilities would also reduce: between less than EUR 2bn and less than EUR 2.01bn for the 45banks analysed.

The introduction of EU specific adjustments would not jeopardise the overall objective of the Basel III reform, i.e. to address the outstanding deficiencies of the prudential framework. At the same time, option 2 would implement the reform in a way that would meet the specific objective of "no significant" increase in capital requirements across EU banks, as highlighted by the above analysis.

To put the capital shortfalls under the two options into perspective, the 99 banks included in the EBA sample held a total amount of regulatory capital worth EUR 1414bn at the end of 2019 and had combined profits of EUR 99.8bn in 2019. Knowing that option 2 would halve the capital shortfalls of EU banks as compared to option 1, these banks would be in a better position[138] to build up the amount of capital required under the new rules over the next few years under option 2, without the need to abruptly reduce their exposures, particularly in certain financing activities that are key to the EU economy.

Option 2 is broadly aligned with the views expressed by the bank respondents to the two public consultations: they also proposed some specific adjustments when implementing the final elements of the Basel III reform in the EU. After a careful assessment, the adjustments that were deemed justified and appropriate have been included under option 2 (e.g. specific treatment for certain equity and specialised lending exposures, postponement of the implementation of the haircut floor framework, etc.). Other EU specific adjustments proposed under option 2 would simply maintain previously agreed rules already catering for EU specificities (e.g. SME supporting factor and the CVA exemptions). Mixed views have been expressed by the EBA, the ECB, Member States and national supervisors during expert group meeting organised by the Commission on the specific adjustments proposed under option 2. The views of Member States generally depended on the extent to which the EU specificities identified in Section 5.2.1 are present in their banking sector.

Table 2: Summary of overall key impact estimates of the final Basel III reforms on EU banks, under both the implementation policy options 1 and 2.

	Impact in 2023 at start of application (beginning of transitional period)		**Impact in 2028 under full application (end of transitional period)**	
	Average % change in total MRC[139]	Combined TC shortfall (in EUR bn)	Average % change in total MRC	Combined TC shortfall (in EUR bn)
Option 1: Full alignment with Basel III standards	+11.8%	27.5	+18.5%	52.2

[138] Banks without capital shortfalls would also be in a better position to maintain their current level of capital ratio over the next few years under option by building the required amount of capital to do so.
[139] Minimum Required Capital.

Option 2: Implementation with EU specific adjustments	Between +0.7% and +2.7%	Below 7.5	Between +6.4% and +8.4%	Below 26.3

Sources: Basel III reforms impact study, EBA, December 2020; European Commission estimates.

Table 3: Number and profile of EU banks incurring a capital shortfall with the full application of the final Basel III reforms in 2028, under the implementation policy options 1 and 2.

Profile of banks incurring a capital shortfall		**Number of banks incurring a capital shortfall (out of 99 banks in EBA sample)**				**Combined TC shortfall (in EUR bn)**			
		In 2023		In 2028		In 2023		In 2028	
		Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	Option 2
Using only the standardised approaches		4	4	4	4	0.7	Below 0.6	0.7	Below 0.6
Using internal model approaches	Bound by the OF	0	0	6	4	0	0	42.5	Below 22.4
	Not bound by the OF	6	3	3	1	26.8	Below 6.9	9	Below 3.3
Total		10	7	13	10	27.5	Below 7.5	52,2	Below 26.3

Sources: Basel III reforms impact study, EBA, December 2020.

Table 4: Breakdown of the impacts of the individual elements of final Basel III reforms under options 1 and 2 in 2028[140] and of the individual EU specific adjustments considered under option 2.

	% change in MRC under option 1 (across all risks and per risk type)	**Individual impact of EU specific adjustments under option 2**		**% change in MRC under option 2 (across all risks and per risk type)**
		Quantified in EBA impact analysis (in percentage points (pp))	Not quantified in EBA impact analysis and based on Commission estimates (in percentage points (pp))	
Across all risks	**+ 18.5%**			**Between +6.4% and +8.4%**
Credit risk (=IRB + SA)	**+5% (=2.6%+2.4%)**	SME supporting factor: -2pp	Unrated corporates: -1.5pp Treatment of equities: -1pp	**+0.5%**
Market risk	**+0.8%**			**+0.8%**
Operational risk	**+3.8%**	ILM=1: -2.1pp		**+1.7%**
CVA risk	**+2.1%**	CVA exemption & proportionality: -1.6pp		**+0.5%**
Output floor	**+6.7%**	EU implementation of the output floor: at least[141] - 1pp		**+5.7%**
Other risk (Securitisation and Leverage ratio)	**+0.2%**			**+0.2%**
Broad impact estimates of other adjustments			Market risk (treatment of CIUs and calibration of EU ETS), credit risk (infrastructure supporting factor, specialised lending), the output floor (SACCR calibration in OF) and postponement of minimum haircut floors: -1pp to -3pp	**-1% to -3%**

Sources: Basel III reforms impact study, EBA, December 2020; European Commission estimates.

The above impact estimates provided by the EBA are based on Q4 2019 data. They implicitly[142] assume that the economic activity and EU banks' balance sheets would recover

[140] The breakdown of these individual impacts in 2023 is basically the same, expect the impact of the output floor which reduces to 0% since its lower value of 50% does not bind EU banks.

[141] In the "EU single stack" approach proposed in this note, supervisors will be able to further adjust the overall than was estimated by the EBA in its impact assessment.

[142] These impacts estimates are calculated by the EBA under a 'static balance sheet' assumption, meaning that they only capture the impacts of a change in the prudential framework at the date they have been calculated. Therefore, the impact estimated presented in this impact assessment implicitly assumes banks' balance sheet

to pre-crisis levels by the time the final elements of the Basel III reform would start applying, i.e. by January 2023. However, it cannot be ignored that over this horizon, banks' balance sheets might still be affected by the consequences of the COVID-19 crisis.

To this end, the EBA's updated impact analysis also provides the Commission with a qualitative and a quantitative analysis of the combined effect of the reform and the potential consequences of the COVID-19 crisis over the short-term, i.e. at the start of the application of the reforms in 2023.

First, one key conclusion of the qualitative analysis performed by the EBA is that the effects of the COVID-19 crisis would not necessarily lead to higher capital impacts under the final Basel III standards than they would do under the current prudential framework. Indeed, the EBA expects an increase in banks' capital requirements as a result of the expected deterioration in ratings, higher probabilities of default and higher expected losses caused by the COVID-19 crisis. In the short-term, this increase would occur under the current prudential framework irrespective of whether the final Basel III standards would be implemented and would, to a certain extent, mitigate the capital impact due to the reform. For instance, for banks using internal models under the Basel III standards, the impact of introducing the output floor might be mitigated by an increase in the capital requirements generated by internal models, which might happen in the coming years due to the higher credit risk of banks' borrowers.

Second, the quantitative analysis performed by the EBA defines two hypothetic, adverse economic scenarios which would imply a significant deterioration of the financial situation of EU banks' borrowers over the short-term horizon as a potential negative consequence of the COVID-19 crisis (the two scenarios differ in terms of how severe[143] this deterioration and the resulting increase of their non-performing loans would be, all other risks of EU banks being equal). Under each scenario, the EBA recalculated the average change in the minimum capital requirements and the resulting capital shortfall of EU banks only under option 2 and only in the short-term, i.e.at the start of application of the reforms in 2023.

As compared to the impact of option 2 (i.e. average increase in banks' minimum capital requirements between +0.7% and +2.7% and a combined capital shortfall of less than EUR 7.5bn as shown in *Table 2*), the average increase in banks' minimum capital requirements under the less (resp. more) severe if the adverse economic scenarios in the short-term would go up to between +4% and +6% (resp. +5% and +7%) leading to a capital shortfall of EUR 30.4bn (resp. EUR 59.8bn) .

As recognised by the EBA in its report, the impact estimates under these two adverse scenarios are more significant than using the Q4 2019 data but the assumptions and the

[143] The first adverse scenario applies a stress effect on the EU banks' credit risk provisions and their credit risk capital requirements to all their borrowers, based on the hypothetical shock arising from the 2018 stress test; the second adverse scenario cumulative the stress effect of the first scenario with more specific stress effects applied to bank's exposures from economic sectors that are the most affected by the COVID-19 crisis. This methodology, which has previously been used by the EBA thematic note on the impact of COVID-19 in the EU banking sector published in May 2020 (see https://www.eba.europa.eu/risk-analysis-and-data/risk-assessment-reports), is described in Annex 6.

methodology used by the EBA in these scenarios were very conservative and need to be interpreted with caution. In fact, the EBA methodology uses a stress-testing approach which assumes a simultaneous deterioration in the financial situation of all borrowers of EU banks, i.e. even for those borrowers that do not currently experience difficulties. Second, the higher combined capital shortfall under the adverse scenarios would not be only due to higher capital shortfalls incurred by banks under option 2 based on Q4 2019 data, but also due to more banks that would incur a shortfall under that scenario. Some of the banks that would incur a capital shortfall under the adverse scenarios would also incur a shortfall if the current prudential framework was used instead of the final Basel III standards (the EBA analysis does not disentangle the two effects – the COVID-19 effect and effect of the final Basel III reforms).

Taking into account these caveats, the EBA analysis still provides a useful indication of what the upper bound of the impacts of the final elements of the Basel III reform could be if the financial situation of EU banks were to significantly deteriorate over the next few years. The continuing EBA monitoring of the impacts of the reform on EU banks will be particularly useful to inform EU co-legislators during the first stage of negotiations of this legislative initiative about the evolution of the impacts of those reforms with more concrete first signs of the consequences of the COVID-19 crisis on EU banks' balance sheets.

Option 3 would lead to the same overall impacts on total capital requirements as option 2 but would give EU banks two more years to comply with the new capital requirements. Due to the uncertainty with the evolution of the financial situation of EU banks' clients, as shown in the above analysis, this delay would give banks time to absorb potential losses coming from the most fragile borrowers that are (or will be) affected by the COVID-19 pandemic, while still leaving them enough room to support the financing of the EU economy during the recovery phase.

Option 3 would provide much needed certainty to the banks that the impact of the EU implementation of Basel III is manageable. Banks usually refer to the EBA's estimates on how much capital requirements would increase if the reforms were implemented in full alignment with the Basel III standards. Given the lack of clarity about the EU's implementation approach and missing certainty on the timeline, banks expect a significant increase in capital requirements as a result of the implementation and the most impacted or weakest amongst them could see this as another reason[144] to hold back from using their capital to lend. Coming forward with option 3 for the implementation would signal that the impact would be quite limited and provide certainty for banks' capital planning and lending decisions throughout the recovery phase while reaffirming the EU's international commitment to the Basel III implementation. In addition, clear communication on the difference between entry into force and effective application of the new requirements would

[144] Recent market observations (e.g. ECB's lending survey or EBA's risk and vulnerabilities assessment) indicate that lending conditions remained broadly favourable in 2020 but started to tighten. This is mainly driven by banks' assessment of the risk related to the deteriorating creditworthiness of borrowers affected by the pandemic, whereas banks' capital position remains strong and did not contribute to the tightening. In the Euro area, banks do not expect that regulatory or supervisory action will constrain their capital positions or lead to a decrease in their total assets.

help reinforce the signalling effect. Postponing further, by contrast, would nurture speculations about the EU's commitment to implement the final elements of the Basel III reform, damage the EU's reputation as a reliable partner in international fora/negotiations, and be likely interpreted as a sign that the EU banking sector is too weak to accommodate the Basel III reforms (with potential negative consequences for EU banks' market valuations and funding costs).

In their communications with the Commission, a good part of the banking sector and some of their clients have been asking for a postponement of this legislative proposal implementing the final elements of the Basel III reforms. Option 3, while not entailing further postponement of the legislative proposal, but given the extended implementation timeline, would largely meet this demand. Member States and supervisors were more supportive of the idea of extending the implementation timelines as an alternative to structural deviations from the final Basel III standards. Most Member States and key MEPs have recently restated their support for a timely and faithful implementation of the final Basel III reforms – taking account of EU specificities – notwithstanding the COVID-19 crisis. They expect the Commission to table a legislative proposal by mid-2021.

In light of the above analysis, which led to the overall score of each policy option in *Table 5* below, **option 3** is deemed the preferred policy option to improve the current framework for calculating risk-based capital requirements.

Table 5 : Comparison of policy options against effectiveness, efficiency and coherence criteria

	EFFECTIVENESS	*EFFICIENCY (cost-effectiveness)*	*COHERENCE*	*OVERALL SCORE*
Baseline option	0	0	0	0
Option 1	+	-	+	≈
Option 2	++	+	++	+
Option 3	++	++	++	++

Magnitude of impact as compared with the baseline option (the baseline is indicated as 0): ++ strongly positive; + positive; – – strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

6.2. Dedicated capture of ESG risks in the prudential framework

Option 1 would provide incentives for banks to improve the management of ESG risks by reinforcing banks' obligations as regards the management of ESG risks as well as the supervisory review thereof. This would help ensure that banks would be able to handle their exposures to ESG risks more effectively and aligning their investment strategies accordingly, in line with the stated objective pursued by this initiative. In addition, the suggested reinforcement of disclosure requirements would allow market participants to scrutinise the degree of exposure of banks to ESG risks as well as how close those banks are to delivering on any sustainability commitments they had already made (or would make in the future).

By introducing a dedicated review clause to adapt capital requirements based on concrete evidence, option 1 would pave the way for better aligning capital requirements with the riskiness of ESG assets.

Through the envisaged change to bring forward the delivery date for the EBA report, option 1 would allow to minimise delays in effectively addressing any additional underlying problems that the report may identify. At the same time, it would ensure that any changes in capital requirements would be based on adequate evidence, which would be coherent with the principles of risk-based capital requirements and thus the objective of financial stability.

Option 1 would result in some costs for banks as they would have to adapt their risk management systems and processes and collect the necessary data. To the extent that the data must be obtained from customers, the latter would also incur additional costs as a result. Supervisors would incur costs as their supervisory processes would become more complex.

In contrast to option 1, **option 2** would adapt capital requirements based on currently available evidence without awaiting the EBA report on the relative riskiness of exposures. It would thus have the advantage of effectively responding to calls for an early intervention in view of the urgency of environmental (and more broadly sustainability) challenges. However, research on how the riskiness of bank exposures differs based on sustainability criteria is in its early stages and empirical evidence in this area is still limited. The available research is focused on a very narrow subset of bank exposures, namely lending for the financing of the construction/purchase of energy-efficient buildings or for the "upgrading" of energy inefficient buildings. That research provides tentative evidence that such lending may be slightly less risky than "traditional" mortgage lending[145]. At the same time, other research concludes that such differences either do not exist or can be explained by other factors than environmental ones that are correlated with "green-ness", such as income differences between borrowers.

An attempt to introduce changes to capital requirements for ESG risks based on this limited and inconsistent evidence would likely result in an inadequate calibration of such capital requirements. This would be incoherent with the principles of risk-based capital requirements and would negatively impact financial stability in particular if capital requirements for certain exposures were to be too low to cover the real risks. Also, a premature change in capital requirements would entail the risk that new evidence may subsequently emerge that contradicts the assumptions on the basis of which the changes had been made in the first place, thereby creating the need to undo these changes. At the same time, the available evidence does not allow a detailed assessment of the impact that option 2 might have.

Many stakeholders recognise that prudential requirements for banks must reflect ESG risks, with the EBA recommending "to incorporate ESG risk-related considerations in directives and regulations applicable to the banking sector"[146]. This holds true in particular with respect to proposals to strengthen risk management requirements, supervisory review and stress testing as well as disclosure requirements, even though with respect to the latter some stakeholders have cautioned that these must not result in disproportionate costs.

[145] Does energy efficiency predict mortgage performance?, Bank of England, 2020 (see https://www.bankofengland.co.uk/working-paper/2020/does-energy-efficiency-predict-mortgage-performance).
[146] See the EBA Discussion paper on management and supervision of ESG risks for credit institutions and investment firms.

However, views vary as regards changes to capital requirements based on ESG factors. Banks tend to be open to the idea of lower capital requirements for exposures to sustainable activities and/or products but strongly oppose higher capital requirements for exposures to activities and/or products deemed to be unsustainable. Civil society stakeholders tend to view increased capital requirements for unsustainable activities and/or products more favourably, while some consider that the potential benefit of a decrease in capital requirements for sustainable activities and/or products would be outweighed by a potential negative impact on financial stability. Supervisors consider that any change in capital requirements must be based on solid evidence of risk differentials based on ESG factors, which they do not consider to be available at present.

In light of the above analysis, which led to the overall score of each policy option in *Table 6* below, **option 1** is deemed the preferred policy option to introduce a dedicated capture ESG risks in the prudential framework.

Table 6: Comparison of policy options against effectiveness, efficiency and coherence criteria

	EFFECTIVENESS	***EFFICIENCY (cost-effectiveness)***	***COHERENCE***	***OVERALL SCORE***
Baseline option	0	0	0	0
Option 1	+	+	++	+
Option 2	?	?	?	?

Magnitude of impact as compared with the baseline option (the baseline is indicated as 0): ++ strongly positive; + positive; – – strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

6.3. Improve the consistency in the application of supervisory powers

On supervisory powers

In relation to supervisory powers, **option 1** would draw awareness across the Union to the importance of assessing prudentially relevant events in a timely manner. The suggested mandatory ex-ante notification, e.g. of a merger, would allow supervisors to be informed at an early stage and to react promptly, if deemed necessary from a prudential viewpoint. Yet, MS would remain free to implement corresponding supervisory powers. The likely effect would be a perpetuation of the absence of equal rules and limitations for several authorities, including the ECB, to intervene *ex ante*. Option 1 would imply some costs for banks in the form of administrative burden (due to the notification obligation) and would for individual banks depend on whether *ex ante* notification obligations already exist in the relevant MS. However, the materiality thresholds for notifications included in this option would limit those costs, as only event exceeding the thresholds would need to be notified.

On the supervisory powers and procedures concerning the suitability assessment, option 1 would mean assessing *ex ante* all members of the management body by the competent authorities, without considering the characteristics of banks or of the different entities within the group in which those persons hold their functions. While this would ensure a high degree of harmonisation, it would require significant additional efforts from authorities that currently perform *ex-post* assessments, notably to the numerous small banks in their supervisory remit.

By contrast to option 1, the harmonisation of supervisory powers in EU law as suggested in **option 2** would achieve a level playing field, endowing all competent authorities with sufficient capacity to react to prudentially relevant events. It would impact to a different extent banks and supervisory authorities, depending on whether supervisory powers[147] and *ex ante* notification obligations already exist and how they are designed. The incurred costs would in most cases remain ultimately less important than those for *ex-post* supervisory assessments. As in the case of option 1, the costs would be contained due to the materiality thresholds.

As regards the fit-and-proper assessment, under option 2, the *ex-ante* assessment would be introduced only for members of the management body in the parent entity and in material subsidiaries of large banks. Competent authorities would therefore be able to continue *ex-post* assessments for smaller banks which would entail no additional costs. Option 2 would extend the scope to key function holders and require competent authorities to assess them ex ante for the same type of entities as for the members of the management body. The proposed framework would also provide further specifications concerning the supervisory procedures for the assessment of both, board members and key function holders. Furthermore, it would set out criteria for carrying out the assessment of key function holders[148].

Overall, option 2 would achieve a more balanced reform of supervisory powers than option 1. It would ensure a sufficient level of supervisory convergence and keep the administrative burden to a reasonable level.

On sanctioning powers

Option 1 would clarify the distinction between enforcement measures and sanctioning tools for supervisors. This clarification would leave nonetheless an important discretion to Member States to introduce or not additional enforcement[149] and sanctioning powers in their national laws.

Furthermore, option 1 would achieve a significant increase of the harmonisation of sanctioning powers by introducing a general power for supervisors to sanction all potential breaches of the regulatory framework. However, this option might create legal uncertainty as regards its application. A generic clause might not be effective when breaches of a bank are not identified by national and European supervisors under a common standard. In addition, some Member States impose the obligation to state the breach for which a sanction is applicable[150]. Therefore, introducing a general sanctioning power could potentially raise constitutional issues in some Member States[151].

Finally, under option 1 the basis for the calculation of pecuniary measures imposed on EU banks to sanction breaches would be specified by MS, agreeing on a common definition in a

[147] Most MS have already provided their supervisors with at least some approval powers.
[148] Article 91 of Directive 2013/36/EU already provides criteria for assessing the members of the management body.
[149] The possibility for supervisors to impose periodic penalty payments applicable to credit institutions breaching their regulatory requirements
[150] It is the case especially if the breach would lead to financial penalties
[151] In some Member States, it would not be possible to introduce such general administrative sanctioning power because national laws already foresee criminal sanctions for such CRD/CRR breaches

Level 2 text (e.g. Regulatory Technical Standards) that could leave some additional flexibility.

None of the above elements is expected to lead to undue increases in costs for either banks or their supervisors[152].

Option 2 would provide more legal certainty as regards breaches that would be sanctioned than option 1. MS would implement an identical list of key CRD/CRR requirements, which would eliminate inconsistencies as regards the scope of sanctioning powers of the competent authorities. This option considers the proportionality principle. It increases the level of harmonisation as regards sanctioning powers without leaving supervisors and credit institutions with legal uncertainty which is the case for solely generic sanctioning powers under option 1.

Like under option 1, all the important breaches would be subject to administrative sanctions by supervisors and clarifications would be provided on the articulation between enforcement and punitive measures taken by supervisors. However, option 2 would go beyond option 1 by providing an additional enforcement tool to supervisors in the form of periodic penalty payments).

Finally, option 2 suggests a harmonisation of the calculation of pecuniary sanctions based on the notion of total annual net turnover. The use of total annual net turnover as a criterion would benefit from a clarification on the highest level of the EU legislation (e.g. CRD), compared to option 1 (Regulatory Technical Standards).

Similarly to option 1, the changes contemplated under option 2 would not lead to undue increases in costs for banks or for their supervisors (for the latter, the sanctioning procedures could stay unchanged, it is only the scope of breaches to which those procedures would apply that would be expanded).

* * *

Most stakeholders acknowledge that differences in the powers available to supervisors and their application across MS are contrary to the level playing field principle and effective supervision. While supervisors (in particular the ECB) and civil society stakeholders highlight the prudential risks and the uncertainty resulting from the lack of certain powers, definitions and common procedures, the banking industry is concerned about possible distortions to the competition across MS and notes that the status quo would prevent groups from reaping the synergies expected from cross-border acquisitions.

As regards concrete policy options to address the problems, the views of MS and supervisors are largely correlated with their current practices. In particular, those being home and/or predominantly in charge of smaller banks are concerned about potentially increased administrative burden. Their support is hence conditional on the introduction of materiality thresholds which would exempt a significant number of events and the provision of targeted flexibility (particularly regarding the scope of *ex-ante* fit-and-proper assessments) allowing

[152] Under this new regime banks could be hit by sanctions for certain breaches, which would of course represent a cost for those banks. However, those costs are not considered as undue.

for risk-based adjustments as envisaged under option 2. Some MS and the majority of banks, by contrast, prefer limiting the flexibility left to MS and supervisors to the extent possible.

In light of the above analysis, which led to the overall score of each policy option in *Table 7* below, **option 2** is deemed the preferred policy option to improve the consistency in the application of supervisory powers

Table 7 : Comparison of policy options against effectiveness, efficiency and coherence criteria

	EFFECTIVENESS	*EFFICIENCY (cost-effectiveness)*	*COHERENCE*	*OVERALL SCORE*
Baseline option	0	0	0	0
Option 1	+	+	+	+
Option 2	++	++	++	++

Magnitude of impact as compared with the Baseline option (the baseline is indicated as 0): ++ strongly positive; + positive; – – strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

6.4. Reduce disclosure costs and improve market access to bank prudential information

Both options would increase the efficiency and effectiveness of disclosures, particularly for small and non-complex banks. These banks would be relieved from the burden to prepare disclosures of prudential information[153], which will be disclosed centrally based on prudential information provided to supervisors. For other banks, the benefits from option 1 may be limited: given that they would still need to manage their disclosures of qualitative information, they may simply decide to continue disclosing the required qualitative and quantitative information as they currently do. At the same time, option 1 would not entail any additional costs for those banks, nor it would entail any additional costs for banks or supervisors more in general as changes to their existing systems would not be required.

For other stakeholders (e.g. investors, academics) **option 1** would achieve all benefits associated with a single, free access point to prudential data (i.e. quantitative information) on all EU banks. It would allow them to undertake a meaningful analysis across EU banks. The disadvantage (but not associated with additional cost) of this option for these stakeholders would be that in order to access banks' qualitative information, they would still need to gather it from the websites of individual banks like they currently do.

Option 2 would entail the same benefits as option 1. In addition, it would eliminate all its drawbacks: all banks would be able to use the centralised platform for all their disclosures (and hence avoid duplication), while the other stakeholders would have a single point of access to those disclosures.

In light of the above analysis, which led to the overall score of each policy option in *Table 8* below, **option 2** is deemed the preferred policy option to reduce disclosure costs and improve market access to bank prudential information.

[153] Following the amendments to the disclosure rules introduced by the CRR II, small and non-complex banks are required to disclose quantitative information only.

Table 8 : Comparison of policy options against effectiveness, efficiency and coherence criteria

	EFFECTIVENESS	*EFFICIENCY (cost-effectiveness)*	*COHERENCE*	*OVERALL SCORE*
Baseline option	0	0	0	0
Option 1	+	+	+	+
Option 2	++	++	+	++

Magnitude of impact as compared with the Baseline option (the baseline is indicated as 0): ++ strongly positive; + positive; – – strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

7. PREFERRED POLICY OPTIONS

7.1. Effectiveness

The implementation of the final elements of the Basel III reform under the preferred policy option will address the shortcomings of risk-based capital requirements under the prudential framework that have been identified during the GFC. This will ensure an accurate measurement of risk and an adequate capitalisation of institutions which will in turn ensure financial stability. A more stable and resilient EU banking sector will, in turn, effectively strengthen the trust of global financial markets and international partners in the EU financial system.

The preferred option will also take due account of the specificities of the EU banking sector through a number of specific adjustments to the Basel III standards as well as a longer implementation timeline of the reforms. In this way the preferred option will most effectively help to mitigate the risk associated with a sharp increase in capital requirements for institutions, especially in view of the COVID-19 –crisis. This will ensure a smooth provision of essential financial services to the EU economy during the recovery phase and in the long term.

The preferred policy option will enhance the focus on ESG risks in the prudential framework with a dedicated approach to capture those risks. Improved management of ESG risks will ensure that institutions will be better prepared to withstand those risks, in particular risks due to climate change. Moreover, the explicit reference to ESG risks in the supervisory framework will increase supervisors' focus of those risks. Finally, the enhanced transparency about institutions' exposures to those risks will give markets the necessary tools for an effective monitoring of the sustainability of institutions' activities. The combination of these measures will create the necessary incentives for institutions to allocate more financing to more sustainable investments.

The preferred policy option regarding supervisory and sanctioning powers will further harmonise and strengthen the toolkit available to supervisors across the Union, improving the robustness, application and enforcement of the prudential framework applicable to institutions. By strengthening supervisors' powers to ensure institutions' compliance with the prudential framework across the Union, and by giving supervisors the necessary powers to intervene in transactions that can have a significant prudential impact on institutions, the preferred option will ensure a more effective supervision of institutions and therefore a safer banking sector.

Next to supervision, scrutiny by market participants and other stakeholders constitutes another important control mechanism in the prudential framework. The effective functioning of this mechanism is conditional upon the transparency of banks' activities, their financial position and the risks they face. The preferred policy option would ensure that information (i.e. qualitative and quantitative) that institutions have to disclose would be easily accessible in one place and would be easily comparable, thus enhancing the ability of clients, investors and other market participants to monitor and exert market discipline on institutions.

7.2. Efficiency

The preferred policy option will achieve the desired objectives with enhanced efficiency. By adapting the final Basel III framework to several specificities of the EU banking sector, the preferred option would avoid disproportionate capital requirements for certain financial products or activities provided by banks and are essential to the EU economy. Without adapting the Basel III standards to EU specificities, the resulting increase in capital requirements would likely be significant, resulting in higher costs for institutions' clients, including SMEs. This could ultimately undermine the clients' economic activities or capacity to hedge their financial risks. The proposed two-year postponement of the date of application of the final elements of the Basel III reform in the preferred policy option will enable banks to support the recovery post COVID-19 crisis over the short- to medium-term whilst providing EU banks with regulatory certainty early on, thereby allowing for proper planning and a smooth implementation of the revised prudential framework.

The preferred policy option to address ESG risks will provide the necessary incentives for banks and, indirectly, their clients to take due account of the sustainability of their economic activities and will therefore ensure a more efficient allocation of economic resources. This will, in turn, support the effort to transform the EU economy into a resource-efficient, sustainable and competitive economy.

As regards supervisory and sanctioning powers, the preferred option addresses the current fragmentation of supervisory powers by ensuring that scarce supervisory resources are used in the most efficient way. This is done by allowing supervisors to focus only on events that can materially affect the prudential standing of banks. While the preferred policy option involves an increase in costs for at least some supervisors (especially for those that currently do not have the powers that would be introduced under the preferred option) and the banks they supervise, the increase in costs is limited (due to the in-built proportionality of the rules that focuses only on material events). The costs would be outweighed by the benefits of more harmonisation which will contribute to levelling the playing field in the single market and render supervision in the Banking Union more efficient.

Finally, under the preferred policy option for the disclosure of prudential information, banks will benefit from a more efficient system that integrates supervisory reporting and disclosure, and thereby reduces their administrative burden. At the same time, access to bank data for stakeholders will become more efficient as all the relevant information will be available in one place.

7.3. Coherence

In addition to the effectiveness and efficiency of the preferred policy options chosen to address the problems identified, the preferred options shall be coherent with each other as well as the whole package with other policy initiatives at EU level.

The prudential framework for banks in the Union consists of three main pillars, each of which plays a distinct, key role in ensuring the stability of individual institutions and the banking sector as a whole. The preferred policy options propose changes to each of these pillars, which will increase the coherence of the overall framework.

The first pillar consists of minimum capital requirements, in the form of quantitative and qualitative rules. In 2013, in the wake of the GFC, these rules were moved from a Directive to a Regulation to form a "Single Rule Book", and a large number of national options and discretions was removed. This change improved the uniformity of application of minimum capital requirements in all MS, closed regulatory loopholes and thus contributed to a more effective functioning of the single market for banking services. The current proposal further improves the consistent application of these rules by limiting banks' freedom in calculating their capital requirements; this will make capital requirements and reported capital ratios more comparable across the Union.

The second pillar consists of the supervisory review of banks' activities and risks. This review is crucial to ensure a consistent application of the prudential framework, in particular in the Banking Union. However, where powers and tools made available to supervisors in conducting this review differ across the Union, prudential rules are often applied inconsistently. The preferred options will address shortcomings in respect of strengthening supervisory powers and the sanctioning of breaches.

The third pillar consists of market scrutiny. For banks to be subject to comparable levels of scrutiny, stakeholders must have access to comparable information. The preferred policy options will improve such access and will also increase the comparability of the disclosed information.

Furthermore, the preferred policy options are coherent with other policy initiatives at EU level, in particular:

- The Banking Union aims to increase financial integration and stability in the Economic and Monetary Union. Common supervision is a central element of the Banking Union. However, where the ECB exercises direct supervisory powers set out in national law transposing the CRD, the ECB does not have the same range of powers with regard to all banks under its supervision because of differences in the transposition. This impinges on attaining the objective of efficient and harmonised supervision within the Banking Union. The present initiative aims at addressing some of these obstacles.

- The CMU aims to improve the access to financing for companies and projects across the Union. This overall aim is coherent with the general objectives of the present initiative, whereas the specific measures are complementary: banking regulation mostly relates to bank financing, while CMU mostly concerns non-bank financing. This initiative takes

into account the fact that EU banks also play a role in facilitating companies' access to financial markets, and ensures, by considering EU specificities, that the proposed measures do not unduly constrain this important role of banks.

- The EGD Communication announced that environmental risks would be better integrated into the EU prudential framework, and that the suitability of the existing capital requirements for green assets would be assessed. The present initiative puts this announcement into practice. It will help ensure that the banking sector can play an appropriate role in achieving the ambitious aims of the EGD.

- The ESAP aims at providing investors with easy access to regulated financial information of companies listed on the EU's regulated markets. Although the scope of this initiative is different from the scope of the ESAP, the aim of the two is fully compatible. Depending on the final design of the ESAP, the EBA centralised disclosure platform could either feed information into the ESAP or the ESAP could provide a gateway to the information stored on the EBA platform.

7.4. REFIT (simplification and improved efficiency)

This initiative is aimed at completing the EU implementation of the international prudential standards for banks agreed by the BCBS between 2017 and 2020. It would complete the EU implementation of the Basel III reform that was launched by the Basel Committee in the wake of the GFC. That reform was in itself a comprehensive review of the prudential framework that was in place before and during the GFC, namely the Basel II framework (in the EU that framework was implemented through Directive 2006/48/EC, i.e. the original CRD). The Commission used the results of that review, together with input provided by the EBA and other stakeholders, to inform its implementation work. A fitness check or refit exercise of the EU implementation of the Basel III reform has not been carried out yet because all the elements of the reform need to be put in place before one can be carried out.

Implementing the final elements of the Basel III reform with the EU specific adjustments envisaged under the preferred option would simplify the risk-based capital framework, notably by removing more complex internal models approaches to calculate capital requirements in for operational and CVA risks and by limiting the scope of internal models for credit risk. This would positively impact the recurring administrative and operational costs of EU banks (see Section 1 of Annex 6) and facilitate their supervision.

In relation to disclosure, this legislative initiative would introduce measures to reduce redundancies in respect of information reported to supervisors and disclosures to markets by centralising disclosures via a European data infrastructure based on supervisory reporting data. This would contribute to a reduction in the administrative burden of banks, in particular small ones.

8. HOW WILL ACTUAL IMPACTS BE MONITORED AND EVALUATED

The changes contained in this legislative initiative would start applying in 2025 and become fully applicable in 2030. After that date, an evaluation of the reform will be carried out in principle three years after the latter date.

The below *Table 9* presents some indicators that would help the Commission to monitor and evaluate the effectiveness and the appropriateness of the proposed preferred policy options to achieve the specific objectives mentioned in Section 4, based on the data/information available. The Commission will mostly use data/information from the European Supervisory Authorities (the EBA, the ESMA and the ESRB), the national supervisory authorities and the ECB/SSM, the BCBS, and other market data indicators to monitor and evaluate the impacts of the proposed preferred policy options.

Table 9: Summary of indicators to monitor and evaluate the impacts of the preferred policy options

Objectives	Indicators	Target	Source of information/data
Strengthen risk-based capital framework, in the context of the recovery from the COVID-19 crisis	EU banks' revised minimum capital requirements and capital ratios under the preferred option for implementing the final Basel III reforms	No significant increase in the revised capital requirements over time Gradual increase in the revised capital ratios to comply with the revised requirements over time Banks more resilient to shocks in the future EU stress test exercise	EBA Basel III monitoring exercises EBA stress testing
	Variability metrics in risk weighted assets calculated by internal model approach for market and credit risks	Share of explained variability to increase from current level.	EBA benchmarking exercise reports on market and credit risk internal models
	Volume of exposures subject to standardised approaches, in particular those for which this legislative initiative introduces EU specific adjustments	No significant decrease in the share of key EU banks' activities compared to the total volume of banks' activities.	EBA/ECB/SSM reports
	EU banks' market valuations	No significant decrease in banks market valuations from current level	Market data providers
Incorporate sustainability risks in the prudential framework	Share of banks capturing ESG factors for risk management purposes	Increase in the share of banks capturing ESG factors for risk management purposes	EBA/ECB/SSM supervisory reports and public disclosure information
	Share of banks providing disclosure on ESG risks to stakeholders	Increase in the share of banks providing disclosure on ESG risks to stakeholders	EBA/ECB/SSM supervisory reports and public disclosure information EBA report about integration of ESG risks
Further harmonise supervisory	Number of material acquisitions of holdings by a bank to which the competent authority opposed	Limited number of opposition from competent authorities as institutions gives sufficient importance ex ante, when	EBA/ECB/SSM supervisory reports and public disclosure

powers and tools		assessing the opportunity of a material acquisition of holding, to the prudential concerns the operation could raise.	information
	Number of material transfers of assets and liabilities to which the competent authority opposed	Limited number of opposition from competent authorities as institutions gives sufficient importance ex ante, when assessing the opportunity of a material transfer of assets or liabilities, to the prudential concerns the operation could raise.	EBA/ECB/SSM supervisory reports and public disclosure information
	Percentage of decisions related to mergers or demergers to which the competent authority opposed	Limited number of opposition from competent authorities as institutions gives sufficient importance ex ante, when assessing the opportunity of a merger/demerger, to the prudential concerns the operation could raise.	EBA/ECB/SSM supervisory reports and public disclosure information
	Number of breaches effectively sanctioned and corresponding sanctions	Increase in the number of breaches sanctioned by competent authorities that do not yet possess the new sanctioning powers	EBA's central database of administrative penalties and EBA's lists of published sanctions ECB's list of published sanctions
	Number of fit-and-proper assessments	Increase in share of ex-ante fit-and-proper assessments performed by competent authorities Reduction in assessments taking longer than six months	EBA/ECB/SSM reports on fit-and-proper assessments
Reducing disclosure costs and improving market access to bank prudential information	Annual volume of visitors and downloads from the newly centralised disclosure platform	Gradual increase in visits to and downloads from the platform within the first 5 years of its introduction	EBA centralised disclosure platform reports

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PART 2/4

COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT REPORT

Accompanying the documents

Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Regulation (EU) No 575/2013 on prudential requirements for credit institutions as regards requirements for credit risk, credit valuation adjustment risk, operational risk, market risk and the output floor

Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2013/36/EU as regards supervisory powers, sanctions, third-country branches, environmental, social and governance risks, and amending Directive 2014/59/EU

{COM(2021) 663 final} - {SEC(2021) 380 final} - {SWD(2021) 321 final}

ANNEX 1: PROCEDURAL INFORMATION

1. LEAD DG, DECIDE PLANNING/CWP REFERENCES

This legislative proposal (CRR III/CRD VI) was prepared under the lead of DG FISMA in association with DG JUST. Within the Agenda Planning of the European Commission, the project is referred to under item 21. In the Adjusted Commission Work Programme for 2020, the Commission committed under the header "An Economy that Works for People" to review of the CRR and the CRD and adopt a legislative proposal by Q2 2020.

The Decide Planning references are:

- REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Regulation (EU) No 575/2013 (Capital Requirements Regulation - CRR) as regards risk-based own funds requirements

  PLAN/2019/5320

- DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2013/36/EU (Capital Requirements Directive - CRD) as regards risk management and review processes

  PLAN/2019/5321

In light of the COVID-19 pandemic, the preparatory work has been delayed, reflecting the BCBS' decision of 26 March 2020 to postpone the previously agreed implementation deadlines for the final set of Basel III reforms by one year[154]. This delay has allowed the Commission services to focus their attention on the response to the COVID-19 crisis. It has also allowed them to reassess the impact of the planned reforms in light of the potential consequences of the crisis.

2. ORGANISATION AND TIMING

DG FISMA work on this legislative proposal started in spring 2018 with the publication of the first public consultation requesting inputs from external stakeholders on the implementation of the final elements of the Basel III reform (see Annex 3).

An Inter-services Steering Group assisted DG FISMA in the preparation of this Impact Assessment report. The Steering Group was set up on 11 September 2019 and included colleagues from DG ECFIN, DG GROW, DG JUST, DG COMP, and DG TRADE.

Two additional Steering Group meetings were organised on 2 December 2019 (with colleagues from the same DGs as in the previous meeting) and on 23 January 2020 (with colleagues from the same DGs as in the previous meeting, as well as colleagues from the

[154] See https://www.bis.org/press/p200327.htm.

Legal Service). At each occasion, the members of the Steering Group were given the opportunity to provide comments in writing on the draft versions of the documents presented.

A final Steering Group meeting took place on 12 February 2021 (with colleagues from the same DGs as in the previous meeting, as well as colleagues from DG CLIMA and DG ENV) to discuss the revised text before its submission.

All the meetings were chaired by the Secretariat General.

The contributions of the members of the Steering Group have been taken into account in the content and shape of this impact assessment.

3. CONSULTATION OF THE RSB

A first version of the Impact Assessment report was submitted to the Regulatory Scrutiny Board (RSB) on 12 February 2020 and discussed during a physical meeting with the RSB on 4 March 2020. The RSB gave a negative opinion on 6 March 2020, pointing to several shortcomings in the report (see left column of *Table 1* for the list).

