KPMG

Basel 4: The way ahead

Piecing the jigsaw together

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Contents

01 Introduction

The Basel Committee published in December 2017 a revised set of minimum standards for the capital treatment of credit risk, operational risk and credit valuation adjustment risk, and for a new output floor to limit the extent to which banks will be able to use internal models for credit and market risk to drive down capital requirements.

The revised capital standards are due to be implemented in January 2022, and the output floor to be phased in from 2022 to 2027. The implementation of the revised framework for market risk (mostly finalised by the Basel Committee in January 2016) has been put back to January 2022.

KPMG member firms have issued a series of papers considering the implications for banks of the different elements of Basel 4 – the new standardised and internal ratings based approaches to credit risk, the impact of the output floor on market risk, operational risk, and credit valuation adjustment risk (see page 11).

Four key issues for banks emerge from this analysis:

- Some banks will face significantly higher minimum capital requirements as a result of these new Basel Committee standards, driven in part by their business and its specific characteristics;
- For many banks the most significant impact will be on the need to upgrade their data, systems and (internal and external) reporting;
- Banks face important decisions on whether to apply to use internal model approaches (where these are still available), whether to adjust their asset portfolios in response to changes in risk weightings, and (where necessary) whether to improve their capital ratios through issuing new capital, retained earnings, or a reduction in risk weighted assets; and
- The impact of the revised capital standards needs to be assessed and responded to in the broader context of other regulatory reforms and market developments that banks are having to adapt to – the ECB's review of internal models, additional loss absorbing capacity (MREL), recovery and resolution planning, addressing non-performing exposures, IFRS 9, additional supervisory reporting and Pillar 3 public disclosures, the possibility of changes to the capital treatment of sovereign risk exposures, and the competitive threats and opportunities posed by fintech.

02 Implications for banks

Some banks may face significantly higher minimum capital requirements as a result of the new Basel Committee standards.

KPMG professionals estimate that if the revised standards were implemented in full for the 128 European banks in the EBA Transparency data sample then, on average, the common equity tier 1 (CET1) capital ratios of these major European banks would fall by around 2 percentage points. However, the range is wide: around 15 percent of banks would see a fall in their CET 1 ratio of greater than 5 percentage points, while almost a quarter of banks would see limited change (a fall in their CET 1 ratio of less than 50 basis points).

For banks using the internal ratings based (IRB) approach to credit risk the output floor can have a significant impact. The largest impacts (CET1 capital ratio reductions of 5 percentage points on average) would fall primarily on banks in Sweden and Denmark, reflecting the distribution of their asset portfolios (a higher concentration of residential real estate exposures) and the extent to which they have used internal models to derive lower capital requirements. The output floor will have much less impact in banks where the use of internal models is much lower, for example as in Spain.

Some banks using the IRB approach will also be affected by the constraints on the use of internal models to measure credit risk – these constraints will force banks to apply higher risk weights to exposures where no internal model approach can be used (equities); where the advanced IRB approach can no longer be used (exposures to banks and to large corporates); and where tougher parameter constraints apply under IRB approaches (in particular on mortgage lending and credit card lending).

Banks moving from the current to the revised standardised approach for credit risk will face higher capital requirements for some types of lending, including buy-to-let and similar exposures to property where repayment relies on income from the property. However, for some banks the lower risk weights on high quality credit exposures under the revised standardised approach may result in reduced capital requirements.

The new standardised approach for operational risk generates a much higher capital charge for banks that previously used a more advanced approach, or that have high recent misconduct costs.

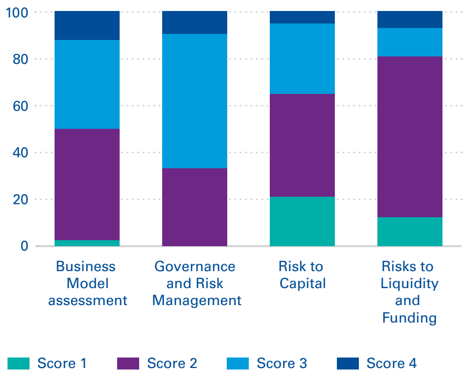
Capital requirements for counterparty credit risk will increase for banks that have to switch from using an internal model method for credit risk mitigation to the more penal standardised approach to counterparty credit risk.