The Impact Assessment was modified to address the identified shortcomings (see right column of *Table 1* how they were addressed) and was re-submitted via written procedure to the RSB on 22 June 2021.

Table 1: Summary of RSB comments in its 4 March 2020 opinion

RSB comments about the first version of the IA	How these comments have been addressed in the present version of the IA
(1) The report should present a clear and non-technical narrative for the main issues at stake. It should present available evidence of current problems with the resilience of European banks and the banking system, and compare against other jurisdictions implementing Basel III. If relevant, it should differentiate between types of banks.	The narrative of this impact assessment has been clarified and simplified to highlight the main problems that this legislative initiative is addressing. In Section 2, four main problems have been identified and are now all included in the main body of the impact assessment for better readability. The different problems related to the outstanding deficiencies of the calculation of the risk-based capital requirements in the current prudential framework have been merged into one overall problem which will make it easier to present the implementation of the Basel III reforms as a global policy option to address this problem. In addition, more factual evidence has been provided to illustrate the problems.

	The context section now includes information on the state of play of implementing the final elements of the Basel III reform in other jurisdictions and provides more evidence on the current situation of EU banks. The specific impact on the competitiveness of EU banks (now Section 2 of Annex 6) has been improved to provide a comparison of the impacts of the final elements of the Basel III reform across EU banks, depending on different banks' profiles, but also between EU banks and their international peers.
(2) The narrative should also show the overall trade-offs involved in the decisions. This would help to clarify the key issues to non-expert policymakers and prioritise elements of the report, adding structure to the more technical analysis of components	The assessment of the different policy options in Section 6, as well as the summary of the assessment of the preferred policy options in Sections 7.1 to 7.3, offers a better understanding of the different trade-offs in the decision making process.
(3) The report should consolidate in one place all relevant policy objectives, some of which are now only referred to or hinted at later on in the report (e.g. relating to financing of the economy and sustainable finance). The definition of the objectives should allow a systematic analysis of the relevant trade-offs in the impacts sections.	All objectives, general and specific, are presented in one place, namely Section 4. They have been updated to take into account the COVID-19 crisis.. The links between the general and specific objectives as well as the identified problems have been clarified and presented graphically.
(4) The operational meaning of 'level playing field' and other specific objectives should be made clear, including what success would look like. The problem description might also clarify what the problems are that relate to an unlevel playing field. The report should explain to what extent and how the proposal will result in a level playing field in the EU in line with the objective and with other jurisdictions. The explanation should ideally be in terms that can later be tested against outcomes.	The notion of level playing field has been specified across all the sections and put into the appropriate context. Section 2 of Annex 6 offers a clearer analysis of the differences in the impact of the final elements of the Basel III reform could affect the internal (i.e. between EU banks) and external (i.e. between EU banks and non-EU banks) competitiveness of EU banks and how the preferred policy options would address the level playing field.
(5) While it is an important objective to contain administrative and compliance costs, it is less clear whether this is different from	The specific objective has been refined (focusing on banks' administrative costs related to public disclosures) to better

cost-effectiveness used to select the preferred option. The initiative would not appear to deliver significantly lower costs, and cost efficiency is in any case among the assessment criteria. The report should apply uniform definitions of cost-effectiveness and efficiency. The objective on legal clarity also requires better justification	correspond to the problem (of inefficiency in the disclosure of banks' prudential information) identified and to ensure they do not overlap with the assessment of the cost-effectiveness criteria to identify the preferred policy option.
(6) The report should present an intervention logic that describes the channels through which policy measures would contribute to better final outcomes. This would help to better structure the report around the relative importance of various measures and their impacts on different elements of the EU banking ecosystem. The logic should connect actions to specific objectives that relate clearly to the general objectives.	The link between the general and specific objectives has been clarified in Section 4. Sections 5 and 6 describe how the policy options connect to the specific objectives and deliver on them against the assessment criteria (effectiveness, efficiency, coherence), respectively.
(7) The report needs to be clearer on impacts that do not map onto the objectives. This includes the likely reactions from those banks, which will need to significantly raise capital. The report should explain the available means for them to do so (e.g. through retained profits, sale of equity, sale of assets, mergers) and the likely impacts of the different choices on the sector and on different Member State economies.	Section 6.1 clarifies the views of the EU banking sector on the different policy options to implement the final elements of the Basel III reform, the advantages/disadvantages of different approaches that EU banks can use to comply with an increase in capital requirements resulting from the reform, and their chance to succeed for each policy option. Section 2 of Annex 6 provides the impacts of the various elements of the reform, grouping banks by size, business model and Member State of establishment.
(8) Other relevant impacts to explore may include the impact on competitiveness of banks and sectoral consolidation. For example, different ways of calculating the output floor have direct impacts on large banks and indirect impacts on small banks. By contrast, changes to the standardised approach directly affect small banks. The impact on venture capital may also be worth exploring.	Section 2 of Annex 6 provides the impacts of the various elements of the Basel III reform, grouping banks by size, business model and Member State of establishment.
(9) The report should expand the analysis of the limits to supervisory powers in controlling banks' discretion in using	Sections 2.2.1., 2.2. and 5.1. better explain the current powers of supervisors to address the variability observed across EU banks

internal models to calculate capital requirements. Any reduction of discretionary authority of national and ECB banking supervisors needs to be presented transparently, including feedback from those supervisors regarding the proposed changes. The report should explain what the proposal would mean for the internal market and for the competitive situation between small and large banks, public banks, and large or complex banks whose failure would involve systemic risk. It should explain the reason for more pronounced impacts on banks in some Member States, and whether this is likely to affect these economies more broadly.	internal models, including the EU-wide initiatives conducted by the EBA and the ECB in that respect, and their limitations. Section 6.1. and Annex 2 provide the view of supervisors on the proposed changes. See also elements of replies to comments (4) and (8), for what concerns impacts on competitiveness and impacts on different types of banks, respectively.
(10) The report should thoroughly analyse the effect of the proposed measures on SMEs. It should assess the effects of the introduction of a higher risk weight for credits to unrated companies under the standard approach. This measure is likely to affect SMEs in particular as most SMEs are unrated and as they receive more credits from smaller banks that apply the standard approach to credit risk. If the analysis assumes that a substantial part of SMEs will use the transition period to obtain a credit rating, it should incorporate the cost of doing this. The possible positive effects of the SME supporting factor should also be developed.	Section 3 of Annex 6 on the specific impacts of this legislative initiative on lending to SMEs describes which policy options are specifically related to SMEs and how they would impact banks' financing of SMEs. Annex 1 provides further explanation, on top of Section 3 of Annex 6, on the EU specific adjustments proposed in the preferred policy options to mitigate the impact of the reform on banks' lending to SMEs, including the treatment of unrated corporates and the existing SME supporting factor.
(11) The report should better justify why it proposes to maintain the existing supporting factors for SMEs and for infrastructure investment. It should integrate stakeholder views, including the recommendation of the EBA to abandon these supporting factors. The performance of the existing supporting factors should be at the basis for the proposed introduction of a new green supporting factor. The report should bring more convincing evidence that the two types of exposure that would benefit from it have unique features that justify their preferential	Further justification has been provided for the decisions involving the different supporting factors.

treatment.	
(12) The impact assessment should be more transparent about data and model limitations. For example, inferences from the EBA sample of banks on the sector as a whole may be more reliable for large banks than for small ones. Estimates of the negative impact on growth in the short and medium term are more robust than estimates of long-term benefits that are based on decreased risk of full-blown banking crises over longer time horizons. The report appears to overplay analytical support for the hypothesis that 'green' investments are relatively lower risk, and that lower capital requirements on certain loan types are an effective way to stimulate more lending. The report should discuss the EBA calculations' robustness and relevance for assessing the impacts of the preferred options, given the modifications introduced after the calculations.	Section 6.1 and Annex 7 better explain how to interpret the estimated impacts from the EBA and ECB respective analysis. Annex 5 provides more details about the sample used in the EBA and ECB analysis and the limitations of their methodologies. The analysis related to environmental, social and governance (ESG) risks and the corresponding policy choices have been updated.
(13) Some options need further clarification or explanation why they have been discarded. For instance, the report should better explain why supervisory bodies cannot be strengthened and why this option has been discarded. This holds in particular for the ECB, which is responsible for supervision of the larger banks and should have the capacity to assess and control banks' use of internal models to assess portfolio risks. On credit valuation adjustment risks, the justification for discarding the option of postponing the introduction of a revised framework until BCBS has finalised its ongoing review should be strengthened.	In Section 6, the assessment of the pros/cons of each policy option to address the problem it aims to address identified has been improved, as well as the system to score those options. These clarifications allows the reader to understand our choice of preferred policy options and why the other policy options have been discarded.

4. EVIDENCE, SOURCES AND QUALITY

A number of inputs and sources of data were used in the preparation of this impact assessment, including the following:

- advices from the EBA, delivered to the Commission in August and December 2019 and December 2020, and other reports of the EBA referred to in footnotes to this impact assessment;
- information supplied in the context of the public consultation described in Annex 2;
- publications of the ECB, the ESRB, the FSB and the BCBS referred to in footnotes to this impact assessment;
- newspaper articles, scientific journal articles, and other sources referred to in footnotes to this impact assessment.

The vast majority of the data underpinning the quantitative analysis contained in this impact assessment was provided by banks. Given that the data used in the EBA, ECB and BCBS analyses underwent quality checks by those organisations, the data quality can be considered reasonably good. Nevertheless, the figures provided by banks are (more or less accurate) estimates based on assumptions made by banks. As such, they need to be interpreted with caution.

ANNEX 2: STAKEHOLDER CONSULTATION

1. Public consultation

As part of the implementation process of the final elements of the Basel III reform in the EU, the Commission services gathered stakeholders' views on specific topics in the areas of credit risk, operational risk, market risk, CVA risk, securities financing transactions as well as in relation to the output floor.

Beyond these topics related to the Basel III implementation, the Commission services have also consulted on certain other subjects with a view to ensuring convergent and consistent supervisory practices across the Union and alleviating the administrative burden.

The public consultation carried out between October 2019 and early January 2020[155] had been preceded by a first exploratory consultation conducted in spring 2018[156], seeking first views of a targeted group of stakeholders on the international agreement. The results of the two consultations have fed into the preparation of the legislative initiative accompanying this impact assessment.

Stakeholder groups

There were 119 responses to the public consultation. As illustrated by

[155] See https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12015-Alignment-EU-rules-on-capital-requirements-to-international-standards-prudential-requirements-and-market-discipline-/public-consultation_en.

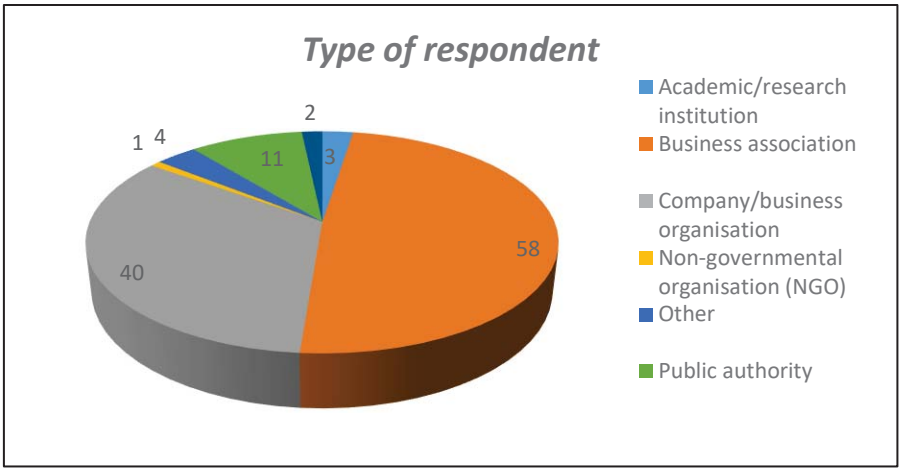
[156] See https://ec.europa.eu/info/consultations/finance-2018-basel-3-finalisation_en

Figure **1** and *Figure 2*, most responses came from the financial industry (i.e. individual banks, banking associations and) and half of them came from respondents established in three Member States (Belgium, Germany, France and the United Kingdom).

Results

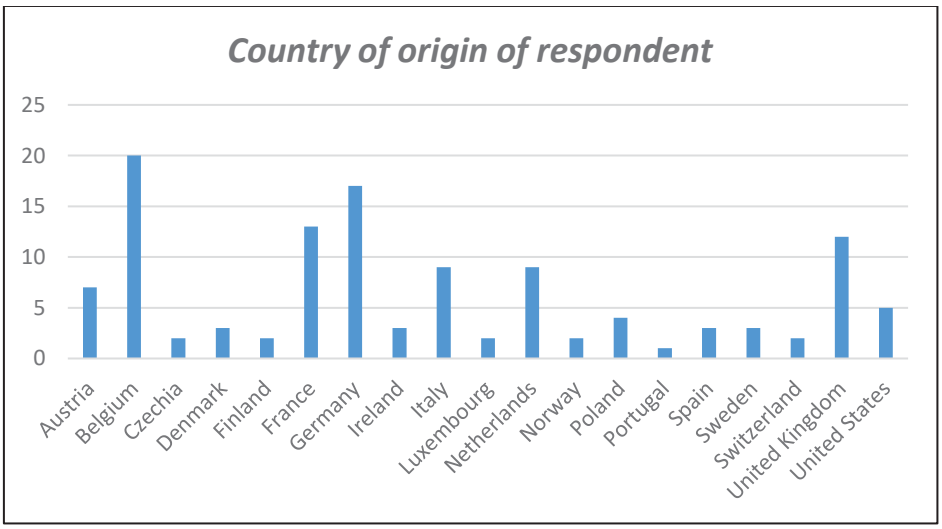
Stakeholders overall agreed on the necessity to complete the implementation of the Basel III framework in the EU. While the financial industry called for several adjustments and additional transition periods, supervisors and public authorities took a more conservative approach and preferred an implementation of the remaining reforms closer to the international standards.

Figure 1: Nature of respondents to the public consultation



Source: Commission, DG FISMA

Figure 2: Country of origin of respondents to the public consultation



Source: Commission, DG FISMA

The feedback received on the individual elements of the reforms can be summarised as follows:

- Regarding the **output floor** the financial industry asked to limit the scope to the requirements explicitly listed in the corresponding Basel standard by applying it as a "parallel stack" and at consolidated level only. In contrast, a majority of supervisors were in favour of a "single stack" implementation of the output floor at all levels of consolidation.
- As regards the treatment of **unrated corporates** in the credit risk framework, supervisors and the financial industry have expressed different views. Industry advocated for a so-called "hybrid approach" while supervisors prefer to implement

the Basel standard. Views were divided among supervisors on the option to remove the SME supporting factor from the risk framework, while the financial industry was in favour to keep it.

- On **specialised lending**, views were mixed between Member States and supervisors. Some showed openness to introduce more granularity in particular with regards to object finance than it is envisaged under the final Basel III standards. This approach was supported by the financial industry.
- Supervisors and the industry also expressed different views on the **treatment of equity exposures.** Supervisors preferred to apply the Basel treatment without modifications while the industry and some Member States argued for a more granular treatment for long-term equity holdings in unlisted entities, and notably a more favourable treatment for intragroup and IPS exposures.
- There was consensus among Member States and supervisors in favour of the continuation of the "loan splitting approach" (instead of implementing the "whole loan approach") for **real estate exposures**. The financial industry preferred to provide flexibility for banks to choose its approach. Industry's plea to continue allowing for the upward revaluation of property values after origination found some (conditional) support with Member States and supervisors.
- Several stakeholders from industry were in favour of not fully applying the **new constraints for the use of internal models** for credit risk. This option found only little support from Member States and supervisors.
- The industry favoured a delay in the implementation of minimum haircut floors for **securities financing transactions**, or, as a second best, an implementation via market regulation. Member States and supervisors were mostly silent on the issue.
- Member States and supervisors were largely in favour of taking historical losses into account to compute large banks' capital requirements for **operational risk**, while the majority of stakeholders in the financial industry favour neutralising the impact of past losses or taking them into account only when they have a beneficial impact.
- The consultation showed no opposition against the implementation of the simplified standardised approach for market risk in line with the Basel calibration. Also, the financial industry unanimously supported the need for more **flexibility in the treatment of CIUs** while Member States and supervisors were mostly silent on the issue.
- Industry and supervisors were in favour of delaying the implementation of the **CVA risk** rules until the Basel standard is finalised. The industry unanimously favours keeping the existing exemptions. MS and supervisors are split on this issue.

Apart from questions on the implementation of the final elements of the Basel III reform in the EU, the consultation included some questions regarding supervisory reporting and public disclosure as well as the fit-and-proper assessment.

Views are all in all cautiously positive on the initiative to centralise **supervisory reporting and public disclosure**. A majority of industry players supported the approach but raised some doubts as to the size of the potential reduction in their administrative costs. Supervisors pointed to the need to address concerns about wrong expectations that the EBA would be responsible for the quality of the information disclosed by banks.

The views of Member States and supervisors on potential changes to the **fit-and-proper assessment framework** were largely correlated with their current practices. Doubts regarding the need for changes were mainly expressed by those Member States that currently do not assess key function holders and/or assess members of the management body after their appointment, while others were more supportive. Similarly, industry representatives in Member States applying only ex-post assessments were particularly concerned about potential difficulties in terms of administrative procedure and burden that could arise under an-ex ante system. Those industry representatives that already had experience with ex-ante assessments of members of the management body and of key function holders and/or with accountability regimes, generally reported a positive impact in terms of reducing risks for the sector and creating a level playing field.

2. Public conference

On 12 November 2019, DG FISMA held a public conference to discuss the impact and challenges of implementing the finalised Basel III standards in the EU.

More than 500 representatives of public authorities (Members of the European Parliament, Member State governments, bank supervisors and international organisations), the financial industry, non-financial companies, think tanks and non-governmental organisations physically attended the conference and 618 additional representatives watched the discussions online on that day.

The conference was comprised of three keynote speeches, delivered by staff of the European Commission, the chair of the EBA and the chair of the Single Supervisory Mechanism, as well as four panel discussions[157]: “Basel III in a global context”, “The impacts of Basel III on the EU economy”, “A proportionate implementation of Basel III” and “Basel III – are we done now?”.

Panel discussions took place on Basel III implementation in a global context, on its impact on the European economy as well as in view of proportionality. Panel discussions included also a regulatory outlook beyond the Basel reforms, chaired by officials of the European Commission, members of the European Parliament (ECON chair) and representatives of the Council (Financial Services Committee chair).

3. Ongoing exchanges with stakeholders

Since 2018 the Commission services have repeatedly consulted Member States on the EU implementation of the final elements of the Basel III reform and other possible revisions of the CRR and the CRD in the context of the Commission Expert Group for Banking, Payment and Insurance (EGBPI).

During the preparatory phase of the legislation, the Commission services have also held hundreds of meetings (physical and virtual) with representatives of the banking industry as well as other stakeholders.

ANNEX 3: WHO IS AFFECTED AND HOW?

The purpose of this Annex is to set out the practical implications for stakeholders affected by this initiative, mainly banks, governments at the national and European level and the general public (namely companies and consumers acting as borrowers). The initiative aims to achieve the following objectives:

- Objective 1: strengthen the risk-based capital framework, without incurring in a significant increase of capital requirements;
- Objective 2: enhance the focus on Environmental, Social and Governance ("ESG") risks in the prudential framework;
- Objective 3: further harmonise supervisory powers and tools;
- Objective 4: reduce administrative costs related to public disclosures and improve access to banking prudential data.

In order to "**strengthen the risk-based capital framework, without incurring a significant increase of capital requirements"** (objective 1), the preferred option would implement the final elements of the Basel III reform in Union law, subject to a set of adjustments. The proposed adjustments are intended to prevent an undue disruption of banks' lending capacity during the (expected) post-COVID 19 pandemic phase.

The aim of the Basel III reform is to make banks more resilient and restore confidence in the banking system in response to the GCF. A more robust banking system has significant long-term benefits for the economy of the Union as a whole. Better capitalised banks will be more capable of withstanding future financial shocks and continue lending through economic downturns, which is likely to make those future downturns shorter in length and less severe. Hence, achieving the purpose of better capturing risks sought by the Basel III reform will directly benefit banks and, indirectly, all other stakeholders concerned. For instance, bank bail-outs and the recourse to governments to fund them in the event of a crisis can be expected to be less likely. At the same time, a steadier flow of credit may reduce the likelihood of failure for borrowers (namely businesses and households) that rely on bank lending as an essential source of funding.

Objective 1 will be achieved by various amendments to the current prudential framework contained in the CRR):

a) *standardised approach for credit risk*: changes to the regulatory capital treatment of rated exposures to banks, exposures to corporates, real estate exposures, retail exposures, subordinated debt and equity and off-balance sheet items;

b) *internal ratings-based approach (IRBA) for credit risk*: the use of internal models is either limited or precluded for certain portfolios that cannot be reliably modelled. Where models may be used, their parameters become subject to certain minimum values ("input floors");

c) *market risk (FRTB)*: the current reporting requirements based on the FRTB are transformed into substantive capital requirements;

d) *credit valuation adjustment (CVA)*: the use of internal models for CVA is precluded and replaced by a revised standardised approach;

e) *operational risk*: the use of internal models is precluded and replaced by a single new standardised approach;

f) *output floor*: capital requirements that result from a bank's internal models are floored at 72.5% of the requirements that would result from applying the corresponding standardised approaches.

The net effect of these changes in the CRR is an overall increase of regulatory capital requirements on banks. The effect mainly depends on the magnitude of the use of internal models, insofar as banks may be impacted by the output floor and/or become subject to the corresponding (normally more conservative) standardised approach or relevant regulatory input. As estimates show (see Section 6.1), the unfettered implementation of the final elements of the Basel III reform would lead to an average increase of 18.5% in banks' capital requirements by the end implementation date (January 2028). The implementation would be phased in during a five-year period and the increase of capital requirements at the start of that period (January 2023) would be 11.8% on average. The impact on regulatory capital, at both the end and start dates of the standards' implementation, would be significant and have considerable potential to reduce bank lending in the short term[158]. This would be particularly undesirable in the context of a post-Covid scenario when lending will be needed to fund the economic recovery.

In order to address this concern, it is suggested to mitigate the proposal's impact through a set of substantive adjustments to the standards, namely:

a) **provisions to cater for the "specificities" of the EU banking sector and its economy**: these provisions would adjust the Basel III standards to the distinctive features of the EU banking sector. In particular they aim at maintaining the flow of lending to EU businesses in general, and SMEs in particular. These include:

- *maintaining certain existing preferential treatments and exemptions for key exposures* - the "SME supporting factor" and the "infrastructure supporting factor", which lower capital requirements for these exposures compared to the corresponding Basel III standards, or the exemption for derivative transactions with certain qualifying parties from the CVA requirements;
- *providing a transitional period for the implementation of the OF in relation to lending to unrated corporates* – Basel III standards increase capital requirements on lending to unrated borrowers. However, most corporates in

[158] Faced with higher capital requirements, banks may choose to raise new capital to increase their ratios and/or reduce their exposures (i.e. reduce lending) to meet the new requirements.

the EU (namely SMEs) are currently unrated. During the proposed transitional period and while solutions aimed at increasing the coverage of external ratings are rolled out, lending to unrated corporates by banks using the IRBA would be subject to a more favourable treatment than the one provided for in the standards (i.e. a lower risk weight under the OF);

- *maintaining the existing treatment for certain types of equity exposures* –the treatment of banks' strategic holdings of equity issued by entities within the same banking group or covered by the same IPS would be left unchanged, and existing strategic participations in non-financial companies where banks exercise influence would be grandfathered. Hence, these particular equity exposures would remain subject to the capital requirements currently applicable under the CRR and, thus, exempted from the higher capital requirements on equity exposures that will result from implementing the Basel III standards;

- *providing an ad hoc preferential treatment for certain exposure types under the new market risk rules* - these comprise exposures to collective investment undertakings and financial products based on EU emission trading schemes; and

- *postponing the implementation of the FSB's recommendation of a minimum haircut floor for non-centrally cleared SFTs*, awaiting a joint report on the matter by the EBA and ESMA;

b) **the application of certain discretions contained in the Basel III standards**:

- apply the OF on the consolidated level of a banking group taking into account all the risk-based capital requirements contained in EU law and require the relevant authority to adjust the individual bank's Pillar 2 requirement (P2R) or the systemic risk buffer (SyRB) in case double-counting of risks already covered by the OF would be detected;

- set the Internal Loss Multiplier ("ILM") at 1 as part of implementing the new standardised approach for operational risk. The calculation of capital requirements for operational risks of EU banks would, thus, be based on their Business Indicator Component ("BIC"), which takes into account the main elements of a bank's income and expenses. However, the banks' historical operational losses would be disregarded for these purposes, which would significantly mitigate the impact of the new approach for calculating the capital requirements for operational risk.

c) **safeguards related to banks' trading activities**: in order to preserve the international playing field for EU banks, the Commission would be empowered to delay the entry into force of the capital requirements based on the FRTB and/or to make certain adjustments to the framework. The Commission's decision should, for instance,

consider whether major jurisdictions failed to implement the FRTB. Similarly, it is suggested to temporarily lower the calibration of the current standardised approach for counterparty credit risk ("SA-CCR") for all derivatives for the purpose of calculating the OF, taking into account international developments in this field (for instance, one major jurisdiction has lowered the calibration of the SA-CCR for certain derivative exposures). This would afford extra time to discuss the calibration of the SA-CCR at international level;

d) **a delayed phase-in period** for the new rules, relative to the phase-in period envisaged in the Basel III standards (from January 2023 to January 2028), as further explained below.

The adjustments to the Basel III standards referred to in points (a) to (c) would significantly lower the expected increase in banks' capital requirements that results from implementing the Basel III standards. Capital requirements would go up on average between +0.7% to +2.7% at the start of the phase-in period (in contrast to the 11.8% increase without the adjustments), and between +6.4% and +8.4% at the end of the phase-in period (in contrast to the 18.5% increase without the adjustments). In this modified scenario, bank lending would not be impeded and the prudential benefit of the reform would be preserved.

While the quantitative impact at the beginning of the phase-in period may be moderate per se, the market may exert pressure on EU banks to start building up capital from early on to anticipate future capital requirements. This may coincide with the recovery phase from the COVID-19 crisis and have short term negative effects on bank lending and the wider economy. Accordingly, it is suggested as part of the preferred policy option for Objective 1, that the phase-in period of the new standards' implementation in the EU would be delayed by two years. The starting date of the phase-in period would be January 2025 (instead of January 2023 under the Basel III scenario) and the new standards would only be fully effective from January 2030 (instead of January 2028). This additional two-year period would give banks enough time to start building up capital without compromising their short-term lending ability. At the same time, the completion of the bank reforms, albeit delayed, would give all market players certainty about the final shape of the regulatory landscape.

Objective 2 of the proposal is to "**enhance the focus on ESG risks in the prudential framework"**. This objective seeks to address, among others, the emerging risks that climate change and the resulting economic transformations pose to banks, primarily in the form of transition risk. The transition to a sustainable economy may lead to substantial shifts in the value of assets. At the same time, more frequent and /or more severe weather events will present new physical risks.

As explained in Section 6.2, the preferred policy option would introduce in the CRD a general requirement for banks to manage their ESG risks. At the same time, competent authorities would have to supervise compliance with that requirement as part of the supervisory and review assessment process. In addition, the CRR's requirement to disclose ESG risks related information would be extended beyond large banks. This means that, at this

stage, banks would be subject to behavioural obligations in relation to ESG risks (that is, management, governance and disclosure) as opposed to a pre-determined minimum amount of capital to cover unexpected losses arising from those risks within the framework (i.e. no Pillar 1 capital requirements). The introduction of ESG-targeted Pillar 1 capital requirement could be decided at a later stage, following the publication of an EBA Report providing quantitative evidence on the appropriate treatment of ESG risks under Pillar 1.

The above-described policy option presents a number of benefits for all stakeholders concerned without imposing significant costs on banks in the short term. Under the preferred approach, banks would be obliged to adapt their risk management systems and incorporate the ESG dimension before Pillar 1 requirements are introduced. As a consequence, they would be better prepared once Pillar 1 requirements are introduced The prudential framework's better capturing of ESG risks would also have positive effects for governments and the general public as banks would be less exposed to shocks that may result from transition and physical risks and be more likely to continue lending to the economy under these circumstances. The proposal would also contribute to the general public policies by facilitating a smooth transition towards a more sustainable economy.

By contrast, the costs associated with this policy option would be relatively contained and limited to administrative costs that banks would incur to adapt their risk management, governance and disclosure policies. Such costs should not materially affect banks' lending capacity.

Objective 3 of the proposal is to "**further harmonise supervisory powers and tools of banking competent authorities"**. In order to achieve this objective, it is suggested to make various amendments to the CRD to harmonise the supervisory and sanctioning powers of those authorities as follows:

a) introduce ex-ante notification requirements for banks on "material" events with prudential relevance, namely acquisitions of holdings, transfers of assets and liabilities and mergers and demergers;

b) enhance the disciplinary framework whereby the list of breaches for which competent authorities would have explicit powers to impose sanctions would be expanded;

c) introduce harmonised requirements on the assessment of the fitness and propriety of members of banks' management boards and key function holders before taking up their positions.

The preferred policy option would ensure a more consistent application of the prudential framework across the EU in general, and within the Banking Union in particular, than currently the case. Enhanced consistency in regulatory and supervisory processes and outcomes would be beneficial for all stakeholders concerned, namely banks that would be able to operate across much more harmonised legal frameworks within the EU. This would reduce the compliance costs that currently arise from the need to deal with diverse and potentially inconsistent requirements. While some banks may initially incur some costs to

meet the new requirements (in particular if the national rules they are currently applicable are less stringent than those under the preferred policy option), it is not expected that those costs would be significant enough to offset the preferred policy option's benefit. It should be noted, in particular, that the most impactful set of amendments, i.e. those referred to in point (a), would be subject to a materiality threshold.

The preferred policy option would also assist competent authorities to discharge their legal duties in a more effective manner than they currently do, as they all would have access to the same full set of supervisory powers (which some competent authorities currently lack) and a more harmonised supervisory framework would mitigate the risk of regulatory arbitrage or the existence of loopholes that banks could potentially exploit. This would, in turn, contribute to fostering the general public's confidence in the EU system of banking supervision.

Lastly, Objective 4 aims at "**reducing administrative costs related to public disclosures and improve access to banking prudential information".** It would be achieved through the creation of a single electronic access to EU banks' quantitative information that the EBA would source from its EUCLID platform (which will be fed through the existing periodic reporting made by banks), and qualitative information that the EBA would source from banks (see Section 5.2.4).

The preferred option would eliminate disclosure costs for small and non-complex banks, which are only required to disclose quantitative data. For all the other banks, the preferred option would entail neither additional costs nor cost savings.

For other stakeholders, namely market participants who are users of information disclosed by banks, this proposal would bring about material benefits in the form of greater market transparency and lower costs to search for and to access prudential data.

OBJECTIVE 1 – STRENGTHEN THE RISK-BASED CAPITAL FRAMEWORK FOR CREDIT INSTITUTIONS

Preferred Option – Implement Basel III reforms with EU-specific adjustments and transitional arrangements adapted to the COVID-19 crisis

I. Overview of Benefits (total for all provisions) – Preferred Option		
Description	***Amount***	***Comments***
	Direct benefits	
Implement in EU law the set of reforms to the risk-based capital framework for banks agreed at international level (the Basel III framework or Basel III standards)	- The revisions to the standardised approach for credit risk (SA-CR) will improve the robustness and risk sensitivity of the existing approach; - The revisions to the IRB approaches for credit risk will reduce unwarranted variability in banks' calculations of RWAs; - The minimum haircut floors for non-centrally cleared securities SFTs will limit the pro-cyclicality of these transactions and the build-up of excessive leverage in the financial system; - The revisions to the CVA risk framework as well as revisions to the standardised approach for CVA (SA-CVA) will enhance the risk sensitivity, strengthen the robustness and improve the consistency of the framework; - The new standardised approach for operational risk (SA-OR) will simplify the framework and increase comparability; and - The output floor (OF) will limit the unwarranted variability in the regulatory capital requirements produced by internal models and the excessive reduction in capital that a bank using internal models can derive relative to a bank using the revised standardised approaches.	- These enhancements of the prudential standards will make banks more resilient and restore confidence in the banking system and, thus, make the financial system more stable as a whole. - Better capitalised banks will be less likely to fail as a result of financial crisis and more able to continue lending through economic downturns. - A steadier flow of credit to the economy will reduce the likelihood of borrowers failing due to a shortage of bank funding. - Bank bail-outs and the recourse on governments to fund them can be expected to be less likely in future financial crisis. - Economic crisis following future financial crisis (and the political instability and social hardship caused by those) can be expected to last less and be less severe.
Adjust to the Basel III revisions to take into account the specific features of the EU banking system	- The proposed adjustments will more than halve the average Basel III standards-induced capital increase from 18.5%to between 6.4% and 8.4% by the end of the phase in period.	- The adjustments are designed to cater for the distinctive features of the EU banking system and economy, namely the significant reliance by SMEs in bank lending as key source of funding. - The reduced impact on capital requirements should be regarded as a

		proportionate measure that adequately balance the primary objective of enhancing the banking prudential framework while maintaining a sufficient flow of bank lending to the EU economy. - Hence, the proposed adjustments do not compromise the overall purpose or negate the stated benefits of the Basel III reform.
Delay the starting date of application of the new rules by two years. Starting date would, thus, be set on 1 January 2025 with a 5-year transition period.	- No impact on banks' capital requirements until 1 January 2025. Full impact on capital requirements delayed to January 2030.	- The suggested delay of the phase-in period would prevent material disruption of bank lending in the short-term. - Hence, banks' flow of lending would not be materially affected during the economic recovery phase that is expected for following the current COVID 19 pandemic crisis.
Indirect benefits		
- Implementing the Basel III reforms would meet the EU international commitments and help improve the confidence in European banks across international markets.		

II. Overview of costs – Preferred option						
	Citizens/Consumers/non-financial corporates		Banks		Administrations (including competent authorities)	
	One-off	Recurrent	One-off	Recurrent	One-off	Recurrent
Direct costs			Costs to adapt banks' systems to incorporate the changes made to the prudential framework	Increased cost of capital for exposures that would be subject to higher capital requirements compared to the current rules	Costs to adapt current supervisory practices and processes to the new standards	Costs for running the new procedures (depending on magnitude of change compared to current procedures)
Indirect costs		Increase in the costs for bank loans/financial products which are subject to higher capital requirements compared to the current rules (depending on the size of the increase in the capital requirements for				

		the bank loan and the level of competition in the market)				

OBJECTIVE 2 – INCORPORATE SUSTAINABILITY RISKS IN THE PRUDENTIAL FRAMEWORK.

Preferred Option – Introduce measures for a better management of environmental risks by banks

I. Overview of Benefits (total for all provisions) – Preferred Option		
Description	***Amount***	***Comments***
Direct benefits		
Requirements for banks to manage ESG risks	- Banks would integrate ESG factors in day-to-day decision-making.	- ESG-targeted risk management provisions will contribute to a more robust and resilient banking system in the face of transition and physical risks. - A more resilient banking system will, in turn, help to reinforce overall financial stability in the EU.
Reinforced supervisory powers over ESG risks	- Improved supervisory monitoring of individual banks' exposures to ESG risks.	
Ad hoc disclosures of ESG risks by banks	- Enhanced market discipline. - Stakeholders concerned about ESG risks and/or ESG-related externalities may incentivise credit institutions to better manage ESG risks and take externalities of their actions into account.	
Indirect benefits		
Better availability of finance for sustainable exposures	- To the extent that sustainable activities may be less risky than non-sustainable activities, this difference may be better reflected in banks' credit decision-granting and, as a result, lead to an increase in the availability of finance for sustainable activities.	- Increased bank funding of sustainable activities would help the EU reach the target of the EGD.

II. Overview of costs – Preferred option							
		Citizens/Consumers/non-financial corporates		Banks		Administrations (including competent authorities)	
		One-off	Recurrent	One-off	Recurrent	One-off	Recurrent
Reinforced requirements for banks to manage ESG risks	Direct costs			Cost of adjusting risk management systems and processes to the new requirement.			
	Indirect costs		Cost of providing				

			additional information to banks.				
Reinforced supervisory powers for ESG risks	Direct costs					Cost of setting up new supervisory processes and systems.	Costs of running the new processes and systems.
	Indirect costs						
Reinforced disclosure of ESG risks by banks	Direct costs			Changes to systems to accommodate new disclosure templates.	Costs of preparing the new information for disclosure.		
	Indirect costs		Cost of providing additional information to banks.				

OBJECTIVE 3 – FURTHER HARMONISE SUPERVISORY POWERS AND TOOLS

Preferred Option – harmonise the supervisory powers and tools of banking competent authorities to the greatest possible degree between two available options

I. Overview of Benefits (total for all provisions) – Preferred Option		
Description	***Amount***	***Comments***
Direct benefits		
Harmonise the supervisory powers of banking competent authorities to the greatest possible degree between two available options in relation to: (i) ex ante notifications of events of prudential relevance; (ii) assessment of board members and significant function holders (iii) sanctions and penalties	- A more consistent application of the banking prudential framework across the EU in general, and within the Banking Union in particular. - Less scope for regulatory arbitrage and loopholes that limit the effective and consistent application of the prudential framework across the EU. - Reduced compliance costs for banks, as they will be able to operate across similar legal frameworks within the EU.	- More effective and consistent application of sanctions may contribute to fostering confidence in the EU system of banking supervision and reduce the incidence of rules breaches in the future.
Indirect benefits		
-		

II. Overview of costs – Preferred option							
	Citizens/Consumers/non-financial corporates			Banks		Administrations (including competent authorities)	
	One-off		Recurrent	One-off	Recurrent	One-off	Recurrent
Direct costs				Administrative costs to adjust internal processes to meet new requirements.	Administrative costs to comply with new ex ante notification and assessment requirements. Scope limited to "material" events for ex ante notifications.	Costs to change current supervisory procedures or to set up new procedures to meet the new requirements.	Costs to deal on an on-going basis with new ex ante notification and assessment requirements.
Indirect costs							

OBJECTIVE 4 – REDUCE ADMINISTRATIVE COSTS RELATED TO PUBLIC DISCLOSURES AND IMPROVE ACCESS TO BANKING PRUDENTIAL DATA

Preferred Option – centralise the disclosure of both quantitative and qualitative prudential banking disclosures

I. Overview of Benefits (total for all provisions) – Preferred Option		
Description	***Amount***	***Comments***
Direct benefits		
EBA to disclose on a single on-line platform the prudential data and information of all EU credit institutions.	- The suggested centralised provision of prudential data and information will significantly improve market transparency and the comparability of that information, and will reduce the costs for market participants to access information that is currently scattered. - Reduced information costs.	- Enhanced transparency would result in more effective and efficient market discipline of banks.
Small and non-complex credit institutions exempted from the obligation to disclose prudential information (replaced by EBA disclosures)	- Costs of disclosure reduced to zero.	
Indirect benefits		
-		

II. Overview of costs – Preferred option							
		Citizens/Consumers/non-financial corporates		Credit institutions		Administrations (including competent authorities)	
		One-off	Recurrent	One-off	Recurrent	One-off	Recurrent
	Direct costs					EBA to incur costs to build up the systems, processes and get the necessary resources to provide the centralised disclosures.	There will be increased on-going costs for the EBA to maintain and operate the disclosure platform.

ANNEX 4: EVALUATION

As described in Section 1, this prudential framework applicable to banks in the EU has been significantly revised through two waves of reforms to address a number of issues observed following the GFC: the first wave of reforms, introduced by the CRR and the CRD IV, was adopted in June 2013 and the second wave, introduced by CRR II and CRD V, was adopted in May 2019.

This new legislative initiative aims to complement and finalise the above reforms with the implementation of the final elements of the Basel III reform adopted by the Basel Committee in December 2017. The initiative addresses the outstanding deficiencies in the prudential framework that have not been addressed by the previous rounds of reforms.

The vast majority of the changes proposed in this legislative initiative stem from changes to the international standards developed by the BCBS. The latter changes were adopted to address the deficiencies that the BCBS identified when it carried out an evaluation of the existing international standards. A number of supervisory initiatives performed at EU level, notably the EBA benchmarking exercises (see Section 5.1), the EBA work on IRB repair and the ECB TRIM exercise (see Section 5.1), confirmed the findings of the BCBS.

Given the reliability of the abovementioned evaluations, the Commission decided to rely on their findings instead of carrying out its own evaluation.

EUROPEAN
COMMISSION

Brussels, 27.10.2021
SWD(2021) 320 final

PART 3/4

COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT REPORT

Accompanying the documents

Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Regulation (EU) No 575/2013 on prudential requirements for credit institutions as regards requirements for credit risk, credit valuation adjustment risk, operational risk, market risk and the output floor

Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2013/36/EU as regards supervisory powers, sanctions, third-country branches, environmental, social and governance risks, and amending Directive 2014/59/EU

{COM(2021) 663 final} - {SEC(2021) 380 final} - {SWD(2021) 321 final}

ANNEX 5: ADDITIONAL INFORMATION ABOUT POLICY OPTIONS

1. IMPROVE THE CURRENT FRAMEWORK FOR CALCULATING RISK-BASED CAPITAL REQUIREMENTS

1.1. Credit risk framework – Standardised approach

General background

Credit risk is the risk of loss resulting from a borrower's failure to repay a loan or meet contractual obligations on a debt ("default"). It accounts for the bulk of most banks' risk-taking activities and hence the bulk of their capital requirements.

The standardised approach for credit risk (SA-CR) is used by the majority of banks across the EU to calculate the capital requirements for the majority of their credit risk exposures, even though the majority of total EU banks' credit risk exposures – which are held by a relatively low number of large institutions – are treated under internal model approaches. The SA-CR is thus highly important in its own right. In addition, the SA-CR must serve as a credible alternative to internal model approaches and as effective backstop to them. The SA-CR's importance is further increased under the final elements of Basel III reform, due to (i) the reduction of the scope of application of internal models approaches and (ii) the introduction of the OF.

During its review of the functioning of standardised approaches, the BCBS found the current SA-CR to be insufficiently risk-sensitive in a number of areas, leading sometimes to inaccurate or inappropriate measurement of credit risk (either too high or too low) and hence of capital requirements.[159] These problems put into question the SA-CR's role as approach for measuring credit risk, including as an alternative for and a backstop to internal model approaches. Existing supervisory or macro-prudential tools could be used to partly address these problems, but neither are well-suited for the purpose.

One of the final elements of the Basel III reform therefore aimed to increase the risk sensitivity of this approach. To achieve this, the Basel Committee agreed to change the SA-CR in relation to several key aspects. These changes, if implemented in the EU, could be particularly impactful in the following key areas (due to e.g. the amount of exposures potentially affected, the nature of the changes or EU specificities):

- exposures to unrated corporates, including SMEs;
- exposures to project finance, object finance and commodities finance (specialised lending);
- equity exposures; and
- exposures secured by real estate (both residential and commercial).

[159] See BCBS, Revisions to the Standardised Approach for credit risk – Consultation Paper, December 2014, https://www.bis.org/bcbs/publ/d307.pdf.

As outlined in Section 6.1., the preferred option is a revision of the SA-CR in line with the Basel III standard, subject to some adjustments. The subsections below discuss each of the aforementioned key areas and assess which adjustments are necessary in each case.

1.1.1. Unrated Corporates

Problem definition

Given the aforementioned shortcomings of the existing SA-CR, the new Basel III standard sets out a modified treatment of corporate exposures under the SA-CR. These modifications make the framework more risk-sensitive and take better account of the specificities of exposures to SMEs and investment grade corporates.

The Basel III standards contain two different approaches to calculate RWs of corporate exposures under the SA-CR. The first can be used in jurisdictions that allow the use of external ratings (the external credit risk assessment approach, or "ECRA"), while the alternative one can be used in jurisdictions that do not allow the use of external ratings (the standardised credit risk assessment approach, or "SCRA"). The ECRA reflects credit risk in banks' capital requirements better than the SCRA as it allows for a more granular set of RWs.

Under the ECRA, corporate exposures are assigned a RW between 20% and 150% depending on their external rating[160]. However, exposures to corporates that do not have such external ratings ("unrated corporates") receive a RW of 100%, with the exception of corporate SMEs (RW of 85%) and retail SMEs (RW of 75%).[161] The ECRA is consistent with the way in which standardised RWs are currently assigned in the EU; its improved risk-sensitivity would lead to a slight decrease in RWAs for highly-rated corporates whilst the impact on the majority of SA banks' exposures would be marginal.

However, an unintended indirect consequence of the application of the ECRA may arise in the EU as a result of the introduction of the OF combined with the fact that the vast majority of EU corporates is not externally rated. Those corporates are currently being predominantly financed by IRBA banks, and the internal models of those banks produce significantly lower RWs for exposures to many of those corporates compared to the 100% RW applicable under ECRA (and the current version of the SA-CR). Once those banks would be required to apply the ECRA for the purposes of calculating the OF, there would be a material increase in capital requirements for those exposures.

In this context, it should be noted that the CRR provides for a preferential treatment for exposures to SMEs: the RW of an exposure to a SME is multiplied by the so-called "SME

[160] The higher the credit rating, the lower the likelihood that the obligor will default, and hence the lower the risk weight assigned to an exposure to that obligor. There is also a separate risk weight for exposures that do not have an external rating.

[161] By contrast, under the SCRA banks have to assign a 100% RW to all corporate exposures, except if the corporate is identified as "investment grade" (RW of 65%), SME (RW of 85%) or retail SME (RW of 75%). In order to qualify as investment grade, amongst others, corporate counterparties or their parent companies must have securities listed on a recognised exchange.

supporting factor" of 0.7619 for exposures up to EUR 2.5 million. For the remaining part of an exposure exceeding that threshold, a RW of 85% applies, in accordance with the Basel III standard. The SME supporting factor is applicable to all exposures to SMEs (whether rated or unrated, and whether treated under the SA or the IRBA). Concerning retail SMEs, the RW of 75% is already implemented and applicable in the EU. Consequently, all policy considerations relating to the treatment of unrated corporates must account for the effect of the SME supporting factor.

Policy options

***Baseline option** - no change to the prudential framework*

- The existing RWs for corporates remain unchanged, including for unrated corporates.
- The existing SME supporting factor is kept.
- The OF is not implemented for unrated corporates.

***Option 1**- full alignment with Basel III*

- The ECRA approach applies to all corporate exposures (including unrated corporates), also for the purposes of the output floor.
- The existing SME supporting factor is removed.

***Option 2** - implementation of ECRA in line with Basel III with a transitional treatment for IRBA banks in relation to unrated corporates*

- For unrated corporates, a transitional period lasting until 2030 is provided. During this period, when calculating their OF, IRBA banks are allowed to apply the SCRA to exposures to unrated corporates which have a PD corresponding to an investment grade rating. This treatment applies to all unrated corporates, irrespective of whether they are listed or not.
- For rated corporates, when calculating the OF, IRBA banks are allowed to use the ECRA to calculate capital requirements.
- The Commission is empowered to extend the transitional treatment by up to three years based on a report by the EBA.
- At the end of in the transitional period, IRBA apply the ECRA to all corporate exposures when calculating the OF.
- The existing SME supporting factor is kept.

Impacts and comparison across options

Under the **baseline option**, the shortcomings in terms of risk-capture of the SA-CR for corporates would remain unaddressed and the framework would continue to lack a backstop (in the form of an output floor) limiting excessive variability in capital requirements. At the

same time, the level of capital requirements for the exposures concerned would remain largely unchanged.

Option 1 would be fully compliant with the Basel III standards and consistent with the EBA's advice[162]. However, the removal of the beneficial treatment of SMEs that EU co-legislators had agreed upon (in the CRR) and recently extended (in CRR II) could lead to a tightening of financing conditions for SMEs. Indeed, this option would lead to a material increase in minimum required capital for both SA banks (due to the removal of the SME supporting factor) and also IRBA banks (due to the direct effect of the removal of the SME supporting factor and, indirectly, as a result of the application of the output floor). This would, in turn, lead to either a reduction in the amount of loans banks would be willing to provide to SMEs (to the extent banks could not pass the increased cost of capital on SMEs via higher interest rates) or to an increase in the interest rates banks would charge SMEs for the loans (to the extent banks could pass on the increased cost of capital) or a combination of both.

Option 2 would preserve the use of external ratings for corporates and increase the risk-sensitivity of their treatment under the SA-CR. This option would be in line with the final Basel III standard, except when it comes to the EU-specific treatment of SMEs. The transitional adjustment for IRBA banks' exposures to unrated corporates would limit an increase in capital requirements as compared to option 1. It would avoid disruptive impacts on bank lending and leave sufficient time to establish public or private initiatives aimed at increasing the coverage of external ratings for corporates. Broadening the coverage of external ratings would also increase transparency in the EU corporate sector in the long run and thereby foster the Capital Markets Union (CMU).

Table 1. Comparison of policy options against effectiveness, efficiency and coherence criteria

	EFFECTIVENESS	*EFFICIENCY (cost-effectiveness)*	*COHERENCE*	*OVERALL SCORE*
Baseline option	0	0	0	0
Option 1	+	-	+	+
Option 2	++	≈	++	++

Magnitude of impact as compared with the Baseline option (the baseline is indicated as 0): ++ strongly positive; + positive; – – strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

Preferred option

In light of the above analysis, which led to the overall score of each policy option in *Table 1*, **option 2** is the preferred policy option.

[162] Cf. EBA (2019) Policy advice on the Basel III reforms: Credit risk

1.1.2. Specialised lending

Problem definition

There is no specific treatment for specialised lending (SL) exposures under the current SA-CR. Those exposures are treated as any corporate exposures even though they have a very specific risk profile. The latter depends more on the type of transaction and/or collateral provided to secure the transaction rather than on the creditworthiness of the borrower(s) since the borrower is typically a dedicated vehicle, which secures the debt with the cash flows generated by its assets. The lack of granularity in the current framework leads to under- or overestimation of risks under the SA-CR and does not allow to appropriately compare related capital requirements between SA and IRBA banks (the IRBA contains a specific treatment for SL exposures). The SA-CR can hence not act as a credible benchmark to internal models used for SL exposures.

To address these shortcomings of the SA-CR, the Basel III standard introduced a specific treatment for SL exposures, distinguishing between project finance, object finance and commodities finance based on the definitions of these three subcategories in the IRBA. Like for corporates exposures (see Section 1.1.1 of this Annex), two approaches are available in the Basel III SA-CR, one for jurisdictions allowing the use of external ratings for regulatory purposes and one for jurisdictions that do not allow it. The new treatment reflects more appropriately and accurately the risks associated with SL exposures and improves the consistency with the already existing treatment of those exposures under the IRBA. Under the new SA-CR, SL exposures for which no issue-specific external ratings are available would be assigned RWs ranging from 80% to 130%. The exact RW assigned to the exposure would depend on the relevant SL subcategory and, in the case of project finance, on the phase in which the project is (pre-operational/operational) as well as on whether certain quality criteria are met.[163]

However, similar to the case of exposures to unrated corporates, unintended consequences of the application of this new approach may arise in the EU, for essentially the same reasons: most SL exposures are not externally rated and are financed by IRBA banks that have in place internal models which produce materially lower RWs than those provided by the SA-CR. While the new standardised treatment for unrated SL exposures is more granular, it is not sufficiently risk-sensitive to reflect the effects of comprehensive security packages usually associated with these exposures (these packages comprise covenants and collateral subject to dedicated monitoring). The impact may be particularly felt in the case of object finance exposures in the context of the application of the OF. As a consequence, there could be a risk of discontinuation of these activities.

The impact on project finance is likely to be less significant because the EU has introduced a discount (= supporting) factor of 25% for exposures to high quality infrastructure projects that comply with a set of eligibility criteria capable to lower their risk profile and enhance the

[163] In particular, a preferential risk weight of 80% is provided for high quality project finance exposures in the operational phase.

predictability of their cash flows. This treatment applies to both institutions using the SA and institutions using the IRBA.

Policy options

***Baseline option**: no change to the prudential framework*

- No dedicated treatment for SL exposures would be available under the SA-CR.
- The OF is not implemented for SL exposures.
- The existing supporting factor for high quality infrastructure projects is kept.

***Option 1** - full alignment with Basel III*

- The new SL subcategories are introduced in the SA-CR framework while maintaining the use of issue-specific external credit ratings when available.
- The existing supporting factor for high quality infrastructure projects is removed.
- The new standardised RWs for SL exposures are used for the calculation of the OF.

***Option 2** - alignment with Basel III with adjustments for project and object finance*

- The new SL subcategories are introduced in the SA-CR framework while maintaining the use of issue-specific external credit ratings when available.
- The specific supporting factor for infrastructure projects remains applicable to complement the preferential treatment for high quality project finance which is limited to projects in the operational phasewhilst avoiding "double discounts"[164].
- A new subcategory for high quality object finance is introduced. The EBA is mandated to specify the relevant criteria via RTS.
- The new standardised RWs for SL exposures are used for the calculation of the output floor.

Impacts and comparison across options

Only a small portion of SL exposures in EU banks portfolios is rated (3.62%; see below *Table 2*). Among all SL exposures, non-rated project finance is the most important sub-class (81.5%), followed by non-rated object finance (9.3%) and non-rated commodities finance (5.6%).

[164] However, the supporting factor cannot be applied to the favourable treatment for high quality project finance to further lower the applicable RW (i.e. it is not possible to apply the discount of 25% to the preferential RW of 80% provided under Basel II for 'high quality' project finance).

Table 2. SL exposures under the SA-CR by sub-exposure class

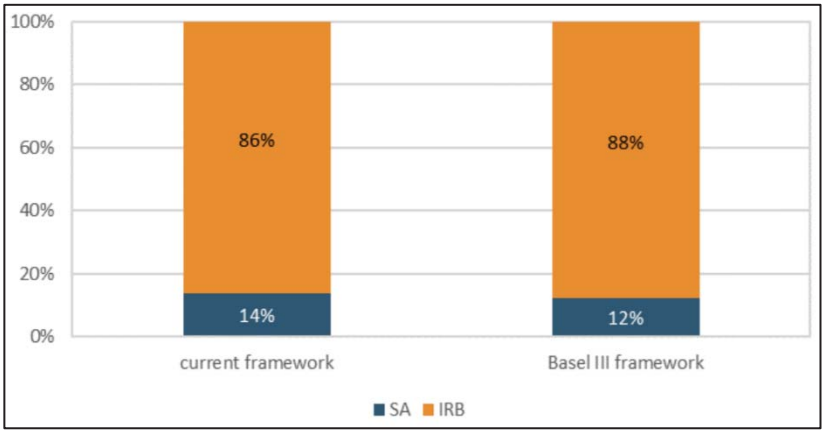
Institutions	Commodity finance	Object finance	Project finance	Rated exposures	Total SL
All	5.56%	9.30%	81.53%	3.62%	100%
Large	6.02%	9.94%	80.17%	3.87%	100%
of which: G-SII	14.73%	1.63%	80.87%	2.78%	100%
of which: O-SII	0%	16.70%	78.97%	4.34%	100%
Medium	0%	2.09%	97.91%	0.00%	100%
Small	0%	0%	97.89%	2.11%	100%

Source: EBA, CfA response

Based on the EBA's analysis, the impact on exposures (classified as corporate exposures under the current SA-CR), which would be classified as SL exposures under the revised SA-CR, appears to be limited, due to the limited volume of specialised transactions under the SA-CR (14% of all transactions; see *Figure 1* below).

As mentioned above, most SL exposures are in the portfolios of IRBA banks. Therefore, the new standardised RWs for SL would also indirectly impact those banks as a consequence of the introduction of the OF.[165]

Figure 1. Share of SL exposures RWA by regulatory approach in the current and revised framework



Sources: EBA 2018-Q2 QIS data and EBA calculations.

Note: Based on a sample of 204 banks: IRB (78), SA (196).

[165] In its additional analysis for SL, the EBA notices that the total impact of the final Basel III reform remains unchanged whether the LGD input floors for SL exposures are included or removed for SL exposures under IRB (see paragraph 1.2.1 on SL under IRBA). The exclusion of the LGD input floors for SL exposures would decrease the overall impact of the IRB reforms for SL exposures, but this lower impact would be completely compensated by a higher impact of the OF. The exclusion of the LGD input floor for SL exposures would benefit – in terms of capital requirements – mostly large IRBA banks. However, these benefits would not materialise as those banks, in general, are also the ones constrained by the output floor. This key aspect also needs to be taken into consideration for the final assessment of the impact of the calibrations of RWs for SL exposures under the Basel III SA-CR.

Under the **baseline option**, SL would not be defined in the SA-CR. Consequently, a risk-sensitive and granular approach could not be used for those exposures. Instead, a flat RW of 100% would continue to apply to all forms of SL unless an issue-specific rating would be available.

Option 1 would allow to better reflect the specific risk-profile of SL under the SA-CR. However, the removal of the existing EU-supporting factor for high-quality infrastructure projects under this option would lower the incentives recently put in place in the legislative framework to foster private and public investments in high quality infrastructure projects with low risk profile[166]. In addition, some forms of SL (in particular object finance) would likely be materially impacted by the new RW calibrations, even though indirectly, i.e. through the application of the output floor.

Under **option 2**, the existing supporting factor for high quality infrastructure finance would be kept. At the same time, the lack of risk-sensitivity of the Basel treatment for unrated object finance exposures (RW of 100%) would be addressed by a specific treatment for "high-quality" object finance exposures and a revised calibration for those exposures, aligning the risk sensitivity for those categories with that of project finance. The indirect potential impact (as an effect of the output floor) for IRBA banks that have developed a SL activity would also be less material under this option than under option 1.

Table 3. Comparison of policy options against effectiveness, efficiency and coherence criteria

	EFFECTIVENESS	*EFFICIENCY (cost-effectiveness)*	*COHERENCE*	*OVERALL SCORE*
Baseline option	0	0	0	0
Option 1	+	-	+	+
Option 2	++	≈	++	++

Magnitude of impact as compared with the Baseline option (the baseline is indicated as 0): ++ strongly positive; + positive; – – strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

Preferred option

In light of the above analysis, which led to the overall score of each policy option in *Table 3*, **option 2** is deemed the preferred policy option

1.1.3. Equity exposures

Problem definition

The current (Basel II) treatment of equity exposures under the SA-CR is not risk-sensitive: In particular, it does not reflect the higher loss risk of equity compared to senior exposures nor does it differentiate between strategic and speculative (and hence riskier) investments. Furthermore, the different methods for calculating RWs for equities under the IRBA (simple risk weight method, internal model method, PD/LGD approach) have been found to be unduly complex, leading to different outcomes and to undue RWA variability. Finally, the

[166] This is likely the only effect of removing the supporting factor. Given that it has become applicable only recently, it is unlikely that its removal would lead to a material increase in banks' capital requirements.

current treatment allowed for regulatory arbitrage between the banking book and the trading book.[167]

To address these shortcomings, the final elements of the Basel III reform amend the treatment of equity exposures in two ways. First, banks can no longer use the IRBA for those exposures. Second, the calibration of RWs under the SA-CR is more granular and more conservative: the default RW for equity exposures increases from 100% to 250%. A more conservative RW of 400% is assigned to "speculative unlisted equity exposures" (most of those exposures are currently labelled as "high-risk" equity exposures and hence subject to a 150% RW). Those revisions can be phased-in over a five-year period. The existing 100% RW remains available only for equity investments made pursuant to "national legislated programmes" which meet certain eligibility conditions and have been approved by the competent authority.

Table 4: Risk weights applicable to equity exposures during the phased-in implementation of the Basel standards

Equity category	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Speculative unlisted	100%	160%	220%	280%	340%	400%
Exposures to certain legislative programmes	100%	100%	100%	100%	100%	100%
Other	100%	130%	160%	190%	220%	250%

Source: EBA, CfA response (Table 11, p. 59)

The final Basel III standard does not differentiate between the riskiness of certain types of equity holdings existing in the EU, such as equity investments in entities that are included in the same banking group (intragroup) or the same institutional protection schemes (IPS), or long-term and strategic equity investments in businesses outside the banking group (including holdings in insurance undertakings).

Policy options

Baseline option *- no change to the prudential framework*

- The existing RWs (100% and 150%) for equity exposures under the SA-CR are kept.
- Banks may use the IRBA for equity exposures.

Option 1 *- full alignment with Basel III*

- The use of IRBA for equities is removed; in turn, the SA-CR becomes the only approach available for calculating capital requirements for the credit risk of equity exposures.

[167] In particular, banks designated their equity exposures to the banking book even though they were essentially held for trading to avoid the much more conservative treatment under the trading book rules.

- For equity holdings made pursuant to national legislated programmes a preferential RW of 100% may be applied, subject to certain eligibility criteria and supervisory approval.
- The new RWs for speculative unlisted equity exposures (400%) and for other equity holdings (250%) are progressively phased-in during a 3-year period (see *Table 4* above).

***Option 2** - implement Basel III with targeted clarifications and adjustments*

- The current 100% RW remains applicable to intragroup equity exposures and equity holdings within institutional protection schemes (IPS).
- Existing long-term and strategic equity exposures to counterparties outside the banking sector (i.e. including in insurance undertakings) are subject to a grandfathering regime (i.e. banks are allowed to apply the existing RWs to those exposures).
- Only short-term equity investments with a holding period of less than 5 years are considered as speculative exposures and assigned a steady state RW of 400%.

Impacts and comparison across options

The **baseline option** would leave the identified problems largely unaddressed: Overly complex and discretionary methods under the IRBA would result in undue variability of RWAs whilst the SA-CR would provide insufficient risk coverage. As a consequence, banks would still have incentives to move equities from the trading to the banking book

The tightened treatment of equities under **Option 1** has been identified by the EBA as a major impact driver for increased capital requirements in the area of credit risk (it represents 2.8 pp of the overall increase in RWAs; see

Table **5** below) even without taking into account the increase in RWs for intra-group equity exposures[168]. This would be partly compensated by a decrease in RWAs for some of the equity exposures migrating from the IRBA to the SA-CR (as internal modelling of equities' credit risk would not be allowed anymore; see *Table 8* below).

[168] Given that the impact analysis is based on data at the highest level of EU consolidation, the increase in RWs for intra-group equity exposures is not reflected in the estimates, which may therefore underestimate its impact.

Table 5: Percentage change in equity RWA (relative to total current SA RWA) for equity exposures currently under the SA-CR, by equity category

Panel A Equity categories classified according to the revised Basel III	Change (%)
Exposures to certain legislative programmes	0
Other	2.6
Speculative unlisted	0.2
Total equity	2.8

Panel B Equity categories classified according to current CRR	Change (%)
Equity exposures classified as 'high-risk items' under Article 128	0.7
Holdings of own funds instruments that are currently risk-weighted in accordance with Article 49(4)	0.8
of which: holdings in insurance companies	0.7
of which: exposures to institutions part of the same institutional protection scheme	0.1
Other equity exposures	1.3
Total equity	2.8

Source: EBA, CfA response

Table 6: Percentage change in equity SA RWA (relative to total current SA RWA) for equity exposures currently under the IRB, per equity category

Panel A Equity categories classified in accordance with revised Basel III	Percentage
Exposures to certain legislative programmes	0.00
Other equity	-1.48
Speculative unlisted	0.15
Total equity	**-1.33**

Panel B Equity categories classified in accordance with current CRR	Percentage
Equity exposures in sufficiently diversified portfolios (Article 155(2) of the CRR)	-0.08
Holdings of own funds instruments that are currently risk-weighted in accordance with Article 49(4) of the CRR	-0.39
Other equity exposures	-0.86
Total equity	**-1.33**

Source: EBA, CfA response

The additional data collection at individual and sub-consolidated level performed by the EBA[169] shows the importance of the proportion of intragroup equity exposures at those levels and points to an even higher RWA impact on this subset of exposures.

Table 7: Percentage of exposures to equity and exposures to equity intragroup (over total exposure), by approach

	SA		IRB	
	Equity exposure	Of which: Equity intragroup exposure	Equity exposure	Of which: Equity intragroup exposure
Total	**3.3%**	2.8%	**5.2%**	4.4%

Source: EBA response (5 March 2020) - Letter on additional analysis for the Call for Advice for the purposes of revising the own fund requirements for credit, operational, market and credit valuation adjustment risk: output floor and equity exposure class (Table 4, p. 14)

[169] On a sample of 16 banks, see link here.

Table 8: Percentage change in equity RWA (relative to current equity RWA by approach), by equity sub-type

Approach	Equity, of which:	Equity intragroup	Equity other than intragroup
SA	136.2%	145.5%	99.3%
IRB	3.3%	6.7%	-12.2%

Source: EBA, Letter on additional analysis for the Call for Advice for the purposes of revising the own fund requirements for credit, operational, market and credit valuation adjustment risk: output floor and equity exposure class, March 2020

Table 9: Percentage change in equity RWA (relative to total current RWA), by approach

	SA		IRB	
	Equity exposure	Of which: Equity intragroup exposure	Equity exposure	Of which: Equity intragroup exposure
Total	15.7%	13.4%	1.1%	1.8%

Source: EBA, Letter on additional analysis for the Call for Advice for the purposes of revising the own fund requirements for credit, operational, market and credit valuation adjustment risk: output floor and equity exposure class, March 2020

Applying the increased RWs to all equity exposures at all levels (i.e. individual, sub-consolidated and consolidated level) would have a significantly higher impact than the application at consolidated application only. This would be mainly driven by intra-group equity exposures.

This may lead to unintended consequences (such as divestments) for existing structures and business models if such increased RWs would be applied to intragroup and IPS equity exposures, or to strategic investments outside the banking group (i.e. including holdings in insurance undertakings).

The targeted adjustments envisaged under **Option 2** would prevent those unintended effects whilst addressing the shortcomings of the current treatment.

Table 10: Comparison of policy options against effectiveness, efficiency and coherence criteria

	EFFECTIVENESS	*EFFICIENCY (cost-effectiveness)*	*COHERENCE*	*OVERALL SCORE*
Baseline option	0	0	0	0
Option 1	+	-	+	+
Option 2	++	≈	++	++

Magnitude of impact as compared with the Baseline option (the baseline is indicated as 0): ++ strongly positive; + positive; – – strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

Preferred option

In light of the above analysis, which led to the overall score of each policy option in *Table 10*, **option 2** is deemed the preferred policy option.

1.1.4. Real estate exposures

Problem definition

The GFC revealed a number of shortcomings of the current standardised treatment of real estate exposures which the Basel III SA-CR addresses.

Income-producing real estate exposures

Evidence showed that mortgage loans the repayment of which is materially dependent on the cash flows generated by the property securing those loans tend to be materially riskier than mortgage loans the repayment of which are materially dependent on the underlying capacity of the borrower to service the loan. However, under the current SA-CR no specific treatment is foreseen for such exposures, even though this dependence is an important risk driver. This may result in insufficient levels of capital to cover unexpected losses on this type of real estate exposures.

In order to address this shortcoming, the final Basel III standards introduced a new category of real estate exposures, namely income producing real estate (IPRE)[170] exposures, with a dedicated RW. This modification is intended not only to reflect more accurately the risk associated with those exposures, but also to improve consistency with the treatment of IPRE under the IRBA.

Land acquisition, development and construction exposures

Loans financing land acquisition, development or construction (ADC) of any properties incur a heightened risk where the source of repayment at origination of the loan is either a planned but uncertain sale of the property or substantially uncertain cash flows (e.g. this may happen if the property has not yet been leased to the occupancy rate prevailing in that geographic market for that type of property). The current SA-CR applicable in the EU provides for a flat RW of 150% for so-called "speculative immovable property financing". The latter category is defined solely based on the borrower's intention to resell the property for a profit, without taking into account to which extent the repayment is actually uncertain. As a result of this lack of clarity and risk-sensitivity, capital requirements for ADC exposures are currently often deemed to be too high or too low..

To better reflect the risk of ADC financing models, the final Basel III standards introduce a dedicated sub-exposure class, referring to loans to companies or SPVs financing any of the land acquisition for development and construction purposes, or development and construction of any residential or commercial property. ADC exposures are to be risk-weighted at 150%. However, provided that certain risk-mitigating conditions[171] are met, ADC exposures to residential real estate may be risk-weighted at 100%.

[170] The IPRE category is further divided in two sub-categories: income producing residential real estate (IPRRE) and income producing commercial real estate (IPCRE).

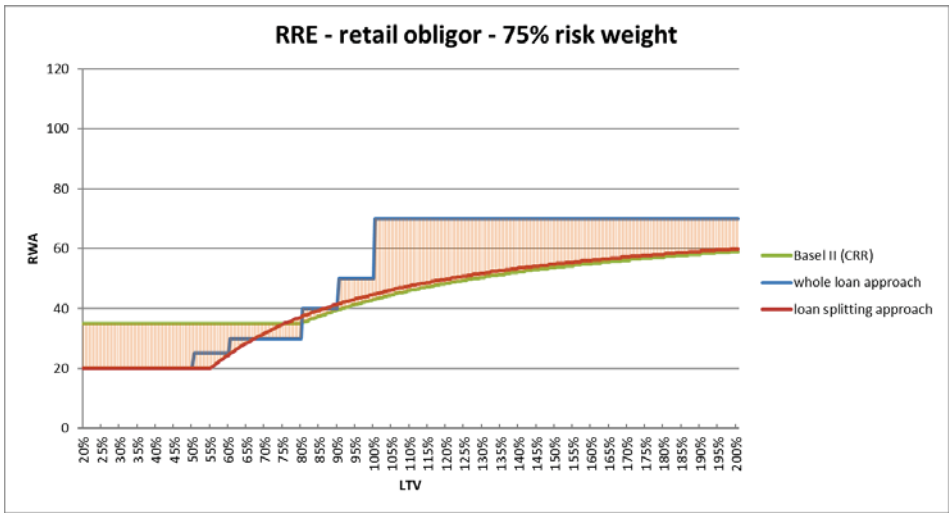
[171] The 100% RW can be applied where i) prudent underwriting standards are applied and ii) pre-sale or pre-lease contracts amount to a significant portion of total contracts or substantial equity at risk. Pre-sale or pre-lease contracts must be legally binding written contracts and the purchaser/renter must have made a substantial cash deposit which is subject to forfeiture if

Whole-loan vs. loan-splitting approach

The final Basel III standards also provide two new, more granular and risk-sensitive approaches for general[172] residential and general commercial real estate exposures (GRRE and GCRE, respectively): (i) the loan splitting approach, which splits mortgage loans into a secured and an unsecured part and assigns a different risk weight to each of these two parts; and (ii) the whole loan approach, which considers mortgage loans as specific products and assigns a RW to the entire exposure based on its loan-to-value (LTV) ratio using different LTV buckets. According to the final Basel III standards, jurisdictions can apply either of these two approaches, but not both.

The rationale for using the LTV ratio as a risk driver for determining the applicable RWs is that the losses incurred in the event of a default and the likelihood of a borrower's default are lower when the outstanding loan amount relative to the value of the real estate collateral (i.e. the LTV ratio) is lower. However, only the loan splitting approach is also sensitive to the type of borrower (as it applies the RW of the counterparty to the unsecured part) and reflects the risk mitigating effects of the real estate collateral in the applicable RWs even in case of high LTV ratios. While the loan splitting approach is currently in place in the EU, its RW calibration has been found too conservative for mortgages with very low LTV ratios (see *Figure 2*).

Figure 2: Stylised illustration – RW function for residential real estate exposures under different approaches



Source: Commission

the contract is terminated. Equity at risk should be determined as an appropriate amount of borrower-contributed equity to the real estate's appraised as-completed value.

[172] i.e. where the repayment does not materially depend on the cash flow generated by the property

Prudent valuation of property

In the aftermath of the GFC, property prices dropped significantly and progressively in countries in- and outside of the EU. Those bank that had not revised downwards the value of the properties securing mortgage loans on a timely basis, to reflect their reduced market value, ended up underestimating the underlying credit risk of those loans and hence the corresponding capital requirement. Had they updated them, the LTV ratio of those loans would have increased thereby potentially increasing capital requirements).

To reduce the impact of cyclical effects on the valuation of property securing a loan and to keep capital requirements for mortgages more stable, the final Basel III standards cap the value of the property recognised for prudential purposes at the value measured at loan origination, unless modifications "unequivocally" increase the value of the property. At the same time, the standards do not oblige banks to monitor the development of property values. Instead, they only require adjustments in case of extraordinary events. By contrast, the current SA-CR applicable in the EU requires banks to regularly monitor the value of property pledged as collateral. Based on this monitoring, banks are require to make upwards or downwards adjustments to the property (irrespective of the property value at loan origination). The current SA-CR does not include a mechanism addressing cyclical effects in real estate, and hence it does not address the risk of overvaluation and volatile capital requirements for mortgages.

Policy options

***Baseline option**: no change to the prudential framework*

- The current loan splitting approach is kept unchanged.
- No specific treatment for IPRE and ADC exposures is provided for.
- The current rules on property value monitoring and adjustment are kept.

***Option 1**: full alignment with Basel III*

- The loan splitting approach is kept for GRRE and GCRE exposures, but with the revised calibration as set by the final Basel III standards.
- Specific treatments for IPRE and ADC exposures are introduced.
- Property values are capped at their value at loan origination and the current requirement for frequent monitoring is removed.

***Option 2**: alignment with Basel III with adjustment for property valuation*

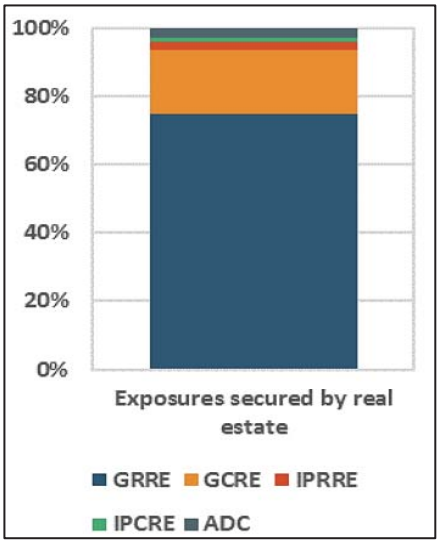
- Specific treatments for IPRE and ADC exposures are introduced.
- The loan splitting approach is kept for GRRE and GCRE exposures, but with the revised calibration as set by the final Basel III standards.

- The current requirement for frequent monitoring of property values is kept, allowing upwards adjustment beyond the value at loan origination but with a cap set at the average value over the last 5 years.

Impacts and comparison across options

GRRE and GCRE account for the vast majority (more than 90%) of total exposures secured by real estate, whereas all the remaining categories, i.e. IPRE and ADC exposures, together amount to less than 10% (see *Figure 3*).

Figure 3: Exposure value breakdown as a percentage of total SA real estate exposure under the revised Basel III framework



Source: EBA – Basel III reforms: impact study and key recommendations (Figure 34, p. 88)

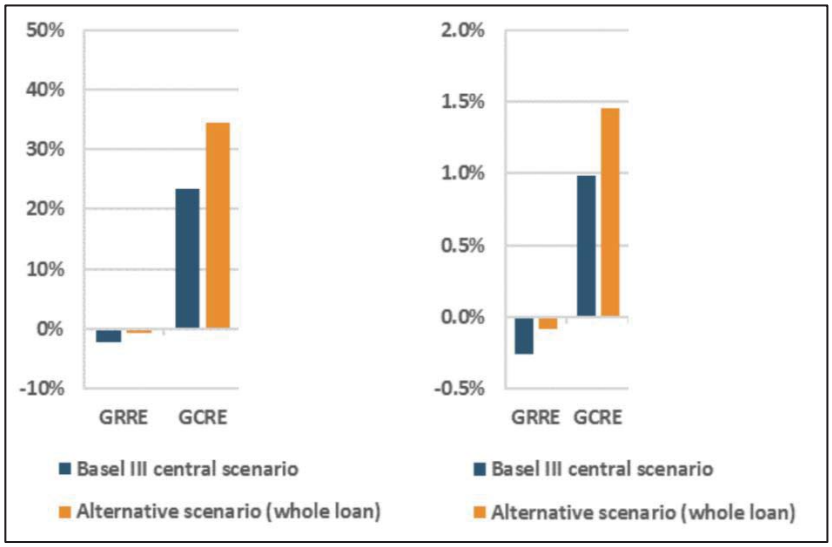
Under the **baseline option**, the lack of risk-sensitivity of the current framework in particular concerning IPRE and ADC exposures would remain, leading to inadequate levels of capital for covering unexpected losses on real estate exposures and potentially providing inappropriate incentives for banks' lending decisions. Furthermore, the (pro-) cyclicality of property valuations and, by consequence, of capital requirements would remain under the baseline option.

As regards **Option 1**, while the share of exposures in each category would change slightly as a result of the implementation of the revised SA-CR (more precisely because of the new definitions under Option 1; see *Figure 15* below), the RWs for exposures falling in the GRRE and GCRE categories would remain largely unchanged, as the revisions in these areas are marginal compared to the framework currently applicable in the EU.

For similar reasons, the impact of the new treatment for ADC exposures under Option 1 is expected to be limited. The overall impact is marginal as ADC exposures account for only 2.9% of total real estate exposures treated under the SA-CR.

By contrast, the application of the revised standardised treatment for IPRE would increase the RWAs for IPRRE by 47.6% under Option 1. This would be the most significant impact across all exposures secured by real estate. However, given the low share of IPRE in total exposures, the overall impact would be limited (IPRRE accounts for 2.5% of total real estate exposure, while IPCRE accounts for 1.1%).

Figure 4: Percentage change in exposures secured by real estate SA RWA, relative to current sub-exposure class SA RWA (left), and relative to total current SA RWA (right)



Source: EBA – Basel III reforms: impact study and key recommendations (Figure 35 and 36, p. 88)

The (re-)valuation approach provided by Basel III (**option 1**) is less pro-cyclical, but also less risk-sensitive than the current approach applicable in the EU. Under this option, banks would not be required to adjust property values downwards based on continuous monitoring. They would only need to make adjustments following a supervisor's intervention or due to extraordinary events. This option would not fit European real estate markets, where mortgage loans usually have long(er) maturities (than in other Basel jurisdictions)[173]. Moreover, it would create perverse incentives for circumvention of the rules by repeated renewal of mortgage contracts, as highlighted in the EBA's advice. It would also put the burden to require downwards adjustments of property values on supervisors and could also have a negative effect on banks' risk management, as it would remove the requirement to frequently monitor property values.

Option 2 would have the same impacts as Option 1 on GRRE, GCRE, IPRRE and ADC exposures. By contrast, Option 2 would address potential pro-cyclical effects under option 1 by limiting any upward adjustments at the average value over a certain period thereby reducing the volatility in property values. This would address the disadvantages of the current approach while avoiding the problems inherent in the approach contained in Option 1.

[173] For example, mortgages in the US have a much shorter average maturity (about 7 years) than in the EU, meaning the property values can be updated when the loans are rolled over.

Table 11: Comparison of policy options against effectiveness, efficiency and coherence criteria

	EFFECTIVENESS	*EFFICIENCY (cost-effectiveness)*	*COHERENCE*	*OVERALL SCORE*
Baseline option	0	0	0	0
Option 1	++	-	+	+
Option 2	++	+	++	++

Magnitude of impact as compared with the Baseline option (the baseline is indicated as 0): ++ strongly positive; + positive; – – strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

Preferred option

In light of the above analysis, which led to the overall score of each policy option in *Table 11*, **option 2** is deemed the preferred policy option

1.2. Credit risk framework – Internal model approach

General background

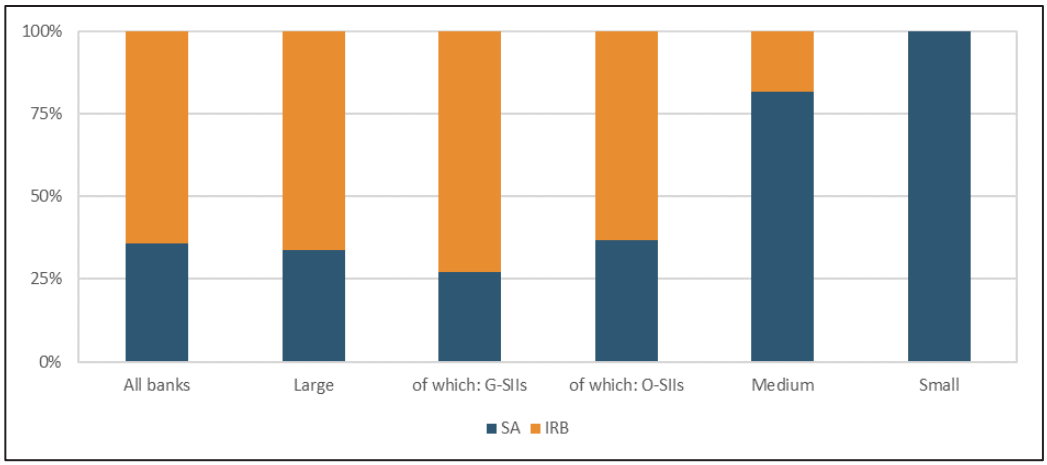
As an alternative to using the SA-CR, banks may also use one of the two approaches based on internal models, the so-called internal ratings-based (IRB) approaches, to calculate capital requirements for credit risk (subject to supervisory approval). The advanced IRB (AIRB) approach allows modelling of all key risk parameters, whereas the foundation IRB (FIRB) approach is somewhat more restrictive as modelling is allowed for only one out of the three key risk parameters[174].