The impact on banks will be cushioned by the long transitional period, in particular for the output floor, although – as with earlier elements of Basel 3 – banks may face pressure from supervisors, rating agencies and market analysts to meet the 'fully loaded' revised standards ahead of schedule.

Banks may also gain some offset to higher Pillar 1 capital requirements through national supervisors agreeing to reduce Pillar 2 requirements or other capital buffers – on the basis that these add-ons reflected in part the risks posed by the use of internal models. In addition, banks that can demonstrate good internal modelling and strong systems and controls for operational risk could potentially gain a partial Pillar 2 offset to higher Pillar 1 requirements.

Overall, however, the prospect of Pillar 2 reductions appears limited – the ECB and the PRA have been increasing Pillar 2 requirements in recent years, and in many cases this has been driven by weaknesses in banks' governance and controls and by business model assessments rather than by concerns over banks' use of internal models to calculate Pillar 1 capital requirements (see chart below).

SREP scores by element in 2017 (percent)



Share of Supervisory Review and Evaluation (SREP) scores for banks directly supervised by the ECB. Score of 1/2/3/4 denotes minor/moderate/significant/severe weaknesses respectively.

Source: ECB

Data and systems

All banks will need to change their systems – or to build new systems – to ensure that they are able to collect, analyse and report the necessary data on borrowers and other counterparties. For credit and market risk, banks using internal models will also have to calculate their risk weighted exposures using the new standardised approaches in order to apply the output floor. And within the new standardised approach for credit risk banks will (where relevant) need to use due diligence to check on the accuracy of external credit ratings, and to assess whether borrowers are materially dependent on the cash flows generated by a property securing an exposure.

For operational risk, banks not currently using the advanced measurement approach (AMA) will have to put the necessary systems and processes in place to collect, analyse and report the data required to calculate business indicators and internal loss experience; while even banks currently adopting AMA may have to revise their systems and processes to deliver the required calculations.

Banks will also need to ensure that they are reporting the correct data and calculations to their supervisors and in their Pillar 3 disclosures.

In general, the implementation of the Basel 4 standards will change banks' risk measurement and risk models to a much greater extent than Basel 3, so banks with legacy IT, data and reporting systems will face significant cost pressure.

The difficulties faced by many large banks in meeting all of the Basel Committee Principles on Risk Data Aggregation and Reporting suggest that the systems and data requirements of the revised standards will require considerable investment and senior management attention.

The way ahead

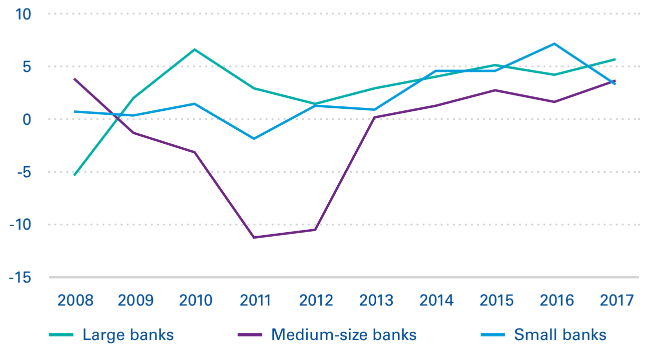
All banks will face shifts in the relative attractiveness of different types of exposures as a result of changes in risk weightings and the impact of the output floor, and in the attractiveness of adopting an internal models based approach to credit or market risk.

Some specific areas of business (and indeed some individual exposures, such as high loan to value real estate lending) may become significantly less attractive, with an impact on the cost and availability of these specific products and services. This will have an adverse impact on some borrowers and other bank counterparties, and in turn on the wider economy.

Some banks will face higher capital requirements that cannot be met without either issuing or retaining additional capital or reducing risk weighted assets – just as European banks in aggregate have followed both these paths in order to meet the tougher capital requirements imposed under Basel 3 and corresponding EU legislation from 2010 onwards. The higher cost of funding for these banks will be accentuated by the introduction of IFRS 9 and of higher minimum requirements for loss absorbing capacity over much the same time period.