The IRB approaches are complex and are therefore used primarily by large, sophisticated institutions. However, given the large market shares of these institutions, the capital requirements for the majority of credit risk exposures in the EU banking sector are calculated using the IRB approaches (see

[174] Under the AIRB approach, the obligor‘s probability of default (PD), loss given default (LGD), and exposure at default (EAD) are allowed to be modelled, while under the FIRB approach only the PD is allowed to be modelled.

Figure **5** below).

Figure 5: Exposure value: SA versus IRB composition (% of total credit risk exposure value)



Source: EBA 2018-Q2 QIS data and EBA calculations. Note: Based on a sample of 189 banks.

The GFC highlighted important deficiencies of the IRB approaches. A range of studies conducted at both international and EU level found an unacceptably wide variation in capital requirements across banks that cannot be explained solely by differences in the riskiness of banks' portfolios. This is undesirable, as it hinders the comparability of capital ratios and impacts the level playing field among banks. Also, the crisis has revealed instances where the losses incurred by banks on some portfolios were significantly higher than the model predictions, which resulted in insufficient levels of capital held by individual banks.

The December 2017 Basel III agreement aimed to address these deficiencies primarily by limiting banks' flexibility in calculating their capital requirements for credit risk[175]:

- the possibility to use internal models was either limited or altogether removed for portfolios and risk parameters where the BCBS had concluded that the available data was insufficient to ensure reliable modelling (i.e. exposures to financial institutions and exposures to large corporates fall in the first category, while equity exposures fall in the second one);
- new minimum values ('input floors') were introduced for banks' estimates of the probability of default (PD), loss-given default (LGD) and exposure at default (EAD).

As outlined in Section 5.1., the preferred option for the implementation of the final elements of the Basel III reform in the area of credit risk is a revision of the IRB approaches in line with the Basel III standard with some adjustments. The subsections below discuss each of the aforementioned key areas and assess which adjustments are necessary in each case (if any).

1.2.1. Reduction in the scope of internal modelling

[175] Other changes included a modification of the "roll-out" requirement: The principle that those banks that intended to use the IRB approach for some of their exposures are obliged to roll it out to all exposures was modified so that this obligation applies separately for each exposure class.

Problem definition

The GFC has revealed that in some cases banks have used the IRB approaches even though the respective portfolios were unsuitable for modelling due to insufficient amounts of relevant data being available. This had detrimental consequences for the robustness of the capital requirements produced by those models and thus on financial stability. Banks were able to continue using models for those portfolios because the applicable framework contained insufficient limits as regards the availability of IRB approaches for exposures classes that are difficult to model.

Specifically, banks' exposures to other banks, other financial sector entities and large corporates typically exhibit low levels of default. For such low-default portfolio (LDP) exposures, it has been shown that the low number of observed defaults makes it difficult for banks to produce reliable LGD estimates. Banks have tried to compensate for this lack of data by employing different statistical techniques, but this has resulted in an undesirable level of dispersion across banks in the level of estimated risk.

Moreover, where banks use internal models to calculate the capital requirements for credit risk of equity exposures, they typically base their risk assessment on publicly available data. Since all banks have access to pretty much the same public data, it is hard to justify the differences one can observe in capital requirements produced by banks' models for those exposures. Also, the internal modelling of equity exposures entails a level of complexity that may not be justified in light of the relatively low amounts of equity exposures held by banks in their banking books.

In view of the above, the final Basel III standards limit the exposures classes for which internal models can be used to calculate capital requirements for credit risk. Specifically, it allows the use of internal models only for those exposure classes for which robust modelling is possible. The abovementioned exposure classes are, in contrast, "migrated" to less sophisticated approaches:

- for exposures to large corporates with total consolidated annual sales greater than EUR 500 million, for exposures to banks and for exposures to financial institutions (including financial institutions treated as corporates), the use of the AIRB approach is no longer available: for those exposures banks can only use the FIRB approach[176];
- for equity exposures, the IRB approaches are no longer available: banks must use the SA-CR.

The BCBS' decision is based on the consideration that disallowing the use of certain modelling approaches in this manner would remove an important source of undue RWA variability and thereby improve the comparability of capital requirements. In addition, it would remove a source of unnecessary complexity from the framework.

[176] See footnote 163 for an explanation of the difference between the two approaches.

However, an unintended consequence of this "migration" may arise in the EU for exposures to public sector entities (PSEs) and regional governments and local authorities (RGLAs). Under the current IRB approach, exposures to PSEs and RGLAs are treated either as exposures to central governments or as exposures to banks. For the purpose of RWA calculation, it is of relatively limited significance into which category a PSE and RGLA fall, as the applicable rules are broadly similar.

Under the final Basel III standards, exposures to PSEs and RGLAs can continue to be treated either as exposures to central governments or as exposures to banks. However, given that under those standards exposures to banks are subject to significant modelling constraints, while exposures to central governments are not, the classification of a PSE or RGLA exposure can have potentially significant implications on the capital requirement for that exposure.

Policy options

***Baseline option**: no change to the prudential framework*

- All IRB approaches remain available for exposures to large corporates, banks and other financial institutions.
- The treatment of exposures to RGLAs and PSEs remains unchanged.

***Option 1**: implement the key change in the scope of the IRB approaches as foreseen by the Basel III standard*

- The AIRB approach is no longer available for LDP exposures: only the FIRB approach remains available.
- The IRB approaches are no longer available for equity exposures: banks have to use the SA-CR.

***Option 2**: implement the key change in the scope of the IRB approaches as foreseen by the Basel III standard with adjustments*

- Same as Option 1.
- In addition, address the unintended consequences of Option 1 for exposures to PSEs and RGLAs by creating a new PSE/RGLA exposure class; the AIRB approach would remain available for those exposure classes, subject to input floors (see next section for details on the latter).

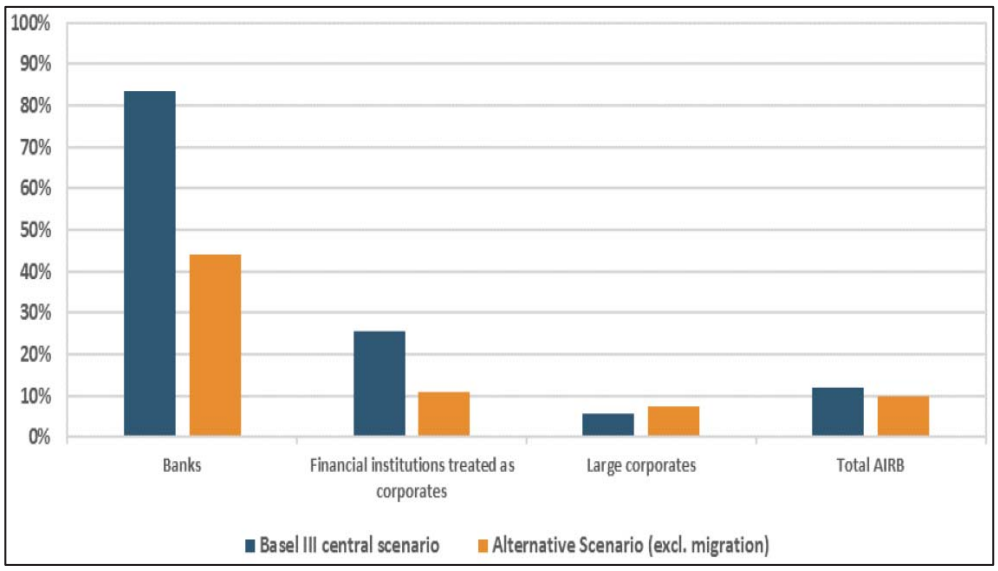
Impacts and comparison across options

The **baseline option** would leave the problems identified in the current prudential framework unaddressed (insufficient robustness of certain models, undue variability of RWAs, inappropriate levels of capital requirements).

The restrictions proposed under **Option 1** are a key measure to strengthen the reliability of internal models. Indeed, in its policy advice on the implementation of the final elements of the Basel III reform, the EBA stated that "[t]his measure is consistent with the intention to limit the variability of model outcomes, since these portfolios typically show severe shortages of default data. In particular, the availability of empirical observations for LGD estimation is problematic for LDPs, since the realised LGDs can only be observed on defaulted exposures."

Under the option, however, in line with the final Basel III standard, the use of the FIRB approach for exposures to banks, financial institutions and large corporates is still allowed, as valid PD modelling remains achievable in this context. The impact of Option 1, in terms of increase in capital requirements for AIRB exposures to banks and to financial institutions, would be among the highest of all the impacts due to the implementation of the final elements of the Basel III reform (80% and 30% increase in RWAs, respectively, see *Figure 6* below). The migration from AIRB to FIRB is the main driver of the increase. Exposures to large corporates would be much less affected (+5%) due to a decrease in the regulatory LGD for these exposures under the FIRB approach compared to the current rules.

Figure 6: Marginal impact on RWAs per exposure class due to their "migration" to the IRB approach (relative to current RWAs of AIRB exposures in each exposure class)



Source: EBA Policy advice on the Basel III reforms: credit risk, Figure 25.

For exposures to PSEs and RGLAs, the EBA has assessed that, under option 1, PSEs and RGLAs that are currently treated as exposures to central governments, would see a decrease in capital requirements between 10% and 28%, respectively, partly as a result of the removal of the current 1.06 scaling factor. In contrast, exposures to PSEs and RGLAs that are currently treated as exposures to banks would see an increase of 78%, mostly as an effect of the of the banks' exposure class being limited to the FIRB approach.

This discrepancy in impact is not justified by the underlying risk characteristics of the entities in question. As stated by the EBA, "the inconsistent treatment of PSEs and RGLAs leads to disproportionate impacts and adds unnecessary complexity to the framework". Besides, implementing this differentiated treatment could also lead to an increase in undue RWA variability across banks, rather than a decrease, as the applicable treatment is decided by competent authorities.

Option 2 would address the weaknesses of the IRB approach as identified by the Basel Committee by implementing all the elements of the reform (i.e. those listed in option 1). Compared to option 1, however, it would have the advantage of removing the unjustified disparity in impact on exposures to PSEs and RGLAs by treating them according to the same principles, while at the same time reducing the undue RWA variability for those exposures (because of the application of the input floors). The increase in capital requirements for banks arising from model "migration" would be somewhat lower under option 2 compared to option 1 as no "migration" would be imposed on any exposures to PSEs/RGLAs.

Table 12: Comparison of policy options against effectiveness, efficiency and coherence criteria

	EFFECTIVENESS	***EFFICIENCY (cost-effectiveness)***	***COHERENCE***	***OVERALL SCORE***
Baseline option	0	0	0	0
Option 1	++	+	+	+
Option 2	++	+	++	++

Magnitude of impact as compared with the Baseline option (the baseline is indicated as 0): ++ strongly positive; + positive; – – strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

Preferred option

In light of the above analysis, which led to the overall score of each policy option in *Table 12*, **option 2** is deemed the preferred policy option

1.2.2. Input floors

Problem definition

The financial crisis revealed that the calibrations of regulatory risk parameters used as inputs to the regulatory formula to calculate RWAs under the IRB approaches were at times not calibrated in a sufficiently robust or conservative manner by some banks, leading to unwarranted RWA variability and possibly insufficient capital requirements in such cases.

As a result, the final Basel III standards introduce minimum values for bank-estimated IRB parameters that are used as inputs to the calculation of RWAs ('input floors'). These input floors would act as safeguard to ensure that capital requirements do not fall below prudent levels; they would mitigate model risk due to such factors as incorrect model specification, measurement error and data limitations; and they would improve the comparability of capital ratios across banks.

In some cases, these floors consist of recalibrated values of the existing Basel II input floors, while in most cases the input floors are new. They include PD floors for both the AIRB approach and the FIRB approach, and LGD and EAD floors for the AIRB approach.

In order to achieve their intended aims, the input floors must be calibrated in a sufficiently conservative manner. However, where those floors are calibrated too conservatively, this may discourage banks from adopting the IRB approaches and the associated risk management standards. Banks may also be incentivised to shift their portfolios to higher risk exposures and exploit the constraint imposed by the input floors with a view to generating a higher return. In order to avoid such unintended consequences, risk parameter floors should appropriately reflect certain risk characteristics of the underlying exposures, in particular by taking on different values for different types of exposure where appropriate.

Under the final Basel III standard, the PD floor is increased from 0.03% under Basel II to 0.05%. LGD floors apply to secured and unsecured exposures and range from 0% to 50%, depending on the type of the exposure and on the type of collateral used (see *Table 13*).

Table 13: LGD input floors under Basel II (current) vs Basel III (new**)**

Collateral type	Current value of LGD_S	Proposed new value of LGD_S
Eligible financial collateral	0%	0%
Receivables	35%	20%
CRE/RRE	35%	20%
Other physical collateral	40%	25%

Source: European Commission

The final Basel III standards furthermore introduce a formula for the calculation of the input floor for partially secured exposures. The comprehensive list of LGD floors introduced by the Basel III standards constitute a significant change from those contained in the Basel II standards, which apply only at portfolio level and only to exposures secured by immovable property. No input floors apply to sovereign exposures.

While SL exposures[177] have risk characteristics that differ from general corporate exposures, the final Basel III standards apply the same input floors in both cases. The EBA's analysis has shown that an LGD input floor may tightly constrain banks' own estimates for SL exposures, due to the low levels of banks' own LGD estimates at the reference date. The EBA has not found conclusive evidence that the LGD input floor for general corporate exposures is excessively conservative for specialised lending exposures, pointing to banks' "heavy losses suffered from specialised lending under adverse market conditions". However,

[177] For a general explanation of SL exposures, see section 1.1.

the explanatory power of the evidence is limited by the small size of the sample used and the complexity and idiosyncrasies of the underlying transactions, so that further analysis may be warranted.

Policy options

***Baseline option**: no change to the prudential framework*

- The existing Basel II PD floor of 0,03% is kept.
- The PD, LGD and EAD input floors provided by the final Basel III standards are not introduced.

***Option 1**: full implementation of Basel III*

- The new PD, LGD and EAD input floors provided by the final Basel III standards are introduced.

***Option 2**: implementation of Basel III input floors with possibility for EU-specific adjustments*

- The new PD, LGD and EAD inputs floors provided by the final Basel III standards are introduced.
- An empowerment allowing the Commission to adopt a delegated act is introduced to adapt the input floors for specialised lending, based on a detailed analysis to be conducted by the EBA.

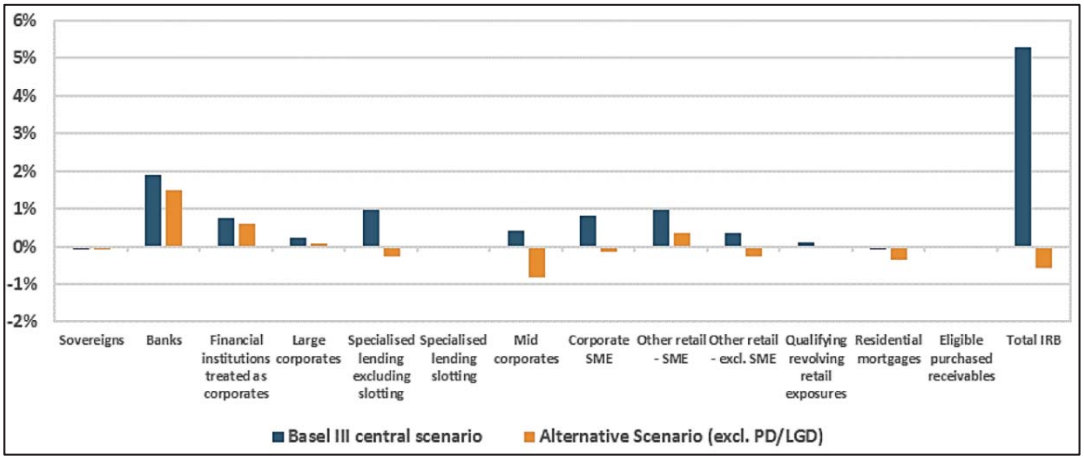
Impacts and comparison across options

Under the **baseline option**, the flaws identified in the current framework would remain unaddressed (lack of robustness of modelling approaches in certain circumstances, undue RWA variability).

Option 1 would provide tools to address the problems identified under the current framework. The level of the input floors contained in the final Basel III standards appear to be calibrated in a sufficiently conservative manner to achieve this aim, while at the same time being adapted to the risk characteristics of the underlying exposures. Concerning the impact of this option on RWAs, the EBA has assessed that around 20% of the total increase in IRB RWA would be due to the revised PD floor, and around 80% would be due to the LGD floors, whereas the EAD floor would only play a "minor role". An illustration of the impacts by exposure class is shown in

Figure **7** below (see blue “Basel III central scenario”).

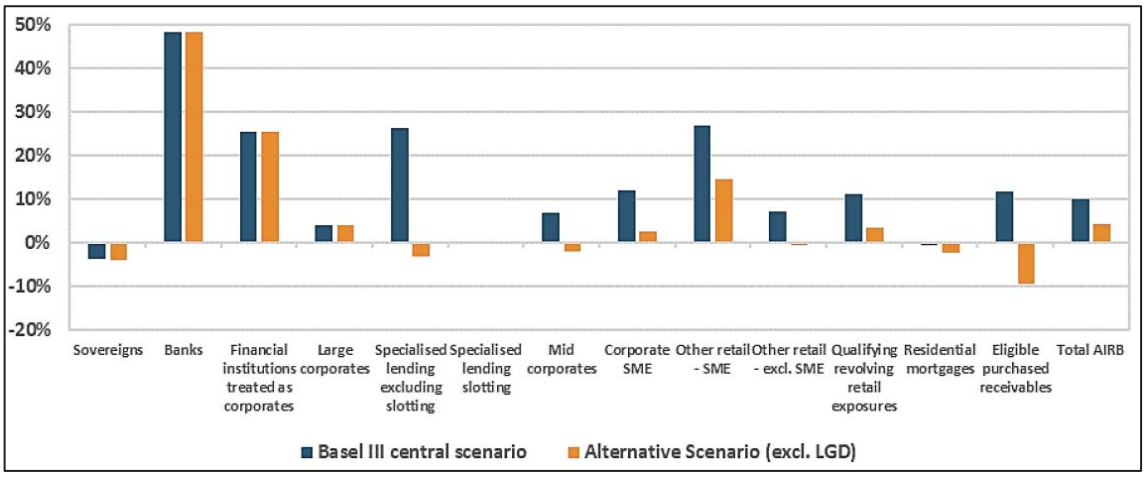
Figure 7: Percentage change in IRB RWA per exposure class excluding PD & LGD input floors (relative to total current IRB RWA)



Source: EBA Impact Study on the Basel III reforms, Figure 52.

The potential impact of the floors on SL exposures would be particularly important (30% increase in RWAs), mainly due to the LGD floors. In fact, SL is the exposure class that would be the most affected by the LGD floors (see *Figure 8* below), because those are significantly higher than the LGDs currently calculated by banks.. On the one hand according to the EBA, the aforementioned "heavy losses" incurred by SL exposures may be insufficiently reflected in banks' current loss estimates, which would suggest that an increase in capital requirements would be justified. On the other hand, stakeholders have argued that SL exposures tend to be low-risk and that the projected increase in capital requirements would therefore be unjustified. Unjustified increases in capital requirements would be particularly undesirable in the case of SL in view of its importance for the real economy as they might result in undesirable constraints on such lending.

Figure 8: Marginal impact (difference between orange and blue bars) of the LGD floors per exposure class, in terms of increase in A-IRB RWAs (relative to total current A-IRB RWAs) [alternative scenario excludes LGD input floors for SL exposures]



Source: EBA Impact Study on the Basel III reforms, Figure 52.

Option 2 would be as effective as option 1 in tackling the aforementioned problems relating to risk parameter estimation. In addition, the empowerment for the Commission would prevent potential unintended consequences on specialised lending option 1 might entail.

Table 14: Comparison of policy options against effectiveness, efficiency and coherence criteria

	EFFECTIVENESS	***EFFICIENCY (cost-effectiveness)***	***COHERENCE***	***OVERALL SCORE***
Baseline option	0	0	0	0
Option 1	++	-	+	+
Option 2	++	++	++	++

Magnitude of impact as compared with the Baseline option (the baseline is indicated as 0): ++ strongly positive; + positive; – – strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

Preferred option

In light of the above analysis, which led to the overall score of each policy option in *Table 14*, **Option 2** is deemed the preferred policy option

1.3. Market risk framework

Problem definition

Financial instruments held by banks for trading purposes (e.g. shares, bonds, derivatives), are subject to market risk, i.e. the risk of movements in the instruments' market prices that impact banks' daily profits and losses. These market price movements can be large and sudden which can affect a bank's solvency position. Because of the idiosyncratic nature of this risk, the CRR contains a specific treatment for the financial instruments subject to market risk, referred to as trading book positions[178]. As is the case for other types of risk, the CRR allows banks to use two types of approaches to calculate their capital requirements for market risk: a standardised approach and an internal model approach.

During the GFC, the level of capital required against trading book exposures proved insufficient to absorb the losses incurred by a number of banks, both in the EU and in non-EU jurisdictions[179]. The magnitude and the severity of the adverse market movements revealed that some banks, although fully compliant with existing market risk capital requirements, did not, in fact, have sufficient capital to cover market risk losses that arose during the GFC. The crisis therefore revealed a number of weaknesses in the design of the framework used for calculating capital requirements for market risk that needed to be addressed.

[178] In order to determine the relevant approach to calculate capital requirements for the positions they have, banks are required to allocate those positions to either the trading book or the non-trading book, based on the intention of each transaction. Non-trading book positions, often referred to as banking book exposures, are usually financial instruments held by banks until they mature (e.g. loans) and mainly subject to credit risk. For this reason, banking book exposures are subject to the capital requirement for credit risk.
[179] See https://www.bis.org/bcbs/publ/d457_note.pdf

In 2009, a first reform of the market risk standards (known as the 'Basel 2.5' reform) was adopted by the BCBS. This reform focused on increasing the overall capital requirements for market risk to address the most pressing deficiencies in the international standards in this area. It was implemented in Union law by means of Directive 2010/76/EU[180] (also known as the third Capital Requirements Directive or CRD III) and subsequently incorporated in the CRR.

Nevertheless, the 2009 reform did not address all the design flaws present in the market risk framework, such as[181]:

- lack of clarity in the scope of application of the capital requirements for market risk: the lack of clear rules around instruments' allocation to the trading book and the banking book allows banks to engage in regulatory arbitrage[182], i.e. allocate instruments to the 'book' that generates the lowest capital requirements;
- insufficient risk capture: many features of market risk are not adequately reflected in the current rules for calculating capital requirements. Consequently, the amount of capital required for certain instruments is not aligned with the real risks that banks face when holding these instruments[183]. For some trading book positions, banks may not have sufficient amounts of capital to absorb potential losses that may arise from adverse changes to market conditions. This could endanger their solvency. For other trading book positions the capital requirements may, conversely, be excessive compared to the actual risk. This could negatively affect banks' trading in the specific instruments and hence have an impact on their market liquidity and transactions costs;
- high variability of modelling outcomes: as highlighted by the BCBS regulatory and consistency assessment program[184], a high variability of outcomes across banks worldwide using the internal model approach to calculate the capital requirements for market risk was observed, even for identical portfolios. Similar observations were made across EU banks following the EBA's Market Risk Benchmarking exercises[185]. The dispersion of outcomes has been found larger for more complex trading portfolios. These findings indicate that banks have used the leeway offered by the rules to implement market risk internal models in different manners, using a wide range of assumptions.

[180] Directive 2010/76/EU of the European Parliament and of the Council of 24 November 2010 amending Directives 2006/48/EC and 2006/49/EC as regards capital requirements for the trading book and for re-securitisations, and the supervisory review of remuneration policies.
[181] A full overview of the weaknesses of the Basel 2,5 market risk standards has been described by the BCBS in https://www.bis.org/bcbs/publ/d457_note.pdf.
[182] For example, prior to the crisis, securitisation instruments were usually allocated to the trading book because of the low volatility of the securitisation markets (leading to low capital requirements under the market risk rules) even if there was no evidence of regular trading in these instruments (which made it likely that banks holding those positions did not really actively trade them).
[183] As an example, the risk of holding more illiquid instruments is not recognised since the current capital requirements for market risk assume that all trading book positions can be extinguished within two weeks.
[184] See https://www.bis.org/publ/bcbs267.htm.
[185] See section on "Market risk" in https://www.eba.europa.eu/regulation-and-policy/supervisory-benchmarking-exercises.

To tackle the abovementioned design flaws, after the Basel 2.5 reform, the BCBS launched a more fundamental reform of the international standards for market risk, known as the fundamental review of the trading book (FRTB). A first set of revised market risk standards (hereafter 'original FRTB standards') was published by the BCBS in January 2016, with a recommended implementation deadline of 1 January 2019; it addressed the above issues by:

- providing more objective rules to allocate transactions either to the trading book or to the banking book;
- developing a revised standardised approach ('FRTB SA') and internal model approach ('FRTB IMA') that better capture market risk;
- reducing the flexibility for banks to use their own modelling assumptions under the FRTB IMA, while helping supervisors to assess their robustness with the help of new quantitative tests that all FRTB IMA must fulfil.

In the course of monitoring the expected impact of the original FRTB standards, the BCBS identified a number of issues that needed to be addressed. Following a consultation[186] launched in March 2018, the BCBS changed certain elements of the original FRTB standards and published a revised version in January 2019 (hereafter 'final FRTB standards'), with a new recommended implementation deadline set to 1 January 2022[187] (as in the case of the rest of the final elements of the Basel III reform, the BCBS postponed this deadline by one year, to 1 January 2023, in light of the COVID-19 pandemic).

The Commission originally proposed to introduce binding capital requirements based on the original FRTB standards as part of the CRR II to address the deficiencies of the market risk framework. However, given the BCBS's subsequent decision to revise those standards, with timelines incompatible with the milestones in the CRR II negotiation process, the European Parliament and the Council agreed to implement the original FRTB standards in the prudential framework as a first step only for reporting purposes[188]. Reporting were set to start once the elements of the final FRTB standards that would be necessary for the reporting requirements would be incorporated in Union law through secondary legislation[189]. The introduction of binding capital requirements based on the final FRTB standards was left to a separate ordinary legislative initiative. In the meantime, EU banks will keep using the current approaches set out in the CRR to calculate their capital requirements for market risk.

[186] See https://www.bis.org/bcbs/publ/d436.htm.
[187] See https://www.bis.org/bcbs/publ/d457.htm.
[188] This allows banks time to prepare for implementing the new approaches (in particular banks that will be using the FRTB IMA) and also allows for the monitoring of the functioning of the new approaches before they will be used for the purpose of calculating capital requirements.
[189] The secondary legislation comprises a delegated act specifying some technical elements of the FRTB SA, adopted by the Commission on 17 December 2019, and a number of regulatory technical standards mandated to EBA to specify some technical elements of the FRTB IMA, already submitted by EBA to the Commission and which adoption is currently being processed.

Policy options

Baseline option *– No changes to the prudential framework related to market risk*

The baseline option would consist in keeping the FRTB standard as a reporting requirement, as agreed under CRR II, and maintain the current approaches set out in the CRR to calculate capital requirements for market risk. As a consequence, the weakness of those approaches would be left unaddressed. The reporting requirement based on the final FRTB standards as adopted under the CRR II would help supervisors to further assess EU banks' exposure to market risk based on the revised FRTB SA and FRTB IMA, but this assessment would remain indicative. Moreover, as some important elements of the final FRTB standards, most notably the revised scope of application of the trading book, were not yet included in the CRR II, they would not be implemented in Union law.

Option 1 *- Convert the FRTB reporting requirement into a capital requirement, fully aligned with the Basel standards*

Option 1 would implement the necessary amendments to the prudential framework to convert the reporting requirement based on the FRTB approaches adopted in the CRR II into a binding capital requirement fully aligned with the final FRTB standards agreed by the BCBS. Consequently, EU banks would no longer use the current approaches for calculating capital requirements for market risk and they would therefore no longer be exposed to the weaknesses identified in those approaches during the GFC. The prudential framework would also be amended to introduce the revised elements of the final FRTB standards that have not yet been included in the CRR II for the purposes of the reporting requirements. The amendments would include, for example, the revised standards defining the scope of application of the trading book, the revised disclosure requirements based on the FRTB approaches and the possibility to use a simplified standardised approach for banks with medium-sized trading books at supervisors' discretion.

In addition, under option 1, some of the specific adjustments to the final FRTB standards already adopted under the CRR II to take account of EU specificities[190] would be removed to fully align the EU rules with the final Basel standards.

Option 2 *- Convert the FRTB reporting requirement into a capital requirement, taking into account EU specificities and international level playing field.*

Similarly to option 1, option 2 would make the necessary adjustments to the prudential framework to convert the reporting requirement based on the FRTB approaches adopted in the CRR II into a binding capital requirement aligned with the final FRTB standards. EU banks would also no longer be allowed to use the current approaches for calculating capital requirements for market risk and would therefore no longer be exposed to the weaknesses identified in those approaches.

[190] For example, this would include the beneficial treatment of covered bonds issued by banks located in the EU set out in Article 325ah(1) of the CRR and the beneficial treatment of foreign exchange rates composed of the euro and the non-euro currency of a Member State set out in paragraphs 2 and 3 of Article 325av of the CRR.

However, unlike option 1, option 2 would maintain the specific adjustments adopted under the CRR II to take account of EU specificities in the calculation of the binding capital requirements under the FRTB approaches. In addition, two additional adjustments would be introduced under option 2 to mitigate a potential excessive increase in capital requirements for market risk under the final FRTB standards affecting key trading/market making activities to the EU economy, specifically:

- treatment of collective investment undertakings ('CIUs') under both the internal model and the standardised approaches: CIUs play a crucial role in facilitating the accumulation of personal savings, whether for major investments or for retirement. They are also important because they make institutional and personal savings available to companies and projects which contribute to growth and jobs. The seamless provision of CIUs as investment product hinges on banks' ability to continuously offer to their clients the possibility to buy or sell back those instruments. For that purpose, banks must keep inventories of CIUs in their trading books. Under the final FRTB standard, banks can use internal models to calculate capital requirements for market risk due to exposures to CIUs only under the condition that the bank can look through the CIUs' composition[191]. When this condition cannot be met, banks would have to use the standardised approach, which presents much more conservative assumptions[192], leading to a significant increase in capital requirements for those products. A number of respondents to the consultation raised this issue and the EBA also highlighted the risk of a potentially excessive capital impact in its response to the Call for Advice. To ensure continued market-making in CIUs, adjustments would be proposed to the final FRTB standard with two main objectives, namely (i) to ensure that more CIUs could be eligible to internal model approach; and (ii) to ensure that the treatment of CIUs under the standardised approach is less penalising;
- treatment of carbon emissions allowances under the standardised approach: in the EU emission trading scheme (ETS), banks play an important role in providing liquidity to carbon emissions allowances market. They typically fill their clients' estimated demand for allowances at a future date via derivatives ('forward') transactions. Under the SA of the final FRTB standards, the exposures to carbon emission allowances are assimilated to electricity contracts, which could be considered too conservative in light of historical data. A number of respondents to the consultation paper raised concerns about the conservativeness of this treatment that does not reflect the

[191] The condition requires being able to frequently access the information on all the exposures composing the fund.

[192] Under the FRTB standardised approach, the market risk capital requirements of most CIUs (all CIUs, except those tracking recognised indices) would be based on either 'the mandate-based' or the 'single-equity' approaches, both lacking risk-sensitivity and considered too conservative by the industry. On the one hand, under the mandate-based approach, the CIUs would be capitalised based on a hypothetical portfolio which would produce the highest capital requirements according to the fund's mandate. On the other hand, the 'single-equity' approach would treat the CIU as an unrated equity exposure as an unrated equity exposure allocated to the "other sector" bucket, which attracts the highest RWs (e.g. 70% for delta equity risk class)."

volatility of the price of carbon emission allowances, which is closer to physical commodities than to electricity. In addition, the creation of the Market Stability Reserve by the Commission in 2015[193], aimed at addressing the surplus of allowances and improving the system's resilience to major shocks by adjusting the supply of allowances to be auctioned, has stabilised the volatility of the price of ETS allowances. This would justify creating a specific risk category for ETS allowances under the SA, distinct from electricity, with a lower risk weight equal to 40% to better reflect the actual price volatility of this EU-specific commodity.

In addition, as opposed to option 1, the use of the simplified standardised approach for banks with medium-sized trading books would not be left to the discretion of supervisors, but would rather be harmonised across the EU, consistently with the eligibility criteria agreed by co-legislators in the CRR II to exempt banks with the same profile from the FRTB reporting requirements[194].

Finally, monitoring the implementation of the final FRTB standards in other member jurisdictions of the BCBS would be key to identify, and potentially address, distortions to the playing field for EU banks' trading activities if some of these jurisdictions would delay the implementation of the FRTB framework or relax its calibration[195]. To do so, option 2 would introduce an empowerment for the Commission to delay, if necessary, the application of the capital requirements based on the FRTB framework and/or to adjust its calibration based on international developments. This empowerment would also allow the Commission to revise, if necessary, the specific adjustments introduced as part of this legislative initiative for the treatment of CIUs and carbon emissions allowances, based on a report mandated to the EBA.

Impacts of policy options

Under **the baseline option**, banks would not be subject to direct capital impacts, but they would still incur the operational costs of implementing and maintaining the FRTB approaches for the reporting requirements introduced by the CRR II, in parallel with the existing approaches for calculating capital requirements for market risk.

Both **options 1 and 2** would introduce more effective approaches for calculating capital requirements for market risk by addressing the weaknesses of the current approaches. Both

[193] Decision (EU) 2015/1814 of the European Parliament and of the Council of 6 October 2015 concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading scheme and amending Directive 2003/87/EC (available at https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015D1814&from=EN).

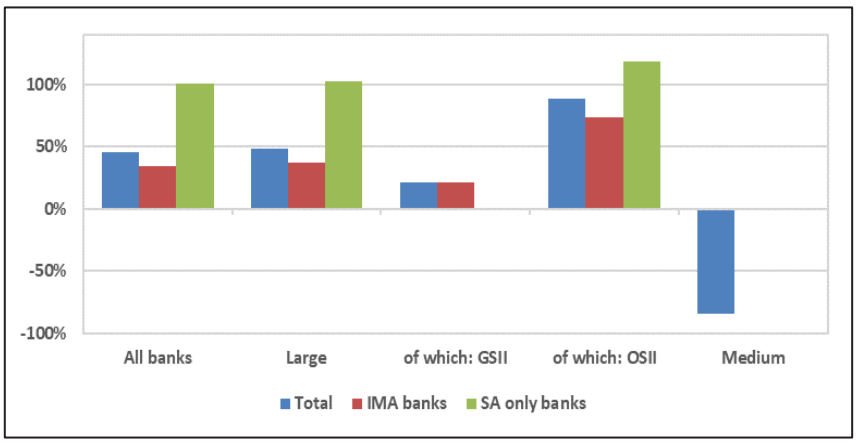
[194] These eligibility criteria, set out in Article 325a of the CRR, would therefore fulfil their original purpose as set out in the Commission proposal for the CRR II, before co-legislators agreed to keep the FRTB approaches for reporting purposes only.

[195] Hong Kong and Singapore publically announced the application of the final FRTB standards as a reporting requirement from 1 January 2023 and committed to implement the standards as a capital requirements at a later stage. Other jurisdictions have already publically indicated a delay of the application of the final FRTB standards as capital requirement, as compared to the BCBS recommended implementation date: Q3 2023 for Japan; Q1 2014 for Canada; 1 January for Australia. Finally other major jurisdictions (e.g. US, CH) have publically announced their commitment to implement the FRTB framework as capital requirements without more details at this stage.

options 1 and 2 would also be more cost-effective compared to the baseline by limiting the operational costs , as banks would be required to use the same approaches (based on the final FRTB standards) for both reporting and capital calculation purposes.

As part of its 2020 CfA response, the EBA estimated that **option 1** would lead to an increase of the 0.8% in the total capital requirements of EU banks included in the EBA sample (roughly a 50% increase in the capital requirements for market risk). As illustrated in *Figure 9* below, this impact appears more pronounced for banks using the FRTB SA as compared to banks using the FRTB IMA. The impact also varies depending on the group of EU banks.

Figure 9: Impact of the final FRTB standards in terms of total market risk RWA (relative to total current market RWA), by size and bank type



Source: EBA, based on data collected for the December 2020 report.

Note: this impact comes from the "reduced bias estimation" sample in which the EBA removed 3 G-SII banks from the sample due to some concerns that they may have overestimated the impact.

As a result, EU banks particularly active in these areas would incur a large increase in the capital requirement for trading book exposures. This would potentially lead to increased prices, reduced trading volumes and restricted access to funding and risk management solutions for some economic actors. However, it is important to note that the impacts of the final FRTB standards may be overestimated in the EBA CfA QIS since some elements of the rules that have the potential to reduce the capital requirements of EU banks under the FRTB IMA are not yet operational (e.g. the use of data pooling services to improve the passing rate of the assessment of model lability) or are not yet applicable (e.g. the final draft RTS on capital requirement for "non-modellable risk factors" developed by the EBA is still in the process of being adopted by the Commission).

Option 2 would further improve risk capture compared to option 1 by making a number of adjustments that better reflect the market risk of certain specific instruments traded by EU banks. However, the EBA has so far not been able to estimate the impact of those

adjustments[196]. Therefore, option 2 would mandate the EBA to prepare a report reviewing whether those adjustments achieve their objectives.

Table 15. Comparison of policy options against effectiveness, efficiency and coherence criteria

	EFFECTIVENESS	*EFFICIENCY (cost-effectiveness)*	*COHERENCE*	*OVERALL SCORE*
Baseline option	0	0	0	0
Option 1	+	-	+	≈
Option 2	++	+	++	++

Magnitude of impact as compared with the Baseline option (the baseline is indicated as 0): ++ strongly positive; + positive; – – strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

Preferred option

In light of the above analysis, which led to the overall score of each policy option in *Table 15*, **option 2** is deemed the preferred policy option.

1.4. Operational risk framework

1.4.1. General background

Under the current prudential framework, operational risk is broadly defined as the risk of loss resulting from inadequate or failed internal processes (resulting from either internal staff or internal systems) or from external events[197]. This risk usually encompasses a wide subset of more specific risks related to the daily functioning of banks, such as legal risk, conduct risk, IT risk, cyber risk and risk of fraud.

The capital requirements for operational risk under the CRR are based on the Basel II standards that were adopted by the BCBS in 2005. Under the CRR, EU banks can calculate their operational risk capital requirement using either an internal model approach subject to supervisory approval (the so-called advanced measurement approach (AMA)[198]) or one of the three standardised approaches[199] with varying degrees of complexity. The requirements banks have to fulfil to use the AMA offer significant flexibility allowing banks to use a diverse range of modelling practices.

[196] Nevertheless, in its December 2019 CfA response, the EBA highlights that the impact of the final FRTB standards may be driven by the treatment for CIUs.

[197] Article 4(1), point (52) of Regulation (EU) No 575/2013.

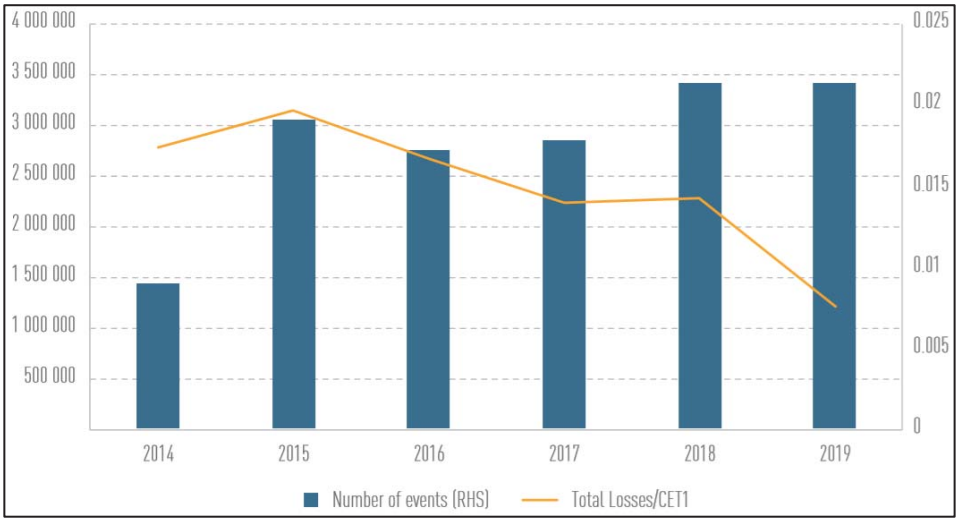
[198] The own funds requirements for operational risk are set out in Articles 312 to 324 of Regulation (EU) No 575/2013.

[199] The Basic Indicator Approach (BIA) is the least complex of the three approaches, originally designed for small and non-complex banks. Under this approach, the capital requirement is equal to a percentage of a bank's GI indicator. In contrast, the Standardised Approach (TSA) is more sophisticated than the BIA as it allows a more granular treatment of the GI indicator. The alternative standardised approach (ASA), which is a variant of the TSA, allows banks with specific business models to use a simplified method to compute operational risk capital requirements.

According to the EBA Risk Assessment Report[200] published in December 2020, operational risk accounted for around 10% of the total capital requirement of EU banks in June 2020, representing the second largest capital requirement after credit risk. The EBA also showed that the occurrence of operational risk events has almost tripled from 2014 to 2019 (see *Figure 10* below). However, during the same period, the amount of total losses from new events has significantly decreased: they represented 1.74% of the total CET1 amounts of EU banks in 2014 against 0.76% in 2019.

In their responses to the autumn 2020 Risk Assessment Questionnaire (RAQ), EU banks and analysts acknowledged the increased importance of operational risk over the last few years[201]. In their responses, banks and analysts identified cyber-risks and data security as currently the main drivers of operational risk (other majors drivers identified include money laundering, terrorist financing, conduct risk and legal risk). Supervisors also consider operational risk as a key area of supervisory scrutiny, for instance as highlighted by through the key messages on the outcome of the ECB 2019 supervisory review and evaluation process (SREP)[202].

Figure 10. Total losses from new events in operational risk as a share of CET1 capital (right-hand side y-axis) and number of new events (left-hand side y-axis) over time.



Source: Risk Assessment of the European banking system, EBA, December 2020.

As observed by the BCBS[203], the GFC highlighted some weaknesses in the capital requirements for operational risk under the Basel standards, which in many cases resulted in

[200] See Risk Assessment of the European Banking System.
[201] Over 58% of respondents share the view that the importance of operational risk has increased over recent years, marking the highest level of that perception as collected through of the autumn RAQs over the past three years.
[202] ECB: The Supervisory Review and Evaluation Process in 2019 – Aggregate SREP outcome for 2019, January 2020.
[203] The BCBS launched a number of comprehensive data collection on banks' operational losses after the GFC confirming the weakness of the international standards to appropriately capture this risk (see 2008 BCBS loss data collection exercise, 2010 BCBS QIS, 2015 BCBS QIS).

insufficient capital requirements to cover the actual operational risk to which banks were exposed to. Despite a significant increase in the number and severity of operational risk events observed after the GFC[204], EU banks' capital requirements for operational risk have remained relatively stable afterwards.

An important weakness identified by the BCBS is the lack of risk-sensitivity in the calculation of operational risk capital requirements under the standardised approaches. Under those approaches, the capital requirements for operational risk are calculated as a percentage of the gross income (GI) indicator (basically, the positive annual gross income of a bank) to estimate operational risk exposures. In other words, the existing approaches are based on the assumption that banks' potential losses related to operational risk are linearly proportionate to their revenues. As a result, the decrease in banks' annual gross income during the GFC led to a mechanical decrease of the capital requirements for operational risk while at the same time banks suffered from an increase in actual losses due to operational risk events.

A second weakness identified by the BCBS is the inappropriate capture of potential operational risk losses by banks' AMA. The BCBS observed a wide variability of operational risk capital requirements calculated under banks' AMA. This is mainly due to the significant flexibility offered to banks in modelling AMA that led many banks to choose modelling assumptions that ultimately underestimate the actual risks they are exposed to[205]. As part of its 2019 SREP report, the ECB confirmed[206] these findings for some SI under its direct supervision.

To address the above weaknesses of the current approaches, the BCBS adopted revised standards for operational risk as part of the final Basel III reforms. More specifically, the BCBS removed the use of internal models for operational risk and replaced the three existing standardised approaches with a single revised standardised approach, known as the Standardised Measurement Approach (SMA).

The SMA improves the risk-sensitivity of the current standardised approaches by combining[207] two components to determine the capital requirement for operational risk: the Business Indicator Component (BIC), that takes into account the main elements of banks incomes and expenses, and the Internal Loss Multiplier (ILM), that takes into account banks historical operational risk losses.

1.4.2. Implementation of the Internal Loss Multiplier (ILM)

Problem definition

In the development of the revised standards for operational risk, the BCBS collected some empirical evidence suggesting that banks that have experienced higher operational risk losses

[204] For instance, the BCBS showed that fines related to misconduct rose from less than EUR 10 billion in 2008 to more than EUR 60 billion in 2014 for a sample of 111 internationally active banks. The number of those fines surged from less than 20 in 2008 to almost 100 in 2015 (see Finalising Basel III – In brief).
[205] See Basel III Monitoring report – Results of the cumulative quantitative impact studies
[206] See The Supervisory Review and Evaluation Process in 2019 – Aggregate SREP outcome for 2019
[207] The capital requirement for operational risk under the SMA is a simple product of the BIC and the ILM.

in the past were more prone to experience higher operational risk losses in the future. In light of this observation, the BCBS proposed that a bank's capital requirement for operational risk under the SMA should be somewhat proportionate to the bank's historical operational risk losses. The loss[208] data are incorporated through the Loss Component (LC) in the formula defining the ILM. Basically, if a bank suffered large historical operational risk losses (relative to its incomes and expenses as measured by the BIC) the ILM would be greater than 1, which would ultimately increase the capital requirement for operational risk under the SMA. Conversely, if a bank suffered low historical operational risk losses (relative to its incomes and expenses as measured by the BIC) the ILM would be lower than 1 which would ultimately decrease the capital requirement for operational risk under the SMA.

The revised Basel standards for operational risk offer a number of discretions for the implementation of the SMA regarding the incorporation of historical operational risk losses. First, they allow each jurisdiction to disregard the use of the historical operational risk losses in the calculation of the capital requirements for operational risk of all 'bucket 2' and 'bucket 3' banks[209] (mostly medium and large banks) by setting the ILM to 1. In jurisdictions where this discretion would be exercised, the capital requirement for operational risk under SMA of these banks would therefore be equal to their BIC component.

Second, the they allow each jurisdiction to incorporate the historical operational risk losses in the calculation of the capital requirements for operational risk of all 'bucket 1' banks[209] (mostly small banks), for which the ILM is set to 1 by default, provided that they meet some requirements related to the collection and management of their operational risk loss data. The BCBS deemed that incorporating by default the use of the historical operational risk losses in the calculation of the capital requirements for operational risks under the SMA would make the approach too complex for those banks.

In addition, in jurisdictions that allow banks to incorporate the historical operational risk losses in the calculation of the capital requirements for operational risks, those banks may request their supervisors to disregard some of their historical operational risk events in that calculation. Specifically, those banks may increase the threshold to identify historical operational risk loss events (from EUR 20 000 to EUR 100 000) or remove exceptional events that they deem not to be representative in view of their current risk profile.

Policy options

Baseline option – *Maintain the discretions of the Basel standards to implement the historical operational risk losses*

The baseline option would maintain the discretions offered to jurisdictions under the revised Basel standards to implement the historical operational risk losses. Under this option,

[208] More specifically, these loss data use the average annual operational risk losses incurred by the bank over the previous ten years.

[209] The revised Basel standards for operational risk differentiate three groups of banks based on their Business Indicator (BI). Banks with a BI of less or equal to EUR 1 billion are assigned to bucket 1, while banks with a BI of more than EUR 30 billion are assigned to bucket 3. All other banks are assigned to bucket 2.

supervisors would be allowed to disregard the use of the historical operational risk losses of their 'bucket 2' and 'bucket 3' banks. At the same time, they would be allowed to exercise the discretion to incorporate the historical operational risk losses of 'bucket 1' banks in the calculation of their capital requirements for operational risks. Furthermore, supervisors would be allowed to disregard some historical operational risk events and the corresponding historical operational risk losses in the calculation of the capital requirements for operational risk, at banks' request.

Option 1 - *Implement ILM using historical operational risk losses under the SMA for all banks*

Option 1 would exercise the discretions offered under the revised Basel standards in a harmonised way to allow the incorporation of historical operational risk losses for all EU banks, irrespective of their size. To recognise some differences between the operational risk profiles of EU banks (e.g. relating to the size of an average loss), this option would still allow supervisors to grant, under specific conditions, the permission for banks to increase the threshold to identify common historical loss events (from EUR 20 000 to EUR 100 000).

Option 2 – *Disregard historical operational risk losses in the ILM component under the SMA for all banks*

Similar to option 1, option 2 would also exercise the discretions offered under the revised Basel standards in a harmonised way across EU Member States. However, option 2 would propose to disregard the use of historical operational risk losses in the calculation of capital requirements for operational risk under the SMA by setting ILM to 1 for all EU banks. Under this option, the calculation of capital requirements for operational risks of EU banks would simply be based on the BIC component.

Impacts of and comparison across policy options

Under the **baseline option**, supervisors would be allowed to exercise the discretions related to historical operational risk losses in the revised operational risk framework for the banks they supervise. At present, it is not possible to quantify the impact of this option since it is not possible to predict how supervisors would exercise those discretions. However, if supervisors would take different decisions on the matter, it would lead to a fragmentation of the prudential framework and hence to an un-level playing field across the Union.

As compared to the baseline option, both **options 1 and 2** would improve the comparability of EU banks' capital requirements for operational risk and maintain a level playing field across the Union since banks would apply the same rules, irrespective of their location and their size.

Option 1 would improve the risk sensitivity of the prudential framework since it would take into account banks' past operational risk losses in the calculation of the capital requirements

for operational risk. However, this option would lead to a material impact[210] on EU banks' capital requirements for operational risk: according to the EBA's 2020 CfA response, it would represent a weighted average increase of 3.8% in the total capital requirements of banks included in the EBA sample. More granular data from the EBA's August 2019 CfA response shows that option 1 would represent a weighted average increase of roughly 40% in the capital requirements for operational risk of EU banks.

As shown in the EBA's 2020 CfA response, option 1 would have a more significant impact on the capital requirements of large banks, particularly on G-SIIs due to high operational risk losses over the last 10 years[211]. For medium-sized banks, the impact would be almost neutral under this option, while for small banks there would be a decrease in capital requirement for operational risk[212].

By default, the Basel SMA sets a EUR 20 000 threshold for the collection of losses that are used for the computation of the loss component. Under option 1, supervisors would be allowed to raise that threshold up to EUR 100 000. In its August 2019 CfA response, the EBA estimated that the impact of raising the threshold to EUR 100 000 for all the banks would slightly mitigate the impact of the revised operational risk framework under option 1.

Disregarding historical losses as suggested under **Option 2** would more than halve the impact estimated for option 1: the weighted average increase in the total capital requirements of EU banks included in the EBA sample would be reduced to 1.7%. While large banks would benefit from a large decrease in the impact compared to option 1, medium-sized banks would, in contrast, incur an increase in their capital requirements for operational risk compared to that option. 2.

Option 2 would simplify to a large extent the calculation of capital requirements for operational risk under the revised framework. However, the reduction of the operational burden for EU banks would be limited since they would be required to gather, maintain and disclose their operational losses history under option 2. [213]

During the public consultations launched by the Commission, stakeholders expressed mixed views on the implementation of the ILM. Option 1 received some support from some Member States and medium-to small-sized banks, while large banks favoured option 2 (see Annex 2 for more details).

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[210] This estimated impact may overestimate the actual impact since it does not take into account the flexibility of the revised Basel standards for banks to disregard certain events in their historical operational risk losses, upon supervisory approval.

[211] It should also be noted the impact of option 1 may progressively decrease over time, since the sliding 10 years windows, of the large operational risk losses incurred by the largest EU banks occurred before 2017, by the end of the phase-in period the LCs of those banks would no longer include those losses which, all else being equal, should mean that their LC (and consequently their capital requirements for operational risk) would be significantly lower.

[212] Note that the estimates for small banks has to be treated with caution in view of the limited number of these banks in the EBA sample.

[213] Note that banks already collect information on all their operational losses, irrespective of their size and they will almost certainly continue to do so in the future. So while option 2 would not decrease the administrative burden of banks, it would not increase it either.

Table 16. Comparison of policy options against effectiveness, efficiency and coherence criteria

	EFFECTIVENESS	*EFFICIENCY (cost-effectiveness)*	*COHERENCE*	*OVERALL SCORE*
Baseline option	0	0	0	0
Option 1	++	-	+	≈
Option 2	+	+	++	+

Magnitude of impact as compared with the Baseline option (the baseline is indicated as 0): ++ strongly positive; + positive; – – strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

Preferred option

In light of the above analysis, which led to the overall score of each policy option in *Table 16*, **option 2** is deemed to be the preferred policy option.

1.5. Credit valuation adjustment risk framework

1.5.1. General background

The credit valuation adjustment (CVA) is a fair-value accounting adjustment to the price of a derivative instrument, aiming to provision against potential losses due to the deterioration in the creditworthiness of the counterparty to that instrument. The value of CVA depends on the level of credit spread of the respective counterparty (an increase in the counterparty's credit spread would lead to an increase of CVA, and vice versa) but also on the market value of the derivative instrument (an increase in the derivative instrument value would lead to an increase of CVA, and vice versa). Therefore, CVA embeds several risks: the credit spread risk associated with the creditworthiness of the counterparty, but also the market risk associated with the derivative transaction (e.g. interest rate risk where the derivative transaction is an interest rate swap).

CVA is generally reflected in the price that banks charge to their clients for derivative transactions. Since CVA is a downward adjustment to the price, CVA losses are incurred by the bank when the value of CVA increases. Therefore, reducing the CVA is beneficial for both the bank and its clients: the bank reduces its potential future loss while the client lowers the cost for the transaction. CVA can be reduced naturally if a client improves its creditworthiness. But a bank may also further reduce CVA by the use of credit derivatives, which allow it to insure itself against client's losses, or by exchanging collateral with the counterparty to reduce the exposure of the derivative instrument. Furthermore, CVA risk (i.e. the risk of changes in the CVA value) can be mitigated using dynamic hedging strategies relying on various financial instruments associated with the different risks embedded in CVA (e.g. interest rates derivatives to hedge against the interest rate risk of CVA).

CVA, and CVA risk, are complex to model and therefore to quantify. In fact, the quantification requires banks to model at the same time the probability of a counterparty's default over multiple future dates, the potential future market value of the associated derivative instrument at those dates and the potential amount that the bank would recover

from the liquidation of the instrument upon the counterparty's default. This high level of complexity led banks to develop a wide variety of models used for accounting purposes.

During the GFC, a number of systemically important banks incurred significant CVA losses because of the deterioration in the creditworthiness[214] of their counterparties. To ensure that banks' CVA risk would be covered with sufficient capital in the future, the BCBS introduced in 2011, as part of the first set of Basel III reforms, new standards to calculate capital requirements for CVA risk[215]. In line with the Basel standards for other types of financial risk, the capital requirements for CVA risk can be calculated by banks using two different approaches: a standardised method and an advanced method (the latter being considered as an internal model approach). In contrast to the complexity of the modelling approaches used by banks to calculate CVA risk for accounting purposes, the BCBS decided to develop relatively simple standards to calculate the capital requirement for CVA risk in order to ensure a high comparability of outcomes across banks. The relevant Basel standard was transposed in Union law in 2013 through the CRR (hereafter 'current CVA framework'). According to the 2020 EBA Risk Assessment Report[216], in June 2020, CVA risk accounted, on average, for around 2% of the total capital requirements of EU banks.

After its adoption by the BCBS, the standard of capital requirement for CVA risk has been criticised by banks and supervisors in most jurisdictions due to its inability to appropriately capture CVA risk. On the one hand, banks highlighted the lack of risk-sensitivity of the approaches to be used to calculate the capital requirements for CVA risk and complained about the non-recognition of their existing CVA models developed for accounting purposes, as well as of the hedging strategies they were using to reduce their CVA risks for accounting purposes. In their view, this led to an overstatement of the actual level of CVA risk they were exposed to. On the other hand, supervisors complained that the approaches only captured one type of CVA risk (i.e. the credit spread risk of the counterparty), neglecting the potentially material market risk embedded in the derivative transactions. In their view, this resulted in potentially too low capital requirements for CVA risk in certain cases.

To address those concerns, the BCBS published a revised standard for the calculation of capital requirements for CVA risk (hereafter 'revised CVA standard') in December 2017, as part of the final Basel III reform. The revised CVA standards introduced three new approaches for the calculation of capital requirements for CVA risks: the simplified approach, the basic approach (BA-CVA), and the standardised approach (SA-CVA).

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[214] According to the BCBS, roughly two-thirds of losses that materialised on counterparty credit risk were attributed to CVA losses on non-defaulted counterparties whereas one-third was attributed to actual defaults of counterparties (see https://www.bis.org/press/p110601.pdf).

[215] Basel III, A global regulatory framework for more resilient banks and banking systems, BCBS, 2011 (see https://www.bis.org/publ/bcbs189.pdf).

[216] EBA: Risk Assessment of the European Banking System, December 2020 (see https://www.eba.europa.eu/sites/default/documents/files/document_library/Risk%20Analysis%20and%20Data/Risk%20Assessment%20Reports/2020/December%202020/961060/Risk%20Assessment_Report_December_2020.pdf).

These approaches improve the calculation of capital requirements for CVA risk by:

- enhancing its risk sensitivity by taking into account the exposure component of CVA risk alongside with its associated hedges (in contrast to the current CVA framework captures only the credit spread risk of CVA);
- reflecting banks' existing CVA models developed for accounting purposes under SA-CVA (in contrast to the current CVA framework which is based on a prescribed formula); and
- introducing more proportionality in the prudential framework with the simplified approach. This approach would be available for banks with relatively low volumes of derivatives activities[217].

In the course of monitoring the expected impact of the revised CVA standard, the BCBS identified a few issues[218] that needed to be addressed. Following a public consultation[219] launched in December 2019, the BCBS revised certain elements of the standard and published a final version[220] in July 2020 (hereafter 'final CVA standard'). These targeted revisions led to a significant decrease in the impact of the revised CVA standards and improved the consistency of the prudential framework. As part of its 2020 CfA response, the EBA recommended to implement those revisions in Union law. Similarly to the other elements of the final Basel III reform, the implementation deadline of the final CVA standard has been postponed to 1 January 2023 in light of the COVID-19 pandemic.

1.5.2. Exemptions from the current CVA framework

Similarly to the original CVA standard, the final CVA standard adopted by the BCBS contains limited exemptions from the calculation of the capital requirement for CVA risk[221]. By contrast, when adopting the current CVA framework in Union law via the CRR, the EU co-legislators exempted certain additional types of derivative transactions from the calculation of capital requirements for CVA risk. These were mostly transactions with counterparties that were exempted from the clearing/margining mandates under Regulation (EU) No 648/2012 (also known as EMIR)[222]. The exemptions were introduced to prevent a potential excessive increase in the cost of derivative transactions triggered by the introduction of the then new capital requirements for CVA risk.

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[217] Under the Basel standard, the simplified approach is restricted to banks with less than EUR 100 billion of total nominal value of non-centrally cleared derivatives transactions.
[218] More specifically, the calibration of the revised CVA standard was deemed too high, leading to significant increase in capital requirements and not sufficiently aligned with the revised market risk framework. In addition, the treatment of fair-valued SFTs in the scope of the capital requirements, as well as the treatment of credit and equity indices as hedging instruments, were not considered adequate under the revised CVA standard.
[219] See https://www.bis.org/bcbs/publ/d488.pdf.
[220] See https://www.bis.org/bcbs/publ/d507.pdf.
[221] Only derivatives transactions with qualified CCPs and with CCPs' clients where a bank acts as clearing member are exempted.
[222] The exemptions cover derivative transactions with EU Member States, certain local authorities, most non-financial corporates, and pension funds.

The exemptions did not affect the calculation of CVA under the accounting rules. Therefore, the actual CVA risk of the exempted transactions under the CRR may still be a source of significant risk for some banks that benefit from those exemptions; if those risks materialise, the banks concerned could suffer significant losses. As highlighted by the EBA in its report on CVA published in February 2015, these exemptions may have significantly decreased the capital requirements for CVA risk[223] for EU banks. . In its report, the EBA took the position, unchanged since then, that the CVA exemptions should be removed for prudential reasons. In 2017, the EBA started developing guidelines[224] on how supervisors should assess the CVA risk of exempted transactions under the SREP; the guidelines were never finalised due to a presumed lack of legal basis in the CRR/CRD.

The CVA exemptions are one of the main reasons why, in 2014, the BCBS judged the EU implementation of the Basel III standards on capital requirements as materially non-compliant[225].

Policy options

Option 1 *- Remove the existing CVA exemptions*

Under this option the CRR would be fully aligned with the final CVA standard, including through the removal of the existing additional CVA exemptions.

Option 2 *- Keep the existing CVA exemptions while reinforcing the monitoring of the corresponding risks*

Like under option 1, option 2 would also implement the final CVA standard in the CRR, but would keep the existing CVA exemptions contained in the CRR. In addition, to enhance the monitoring of CVA risk related to the exempted transactions, option 2 would require banks to report to their supervisors the calculation[226] of capital requirements for CVA risk for those transactions. Finally, in consideration that the CRD V already clarified the rights for supervisors to impose supervisory measures for risks exempted from Pillar 1, option 2 would mandate the EBA to develop guidelines to help supervisors with the identification of excessive CVA risk. The guidelines would improve the harmonisation of supervisory action across the EU in this area.

Impacts and comparison across options

Option 1 would strengthen the capital position of EU banks by removing the current CVA exemptions. However, it would also lead to a significant increase in the capital requirements for EU banks: in its 2020 CfA response, the EBA estimated that removing the existing exemptions would lead to a weighted average increase of 2.1% in the total capital

[223] See The EBA advises the European Commission on Credit Valuation Adjustment (CVA) risk | European Banking Authority (europa.eu)
[224] Guidelines on the treatment of CVA risk under SREP | European Banking Authority (europa.eu)
[225] See Regulatory Consistency Assessment Programme (RCAP) - Assessment of Basel III regulations - European Union (bis.org)
[226] That is the calculation of capital required for CVA risks if the transactions were not exempted under CRR.

requirements of EU banks in the EBA sample. This would likely lead to an increase in the costs of derivative transactions, which may in turn lead bank clients that currently use derivatives for hedging their financial risks to reduce their use of derivatives or even stop using them altogether (the latter may be especially the case for those clients that cannot post collateral on their derivative transactions due to operational constrains).

Keeping the exemptions as proposed under **option 2** would significantly mitigate the impact of implementing the final CVA standard: the EBA estimated that under this option the weighted average increase would be reduced to 0.5% of the total capital requirements. While option 2 would not address the issue of the CVA risk of the exempted transactions, it would provide supervisors with additional guidance on how to address cases of excessive CVA risk with Pillar 2 measures.

Stakeholders' views are mixed on what to do with the CVA exemptions: Member States' views are split, the supervisory community (including the ECB and the EBA) supports option 1, while the EP and the banking sector support option 2 (see Annex 2 for more details).

Table 17. Comparison of policy options against effectiveness, efficiency and coherence criteria

	EFFECTIVENESS	*EFFICIENCY (cost-effectiveness)*	*COHERENCE*	*OVERALL SCORE*
Baseline option	0	0	0	0
Option 1	++	-	≈	≈
Option 2	+	++	++	++

Magnitude of impact as compared with the Baseline option (the baseline is indicated as 0): ++ strongly positive; + positive; – – strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

Preferred option

In light of the above analysis, which led to the overall score of each policy option in *Table 17*, **option 2** is deemed the preferred policy option.

1.6. Minimum haircut floor framework for SFTs

Problem definition

Non-bank financial intermediation can, if appropriately conducted, help to diversify the funding sources of corporates and households. In addition, it may stimulate competition, which ultimately supports real economic activity, and help distributing financial risks across a wider range of investors and lenders. Since the GFC, this source of financing has become an increasingly important alternative to banks[227].

This surge of activity outside the banking sector has raised concerns in the regulatory community that non-bank financial intermediation may also become a source of systemic

[227] The assets of the money market and investment funds and other non-bank financial institutions sector in the EU almost doubled from EUR 23 trillion in 2008 to EUR 39 trillion by the Q3 2020 (see ECB statistical data warehouse: https://sdw.ecb.europa.eu/browseSelection.do?type=series&q=RAI.Q.D0.IFOFI1.Z01.QSA.E&node=SEARCHRESULTS&ec=&oc=&rc=&cv=&pb=&dc=&df=)

risk, given that this sector is usually subject to less stringent supervision, if any, and hence potentially more prone to pro-cyclicality and the build-up of excessive leverage.[228] This is particularity true if this sector engages in activities that are typically performed by banks, such as liquidity and maturity transformation.

One element that can contribute to the potential build-up of leverage created outside the banking sector are so-called SFTs[229]. SFTs are collateralised bilateral transactions, whereby cash, securities or commodities are transferred from one counterparty (transferor) to the other counterparty (transferee), and the transferee provides collateral in the form of cash or securities to the transferor. SFT markets play an essential role in the EU financial system by allowing financial intermediaries to manage their own liquidity position and support their securities market-making activities. They also allow central banks to transmit, via financial intermediaries, their monetary policy to the real economy.

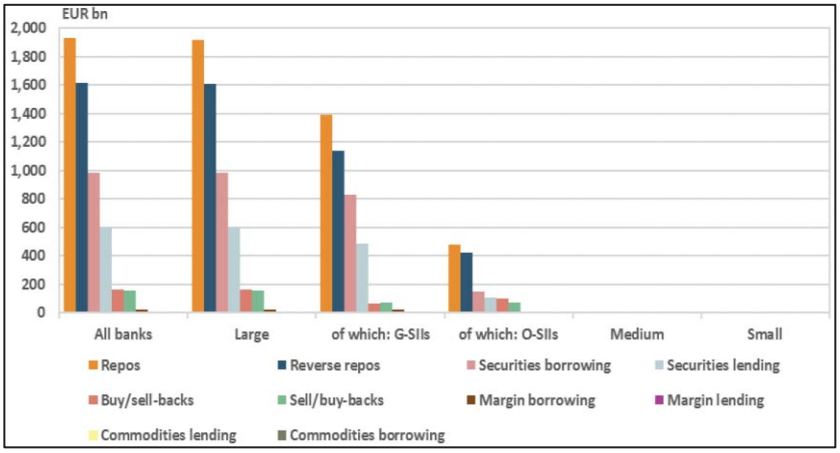
According to the EBA's August 2019 CfA response, repurchase agreements (so-called 'repos' and their counterparts 'reverse repos'), are the most important type of SFTs used by EU banks in terms of trading volumes[230] (see

[228] See for instance, EU Non-bank Financial Intermediation Risk Monitor 2019, ESRB, July 2019
[229] See Report on securities financing transactions and leverage in the EU, ESMA, October 2016.
[230] A more comprehensive estimate of the European repo market (including both repos and reverse repos) is provided by the ESBR, with a total value amounting to EUR 8.3 trillion at the end of 2019 (see EU Non-bank Financial Intermediation Risk Monitor 2020)

Figure **11***)*. Repos are particularly useful for banks as they offer a secured alternative to unsecured interbank lending to manage their funding and liquidity needs. Institutional investors and non-financial counterparties also use the repo markets, usually to invest their excess cash. The second most important type of SFTs in the EU are securities lending and borrowing. In contrast to repos, securities lending and borrowing are motivated by the demand from financial intermediaries for a particular type of securities, instead of a funding need.

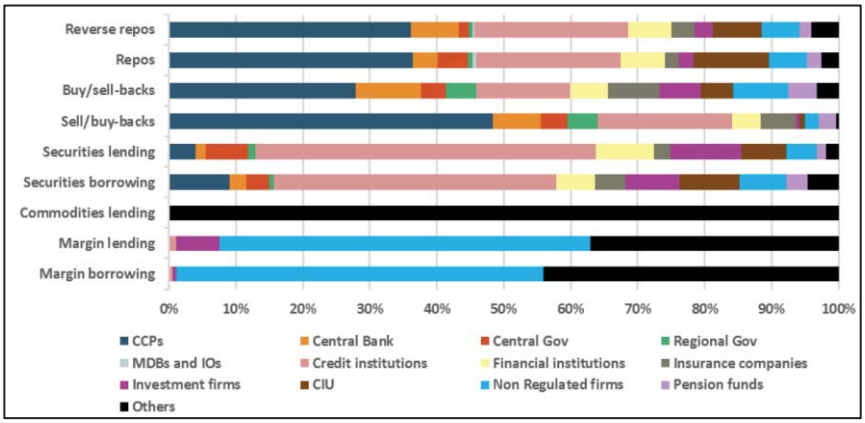
Figure **11** also shows that outstanding SFT market activities are highly concentrated within large banks, in particular within G-SIIs and O-SIIs. In addition, *Figure 12* shows the wide range of EU banks' counterparties in SFTs, which differ significantly across SFT types. Repos traded by EU banks, of which a significant portion is cleared through central counterparties, has the widest range of counterparties. In contrast, securities lending/borrowing and margin lending/borrowing transactions of EU banks are more concentrated with one type of counterparties (other banks for the former, unregulated financial intermediaries for the latter).

Figure 11: Breakdown of outstanding SFTs volumes across EU banks, by SFT type and bank size



Source: Basel III reforms: Impact study and key recommendations, August 2019, EBA.
Note: for each type of SFTs, volumes are expressed in gross amount of one of the two legs of the SFT.

Figure 12: Breakdown of EU banks' counterparties in their outstanding SFTs, by counterparty type and SFT type.



Source: Basel III reforms: Impact study and key recommendations, August 2019, EBA.
Note: for each type of SFTs, the % of total gross amount of outstanding SFTs

While the merits and the importance of SFTs are widely recognised, SFTs can also enable financial intermediaries to recursively leverage their positions by reinvesting the cash received through an SFT to borrow new securities via other SFTs. Such strategy can create opaque interconnectedness[231] between the banking sector and the less regulated or unregulated non-bank financial sector which could go unnoticed by supervisory authorities and which could increase risk of financial contagion during stressed market conditions.

In order to reduce the build-up of leverage outside of the banking sector in the EU, the Financial Stability Board (FSB) published in 2013 a number of prudential recommendations

[231] An illustration of this interconnectedness has been provided by the ESRB as the volume of EU banks' repo liabilities to non-Money Market Funds and other financial institutions amounting to EUR 44 billion at the end of 2019 (see EU Non-bank Financial Intermediation Risk Monitor 2020).

for the SFT market[232]. One of these recommendations was to introduce of minimum haircut floors framework for specific SFTs between banks and non-bank financial counterparties[233], either directly via a market regulation or indirectly via a more punitive capital treatment of SFTs not meeting the minimum haircut floors that was developed by the BCBS. The choice of the implementation approach was left to each FSB member jurisdiction.

More specifically, the FSB recommended to require banks that engage in non-centrally cleared SFTs in which they provide financing to non-bank financial counterparties against collateral other than government securities ('in-scope SFTs') to obtain from these counterparties a certain minimum amount of over-collateralisation[234]. This additional collateral amount mainly would depend on the type of collateral received as well as its remaining maturity.

For those jurisdictions that would choose to implement the SFT minimum collateral haircuts recommendation via market regulation, banks would no longer be allowed to conduct in-scope SFTs with non-banks financial counterparties that would not comply with the defined minimum level of collateralisation, i.e. where non-banks financial counterparties do not provide the minimum amount of over-collateralisation. In contrast, those jurisdictions that would choose to implement the SFT minimum collateral haircuts recommendation via the implementation of the Basel standard, banks would still be allowed to conduct in-scope SFTs with non-banks financial counterparties that would not comply with the defined minimum level of over-collateralisation, but these transactions would be treated as unsecured loans under the Basel standard (rather than secured exposures under the normal treatment). As a consequence, the capital requirements for the non-compliant SFTs would significantly increase, creating a strong disincentive for banks to conduct such transactions. The final elements of the Basel III reform published in 2017 include a detailed methodology to verify whether SFTs comply with the minimum collateral haircuts agreed by the FSB, including for cases where multiple SFTs are subject to a master netting agreement[235].

Due to its connection with the Basel standards, the initial implementation deadline of the FSB recommendation has been aligned with the implementation deadline of the final Basel III reform, i.e. 1 January 2022. The FSB later postponed the deadline by one year[236] to align it with the postponement of the deadline for implementing the final elements of the Basel III reform decided by the BCBS in March 2020 in light of the COVID-19 pandemic.

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[232] FSB: Strengthening Oversight and Regulation of Shadow Banking, 29 August 2013.

[233] Another FSB recommendation suggested the introduction of the same minimum collateral haircuts for specific SFTs between non-bank and non-bank financial counterparties, but this time only via a market regulation since no counterparties to the SFTs would be subject to the Basel standard.

[234] To ensure a level playing field, the SFTs that do not meet the minimum amount of over-collateralisation (in other words, that do not comply with the minimum haircut floors) should be identified in the same way by banks whether their authorities decide to introduce the minimum haircut floors framework for SFTs via a market regulation or by implementing the Basel standard.

[235] While verifying the compliance with the minimum collateral haircut requirement is relatively simple for a single SFT, it becomes more complicated where multiple SFTs are included in a master netting agreement. In fact, in this case, compliance has to be verified at portfolio level, taking into account the various collateral types included in all the SFT subject to the master netting agreement.

[236] See FSB extends implementation timelines for securities financing transactions - Financial Stability Board

Policy options

Baseline option *- No changes to the EU regulatory framework*

The baseline option does not entail any policy changes or regulatory initiatives to reduce the potential build-up of leverage outside of the banking sector in the EU. In this situation, the build-up of leverage outside of the banking sector may continue to persist or even intensify.[237]

Option 1 *- Introduce the minimum haircut floors framework for SFTs, either via the prudential framework applicable to banks or via a market regulation*

The EU already adopted a number of the FSB recommendations in 2015 via Regulation (EU) 2015/2365[238], also known as the Securities Financing Transactions Regulation (SFTR). However, the SFT minimum collateral haircuts framework are not yet implemented. Option 1 would therefore introduce the SFT minimum collateral haircuts framework in Union law, either via a market regulation (requiring amendments to either SFTR or MIFIR, or introduced via a new regulation) or via the implementation of the relevant standard of the final Basel III reform in the CRR.

Option 2 *- Postpone the introduction of the minimum haircut floors framework until sufficient data on impacts are available*

In its dedicated report on the implementation of the minimum collateral haircut framework published[239] in August 2019 as part of its CfA response, the EBA highlighted the lack of clarity of certain aspects of the minimum haircut floors framework for SFTs, in particular regarding the scope of SFTs that must be subject to the framework. Some of these aspects have been clarified by the FSB in a technical guidance published[240] in November 2019.

The EBA's opinion is consistent with the conclusions of a report[241] mandated by SFTR and published by the Commission in 2017 on progress in international efforts to mitigate the risks associated with SFTs, including on the implementation of minimum haircut floors framework for SFTs. In this report, the Commission highlighted that it is not clear whether the prudential objectives of the minimum collateral haircut framework (i.e. reduction of the potential leverage outside the banking sector) could be attained without the risk of creating undesirable consequences on EU SFT markets. This report stressed the need to assess the impacts of introducing this framework in Union law on the basis of a wider set of more granular data which will be available once the reporting requirements set out under SFTR become effective. For credit institutions established in the EU, the SFTR reporting requirement started recently, in April 2020, following the adoption of technical standards developed by

[237] Available data does not suggest that the level of leverage outside the banking sector will decrease on its own over time.
[238] Regulation (EU) 2015/2365 of the European Parliament and of the Council of 25 November 2015 on transparency of securities financing transactions and of reuse and amending Regulation (EU) No 648/2012.
[239] See EBA: Policy Advice on the Basel III Reforms on Security Financing Transactions (SFTs), August 2019.
[240] See Annex 2, in SFT minimum haircut standards - Technical Guidance (fsb.org)
[241] See Register of Commission Documents - COM(2017)604 (europa.eu)

the ESMA specifying its operational details. The ESMA expressed a similar preference in its 2016 report on SFTs[242].

Taking into account the above elements, option 2 would propose to postpone the introduction of the minimum haircut floors framework in Union law until EBA and ESMA jointly report to the Commission by [*one year after entry into force of CRRIII*] on the appropriateness of the two implementation approaches recommended by the FSB to implement this framework (i.e. a market regulation or a more punitive treatment of capital requirement under the Basel standards) to reduce the potential build-up of leverage outside the banking sector while avoiding undesirable consequences on the functioning of the EU SFT markets. This report will exploit as much as possible the data collected by the ESMA via the SFTR reporting requirements.

Based on the findings of this report, the Commission would propose a new legislative initiative by [*two years after entry into force of CRRIII*] to implement the minimum collateral haircut framework for SFTs in Union law. This proposal would take the form of an amendment to the prudential framework, in case the Commission would propose to implement this framework via a punitive treatment of capital requirement. Alternatively, the Commission would propose the implementation of this framework via an amendment to an existing market regulation or, if necessary, a new market regulation.

Impacts and comparison across options

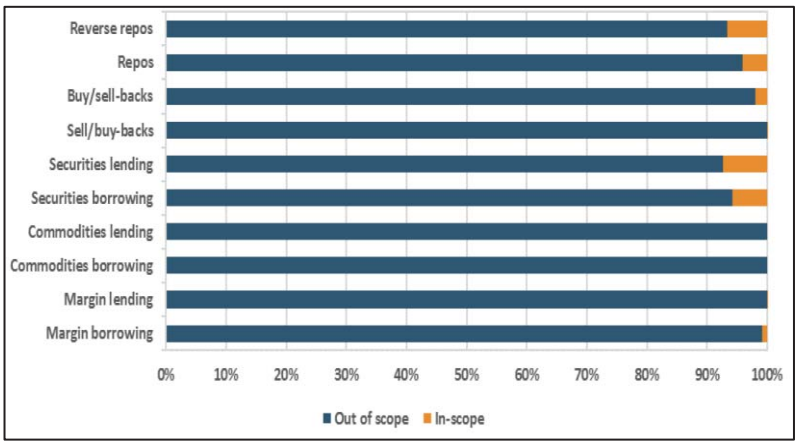
The **baseline option** would have no direct impact on EU banks' capital requirements since no change would be made to the prudential framework. However, no prudential measures would be introduced to reduce the build-up of leverage outside of the banking sector in the EU, as recommended by the FSB. This option would provide no further indication when the EU would fulfil the FSB recommendation to address this issue, which may further undermine market confidence in the EU financial system.

As shown in

[242] ESMA: Report on securities financing transactions and leverage in the EU, October 2016.

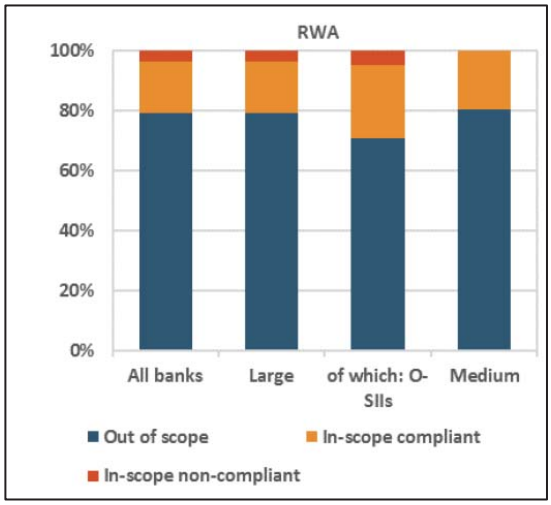
Figure **13** below, the EBA estimated that only a small proportion of all the SFTs (i.e. 7.4% of total gross amount of outstanding SFTs) currently traded by EU banks would qualify as in-scope SFTs, i.e. would fall under the minimum haircut floors framework as implemented under **option 1**. However, this amount would still be large when measured in terms of risk (as shown in *Figure 14* below, it represents roughly 20% of the total RWAs of outstanding SFTs).

Figure 13: Proportions of in-scope SFTs, by SFT type (% of total gross amount of outstanding SFTs).