For many banks the capital and implementation costs of the new standards will accentuate the pressures on their profitability (see chart below). This in turn will increase the pressure to deliver higher profitability through reductions in cost to income ratios. But this will be difficult for many banks to achieve, not least in the short to medium term when IT system expenditure is likely to be dominated by a combination of meeting a wide range of regulatory requirements and by the need to respond to fintech threats and opportunities.

Return on equity (percent)



Return on equity in percent. End of year data except for 2017 (Q3).

Source: ECB EU consolidated banking data.

Incentives for good risk management

The combination of parameter constraints on the remaining permitted IRB approaches and the output floor reduce the incentives for banks to use IRB approaches for credit and market risk. This could have an adverse unintended consequence on the quality of risk management in some banks.

Similarly, banks may become less inclined to model operational risks. Although the introduction of an internal loss component in the standardised approach to operational risk will provide some regulatory incentive for firms to reduce their operational risk losses, this element of risk-sensitivity is limited to past losses, and does not include other key elements of the currently available advanced measurement approach (AMA) such as the use of external data, forward-looking scenario analysis information, and business environment and internal control factors data.

03 Banks' strategic options

Banks' strategic options to address Basel 4 are likely to focus primarily on adjusting their product and client portfolios, and on achieving operational efficiencies. Some banks will also need to strengthen their capital ratios.

1 Product mix

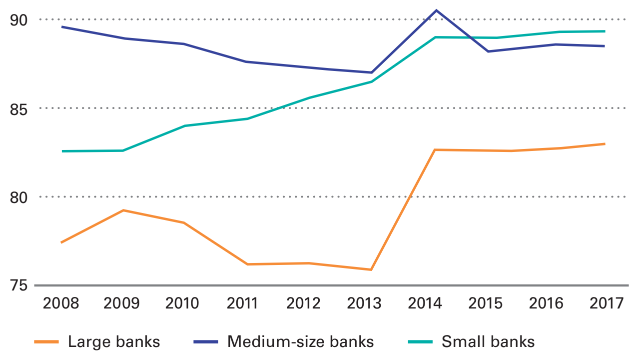
Banks may need to adjust their product mix (and the specific characteristics of some products such as real estate lending) in response to changes in risk weightings.

This could take the form of moving out of some products, leaving banks less diversified and subject to greater volatility in earnings and profitability.

This may in turn increase competition in higher quality exposures, putting downward pressure on profitability.

It may also create opportunities for some banks in product areas where higher prices compensate sufficiently for higher risk weightings.

Risk weighted exposures for credit risk as a percentage of total risk weighted exposures



Risk weighted exposures for credit risk as a percentage of total risk weighted exposures. End of year data except for 2017 (Q3).

Source: ECB EU consolidated banking data.

2 Lower cost to income ratios

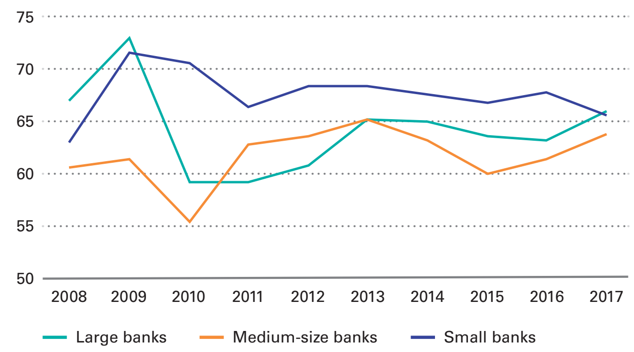
Basel 4 and other regulatory requirements heighten the importance of delivering cost efficiencies.

There is scope for banks to drive down cost to income ratios through fintech applications and through consolidation in the banking sector.

But this will be complex and time consuming, and banks also face some pressures (gearing up to take advantage of fintech opportunities, and regulatory requirements) that will increase costs, at least in the short to medium term.

On average, EU banks have failed to deliver significant reductions on cost to income ratios over the last ten years, suggesting that this is not an easy option.

Cost-Income ratio (percent)



Cost income ratio in percent. End of year data except 2017 (Q3).

Source: ECB EU consolidated banking data.