Source: EBA, Basel III Reforms: Impact Study and Key Recommendations, August 2019.

Figure 14: Breakdown of SFTs RWA subject to the minimum haircut floors (expressed as % of total current SFTs RWAs)



Source: EBA, Basel III Reforms: Impact Study and Key Recommendations, August 2019

Under option 1, EU banks would be subject to new regulatory constraints on their SFT activities as compared to the baseline option which is likely to be more costly. However, the impacts between the two possible implementation approaches would differ.

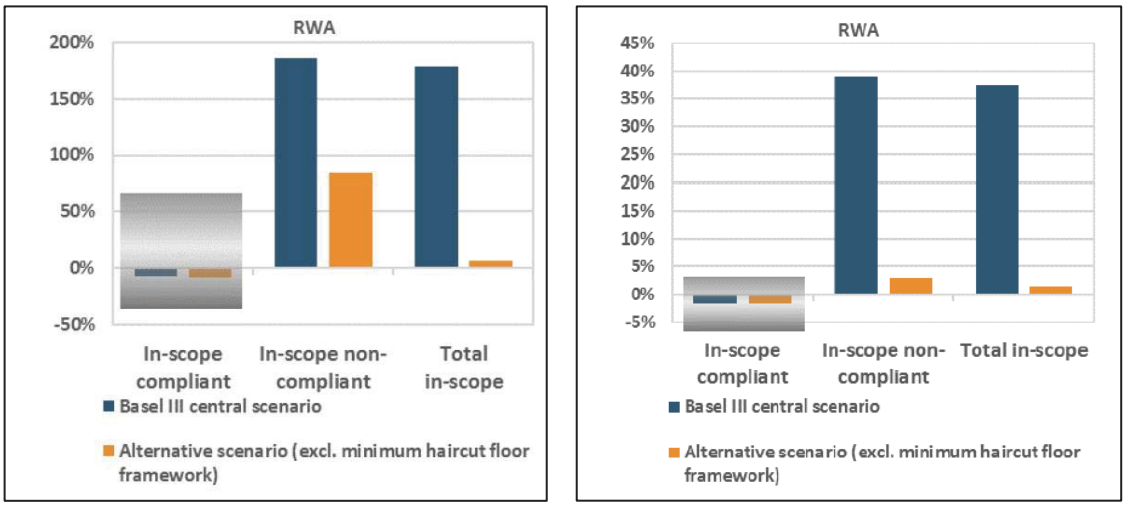
If option 1 would take the form of the implementation of the Basel standard, the EBA estimated as part of its August 2019 CfA response that this would result in a significant increase in the capital requirements for those SFTs that would not comply with the minimum haircut floor framework. Specifically, it would lead to a weighted average increase in RWAs of for those transactions of approximately 180%, representing a weighted average increase of more than 35% on the full SFTs portfolio of EU banks in the EBA sample (see “Basel III central scenario” in). As estimated by the EBA, this increase would be largely mitigated if all

EU banks were to receive all the required additional collateral amount on the in-scope SFTs that do not currently comply with the minimum haircut floors to be compliant (see "Alternative scenario" in *Figure 15*).

If option 1 would take the form of a market regulation, EU banks would be required to receive more collateral to continue engaging in the SFTs transactions that are currently non-compliant with the minimum haircut floors ('first scenario'). Otherwise, those transactions would no longer be permitted ('second scenario'). Therefore, the impact of this implementation approach would fall between the impacts under those two scenarios. In case of the first scenario, the impact in terms of capital requirements would be similar to the impact under above-mentioned "Alternative scenario" (see *Figure 15*). In case of the second scenario, the volume of SFTs that do not comply with the minimum haircut floor framework would drop to zero, which would in turn result in a small reduction in the RWAs of the overall SFTs portfolio (see *Figure 14*).

A market regulation approach to implement the minimum haircut floor for SFTs may be more advantageous than the Basel standard approach from a level playing field perspective. In fact, the FSB also recommended their member jurisdictions to implement the minimum haircut floor for SFTs between non-banks. This can only be done via a market regulation since non-banks are usually not subject to the prudential framework applicable to banks (neither in the EU nor elsewhere). For these reasons, a number of respondents to the public consultation supported the implementation of the minimum haircut floor for SFTs in the EU via a market regulation that would apply to both banks and non-banks engaging in SFTs.

Figure 15. Impacts of the minimum haircut floor framework on the capital requirements of SFTs as implemented in the prudential framework under option 1. Expressed in % change of RWAs on individual group of SFTs (left-hand side) and on all the SFTs portfolio (right-hand side)



Source: EBA, Basel III Reforms: Impact Study and Key Recommendations, August 2019.

It should be noted that the above estimated impacts do not represent a comprehensive picture of the real impact of the minimum haircut floor framework for SFTs since the sample of EU banks providing data on the minimum haircut floor framework for SFTs as part of the CfA QIS was relatively limited (only 39 out of the 189 banks participating to the CfA QIS). In addition, the impact on non-banks has yet to be estimated. A reliable analysis would require a broader data collection than the one performed by the EBA.

In addition, some respondents to the Commission's 2019 public consultation stressed that the minimum haircut floors framework could render some types of SFTs uneconomical due to the nature of those transactions. In particular, securities lending transactions, which are not undertaken to provide financing but rather to source a specific security, may be particularly affected by this reform (as shown in

Figure **11**, they represent the second most traded type of SFTs in the EU). Those respondents' concern was that a potential lender of a security, which is typically a non-bank, could refrain from engaging in this type of transactions if its ability to apply an appropriate haircut on the borrowing counterparty, which is usually a bank, would be restricted due to a minimum haircut floor applied on the lending side of the transaction.[243]

Postponing the implementation of the minimum haircut floors framework for SFTs as proposed under **option 2** would preserve the status quo meaning that no capital or market impact would occur for now. The additional time would allow to carry out a comprehensive assessment by the EBA and the ESMA of the impact of the implementation of the minimum haircut floor framework in the EU and of potential issues with the framework, based on sufficient supporting evidence from both banks and non-banks engaging in the EU SFTs markets. Option 2 would provide the indication to the FSB and EU banking sector that this framework would be implemented once the assessment would be performed, so it would not bring in question our commitment to implement the FSB recommendations.

Table 18: Comparison of policy options against effectiveness, efficiency and coherence criteria

	EFFECTIVENESS	***EFFICIENCY (cost-effectiveness)***	***COHERENCE***	***OVERALL SCORE***
Baseline option	0	0	0	0
Option 1	≈	-	+	≈
Option 2	+	+	+	+

Magnitude of impact as compared with the Baseline option (the baseline is indicated as 0): ++ strongly positive; + positive; – – strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

Preferred option

In light of the above analysis, which led to the overall score of each policy option in *Table 18*, **option 2** is deemed the preferred policy option.

1.7. Standardised approach for counterparty credit risk

Problem definition

In 2014, the BCBS adopted[244] a new standardised approach to calculate the capital requirements for counterparty credit risk of derivative transactions, the so-called standardised approach for counterparty credit risk (SA-CCR). Under the SA-CCR, the exposure value of a derivative transaction is given by the sum of two components, the replacement cost (RC) and the potential future exposure (PFE), multiplied by a supervisory parameter ('alpha', equal to 1.4).

[243] According to both the FSB recommendation and the Basel standard, the minimum haircut has to be applied on the non-bank side of the transaction in order to reduce the amount of financing that could be obtained against a certain amount of collateral. In the example at hand, this would be the lending side of the transaction.
[244] BCBS: The standardised approach for measuring counterparty credit risk exposures, April 2014.

The SA-CCR addresses deficiencies identified by the BCBS in the former standardised approaches to calculate the capital requirements for counterparty credit risk, mainly their lack of risk sensitivity. In addition for the purpose of calculating capital requirements for counterparty credit risk, the SA-CCR is used in other parts of the Basel framework, namely the large exposures standard, the leverage ratio standard, the standard on capital requirements for exposures to central counterparties and, starting from 1 January 2023, the output floor (since the output floor relies on the capital requirements of a bank calculated using all the standardised approaches of the Basel framework, as explained in Section 1.8 of this Annex).

In the EU, the SA-CCR was adopted in May 2019 as part of the CRR II, in full compliance with the Basel standard. Starting from 28 June 2021, EU banks are required to use the SA-CCR to calculate the exposure values of their derivative transactions, unless they have been granted the permission to use the internal model approach[245] for counterparty credit risk (generally used by EU banks with the largest derivative portfolios) or are eligible to use one of the simpler standardised approaches[246] available under the CRR (generally used by EU banks with very small derivative portfolios). In the absence of a comprehensive assessment of the impact of the SA-CCR across the prudential framework at the time it was adopted, the CRR2 mandated the EBA to report to the Commission on the appropriate calibration of the SA-CCR by June 2023[247].

The EU banking sector have expressed concern about the potential impact of the SA-CCR in their responses to the two consultations organised by the Commission. In particular, stakeholders have called for a review of the calibration of the SA-CCR in general and of the alpha parameter in particular. In their view, the difference in calibration between the SA-CCR and the internal model approach for counterparty credit risk is particularly important compared to the calibration between the standardised approaches and internal model approaches for other risks.[248] With the forthcoming implementation of the output floor into the European prudential framework, that difference may become significant, as the standardised approaches would potentially constrain the outcome of internal models. A disproportionate increase in capital requirements for derivative transactions due to the interplay between SA-CCR and the output floor might in turn translate into significant price increases for end-user and thereby reduce their incentives to use derivative transactions to hedge their financial risks.

[245] The internal model approach for counterparty credit risk, so-called Internal Model Method (IMM) is set out in Section 6, Chapter 6 of Title II of Part Three of the CRR. It should be noted that banks that have been granted the use to IMM to calculate the exposure value of their derivative transactions would still be required to use SACCR in some areas of the prudential framework, e.g. for the calculation of the leverage ratio.
[246] The eligibility criteria to use those approaches are set out in Article 273a of CRR
[247] See Article 514 of CRR.
[248] For other types of risk, the ratio between the capital requirements produced by the standardised approach and those produced by the corresponding internal model is, on average, around 1.5:1, whereas for counterparty credit risk it is, on average, around 2:1.

Against this background, the CMRP adopted by EU co-legislators in February 2021 asked the Commission to review the calibration of SA-CCR[249] before its application in Union law, taking into account the international level playing field.

Policy options

Baseline option: *No changes to the SA-CCR calibration*

Under the baseline option, no changes would be made to the calibration of the SA-CCR. The Commission would review the impact and calibration of the SA-CCR at a later stage, on the basis of the dedicated EBA report due by June 2023, as mandated in the CRR II.

Option 1 - *Revise permanently the calibration of SA-CCR*

Option 1 would permanently lower the overall calibration of the SA-CCR for all derivative transactions across the prudential framework. A simple way to lower the overall calibration would be to reduce the value of the alpha parameter, as requested by the banking sector.

Option 2 - *Adjust temporarily the calibration of the SA-CCR in the context of the output floor only*

Under option 2, the calibration of the SA-CCR would be lowered temporarily for all derivative transactions. Like in case of option 1, this would be done by lowering the calibration of the alpha parameter. However, the lower calibration under option 2 would only be applied when the SA-CCR would be used in the calculation of the output floor; when the SA-CCR would be used in other parts of the prudential framework, the calibration of the alpha parameter would stay at 1.4 as adopted under the CRR II. Under this option, the Commission would take into account the evidence to be collected by the EBA and the conclusions of the report to be delivered by the EBA by June 2023, to inform its decision on whether the calibration of SA-CCR should be permanently revised across the prudential framework.

Impacts and comparison across options

While SA-CCR improves the calculation of the exposure value of derivative transactions across the prudential framework, the **baseline option** would likely result in an increase in capital requirements for banks using the internal model approach for counterparty credit risk due to the use of the SA-CCR in the context of the OF[250]. This could increase the costs of derivatives transactions for end users, which could force end users to reduce the amount of hedging they do with derivatives or potentially stop using derivatives for hedging altogether.

Compared with the baseline option, **option 1** would lead to a permanent decrease in the exposure value of derivative calculated using SA-CCR (of up to roughly 30% in case alpha would be recalibrated to 1) across the prudential framework. As a result, the capital requirements of derivatives transactions based on the SA-CCR would decrease, while the

[249] See EUR-Lex - 32021R0337 - EN - EUR-Lex (europa.eu)

[250] Banks that use one of the standardised approaches for calculating exposure values of derivatives transactions would not be affected under the baseline scenario.

treatment of derivatives transactions under the large exposure or leverage ratio frameworks would become less binding. At the same time, the impact of the output floor for banks using internal models for counterparty credit risk would be lowered. The overall impact for individual banks would depend on the extent to which they would use the SA-CCR, which has not been assessed by the EBA as part of the CfA QIS. The revised calibration may, in turn, lower the trading costs for end-users (provided that banks would pass at least part of the capital reduction on to their clients). In addition, for banks using the internal model approach to calculate their capital requirements for counterparty credit risk, the introduction of the output floor would, overall, be less constraining under this option. While option 1 would address the concerns raised by the EU banking sector about the SA-CCR calibration and, to some extent, respond to the request of the EU co-legislators to review the SA-CCR calibration, this option would provide a blanket approach that would not be supported by empirical evidence and hence would be difficult to justify. . In particular, the revised calibration of SA-CCR would however not benefit from the evidence to be established by an EBA report which is due alongside with potential recommendations, only by June 2023.

In addition, option 1 could lead to a material reduction in capital requirements for counterparty credit risk of EU banks. The prudential framework already provides exemptions from the capital requirements for CVA risk for an important number of derivative transactions (see Section 1.5 of this Annex). Introducing a further deviation on those transactions with the proposed SA-CCR recalibration under option 1 could lead to a significant underestimation of risks associated with derivative transactions, notably in the absence of supporting evidence, and result in unjustifiably low capital requirements for counterparty credit risk. This could jeopardise the robustness of the capital requirement for EU banks that are large dealers of derivative transactions. In addition, such a change in the SA-CCR calibration would substantially deviate from the Basel standards, negatively impacting the international level playing field.

Compared to option 1**, option 2** would also lead to a decrease of the exposure value calculated using SA-CCR (of up to roughly 30% in case alpha would be recalibrated to 1), but only temporarily and only in the context of the calculation of the transitional period of the output floor. Although option 2 would not lower the SA-CCR calibration across the prudential framework in the short-term, this option would largely respond to the main concerns raised by EU banks. In the public consultation banks stressed the potential excessive increase in capital requirements due to the interplay between SA-CCR and the introduction of the output floor, translating in higher trading costs for their clients. The 5-year transitional period would offer sufficient time for an in-depth review of the calibration of SA-CCR based on t the EBA report and to further discuss this issue at international level.

Table 19. Comparison of policy options against effectiveness, efficiency and coherence criteria

	EFFECTIVENESS	*EFFICIENCY (cost-effectiveness)*	*COHERENCE*	*OVERALL SCORE*
Baseline option	0	0	0	0

Option 1	+	++	--	≈
Option 2	+	+	++	+

Magnitude of impact as compared with the Baseline option (the baseline is indicated as 0): ++ strongly positive; + positive; – – strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

Preferred option

In light of the above analysis, which led to the overall score of each policy option in *Table 19*, **option 2** is deemed the preferred policy option.

1.8. Output Floor

Problem definition

A range of studies[251] conducted at both international and EU level found a wide variation in capital requirements across banks using internal models that cannot be explained solely by differences in the riskiness of banks' exposures. This variation makes it difficult to compare capital ratios across banks, questions their calculation and undermines confidence in capital ratios. The studies shed a light on large discrepancies in capital requirements for the same types of risks depending on how internal models were built and on the modelling assumptions underpinning them. This in turn raised level-playing-field concerns across globally active banks from different jurisdictions. It also contributed to impairing market confidence in the capital framework. The credibility of internal models further deteriorated, after they were identified as sources of endogenous risk and as one of the factors that fuelled the global financial crisis.[252] This was also due to the limited capacity of some supervisors to constrain modelling, so as to ensure that models accurately reflect the riskiness of individual bank's activities.

The variability also highlighted the ineffectiveness of the so-called Basel I floor, a measure that was introduced as part of the Basel II framework and has been implemented very heterogeneously across different regions and MS. The Basel I floor was aimed at ensuring that the capital requirements produced by internal models would not fall below 80% of the minimum capital requirements calculated under the Basel I standardised approaches. The Basel I floor was implemented in Union law, but expired[253] by the end of 2017. However,, the Basel I floor did not achieve to reduce the variability in RWAs, mainly because of the way it was applied in practice.

[251] See https://www.bis.org/publ/bcbs256.htm and https://www.bis.org/bcbs/publ/d363.htm for benchmarking studies, as well as https://eba.europa.eu/regulation-and-policy/supervisory-benchmarking-exercises for EBA benchmarking exercises.

[252] Danielsson, J., Hyun S.-S., and J.-P. Zigrand, "Endogenous and systemic risk", Quantifying systemic risk, University of Chicago Press, Chiacgo, 2012, pp. 73-94; Eichengreen, B., "Origins and responses to the current crisis", *CESifo Forum*, Vol. 9, No 4, ifo Institut für Wirtschaftsforschung an der Universität München, Munich, 2008, pp. 6-11.

[253] Article 500(1) of the CRR contained a provisional measure for a floor that prevented the capital requirements calculated by using internally modelled approaches from falling below 80% of the minimum capital requirements as calculated under the Consolidated Banking Directive (which transposed the capital requirements under Basel I). The so-called "Basel I floor" which has been implemented very heterogeneously across different regions and MS, often in ways considered ineffective, expired at the end of 2017.

Under the current rules, supervisors have to approve the use of internal models and assess whether they comply with the applicable requirements. Supervisors have to assess whether banks measure risks correctly and consistently. Where deficiencies of a model are identified, they may require additional capital or apply other measures to address the situation case-by-case. Significant efforts are being undertaken by the EBA[254] and competent authorities including the ECB[255] to ensure a harmonised application of the rules on internal models and to mitigate the concerns about variability in RWAs. While those efforts are improving the situation, variability among internal model outputs (across asset classes and risk-categories) remains thereby undermining confidence in internal models used by banks in the EU.

Policy options

Baseline option: *No risk-based backstop to internal models*

The baseline is the current prudential framework, which – since the expiry of the transitional provision on the Basel I floor – does not entail a risk-based backstop that would limit the capital benefit an institution may obtain by using internal models, compared to using the standardised approaches.

Option 1 - *Implement the OF over the 5-years phase-in at the highest level of consolidation taking into account all the risk-based capital requirements contained in EU law*

Under this option, the OF would apply to total RWAs, limiting the variations – be they justified or not – between banks for the same underlying risks. This would produce floored RWAs to be used for the calculation of the stack of all the risk-based capital requirements contained in the EU prudential framework, including those that are not or not explicitly set out in the Basel framework: the minimum capital requirement (the so-called 'Pillar 1 requirement'), the capital conservation buffer (CCB) requirement, the countercyclical capital buffer (CCyB) requirement, the buffer requirements for global systemically-important and other systemically-important institutions (G-/O-SIIs), as well as bank-specific capital requirements imposed by supervisors ('Pillar 2 requirement' or P2R) and the systemic risk buffer (SyRB) requirement[256].

As the P2R and they SyRB requirement can be used to address risks that are similar in nature to those addressed by the OF, there is a possibility that certain risks (e.g. model risk) could be

[254] EBA, Progress report on IRB roadmap – Monitoring Implementation, Reporting, and Transparency, July 2019, https://eba.europa.eu/eba-publishes-report-on-progress-made-on-its-roadmap-to-repair-irb-models.

[255] The ECB's targeted review of internal models (TRIM) is a multi-year project to ensure that capital requirements for banks using internal models are calculated correctly, consistently and in a comparable manner, for more details see e.g. https://www.bankingsupervision.europa.eu/press/publications/newsletter/2019/html/ssm.nl190515_6.en.html.

[256] Separately, the same RWAs would also be used for the calculation of the risk-based total loss-absorbing capacity (TLAC) requirement. In the EU, the TLAC standard adopted by the FSB has been implemented through a minimum requirement for own funds and eligible liabilities (MREL). The MREL consists of own funds and part of a bank's liabilities. If a bank fails and goes into resolution, the MREL acts as a buffer to absorb losses and to provide new capital to the bank. This ensures that the costs of failure of a bank will as much as possible be borne by the bank's investors, i.e. its shareholders and creditors. While a harmonised minimum level of MREL for G-SIIs is introduced into CRR, the MREL for other institutions is regulated in BRRD and SRMR.

double-counted once the OF starts to apply. The CRR/D would therefore prescribe that any double counting of the risks captured by the OF and the risks captured by any of the other requirements – notably those imposed by supervisors under Pillar 2 and the macro-prudential framework[257] – must be avoided (see example in **Error! Not a valid bookmark self-reference.**, P2R currently addressing model risk would be consumed by the OF). In case double-counting would be present, supervisors would need to reduce the requirements that double-count the risks that would be already captured by the OF. The EBA's advice[258] includes a specific recommendation to supervisors to this effect and calls on them, more generally, to reconsider the appropriate level of P2R and the SyRB requirement in light of the OF, once it would apply.[259] Furthermore, any increase of the P2R and/or SyRB requirement that do not stem from the increase in risks but from the increase in RWAs following the introduction of the OF would need to be neutralised.

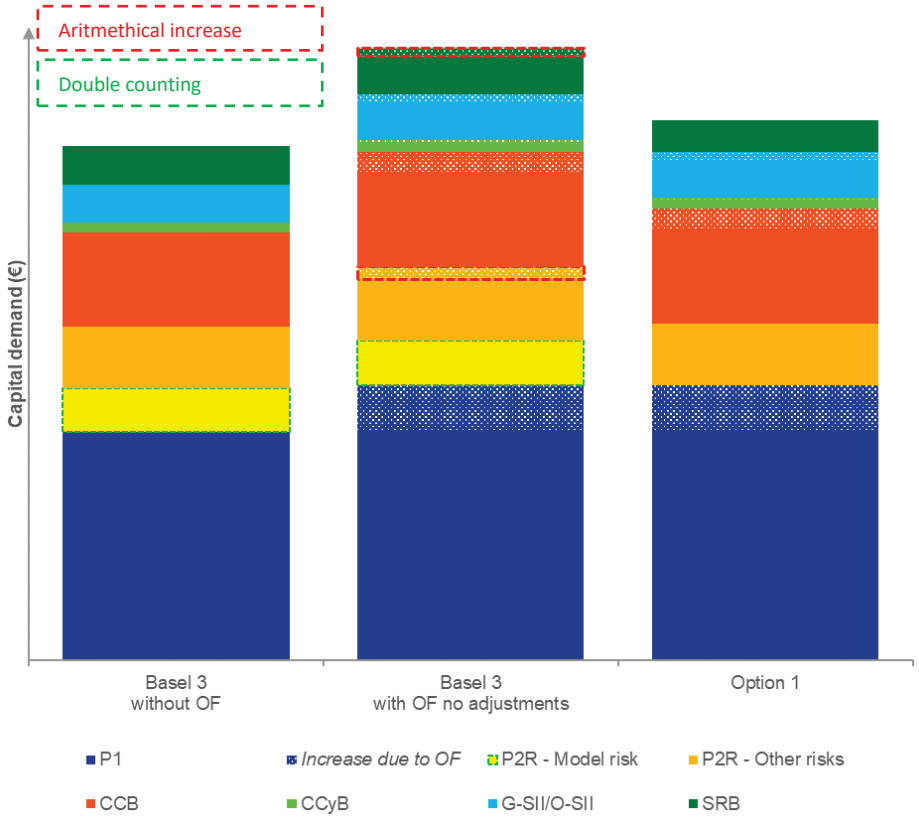
In concrete terms, the following actions would take place once an institution would become bound by the OF:

- the P2R and the SyRB requirement would be "frozen" to avoid automatic (also referred to as "arithmetic") increases in the nominal amount of regulatory capital required under those two requirements. Without this freezing, the increase in RWAs due to the OF would also push up the EUR amount required under the SyRB and the P2R (in the latter case only if the requirement is calculated as a percentage of RWAs; see "Basel III without adjustments" in **Error! Not a valid bookmark self-reference.**).This safeguard is justified by the fact that the increase in RWAs due to the institution becoming bound by the OF is, all else being equal, purely arithmetic and is not reflective of an actual increase in risks that would justify requiring additional capital from the institution[260];
- the institution's competent authority would be required to review the calibration of the P2R and the competent or designated authority, as applicable, will be required to review the calibration of the SyRB requirement, respectively, to establish whether double-counting of risk is present, and if so, to re-calibrate those requirements to avoid such double-counting (see option 1 in **Error! Not a valid bookmark self-reference.**);

[257] Besides the SyRB, authorities can revert to so-called "national flexibility measures" to address systemic risks stemming from the use of internal models. Specifically, a number authorities have introduced "floors" requiring banks that use internal models to apply minimum risk-weights to certain exposures (e.g. mortgages and/or corporates). Those measures increase the Pillar 1 capital requirements.
[258] EBA, Policy Advice on the Basel III reforms: Output Floor, August 2019.
[259] In cases where the OF will increase total RWAs supervisors would need to consider the effect on the absolute level of capital requirements.
[260] Assume that today a bank needs to hold 2% of RWAs as additional capital, which amounts to EUR 1 billion of actual capital. Now, if RWAs for that bank increase by 20% due to the new OF, the 2% might suddenly go from EUR 1 billion to EUR 1.2 billion of actual capital. This increase would not reflect additional but represent a purely arithmetic effect that should be neutralised in the P2R calculations, cf. "Basel III – journey or destination?", Keynote speech by Andrea Enria, Chair of the Supervisory Board of the ECB, at the European Commission's DG Financial Stability, Financial Services and Capital Markets Union conference on the implementation of Basel III, November 2019, https://www.bankingsupervision.europa.eu/press/speeches/date/2019/html/ssm.sp191112_1~01be3b89b0.en.html.

- the two requirements would remain frozen until the respective reviews would be concluded and the relevant decisions on the appropriate calibration of the requirements are announced.

Figure 16: Stylised example – functioning of the OF (option 1)



Notes: Dotted areas of the stack indicate the increase in capital demand driven by the increase in RWA due to the OF. This increase is expected to be neutralised for P2R/SyRB requirements. "P2R – Model risk" refers to the part of current P2R that would be removed due to an overlap with the OF.

Option 1 would also make use of the transitional arrangements for the OF provided by the Basel III standards on an optional basis, i.e. a 5-year transitional path until 2030 (see *Table 20*) for institutions to grow into and adjust to the OF requirement as well as a "transitory cap"[261] that temporarily prevents RWAs from increasing by more than 25% because of the OF.

Table 20: Phased-in implementation of the OF

	1st Jan 2025	1st Jan 2026	1st Jan 2027	1st Jan 2028	1st Jan 2029	1st Jan 2030
calibration	50%	55%	60%	65%	70%	72.5%

[261] During the phase-in period the incremental increase in a bank's total RWAs that results from the application of the OF would be capped. This transitional cap would be set at 25% of a bank's RWAs before the application of the floor.

As regards the level at which the OF would apply, option 1 would entail its application only at the highest level of consolidation in the EU, recognising the benefits of risk diversification across different entities and business models of entities within the same banking group. While the potential increase in capital, required due to the application of the OF at consolidated level, would have to be distributed fairly across the entities of the banking group taking into account their risk profile, capital requirements at sub-consolidated and individual levels would continue to be calculated based on RWAs that are not subject to the OF.

Option 2 *- Implement the OF over the 5-years phase-in at all levels of application taking into account all risk-based capital requirements contained in EU law*

Under this option, the OF would apply to all the risk-based capital requirements contained in EU law, including those that are not or not explicitly set out in the Basel framework. However, it would apply at all levels of application, i.e. at the consolidated, sub-consolidated and individual level, as it is the case for many other prudential requirements such as the leverage ratio.

Option 3 *- Implement the OF as a parallel requirement applicable at the highest level of consolidation that takes into account only the risk-based capital requirements provided by the Basel framework ("parallel stack approach")*

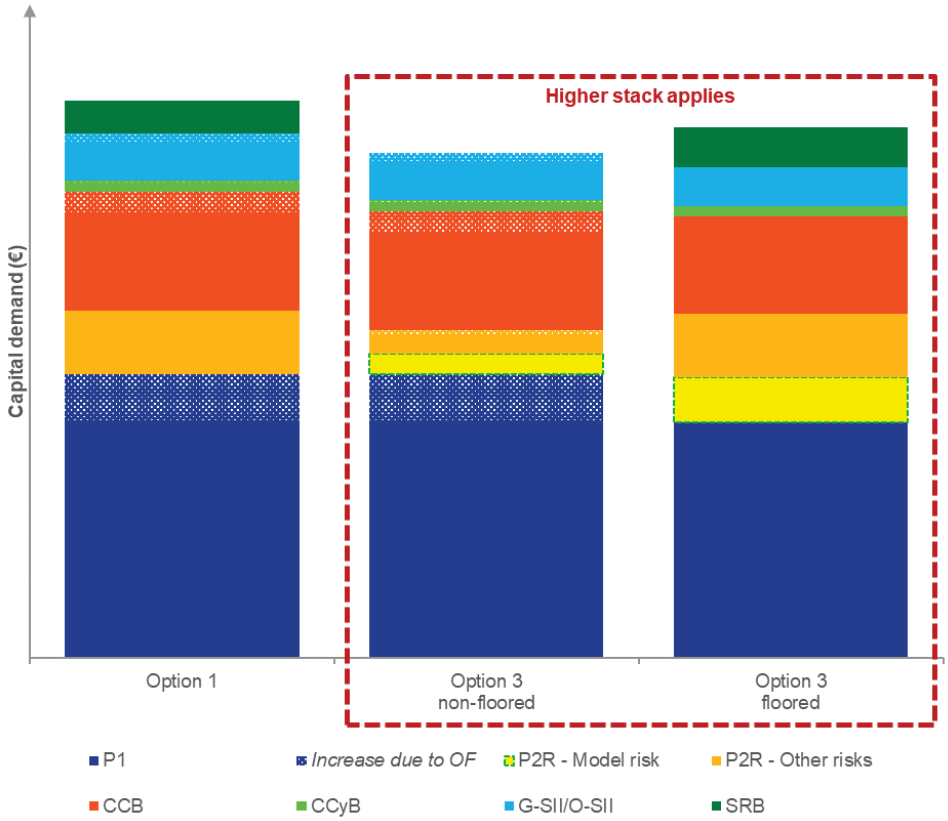
Under this option, two different overall capital requirements based on different stacks of capital requirements would be calculated, compared, and the higher of these two amounts would be the binding capital requirement.

- The first stack would reflect the sum of the risk-based capital requirements listed in the Basel standards as well as some elements of the P2R (e.g. risks which are exclusively covered under the risk-based Pillar 2 and excluded from Pillar 1 such as interest risk in the banking book, etc., or excessive model risk that are not fully addressed by the OF) calculated on the basis of floored RWAs;

- The second stack would represent the sum of all risk-based capital requirements applicable in the EU calculated in accordance with internally modelled approaches on the basis of non-floored RWAs.

The floor applies if the first stack results in a higher overall requirement (see *Figure 17*). Precondition for implementing this approach would be a clear decomposition of risks to be captured under the floored stack vs. the risks to be captured under the non-floored stack.

Figure 17: Stylised example – comparison of option 1 vs option 2



Notes: Dotted areas of the stack indicate the increase in capital demand driven by the increase in RWA due to the OF. This increase is expected to be neutralised for P2R/SyRB requirements. "P2R – Model risk" refers to the part of current P2R that would be removed due to an overlap with the OF.

Under option 3 the OF applied to the floored stack would be subject to the transitional arrangements for the OF provided by the Basel III standards.

Option 4 - *Implement the OF as a parallel requirement that takes into account only the risk-based capital requirements provided by the Basel framework ("parallel stack approach") and apply at all levels*

Under this option, the OF would be a parallel requirement applied only to the risk-based capital requirements that are explicitly listed in the Basel framework, like under option 3. However, it would apply at all levels of application, i.e. at the consolidated, sub-consolidated and individual level, as it is the case for many other prudential requirements such as the leverage ratio.

Impacts and comparison across options

The impact of either option ultimately depends on the extent to which supervisors actually adjust the requirements in their remit, in particular P2R, in view of the OF, which in itself depends on the specific risk-profile of each individual bank: Under Option 1, supervisors would adjust P2R and SyRB / other related macro-prudential capital requirements to avoid

double counting of risks. Under Option 2 supervisors would address some institutions-specific risks by imposing P2R also for the calculation of the floored stack.

If the OF were implemented without any adjustments to the current percentage levels of P2R and/or SyRB and other related macro-prudential capital requirements, where applicable, EBA estimates marginal increase in capital requirements in the short term (i.e. at the beginning of the phase-in period in 2025 when the OF would be 50%) and of +6.7% in the long term at its steady-state implementation (see ***Error! Reference source not found.*** in section 6.1.).

However, with the two-step approach (1. no-double, 2. no-arithmetical increase) proposed under **Option 1**, the estimated increase would be lower, provided that supervisors make the adjustments described above. Option 1 would have a relatively low impact in the short-term, as the OF will be phased-in over a 5-year period. Option 1 would also limit the impact of the OF in the long-term: less than +5.7% average increase in capital requirements (as compared to +6.7% without the adjustments to P2R and buffer requirements). As Option 1 would implement the OF in the existing stack of capital requirements in the EU, the framework would be simple, transparent, and consistent with the Basel standards. The application of the floor at the highest level of consolidation in the EU would help limiting its impact and ensure coherence with the logic of the Banking Union where the redistribution mechanism would provide for a fair distribution of the additional capital across the various subsidiaries of the group according to their risk profile as if the floor would be applied at individual level[262].

Option 3 would give relatively more weight to modelling outcomes. This option would hence be less effective in addressing the identified problems with certain internal models. It would not fully capture banks that use more aggressive internal models, unless a specific Pillar 2 requirements would be added in the floored stack to this end, or banks with high P2R and SyRB requirements addressing other risks (than those associated with internal models):

- if the first (floored) stack based on floored RWAs leads to higher overall requirements, the risks supervisors have addressed through P2R or the SyRB could be effectively ignored in the binding capital requirement, depending on the requirements of the floored stack;
- if the second (non-floored) stack calculated on the basis of non-floored RWAs leads to higher overall requirements, it could be argued that the OF would be ignored (even though the OF would still be applied to the requirements set out in the Basel standards), even where the institution's internal model is particularly aggressive.

Furthermore, as the EBA highlighted Option 3 would increase the level of complexity as the bank would have to calculate and disclose two risk -based capital ratios, one for each stack. This could create confusion, in particular among investors and clients, in terms of trigger levels, such as for the conversion/write-down of Additional Tier 1 instruments or for calculating the minimum distributable amount (MDA). While Option 3 would allow investors

[262] This means that the distribution key for any additional capital required by the OF would depend on the contribution of each entity to the consolidated floor requirement.

to compare the RWAs of banks using internal models (as it is already the case for the baseline), the comparability of their risk-based capital ratios would actually be reduced as the binding requirement would be calculated for different capital stacks across institutions.

Options 1 and 3 would have both have a negligible impact in the short-term. Over the long-term, the impact of option 2 is likely to be lower than option 1, leading to an average increase in capital requirements of more than +1.5% but no more than +5.4%. Option 1 may therefore reduce banks' capital ratio in the steady state to a greater extent than Option 3, which might in turn lead to more scrutiny by markets when analysing the risk profile of the bank.

In its analysis in response to the Call for Advice, the EBA has only quantified comprehensively the impact of the implementing the OF at the highest level of consolidation due to difficulties to perform the quantitative analysis at all levels of application.

For banking groups with several levels of application (e.g. at EU-consolidated, MS-sub-consolidated, and individual level) the total capital impact of applying the OF at all levels as implied by Options 2 and 4 will be higher than applying the respective approach only at the highest level of consolidation[263]. Applying the OF at all levels would likely lead to a higher increase in capital requirements compared to its application only at consolidated level, as it would also act on intra-group exposures and limit the possibility to consolidate risks across different parts of the banking group. This could have a disproportionate impact on certain group structures (e.g. regional banks in cooperative groups which use internal approaches) and subsidiaries with specific business models (e.g. real estate lending or leasing) and cause additional compliance burden (due to multiple calculations at parent and subsidiary level), as highlighted by the EBA in its advice. Applying the OF at all levels could furthermore distort the internal risk allocation of cross-border banking groups, in particular in case of large intragroup exposures, and contribute to a fragmentation of the single market.

Overall, the EBA's QIS results indicate that the OF complements other requirements, resulting in a broadly comparable impact of the revised Basel III framework for most business models. In terms of the objectives of reducing excessive RWA variability and promoting comparability of risk-weighted capital ratios, the QIS demonstrates that the OF under options 1 and 2 would raise the average RWs of institutions that are constrained by the floor. As a result, the RWs become more comparable across institutions using internal models. The QIS also show that the OF mitigates variability in internal modelling output for various portfolio types. The floor particularly constrains those institutions that tend to have lower RW densities[264] than most of the other institutions using internal models.[265]

[263] A simple explanation comes from a mathematical property of the maximum operator (used under the under which the maximum of two sums of values is lower than the sum of the maximum of the values composing

[264] The RWA density is computed as the ratio of the total RWA over the current total asset of each bank. As the RWA changes under the different frameworks, the denominator is kept constant.

[265] In particular, institutions that are constrained by the OF have, on average, a larger divergence between internally modelled RWs and standardised RWs on various portfolios (e.g. residential counterparties and specialised lending) than institutions that are not constrained by the OF.

Table 21: Comparison of policy options against effectiveness, efficiency and coherence criteria

	EFFECTIVENESS	*EFFICIENCY (cost-effectiveness)*	*COHERENCE*	*OVERALL SCORE*
Baseline option	0	0	0	0
Option 1	++	-	++	+
Option 2	++	--	+	≈
Option 3	+	≈	-	≈
Option 4	+	≈	-	≈

Magnitude of impact as compared with the Baseline option (the baseline is indicated as 0): ++ strongly positive; + positive; – – strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

Preferred option

In light of the above analysis, which led to the overall score of each policy option in *Table 21*, **option 1** is deemed the preferred policy option.

EUROPEAN
COMMISSION

Brussels, 27.10.2021
SWD(2021) 320 final

PART 4/4

COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT REPORT

Accompanying the documents

Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Regulation (EU) No 575/2013 on prudential requirements for credit institutions as regards requirements for credit risk, credit valuation adjustment risk, operational risk, market risk and the output floor

Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive 2013/36/EU as regards supervisory powers, sanctions, third-country branches, and environmental, social and governance risks, and amending Directive 2014/59/EU

{COM(2021) 663 final} - {SEC(2021) 380 final} - {SWD(2021) 321 final}

ANNEX 6: SPECIFIC IMPACTS OF PREFERRED POLICY OPTIONS

1. Impact on administrative and operational costs

The different policy proposals included in this legislative initiative would impact administrative and operational costs in different ways.

Improving the current framework for calculating risk-based capital requirements would mainly lead to one-off operational cost to develop the new systems required to calculate the revised capital requirements introduced by the final elements of the Basel III reform. Furthermore, it would lead to moderate variations in running operational and administrative costs related to the prudential framework, as explained in this section.

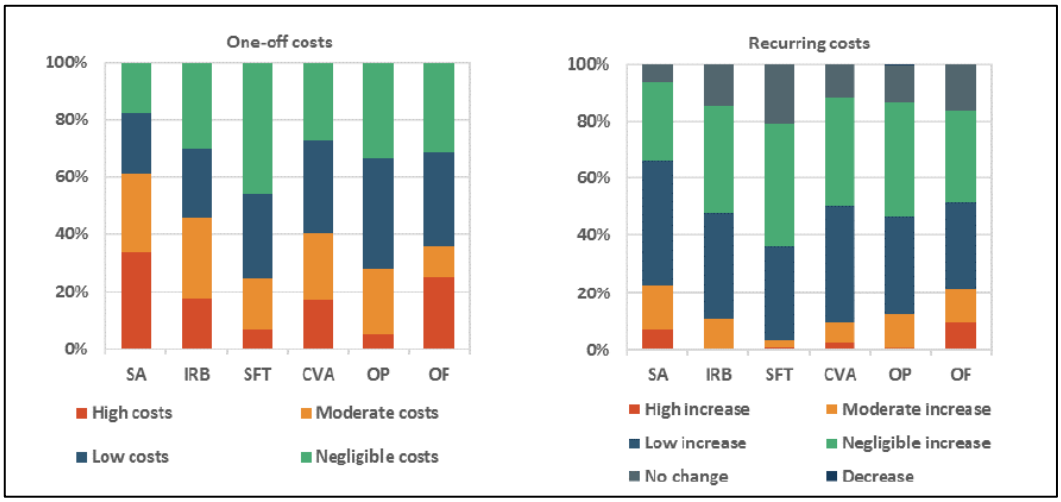
Quantitative estimates to appropriately assess operational and administrative costs of those processes is not available[266].The qualitative survey conducted by the EBA as part of their first response to the Commission Call for Advice[267] (CfA) highlights that the EU banks' estimates of their operational costs of implementing the Basel III reforms are rather heterogeneous across the different elements of these reforms.

As shown in *Figure 1* below, banks participating in the survey consider that the implementation of reforms related to the credit risk framework (both the standardised and the internal model approaches) and the introduction of the output floor would lead to higher one-off operational cost than the implementation of reforms related to CVA risk, operational risk and the minimum haircut floor framework for SFTs. According to the survey, the estimated one-off operational costs would mainly be caused by adaptations to IT systems and by staff costs.

Figure 1 shows that the impact of the implementation of the final elements of the Basel III reform on recurring operational and administrative costs is considered to be low, negligible or even negative (i.e. a decrease in costs) for the vast majority of EU banks participating in the survey. In fact, the recurring operational and administrative costs of those reforms should even be lower than indicated in the survey since the survey did not take into account the EU specific adjustments[268] proposed under the preferred option.

[266] No comprehensive estimates of those costs have been provided by EU banks via the public consultations launched by the Commission on the final elements of the Basel III reform.
[267] Basel III reforms: impact study and key recommendations, EBA, August 2019.
[268] Some of those adjustments would further reduce the recurring operational and administrative costs by reducing the operational burden to calculate capital requirements, for instance in the area of operational risk with the historical loss component set to 1 or in the area of the CVA risk by maintaining the exemptions introduced in CRR.

Figure 1: One-off and recurring operational costs of the implementation of the final Basel III framework (% of total responses), by risk category



Source: Basel III reforms: impact study and key recommendations, EBA, August 2019

The actual impact on recurring operational and administrative costs would largely depend on whether EU banks would (be able to) continue to use the internal models to calculate their capital requirements under the revised prudential framework (those will be mainly the largest EU banks that already use internal models under the current prudential framework). Internal models are usually more costly to maintain than standardised approaches since they require more complex IT systems, more data processing from both internal sources and third-party service providers and more qualified staff to analyse the results of the models. Banks using internal models would likely see an increase in their recurring operational and administrative costs due to the introduction of the OF because the reform would require them to carry out additional calculations, namely of the risk-based capital requirements using the standardised approaches.

Banks that are currently using the internal models that would no longer be available under the new framework[269] would see a reduction of their recurring costs. There would also be a corresponding reduction in costs of supervisors for approving and controlling those models. To the extent that banks would choose to abandon some of the models that would still be allowed under the new framework, those costs would be reduced even further. By contrast, banks that currently do not use internal models (the vast majority of small and medium-sized EU banks) would likely see no material change in recurring operational costs.[270]

[269] The reform would limit the use of internal models for credit risk, and would no longer allow the use of internal models for operational risk and CVA risk.

[270] To the extent that a bank that currently does not use internal models would choose to do so under the new framework (this may happen because the new rules would make it possible to introduce credit risk internal models for just certain types of asset classes), this would of course create one off and recurring costs for the bank. However, that would be the result of a conscious decision of the bank.

Incorporating ESG risks in the prudential framework would result in one-off administrative and operational costs for EU banks in order to set up the new processes associated with the monitoring and management of those risks. The increase in recurring costs, by contrast, would largely depend on the availability and format of the necessary information that banks would need to collect: the more easily available the information would be and the more friendly its format from a point of view of allowing automated collection and processing of that information, the lower the recurring costs for banks would be (and vice versa). By the time the revised framework would be in place and applicable, it is likely that the effects of some of the ongoing reforms in the ESG area (e.g. the revision of the Non-Financial Reporting Directive, the Taxonomy Regulation) would have put in place the necessary conditions to keep the costs of information collection contained.

Improving the consistency in the application of supervisory and sanctioning powers would increase to some extent the administrative and operational costs of EU banks since they would need to develop new procedures to comply with the requests of their supervisors that would be granted with new powers. However, a number of EU banks would already have developed such procedures since they operate in Member States that have already introduced similar powers in their national laws. The costs of cross-border banking groups would likely decrease as a result of the initiative as they would be subject to the same rules and procedures across Member States. Similarly, the initiative would also decrease the administrative and operational costs of supervisors in the SSM, since they would no longer have to apply 19 different national laws when exercising those powers. On sanctioning powers, no material new costs would be involved.

Centralising banks' disclosures at the level of the EBA based on the supervisory data collected in the context of the EUCLID would relieve small and non-complex banks from the administrative burden associated with mandatory disclosures, while having no cost impact for other banks. At the same time, it would reduce search costs for market participants.

In light of the above considerations, this legislative initiative would mainly entail one-off operational costs, due to the implementation of the new requirements, but would overall reduce the recurring administrative costs.

2. Impact on competitiveness

This section presents the impacts of the implementation of the final elements of the Basel III reform in Union law on the competitiveness of EU banks within the EU banking sector as well as between EU banks and their international peers. The other measures proposed in this legislative initiative have a smaller impact[271] on competitiveness of EU banks since they mainly affect certain banks' compliance costs, which remain overall

[271] The measures related to supervisory and sanctioning powers would level the playing field for banks located in Member States that have given their competent authorities powers beyond those in the list contained in the CRD and banks in those Member States that have not done it.

contained, and they do not directly affect their ability to provide financial services to the real economy.

Impacts of the final Basel III reforms on competitiveness across EU banks

To understand better the profile of EU banks that would be impacted by the final elements of the Basel III reform, the updated EBA analysis provided a number of more granular impacts of the reform in addition to the overall impacts shown in Section 6.1. Three criteria[272] have been used by the EBA to differentiate the impacts across EU banks: size, business model and geographical location (i.e. the Member States in which the bank is established). In order to identify the drivers of the impacts across the different criteria, a breakdown of the impacts of the reforms per risk category[273] is also included (the impact of each risk category is expressed as the percentage change in the total capital requirement (MRC) resulting from the implementation of the final elements of the Basel III reform related to this risk category).

This section compares the impacts of two implementation options across the above three criteria: the full alignment with the final Basel III reform option (option 1 in Section 5.2.1) and the preferred policy option (option 3[274] in Section 5.2.1). The results of this analysis need to be interpreted taking into account a number of caveats:

- limited sample of EU banks in the updated impact analysis: the sample of banks included in the updated EBA impact analysis based on Q4 2019 data has been significantly reduced as compared to the original EBA impact analysis based on Q2 2018 data. As shown in Annex 7, certain categories across the three criteria did not include a sufficient number of EU banks to lead to representative results for these categories and are therefore not presented in the analysis of this section. The corresponding banks are nevertheless included in the overall impacts presented in Section 6.1. In addition, the impacts based on geographical location should be interpreted in light of the representativeness of the EU banks included in the EBA sample in terms of the total banking assets of its Member States, provided in Annex 7;
- limited recognition of the EU specific adjustments: while the Commission has broadly estimated the overall impact of the EU specific adjustments proposed under the preferred policy options on all EU banks that have not been quantified by the EBA (see ***Error! Reference source not found.*** in section 6.1), it was not

[272] More details about the definition of those criteria, and the breakdown of banks for each related category, are provided in Annex 7.
[273] This breakdown include the following risk categories: credit risk under the standardised approach (SA), credit risk under the internal model approach (IRB), market risk (MKT), operational risk (OP), CVA risk (CVA), other risks including banks' exposure to central counterparties, securitisation risk and the effect on the leverage ratio (Other), and the introduction of the output floor (OF)
[274] As explained in Section 6.1, the impact of option 3 is the same as option 2 also presented in Section 5.2.1, the only difference being the implementation period, which is 2 years longer for option 3 as compared to option 2.

possible to reflect those impacts at more granular level due to the lack of the necessary information. The more granular impacts contained in this section under the preferred policy option therefore only include those EU specific adjustments that have been quantified by the EBA. As a consequence, the mitigating effects of the preferred policy option on the increase in capital requirements are underestimated;

- limited analysis provided by the EBA in its report: the EBA provided limited qualitative analysis on the drivers of the impacts depending on the different characteristics of EU banks. Therefore, the EBA qualitative analysis was complemented with the Commission service's own qualitative analysis, which could not benefit from access to individual banks' data.

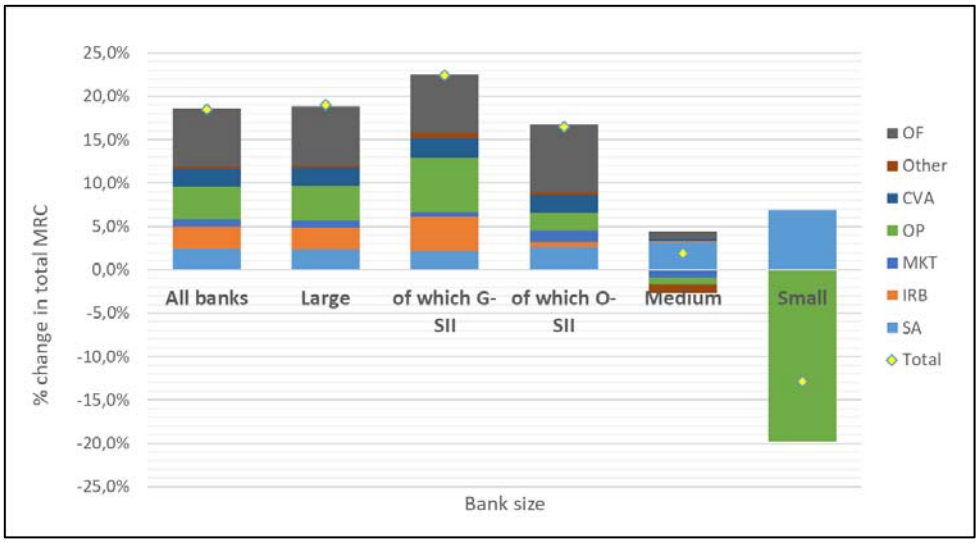
As illustrated in *Figure 2* and *Figure 3* below, the main observations of the estimated impacts of the final Basel III reform across EU banks' size include:

- the impact of the reform would be materially higher for large banks, with the highest overall impact on G-SIIs, than for medium-sized and small banks under the full alignment option. This is mainly explained by a higher reliance of large banks on internal models to calculate capital requirements. The higher impact would be due to changes to internal models (e.g. the introduction of input floors or more conservative calibrations of those floors), the removal of the possibility to use internal models for certain types of risk (e.g. operational risk) or for certain types of exposures under the credit risk framework (e.g. equity), and the introduction of the OF;
- Medium-sized banks would, on average, incur a small increase in capital requirements, mostly due to the revised standardised approach for credit risk under the full alignment option, while small banks would, on average, an overall decrease of capital requirements, mostly due to the changes to the operational risk rules. These findings corroborate the low impact of the final Basel III reforms observed in the previous EBA impact analysis, based on a wider sample of small and medium-sized banks;
- the introduction of EU specific adjustments under the preferred policy option would mitigate the overall impact of the reform on capital requirements to a greater extent for large banks than for small and medium-sized banks[275], which are less impacted by the reform to begin with.

[275] This observation should also be true for all the EU specific adjustments under the preferred policy option for which impacts have not been quantified by the EBA (see the list in ***Error! Reference source not found.***) and hence not reflected in *Figure 3* (since large banks, especially G-SIIs, tend to be more active in specialised lending, CIU, derivative and SFT markets which are all targeted by those adjustments). The preferred policy option would therefore have lower impacts for large banks, especially G-SIIs, than shown in *Figure 3*.

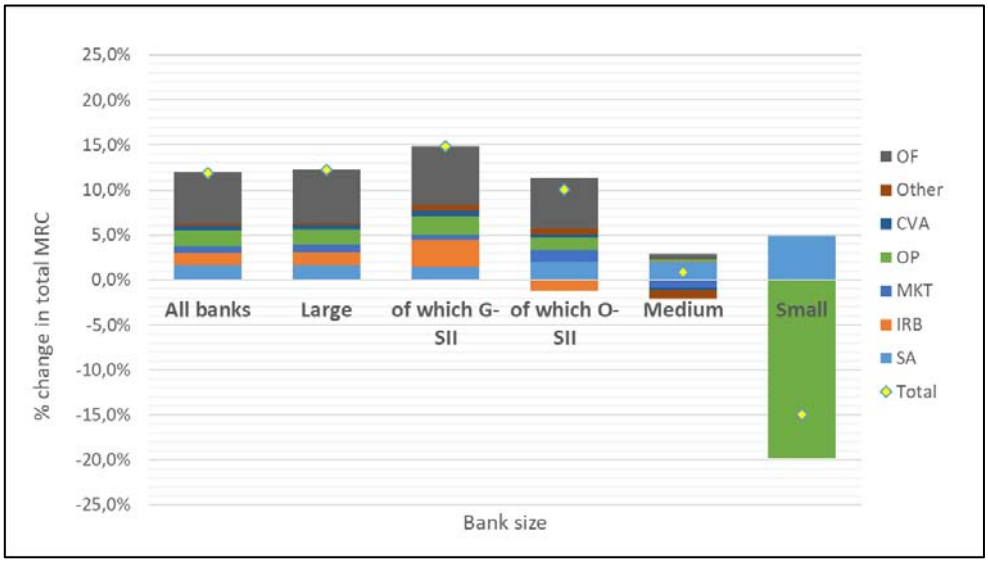
The advantage in terms of capital requirements that banks using internal models currently enjoy (because the use of internal models results, on average, in lower capital requirements than the use of standardised approaches), would be partly eroded under the preferred option. This would increase the relative competitiveness of banks not using internal models (mostly small and medium-sized banks) when compared to banks using those models (mostly large banks).

Figure 2: Breakdown of the impacts under the full alignment option in 2028 per risk category and per bank size.



Sources: Basel III reforms impact study, EBA, December 2020; Commission, DG FISMA.

Figure 3: Breakdown of the impacts under the preferred policy option in 2030 per risk category and per bank size.



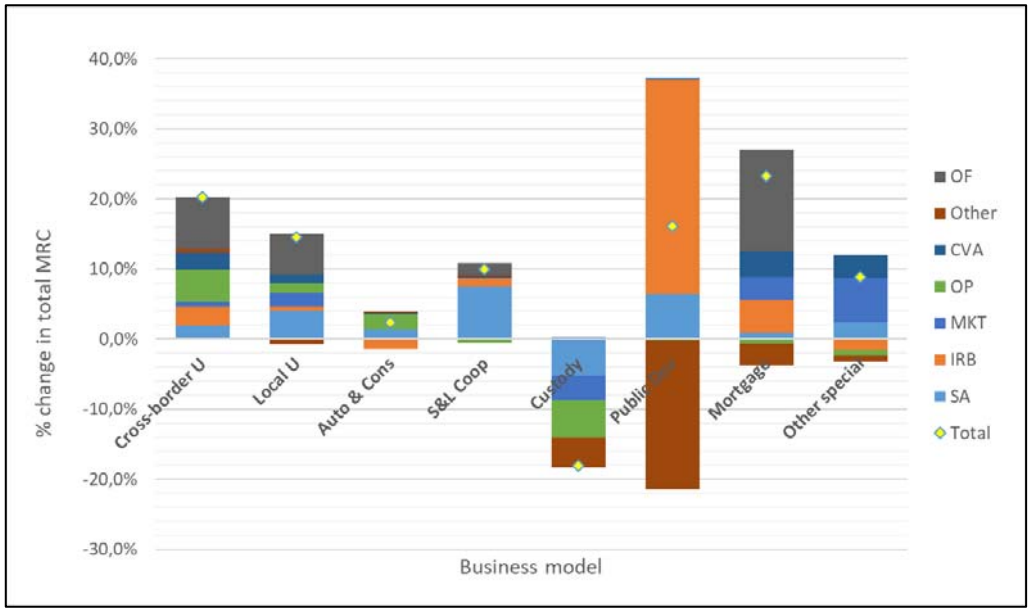
Sources: Basel III reforms impact study, EBA, December 2020; Commission, DG FISMA.

As illustrated in *Figure 4* and

Figure 5, the impact of the reforms would affect various EU banks' business models, with some noticeable differences:

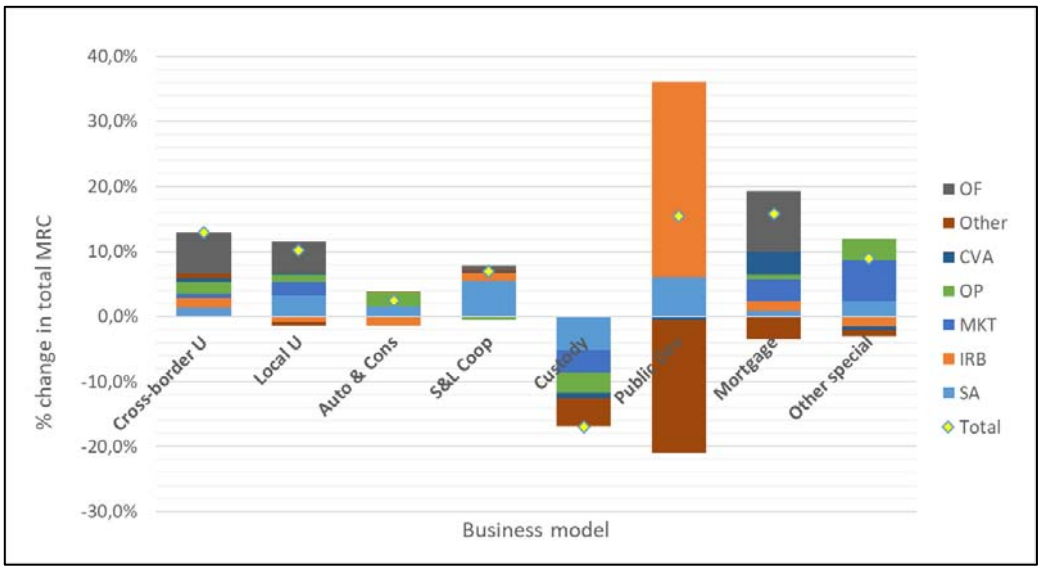
- for mortgage banks, cross-border universal banks and local universal banks the full alignment option would result in high increases in overall capital requirements, mostly driven by the output floor, the modifications to the rules on the internal model approaches for credit risk and for operational risk. It is likely that most of the large banks have this business model, so the above explanations of the reasons behind the impact would also apply here;
- public development banks would also incur a high impact from the full alignment option, mostly due to the changes related to the internal model approach for credit risk. As the result, those banks would be less bound by the leverage ratio than currently, as demonstrated by the large decrease in the risk category "other";
- the other business models considered would incur a lower impact under the full alignment option (e.g. custodian banks would see a decrease in capital requirements);
- the preferred policy option would mitigate the impact across all business models, with the exception of public development banks, where the impact would remain unchanged. Importantly, under this option the impact would be better aligned across those business models which provide similar financial services (for instance on cross border universal banks, local universal banks and mortgage banks which all provide mortgages to their clients), maintaining a level playing field across those business models.

Figure 4: Breakdown of the impacts under the full alignment option in 2028 per risk category and per business model.



Sources: Basel III reforms impact study, EBA, December 2020; Commission, DG FISMA.

Figure 5: Breakdown of the impacts under the preferred policy option in 2030 per risk category and per business model.



Sources: Basel III reforms impact study, EBA, December 2020; Commission, DG FISMA.

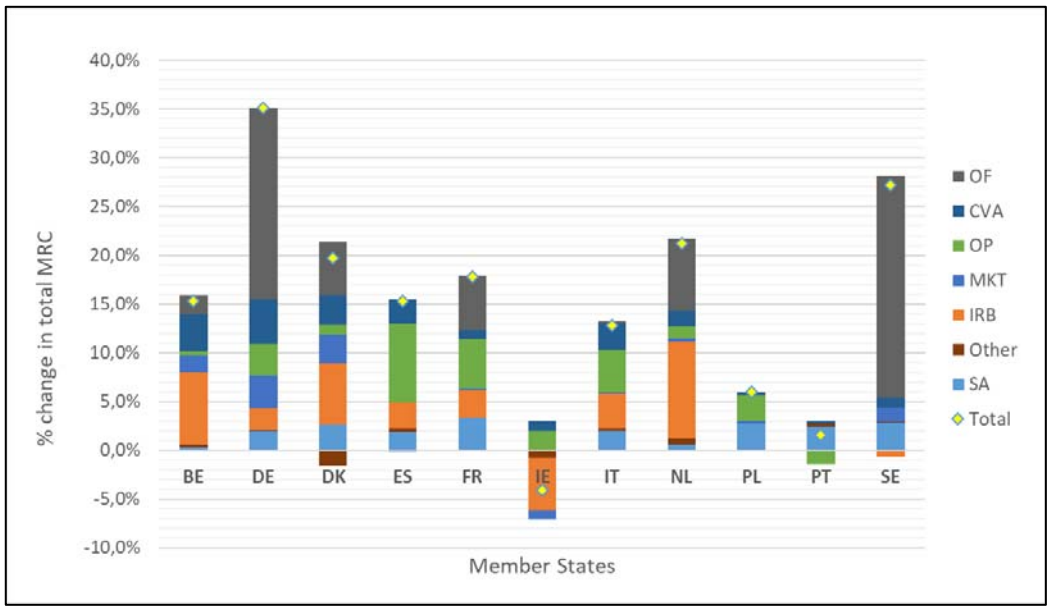
Finally, as illustrated in

Figure ***6*** and *Figure 7*, the full alignment option would have a high impact on banks in a number of Member States (BE, DE, DK[276], ES, FR, IT, NL, SE) and relatively low impact in others (IE, PL, PT). The preferred policy option would mitigate the impact of the reforms across all Member States, particularly those most affected under the full alignment option.

[276] On 19 February, the Danish FSA published a press release indicating that one of the DK banks that are included in the EBA updated impact study published in December 2020 realised that a significant error has been included in its data submission to the EBA (see https://www.dfsa.dk/News/Press-releases/2021/Revised_Basel_standards). Based on corrected data, the impact for DK banks would increase from 19.7% to 36.4% under the full alignment scenario, shown in

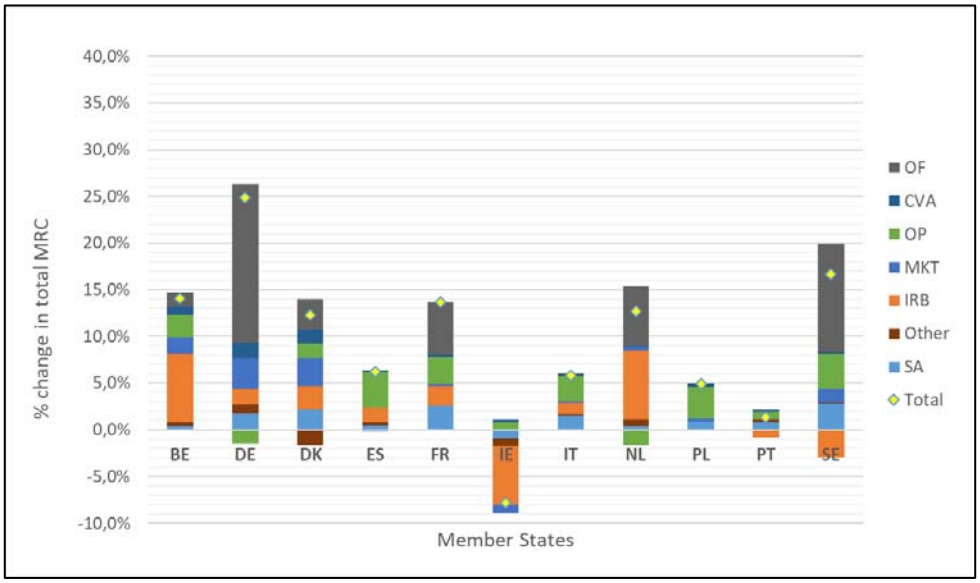
Figure ***6*** and from 13.9% to 29.3% in the EU-specific scenario shown in the EBA impact study. However, the corrected data would only slightly increase the overall impacts presented in Section 6.1 which would not change the magnitude of those impacts nor the overall conclusions that can be drawn from their observations.

Figure 6: Breakdown of the impacts under the full alignment option in 2028 per risk category and per Member State.



Sources: Basel III reforms impact study, EBA, December 2020; Commission, DG FISMA.

Figure 7: Breakdown of the impacts under the preferred policy option in 2030 per risk category and per Member State.

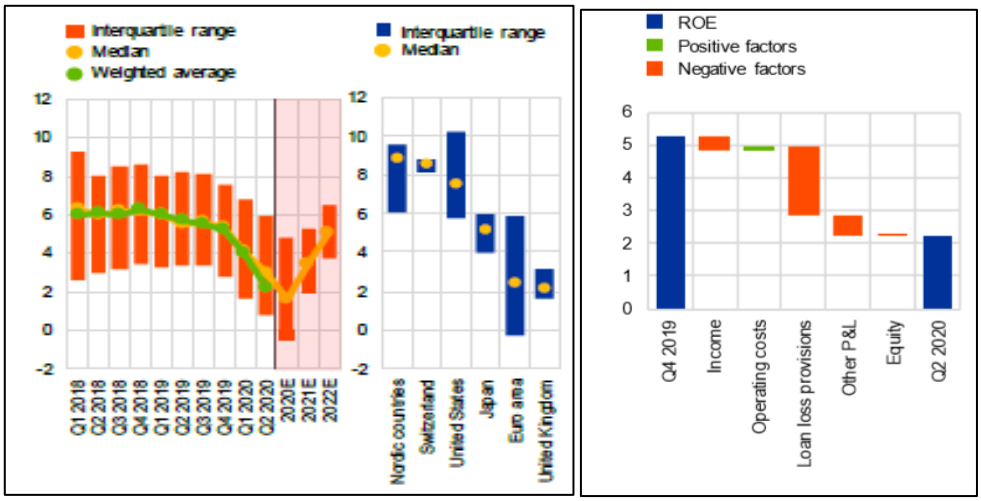


Sources: Basel III reforms impact study, EBA, December 2020; Commission, DG FISMA.

Impacts of the final elements of the Basel III reform on competitiveness between EU banks and their international peers

According to the ECB Financial Stability Review[277] published in November 2020, despite the increased resilience of EU-area banks since the GFC (as shown in Section 1), weak profitability prospects continue to weigh on bank valuations. The first half of 2020 saw a marked decline in euro area banks' return on equity (ROE), from over 5% in the Q4 2019 to just above 2% in the Q2 2020 (see *Figure 8* below**Error! Reference source not found.**) mainly because of the low interest rate environment and the relatively high costs. Looking ahead, the ECB expects that EU banks' profitability to remain weak and to recover only very gradually to levels seen before the outbreak of the COVID-19 pandemic.

Figure 8: Evolution of the distribution of EU-area significant institutions' (SI) ROE and comparison with ROEs of listed banks in other regions of the world (left-hand side) and drivers of change in EU-area SI ROE between Q4 2019 and Q2 2020 (right-hand side).



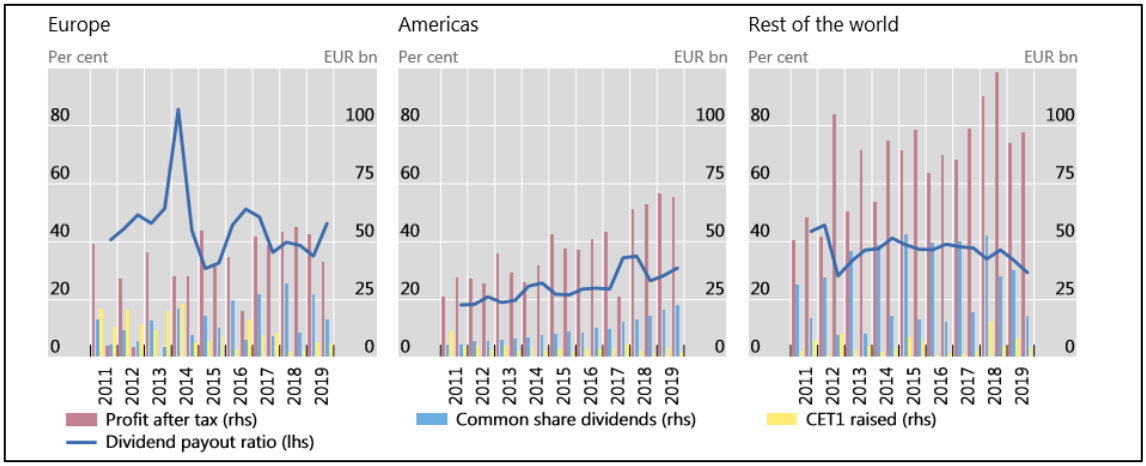
Source: European Central Bank (ECB) Financial stability review, November 2020.

The EU-area banks' profitability now ranks below that of most of their international peers (see *Figure 8*). However, while this decrease in EU-area banks' profitability as compared to international peers accelerated over the last two years, EU banks' remained relatively attractive to investors maintained higher dividend pay-out ratios across most of the last decade compared to international peers, as shown in

[277] See https://www.ecb.europa.eu/pub/financial-stability/fsr/html/index.en.html.

*Figure **9**.*

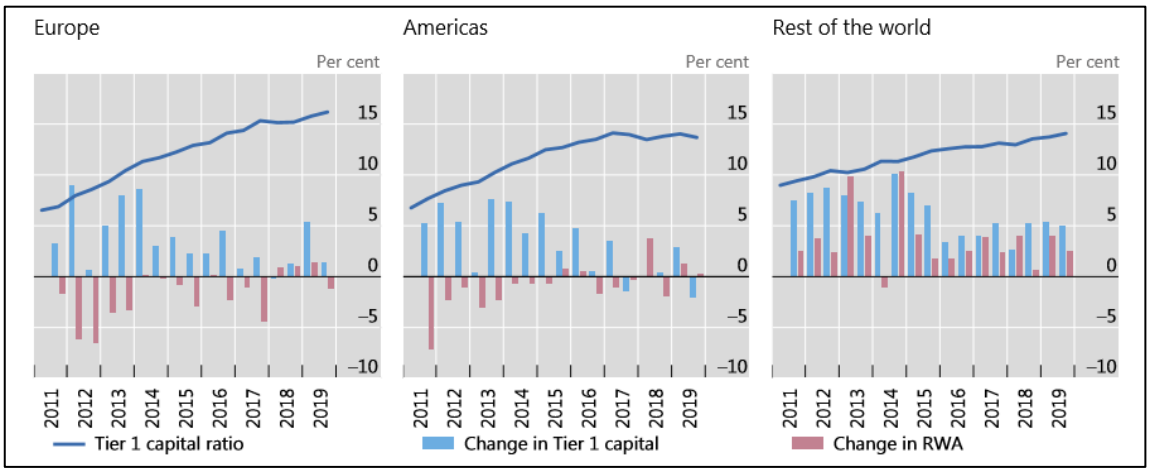
Figure 9 : Evolution between 2011 and 2019 of the profits of the largest banks, and their distributions, by region



Source: Basel III Monitoring Report as of Q4 2019, December 2020, BCBS. Note: For each region, the profit and profit's distribution indicators gather data from the Group 1 banks of the region participating to the regular Basel III monitoring exercise performed by the BCBS. The dividend payout ratio is calculated as common share dividends divided by profits after tax by using a rolling 12 months window.

In light of this context, *Figure 10* shows that EU banks have built up their capital ratios faster than their international peers over the decade following the GFC and have "closed" the decade with, on average, higher capital ratios than their international peers. Furthermore, *Figure 10* shows that EU banks achieved this by both reducing their risk weighted assets and by increasing their capital stock through retained earnings and new capital issuance.

Figure 10 : Evolution between 2011 and 2019 of the Tier 1 capital ratios of the largest banks, and drivers of that evolution, by region



Source: Basel III Monitoring Report as of Q4 2019, December 2020, BCBS. Note: For each region, the Tier 1 capital ratios gather data from the Group 1 banks of the region participating to the regular Basel III monitoring exercise performed by the BCBS. The figure shows the fully phased-in initial Basel III reforms for the data points up to and including the end of 2018 and the actual prudential framework (i.e. initial Basel III reforms with regional adjustments, if any) applicable for all the data points afterwards.

Despite their improved capital position, EU banks would still see a much higher average increase in capital requirements compared to their international peers when implementing the final Basel III reforms assuming full alignment (the average increase for US banks would be below 2%, whereas for bank from other regions of the world there would actually be a decrease in capital requirements, by more than 5% on average). This is clearly shown in the latest Basel III monitoring report[278] also based on Q4 2019 data (see

[278] See https://www.bis.org/bcbs/publ/d512.htm.

*Figure **11***). These differences in the impacts across regions could be explained by the following reasons:

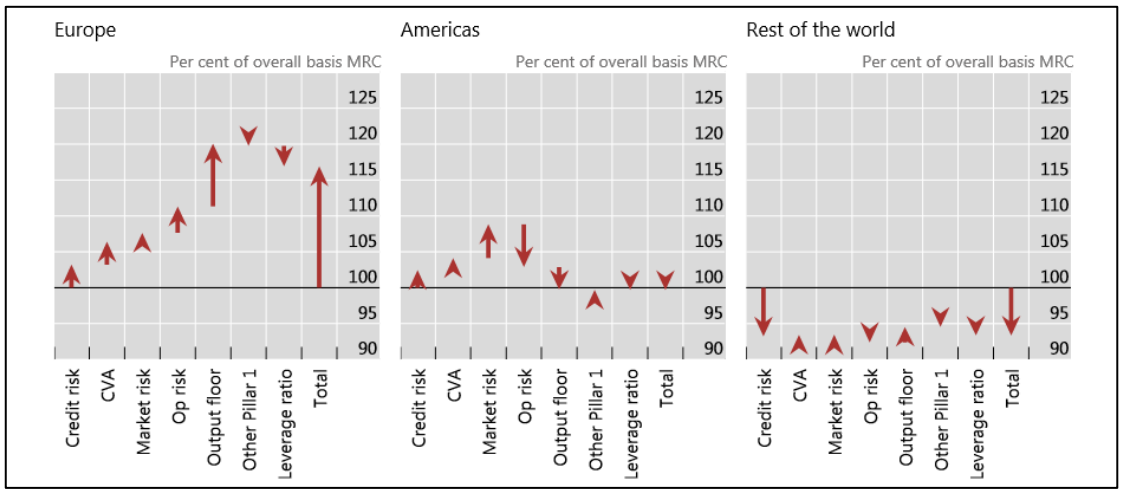
- compared to US banks, the difference likely arise due to a combination of a different financing model for US banks and the application, at least at this point in time, of stricter prudential requirements in the US compared to those contained in the final Basel III reform (and compared to those currently applied by EU banks). As shown in

- *Figure **11***, US banks would be much less impacted by the introduction of the output floor since US rules already contain a similar mechanism, introduced by US authorities after the GFC. In addition, US banks would be less impacted by the changes related to credit risk due to the wider recourse to securitisation, which allows them to remove a high portion of loans from their balance sheets. However, US banks would be more impacted by the revised market rules on trading activities than EU banks reflecting the high market share of those types of activities for US banks;
- compared to banks in other regions of the world[279], the differences likely arise due to a combination of simpler business models, dominated by credit risk exposures, an overall lower reliance on internal models to calculate capital requirements and stricter prudential requirements compared to those contained in the final Basel III reform. As shown in

[279] This conclusion is based on the overall impacts observed in *Figure **11*** for the banks in other regions of the world and does necessary apply to all the jurisdictions included in this category, for which no conclusion could be drawn in the absence of more granular data.

- *Figure **11***, those banks would see an overall decrease of capital requirements when implementing the final elements of the Basel III reform, mainly driven by the changes to the credit risk capital requirements. This observation, combined with the fact the output floor would have almost no impact on those banks, leads us to believe that those banks use the standardised approach for credit risk for the vast majority of their exposures. The impact of the reforms affecting the capital requirements for trading activities (i.e. market and CVA risks) would also be very limited, which would indicate that those types of activities account for a small portion of the overall activities of those banks.

Figure 11: Breakdown of impacts of implementing the final elements of the Basel III reform on banks' Tier 1 MRC by region.



Source: Basel Committee on Banking Supervision, Basel III monitoring exercise, October 2019. Note: These impacts show, for each region, the changes in the overall Tier 1 MRC of all Group 1 banks of the region participating to the regular Basel III monitoring exercise performed by the BCBS.

The significantly higher increase in capital requirements that would be incurred by EU banks when implementing the final elements of the Basel III reforms (under the full alignment option) would likely lead to a further increase in their cost of capital[280] and hence to a decrease in their relative[281] price competitiveness (the magnitude of the decrease would also depend on how much of the increase in the cost of capital could be absorbed by the banks, and not passed on to their clients). It may also lead to a temporary decrease in the attractiveness of EU banks to investors in case banks decided to retain a high portion of their profits to build up the necessary capital to meet the increased requirements (although it is also possible that banks would actually keep dividend payments high in order to attract investors to buy new capital the banks would issue to meet those requirements).

Note that the change in the relative price competitiveness of EU bank will also depend on the exact way in which the other jurisdictions will implement the final elements of the Basel III reform. For example, it is not necessarily the case that those jurisdictions that currently apply to their banks stricter requirements than those included in the final Basel III standards would decide to lower the level of their existing requirements to the level foreseen in those standards.

[280] According to the Modigliani-Miller theorem, under certain conditions, an increase in the cost of equity would be offset by a corresponding decrease in the cost of debt, resulting in an unchanged cost of capital. However, since those conditions are usually not met in the real world (e.g. because of the preferential tax treatment of debt), this offset would not be perfect, and the increased cost of equity for EU banks would result in an increase in their overall cost of capital.

[281] The competitiveness of EU banks would deteriorate in relative term, but not necessarily in absolute terms (e.g. to the extent that EU banks currently have a more competitive price for a certain service, the gap with the prices offered by non-EU banks may close, but not necessarily reverse).

To ensure that there would not be a significant deterioration in the competitive position of EU banks as compared to their international peers the preferred policy option would introduce a number of EU specific adjustments that would reduce the increase in capital requirements due to the implementation of the final elements of the Basel III reform (as shown in Section 6.1). For example, the preferred policy option would allow adjusting capital requirements for trading activities, for which EU banks directly compete with their international peers on the global financial markets, in case other jurisdictions would significantly lower the capital requirements for those activities in their local implementation of the Basel III reform. Although the adoption of the preferred policy option would significantly reduce the impact of the reform on EU banks, the impact in terms of capital requirements may still remain higher than in other member jurisdictions implementing the Basel III reform. Also for this reason the preferred policy option would give EU banks 2 additional years to comply with the revised capital requirements than recommended by the BCBS.

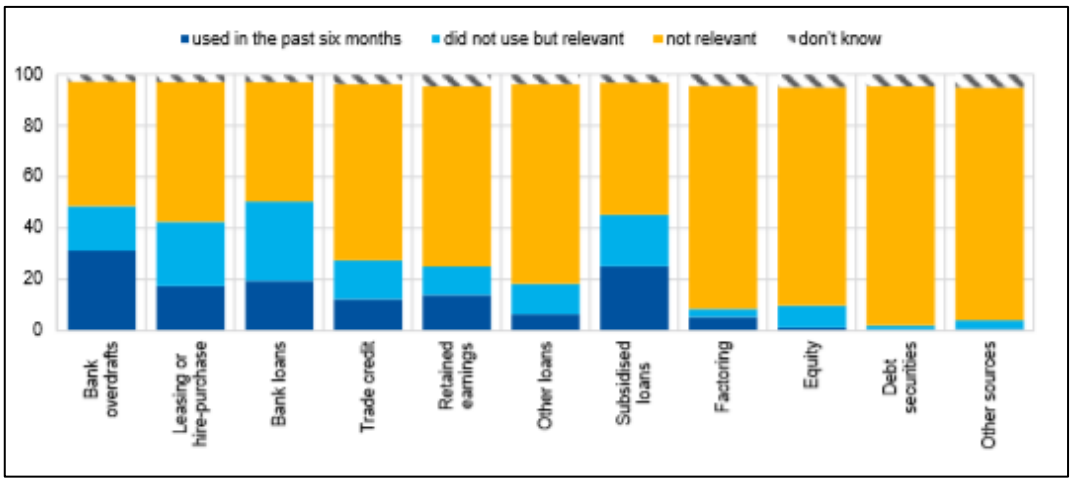
The strengthened capital position of EU banks resulting from the reforms, as implemented under the preferred policy option, would restore the market confidence in the EU banking sector and thus increase its attractiveness for investors.

3. Impact on SMEs

As shown in *Figure 12*, SMEs rely heavily on banks to finance their business. It is therefore important to ensure that the implementation of the final elements of the Basel III reform does not result in a material deterioration in the banks' ability to finance SMEs.

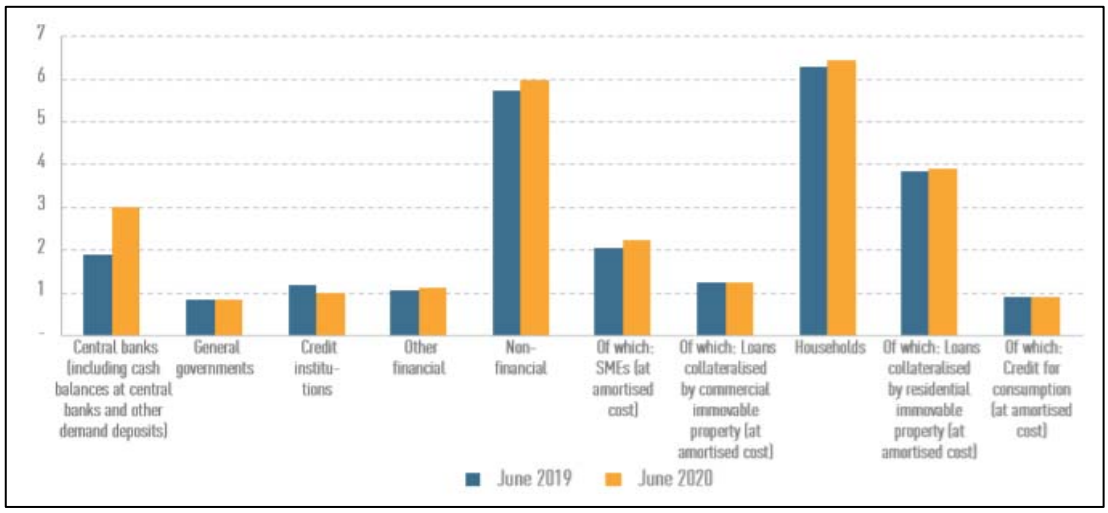
As illustrated by *Figure 13* in EU banks' loans and advances to SMEs occurred between June 2019 and June 2020.

Figure 12: Relevance of various financing sources of euro area SMEs.



Source: Survey on the Access to Finance of Enterprises in the euro area (SAFE survey), ECB, November 2020. The sources of SMEs financing are gauged by the number of responses from participating SMEs to the SAFE survey conducted by the ECB between April and September 2020.

Figure 13: Evolution of EU banks loans and advances (in EUR trillions), by segment, between June 2019 and June 2020



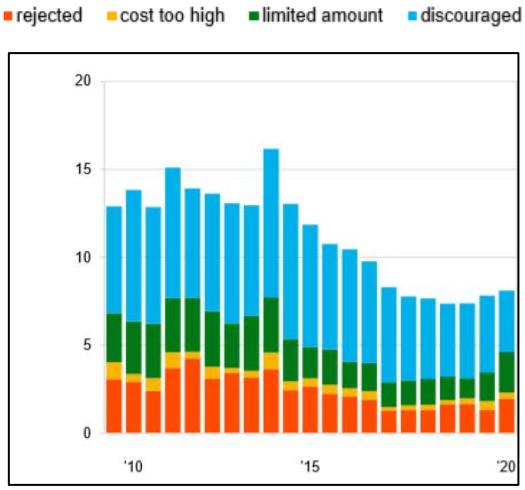
Source: Risk Assessment of the European banking system, EBA, December 2020

As observed in

*Figure **14***, the obstacles to EU banks' financing of SMEs have been progressively reduced during the second half of the previous decade. It is likely that this was mainly due to the easing of the financing conditions spurred by the economic recovery during that period (after the severe recession during the previous years). However, it is possible that this trend may also have been influenced[282] by the introduction of policy measures in the CRR seeking to reduce the overall banks' capital requirements for SMEs' exposures (e.g. the introduction of the SME supporting factor and the exemption of derivatives transactions with non-financial companies from the capital requirement for CVA risk).

[282] While there isn't sufficient empirical evidence to claim that those measures have actively facilitated the easing of financing conditions for SMEs, it may be said that they likely contributed to preventing a deterioration in those conditions (by limiting increases in banks' capital cost associated with SME finance following the implementation of the initial Basel III reform in the EU).

Figure 14: Obstacles to receiving a bank loan by euro-area SMEs (by % of SME responses)



Source: Survey on the Access to Finance of Enterprises in the euro area (SAFE survey), ECB, November 2020.

The potentiation deterioration of EU SMEs' financial situation as a consequence of the COVID-19 crisis [283] may lead to an increase in SME defaults and consequently in higher capital requirements for EU banks (non-performing exposures are subject to higher capital requirements compared to performing ones). This effect would, in turn, tighten the future financing conditions for the remaining SMEs (decrease the availability of credit or increase the cost of credit).

In this context, the implementation of the final Basel III standards has been carefully assessed in order to ensure it would not disrupt banks' financing to SMEs. To that end, the preferred option contains proposes a number of adjustments to the Basel standards:

- the existing SME supporting factor as well as the existing exemption of derivative transactions with non-financial companies (including SMEs) from the capital requirement for CVA risk would be maintained. ;
- for banks using internal models for credit risk, a transitional treatment for unrated companies under the output floor would be introduced. This would reduce the capital requirement for credit risk related to SMEs exposures under the output floor (the vast majority of EU corporates, including SMEs, are unrated);
- long-term equity holdings in unlisted SMEs would not be considered as speculative holdings. Hence, these equity holdings would benefit from the ordinary treatment of equities, which entails lower capital requirements than speculative equity holdings.

The individual impacts of the above measures, as estimated by the EBA, are provided in Section 6.1.

[283] In its latest SAFE survey, the ECB has already observed this trend (see https://www.ecb.europa.eu/stats/ecb_surveys/safe/html/ecb.safe202011~e3858add29.en.html)

The other policy measures that would be included in the legislative proposal would affect banks' overall day-to-day risk management and supervision, and would therefore not have a direct impact on banks' financing to SMEs.

4. Macro-economic costs and benefits analysis

This section presents the macroeconomic costs and benefits analysis of the implementation of the final elements of the Basel III reform in Union law. Other measures included in this legislative initiative were not included in the analysis because of lack of quantitative data. Nevertheless, those measures are expected to have a positive macroeconomic impact since they are aimed at improving banks' risk management, supervision and market discipline.

The analysis of the macroeconomic impacts of the implementation of the Basel III reform has been conducted by the ECB, in collaboration with the EBA, at the request of the Commission. The study updated[284] the ECB macroeconomic costs and benefits analysis included in the EBA's second impact study on the final Basel III reforms published in December 2019[285].

The ECB analysis relies on a semi-structural macroeconomic model that links the individual balance sheets of around 100 of the largest EU banks, their capital requirements based on a given prudential framework (either the current prudential framework applicable under the CRR or the final Basel III framework using certain implementation options) and a given set of forecasted macroeconomic indicators (including the annual EU Gross Domestic Product (GDP) growth) using a set of dynamic assumptions. The full description of the model and its specifications is included in Section 2 of Annex 7.

The ECB has enhanced its previous analysis presented in the EBA's second impact study with two major improvements. First, the updated ECB analysis presented results under two different implementation options for the final elements of the Basel III reforms considered in Section 5.2.1, specifically the full alignment option (option 1) and the preferred policy option (option 3). Second, in order to respond to the Commission's request to reflect the potential consequences of the COVID-19 pandemic on the impact of implementing the final elements of the Basel III reform, the ECB analysis has been performed under two different sets of forecasted macroeconomic indicators[286]. The first set has been estimated based on Q4 2019 data, i.e. before the outbreak of the pandemic[287]

[284] In this updated analysis, the ECB was able to reflect the latest available estimates of banks' individual impacts of the Basel III reforms, consistent with the overall EBA impacts shown in Section 6.1, as well as the recent ECB macroeconomic projections for the EU economy, including amid COVID-19 pandemic.
[285] See EBA second impact study on the final Basel III reforms, December 2019
[286] The forecasted macroeconomic indicators are consistent with the economic forecasts published by the Commission (see https://ec.europa.eu/info/business-economy-euro/economic-performance-and-forecasts/economic-forecasts_en).
[287] For the complete set of ECB macroeconomic projections, see https://www.ecb.europa.eu/pub/projections/html/ecb.projections201912_eurosystemstaff~c7a91336cb.en.html

(pre-COVID scenario). The second set has been estimated based on Q2 2020 data, i.e. after the first wave of the pandemic[288] (COVID scenario).

Every year starting from one year after the envisaged date of application of the final elements of the Basel III reform, the ECB analysis has produced two main macroeconomic metrics to assess the macroeconomic costs and benefits of implementing the final Basel III reforms:

- the **expected impact of the reform on EU GDP growth** as defined by the difference between the expected future annual EU GDP[289] growth as simulated under two prudential frameworks (i.e. the final Basel III standards under a given implementation option and the current prudential framework). A negative difference between two expected future annual EU GDPs growths would imply an expected macroeconomic cost resulting from the introduction of reforms, while a positive difference would imply a macroeconomic benefit;
- the **impact of the reform on banks' to support EU GDP growth in case of an economic downturn** as defined by the difference between a low percentile[290] of the future annual EU GDP distribution as simulated under two different prudential frameworks (see previous point). A positive difference between the same percentiles of the two future annual EU GDP growth distributions would imply a macroeconomic benefit from the introduction of the reform under an economic downturn, whereas a negative difference would imply a macroeconomic cost under an economic downturn. This approach is based on the so-called Growth-at-Risk (GaR) macroeconomic concept[291] which focuses on the lower tail of the simulated annual EU GDP growth distribution in order to assess the ability of the banking sector to uphold lending to the real economy, thereby supporting growth, during an economic downturn.

As highlighted in the objectives, the implementation of the final elements of the Basel III reform in the EU would increase the resilience of the EU banking system in the long term, while giving rise to limited transitional costs in the short term. The results of the

[288] For the complete set of ECB macroeconomic projections, see https://www.ecb.europa.eu/pub/projections/html/ecb.projections202006_eurosystemstaff~7628a8cf43.en.html

[289] In this context, the expected future EU GDP growth for a given year is the mathematical mean of the distribution of the EU GDPs growth generated by the model, for a given set of model specifications (ie given prudential framework and given set of ECB macroeconomic projections for the first three years).

[290] The ECB chose the 10th percentile of this distribution in their analysis.

[291] In its previous analysis presented in the EBA's second impact study, the ECB also used another, alternative methodology to assess the long-term benefits of the implementation of the Basel III reforms, based on the Long-term Economic Impact (LEI) framework developed by the BCBS. The results of this alternative methodology showed that the implementation of the Basel III reforms would lead to a 1.2% reduction in the probability of a banking crisis within the EU financial system once the reforms are fully applied and would translate into a long-term net benefit of around 0.6% permanent increase in the EU annual GDP. Due to time and resource constraints, the present analysis focuses on the GaR approach to assess the long-term benefits which has the advantage to be more intuitive than the LEI framework.

ECB analysis support this conclusion. Importantly, they also support the preferred policy option.

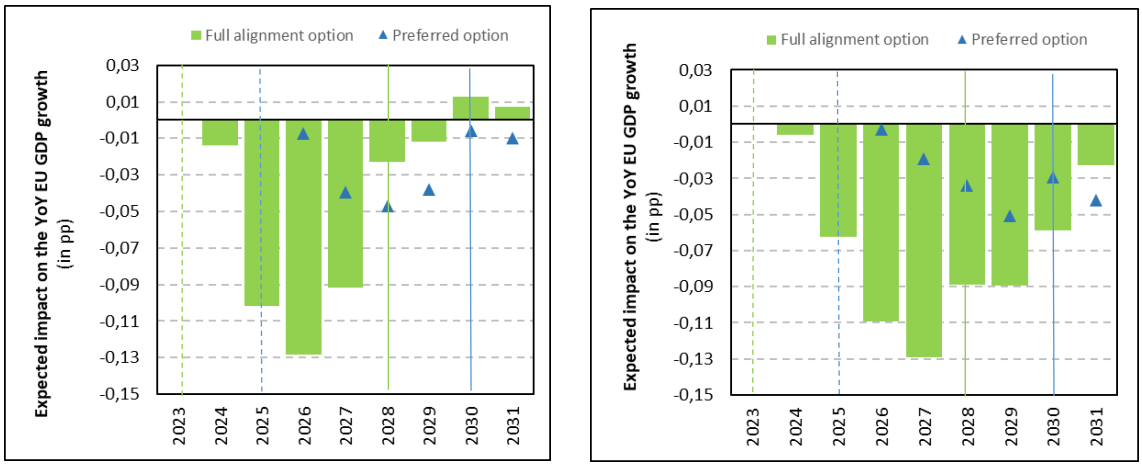
In fact, the preferred policy option appears to strike the best trade-off in terms of limiting the transitional costs in the short term while producing a reasonable permanent benefit over the long term. More specifically:

- as illustrated by *Figure 15* below, the **expected impact of the reform on EU GDP growth**, under the pre-COVID scenario and the full alignment implementation option, would amount to a moderate macroeconomic net cost in terms of the annual EU GDP growth, increasing in the first three years of application (i.e. during the transitional arrangement), with a peak size of 0.13 p.p. of annual EU GDP growth, then decreasing to less 0.025p.p of annual GDP growth at the end of the transitional arrangement when the reform would be fully applicable, and finally turning into a small benefit of 0.01 p.p. afterwards. This outcome could be explained by a limited contraction of banks' lending during the transitional arrangement while banks adjust their balance sheets. Under the more severe COVID-19 scenario, macroeconomic net costs on the annual EU GDP growth would be more pronounced for a longer period but would nevertheless remain contained, reaching a peak of 0.13 p.p. one year later than under the pre-COVID scenario, and start to slowly decrease afterwards;
- the preferred policy option would mitigate the short term macroeconomic net costs resulting from the full alignment option, first in terms of magnitude, and second, because those costs would start to affect the annual EU GDP growth later as the result of the postponement of the start of the application of the reforms to 1 January 2025. In particular, this mitigating effect reducing the cost of the reforms on the EU GDP growth as compared to the full alignment option would last longer, at least until the end of the transitional arrangement when the reforms are fully applicable. This is particularly important for the recovery of the EU economy post COVID-19 in which banks will need to play a key role.
- as illustrated by *Figure 16*, **the impact of the reform on banks' ability to support EU GDP growth during economic downturns** would be positive, with a macroeconomic benefit starting 3 years after the full application of the reform, under all the different implementation options considered. Under the pre-COVID scenario[292], the net benefit would converge in the long term to above 0.1p.p of annual EU GDP growth under the full alignment option against above 0.04% under the preferred option. These results are mainly explained by the fact that better capitalised banks (and the reform would increase capital requirements) are better equipped to keep lending in case of an economic downturn thus avoiding (or at least

[292] The ECB only provided to the Commission the impacts of the reform on banks' ability to support EU GDP growth under economic downturns using the pre-COVID scenario, the difference of impacts using the COVID scenario being negligible.

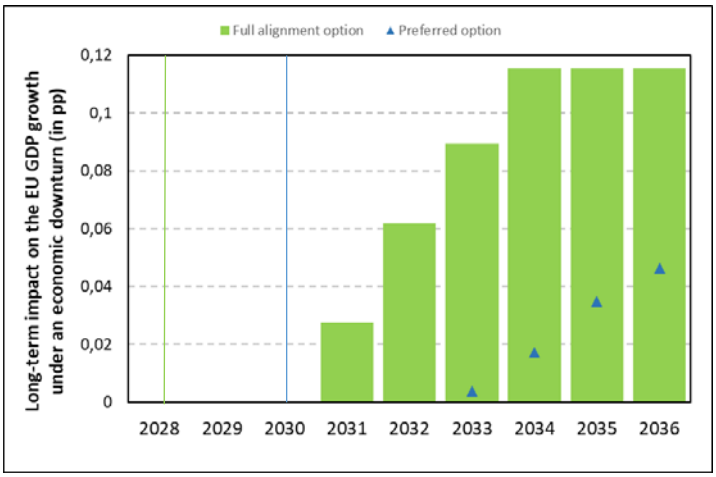
significantly limiting) the probability of a credit crunch and the negative consequences it has on economic activity.

Figure 15: Comparison between the expected impacts on the EU GDP growth over time resulting from the implementation of the final elements of the Basel III reform under the different implementation options and under the pre-COVID scenario (left-hand-side) and COVID-scenario (right-hand side).



Source: ECB analysis of the macroeconomic costs/benefits of implementing the final Basel III reforms, 2021. Note: the green and blue (resp. dotted) lines represent the date of full (resp. partial) application of the final Basel III reforms at the end (resp. start) of the transitional arrangement under, respectively, the BCBS timelines, ie 1 January 2028 (resp. 1 January 2023), and under our preferred policy option, i.e. 1 January 2030, (resp. 1 January 2025).

Figure 16: Comparison between the impact of the reforms to support EU GDP growth under an economic downturn over time resulting from the implementation of the final elements of the Basel III reform under the different implementation options and under the pre-COVID scenario



Source: ECB analysis of the macroeconomic costs/benefits of implementing the final Basel III reforms, 2021. Note: the green and blue lines represent the date of full application of the final Basel III reforms at the end of the transitional arrangement under the BCBS timelines, ie 1 January 2028, and under our preferred policy option, ie 1 January 2030, respectively.

These results corroborate the conclusions of the previous ECB analysis on the macroeconomic costs and benefits of implementing the final elements of the Basel III reform. Despite more severe economic shocks reflected in the projected macroeconomic indicators under the updated ECB analysis, banks' improved capital ratios and the reduced impact of the final Basel III reform on individual banks as compared to the previous ECB analysis[293] .

The findings presented in the updated ECB analysis are also consistent with the conclusions of previous macroeconomic studies[294,295,296] assessing the interaction between the appropriate level of banks' capital requirements and their capacity to continue financing the real economy amid economic downturns.

For the sake of completeness, it is worth mentioning another study dedicated to the macroeconomic impact of the Basel III reform on the EU economy, showing different findings than the ECB analysis. The study[297] commissioned by the European Banking Federation and conducted by the Copenhagen Economics consultancy in 2021 concluded that EU GDP would decrease by 0.4% points on a permanent basis due to the full implementation of the final elements of the Basel III reform (the study also showed that the Basel III reforms should provide societal benefits of some 0.1% of EU GDP, bringing the total net societal costs of the package to a decrease of 0.3% of EU GDP). However, the modelling assumptions taken in this analysis appear more conservative than in the ECB analysis and do not take into account the specific measures adopted in the preferred policy options to mitigate the impacts of the Basel III reforms.

[293] Section 1 and Section 6.1 provide supporting evidence for these observations.
[294] Impact of the Capital Requirements Regulation (CRR) on the access to finance for business and long-term investment, London Economics Europe, 2016 (see https://londoneconomics.co.uk/wp-content/uploads/2016/11/Assessing-the-impact-of-the-Capital-Requirements-Regulation-CRR-on-the-access-to-finance-for-business-and-long-term-investments.pdf)
[295] Optimal Bank capital, Bank of England, 2011 (see https://www.bankofengland.co.uk/external-mpc-discussion-paper/2011/optimal-bank-capital)
[296] Do Better Capitalized Banks Lend Less?, International Finance, 2014 (see https://onlinelibrary.wiley.com/doi/full/10.1111/infi.12041)
[297] See copenhagen-economics_eu-implementation-of-the-final-basel-iii.pdf (copenhageneconomics.com)

ANNEX 7: ANALYTICAL METHODS

1. EBA impact analysis

In May 2018, the Commission requested technical advice from the EBA on the implementation of the final elements of the Basel III reform in the EU. The EBA submitted its advice in two parts, on 5 August 2019 and on 4 December 2019. The first part ('August 2019 CfA response') covered the areas of credit risk, operational risk, securities financing transactions and output floor. The second part ('December 2019 CfA response') covered the areas of market risk and credit valuation adjustment risk standards, as well as a macroeconomic impact assessment carried out by the ECB. The advice included a detailed quantitative impact analysis on the implementation of the final elements of the Basel III reform in the EU, based on data as of end-June 2028.

This sample has been reduced from the 189 banks from 18 Member States and Norway included in the previous EBA analysis published in the August 2019 and December 2019 CfA responses, which covered 86% the total banking assets of those countries. As the consequence, some Member States (see

Table **1**) and business models (see *Table 3*) were not represented in the sample used for the December 2020 CfA response, while others had a much more limited representation. In addition, the coverage in terms of small and medium-sized banks was considerably reduced (4 small banks and 22 medium-sized banks; see *Table 2*).

The level of coverage varies across jurisdictions (see ***Error! Reference source not found.*** below). It is lowest for Austria (13%) and varies from 42% to 143% of the remaining jurisdictions. The coverage reaches above 100% in those jurisdictions where some QIS participants are EU-located subsidiaries of non-EU controlled (e.g. US) groups and are therefore not included in the denominator of the coverage ratio. It should be noted that while at the EU level the reduction in coverage relative to the August 2019 and December 2019 CfA responses is not considered material, this is not the case for some countries. In particular, the coverage in Austria (from 74% to 13%), Luxembourg (from 103% to 65%) and Poland (from 88% to 42%) has dropped significantly. Therefore, for those Member States the results in the December 2020 CfA response are much less representative and are either not displayed in the country breakdowns or, if displayed, should be interpreted with caution.

In order to avoid double-counting the impacts, banks participating in the QIS data collection exercise were asked to report data at the highest level of EU consolidation. Unless stated otherwise, subsidiaries of EU parents are included in the average calculations only when impact results are presented by business model or by country, provided that they do not belong to the same business model or country as their parent entity.

Table 1: Breakdown of banks included in Q2 2018 and Q4 2019 samples of EBA quantitative impact analysis, per Member States

Member States	Number of banks		Q4 2019 sample coverage in terms of banking assets in Member States
	Q2 2018 sample	Q4 2019 QIS sample	
AT	15	5	13%
BE	7	4	93%
DE	40	24	56%
DK	8	4	89%
EE	2	0	-
ES	10	6	79%
FI	5	1	71%
FR	14	7	87%
GR	2	3	73%
HU	1	1	75%
IE	8	8	143%
IT	24	11	89%
LU	6	2	65%
MT	1	0	-
NL	12	7	89%
NO	6	2	67%
PL	9	4	42%
PT	6	4	72%
SE	11	6	84%
Total	189	99	76%

Source: Basel III reforms impact study, EBA, December 2020

Notes: Percentages higher than 100% are due to the presence of foreign-controlled (non-EU) subsidiaries in the QIS sample of certain EU Member States (e.g. subsidiaries of US institutions located in the EU

The EBA quantitative impact analysis used two other criteria to differentiate the impacts of the final elements of the Basel III reform on EU banks:

- bank size - the EBA defined three size categories: large, medium and small. The definitions of 'large' and 'small' banks were based on the respective CRR definitions[298] ('medium' banks, which are not defined in the CRR, are banks that meet neither of the CRR definitions);
- bank business model - the EBA defined thirteen business model categories: cross-border universal banks (Cross-Border U), local universal banks (Local U), automotive and consumer credit banks (Autos & Cons), building societies (Building Soc), locally active saving and loan associations/cooperative banks (S&L/Coop), private banks (Private), custody banks (Custody), central counterparties (CCP), merchant banks (Merchant), leasing and factoring banks

[298] See point 146 of Article4 of the CRR for the definition of large banks and point 145 Article 4 of the CRR for the definition of small (and non-complex) banks.

(Leasing), public development banks (Public Dev), mortgage banks[299] (Mortgage), and other specialised banks (Other special). These categories are further described in the August 2019 CfA response.

Table 2: Breakdown of banks included in Q2 2018 and Q4 2019 samples of EBA quantitative impact analysis, per size

Size	Number of banks	
	Q2 2018 sample	Q4 2019 QIS sample
Large	104	73
of which: G-SIIs	8	8
of which: O-SIIs	67	46
Medium	61	22
Small	24	4
Total	189	99

Source: Basel III reforms impact study, EBA, December 2020; European Commission estimates.

Table 3: Breakdown of banks included in Q2 2018 and Q4 2019 samples of EBA quantitative impact analysis, per size

Business Model	Number of banks	
	Q2 2018 sample	Q4 2019 QIS sample
Cross-border U	40	34
Local U	52	31
Auto & Cons	7	2
Building Soc	6	2
S&L / Coop	34	11
Private	8	2
Custody	7	3
CCP	1	1
Merchant	5	2
Leasing	1	0
Public Dev	10	4
Mortgage	8	5
Other special	10	2
Total	189	99

Source: Basel III reforms impact study, EBA, December 2020; European Commission estimates.

Methodology

The methodology used to calculate the impact estimates in terms of change in minimum capital requirements, regulatory capital ratios and shortfalls remained unchanged in relation to the estimates published in the August and December 2019 CfA responses (the full details of the methodology used is described in the respective responses).

[299] Including pass-through financing models.

The impact estimates are not directly comparable to those of the Basel III monitoring report as of the same date (i.e. based on Q4 2019) which have been published by the EBA in December 2020[300]. This is due to the fact that they are based on different samples of EU banks but also to some methodological differences, as described in the December 2020 CfA response.

In accordance with the requests of the Commission in its CfA, the impact analysis presented in this December 2020 CfA response is based on two different implementation options for the final elements of the Basel III reform in the EU.

The first implementation option (labelled 'Basel III') corresponds to the Basel III central scenario in the August 2019 and December 2019 CfA responses. It represents the situation as it would have been in Q4 2019 if the Basel III framework had already been fully implemented and the transitional period had passed. The impact estimates under this option are used to quantify the policy option 1 in Section 5.2.1.

The second implementation option (labelled 'EU-specific') considers additional EU specific adjustments requested by the Commission in its CfA, specifically:

- maintaining the supporting factor for exposures to SMEs as amended by the CRR II under both the SA-CR and the IRBA[301] (including for the purpose of the output floor calculation);
- maintaining the current CVA exemptions[301];
- reusing the eligibility criteria of the original exposure method (OEM) (see Article 273a(2) of the CRR) for the eligibility criteria of the simplified method for calculating the capital requirements for CVA risk;
- assuming that the discretion included in the final Basel III framework to set ILM equal to 1 in the SMA for operational risk would be exercised permanently for all 'bucket 2' and 'bucket 3' banks.

The impact estimates of the EU-specific scenario included in the December 2020 CfA response serve as a starting point to quantify the impact of policy options 2 and 3 in Section 5.2.1. In fact, those policy options propose a number of additional EU specific adjustments that the EBA was unable to quantify due to data constrains. Since the EU-specific scenario does not include the additional EU specific adjustments, the impacts of those policy options are overestimated. Therefore, in order to produce more realistic estimates of the actual impacts of those two policy options, the Commission services used expert judgement and additional data sources to estimate the impact of the additional EU specific adjustments. These estimates do not have the same degree of

[300] See https://www.eba.europa.eu/sites/default/documents/files/document_library/Publications/Reports/2020/960797/Basel%20III%20monitoring%20report%20-%20Dec%202020.pdf.

[301] In the absence of available impact estimates for this EU specific adjustment in the end-December 2019 QIS templates, the EBA use for this EU specific adjustments a proxy impact estimates based on the Q2 2018 data

accuracy than the quantitative estimates carried by the EBA and must be interpreted with caution.

Furthermore, the analysis for the proposed approach to implement the output floor under policy options 2 and 3 in Section 5.2.1 is based on the estimates of the 'alternative approach' included in the December 2020 CfA response. This alternative approach provides a good proxy for the proposed approach to implement the output floor but it may overestimate its actual impact since the potential reduction of the P2R and the SyRB requirement as the result of supervisory action is not quantified. As explained in Section 5.2.1, such supervisory action would be proposed in order to avoid double counting aggressive modelling risk under the proposed approach.

It is also important to note that under both the Basel III and EU-specific scenarios used in the December 2020 CfA response, the impact of the final CVA framework published in July 2020 is reflected via a robust proxy (see the description of proxy in the response).

Finally, as requested by the Commission in its CfA, the EU-specific scenario also includes the effects of some support measures that have been adopted in 2020 to mitigate the effect of COVID-19 crisis on EU banks, specifically the frontloading of the prudential treatment of software assets adopted as part of the CRR quick fix package and the frontloading of the change in the P2R composition adopted by the ECB[302]. In order to assess the pure impact of the final elements of the Basel III reform under this scenario, the EBA assumed that these policy measures were already in place in Q4 2019. Therefore, the effect of these measures are not reflected under the impact estimates of the EU-specific scenario published in the December 2020 CfA response[303].

With regard to the specific analysis on the combined effect of the final elements of the Basel III reform and the potential effects of the COVID-19 crisis, the EBA had to develop several hypothetical scenarios on the potential deterioration of the financial situation of EU banks' borrowers and the effects of maintaining some support measures put in place by Member States and competent authorities should the crisis last, as requested in the Commission August 2020 CfA. All these assumptions are extensively described in the December 2020 CfA response. This combined effect has only been assessed by the EBA under the EU-specific scenario.

Limitations/Caveats

The updated impact analysis contained in the December 2020 CfA response is subject to the following limitations/caveats, which have to be taken into account when interpreting the results of the analysis:

[302] See https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200312~45417d8643.en.html.

[303] For the sake of completeness, the EBA also provided in an annex to the December 2020 CfA response a partial set of impact estimates under the EU-specific scenario in which the effects of these support measures are visible. However, for the sake of comparison with the Basel III scenario, in which these support measures are not reflected, this impact assessment uses the impact estimates of the EU-specific scenario in which the support measures are not reflected.

- limited sample: the sample of banks included in the December 2020 CfA response is significantly smaller than the sample used for the August and December 2019 CfA responses. As observed in the above description of the sample used, EU banks in some Member States are absent from the sample and the number of EU banks in certain categories is too limited to be representative;
- conservative assumptions for the impact estimates: as for the August 2019 and December 2019 CfA responses, a number of simplifying and conservative assumptions have been applied for the impact estimates in the December 2020 CfA response. These assumptions are likely to result in an overestimation of the impacts. For instance, the EBA used the assumption of a static balance sheet under which banks do not react to the revised requirements by adjusting their businesses and/or managing their regulatory capital costs. Also, the EBA used conservative proxies to estimate some impacts in the situation that the actual impacts in the Q4 2019 data were not available (e.g. for the EU specific adjustment on the SME supporting factor and for the impact of the final CVA framework);
- conservative assumptions under the COVID-19 scenarios: as explained in Section 6.1, the EBA used very conservative assumptions in its specific quantitative analysis of the combined effect on EU banks of the final elements of the Basel III reform and the potential consequences of the COVID-19 crisis. In particular, the EBA methodology uses a stress-testing approach which assumes a simultaneous deterioration in the financial situation of all borrowers of EU banks, i.e. even for borrowers that do not currently experience difficulties. Also, the most severe COVID-19 scenario assumes two cumulative shocks, one global and one sectorial, to infer the deterioration of the financial situation of EU banks' borrowers. This scenario considers that the application of a sectorial shock only would not be sufficient to assess the impacts on the sectors of the real economy that are the most affected by the COVID-19 crisis.

2. ECB macroeconomic costs and benefits analysis

The ECB macroeconomic analysis presented in this impact assessment is an update of the previous macroeconomic analysis published in the December 2019 CfA response.

Following the one-year delay for the implementation of the final elements of the Basel III reform agreed by the BCBS in the wake of the COVID-19 pandemic, the Commission asked the ECB in August 2020 to update its quantitative impact analysis with the most recent available data, considering the potential impact of the COVID-19 pandemic on the EU banking sector and the wider economy.

Data sources

The structure of banks' balance sheets is sourced from the stress test templates of the 2018 EU-wide exercise and updated with the information from FINREP / COREP based on Q4 2019 data. Estimated impacts of the final elements of the Basel III reform are based on the templates used for the regular Basel III monitoring exercise based on Q4 2019 data. The data sources are therefore consistent with the EBA impact analysis presented in the December 2020 CfA response.

The bank-level behavioural dynamics and their sensitivity to external factors (e.g. IRFS 9 parameters) are estimated with the use of FINREP / COREP data, balance sheet items (BSI) and MFI interest rate (MIR) statistics collected by euro-area central banks for monetary policy purposes, public bank-level information, and external market data. The macroeconomic dataset consists of the aggregate information from Eurostat on national accounts, price indices, interest rates and central bank assets approximating the intensity of unconventional monetary policy.

Sample of the analysis

The ECB macroeconomic impact analysis includes 100 EU banks from 19 euro-area Member States and one Norwegian bank, reporting data of sufficient quality at the highest level of consolidation. This sample covers over 70% of total euro-area banking sector assets. The country breakdown of banks included in the sample is provided in *Table 4* below. No additional information about the profiles of the banks included in the sample has been provided by the ECB. The findings of the ECB analysis included in this impact assessment relate to both the EU and Norwegian economies but only references to the EU economy have been included for the sake of simplicity.

Table 4 : Breakdown of banks included the Q4 2019 sample of ECB macroeconomic analysis, per Member States and Norway

Member States	Number of banks in the sample
AT	6
BE	6
CY	2
DE	20
DK	3
EL	4
ES	11
FI	2
FR	10
HU	1
IE	4
IT	9

LU	5
MT	2
NL	6
NO	1
PL	2
PT	2
SE	3
SI	2
Total	101

Source: ECB

Methodology

The ECB macroeconomic impact analysis relies on the Banking Euro Area Stress Test (BEAST) model which is a semi-structural macroeconomic model that links the dynamics of individual banks' balance sheets with macroeconomic indicators[304].

Using a set of dynamical assumptions, the model links the individual banks' balance sheets to their capital requirements based on a given specification for the applicable prudential framework (either the current prudential framework under the CRR or an implementation option for the final Basel III framework) and a given set of macroeconomic indicators (including the EU Gross Domestic Product (GDP) growth). For a given specification, the model generates multiple times the potential evolution of the macro-economic indicators for every year over a long time horizon, leading to a probabilistic distribution of these indicators each year. To be consistent with the official ECB forecasted macroeconomic indicators[305], the model is calibrated to match those forecasts over the first three years of the time horizon, and thereafter these indicators are generated according to the model dynamics.

On the asset side of banks' balance sheets, the model distinguishes various classes of banks' exposures and applies dynamical assumptions for the evolution of the IFRS 9 credit stages to those exposure classes (stage 1 to3) using endogenous transition rates that depend on the macroeconomic indicators. The dynamics assumptions also adjust, for each exposure class, banks' loan volumes and the interest rates charged on those loans in response to loan demand conditions, monetary policy rates and depending on their own capital position, profitability or the quality of assets.

On the liability side of banks' balance sheets, the model distinguishes various forms of deposits and their level depending on the types of banks' depositors. The dynamical

[304] For more details in about this model, see ECB Working papers series, December 2020 (https://www.ecb.europa.eu/pub/pdf/scpwps/ecb.wp2469~a139d2f5cd.en.pdf?a8fe33c3c9c7d0c629daa9d9c9b1e6b3).

[305] See https://www.ecb.europa.eu/pub/projections/html/index.en.html; these projections are consistent with the Commission's economic forecast.

assumptions changes banks' costs of funding depending on the macroeconomic conditions and, as regards wholesale funding, on banks' capitalisation and asset quality.

Regarding banks' profits and losses, the model recalculates banks' net interest income, loan loss provisions and net fee and commission income in details over the simulation. Certain components of P&L, such as dividend income or changes to the trading book assets, follow a simpler evolution generated by dynamic assumptions.

The model also incorporates a number of support measures adopted in light of the COVID-19 crisis, including country-specific public moratoria and guarantee schemes adopted by Member States as well as capital release measures adopted by the ECB and supervisory authorities[306].

The effects of the final elements of the Basel III reform are assessed using the same data impacts and broad methodology than the EBA analysis, although the sample of banks included in the ECB analysis is slightly different. The ECB analysis includes two implementation options for the implementation of the reform. The first implementation option is based on the full alignment with the final Basel III standards and BCBS timelines, similar to option 1 in Section 5.2.1. The second implementation option is based on the implementation of the final Basel III standards with the introduction of EU specific adjustments (these adjustments are limited to those that EBA was able to quantify; see Section 1 of this Annex). The second implementation option is also based on the same 'alternative approach' for the implementation of the output floor as in the EBA updated impact analysis. Therefore, the second implementation option could be considered as a good proxy for the impact of the preferred option in Section 5.2.1

Every year starting from one year after the envisaged date of application of the final elements of the Basel III reform, the ECB analysis produces two main macroeconomic metrics to assess the macroeconomic costs and benefits of implementing the reform:

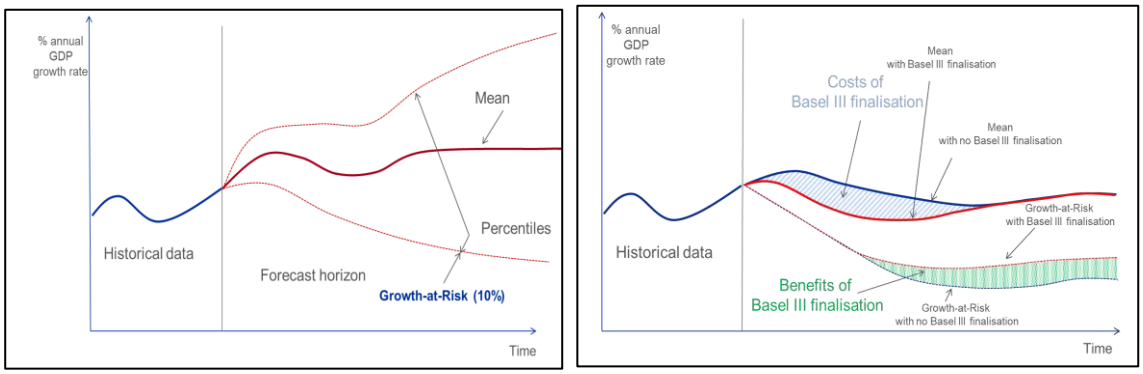
- the expected impact of the reform on EU GDP growth as defined by the difference between the expected future EU GDP[307] growth as simulated under two different set of rules for the capital requirements calculations, the first one based on one of the options considered for implementing the final elements of the Basel III reform and the second one based on the current prudential framework. A negative difference between two expected future EU GDPs growths would imply an expected macroeconomic cost resulting from the introduction of the reform, and vice versa. It is important to note that in the ECB model an increase in banks' capital requirements can lead to a reduction in bank lending, and occasionally a reduction in GDP growth;

[306] For more detailed description see Budnik et al. (2021), Policies in support of lending following the coronavirus (COVID-19) pandemic, ECB Occasional Paper, mimeo

[307] In this context, the expected future EU GDP growth for a given year is the mathematical mean of the distribution of the EU GDPs growth generated by the model, for a given set of model specifications (ie given prudential framework and given set of ECB projected macroeconomic indicators for the first three years).

- the impact of the reform to support EU GDP growth under economic downturns as defined by the difference between a low percentile[308] of the future EU GDP distribution as simulated under two different sets of rules for the capital requirements calculations, the first one based on one of the options considered for implementing the final elements of the Basel III reform and the second one based on the current prudential framework. A positive difference between the same percentiles of the two future EU GDP growth distributions would imply a macroeconomic benefit from the introduction of reforms under an economic downturn, and vice versa. This approach is based on the so-called Growth-at-Risk (GaR) macroeconomic concept which focuses on the lower tail of the simulated EU GDP growth distribution in order to assess the ability of the banking sector to keep lending to the real economy during an economic downturn, thereby supporting growth.

Figure 17: Illustration of the macroeconomic metrics produced by the ECB model.



Source: ECB

Limitations/Caveats

The ECB macroeconomic impact analysis is subject to the following limitations/caveats, which have to be carefully taken into account when interpreting the results:

- limited sample: as for the EBA updated impact analysis, the sample size used in the ECB analysis is limited to the largest banks of EU Member States and Norway. However, these banks hold the majority of banking assets in those countries;
- assumptions of the macroeconomic model: the assumptions of the ECB model tend to translate an increase in banks' capital requirements into a reduction in banks' lending and a reduction in EU GDP growth. This assumption is rather conservative and, may not be met in reality (for instance, the large increase in EU banks' capital requirements resulting from the reforms adopted post-GFC did not lead to a large reduction in bank lending);

[308] The ECB chose the 10th percentile of this distribution in their analysis.

- overestimation of the impact of the EU specific implementation option: similarly to the EBA updated impact analysis, the ECB analysis only reflected a limited number of EU specific adjustments that are proposed under options 2 and 3 of Section 5.2.1. This may lead to an overestimation (underestimation) of the macroeconomic costs (benefits) of the reform, although likely not to a significant degree.