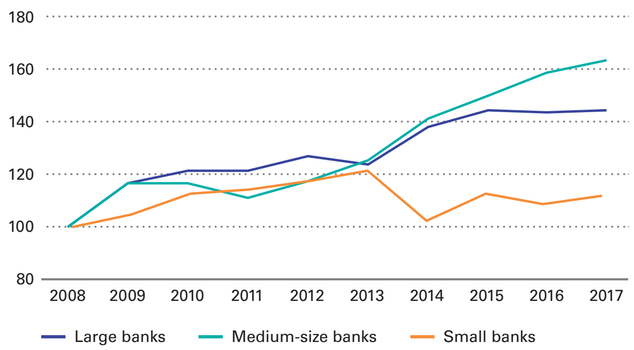
3 Increase CET1 capital

This will be the simplest option for some banks, through either retained earnings or issuing additional capital.

But this will increase the cost of funding and put further downward pressure on profitability.

So this may need to be combined with other options.

Total equity (2000=100)



Total equity (including retained earnings). End of year data except for 2017 (Q3).

Source: ECB EU consolidated banking data.

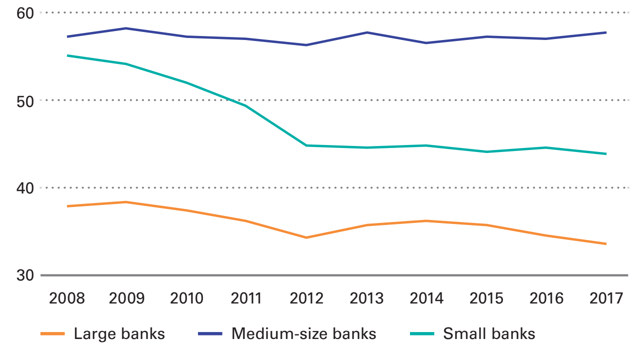
4 Reduce risk weighted assets

This can be achieved by shrinking the balance sheet (deleveraging), or by shifting from higher weighted to lower weighted risk exposures.

But this may result in banks losing market share, business volumes, earnings and profitability.

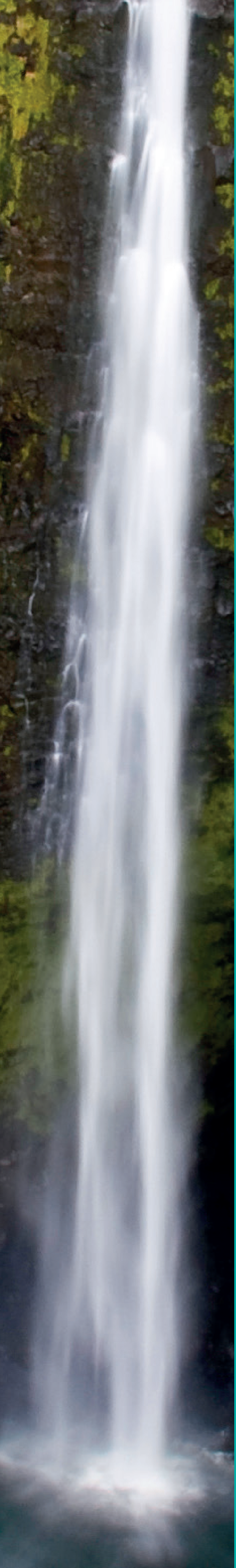
For some banks, there is also scope to move from standardised approaches to credit and market risk to internal model approaches.

Risk weighted assets as a percentage of total assets



Risk weighted assets as a percentage of total assets. End of year data except for 2017 (Q3).

Source: ECB EU consolidated banking data.



04 Missing pieces of the jigsaw

Sovereign risk

At the same time as the Basel Committee announced its set of new standards in December 2017 it published a discussion paper on the treatment of banks' sovereign exposures.

This is a very sensitive issue, not least in Europe, where the high volume of holdings of government debt by many banks looms large in discussions of risk reduction in the banking systems of some member states, of the introduction of an EU-wide system of deposit insurance, and of financial stability more generally.

The Basel Committee has not set out any specific proposals for the treatment of banks' sovereign exposures, but has offered three high level 'sets of ideas' for comment and further discussion:

1. Some combination of removing the current IRB approach framework for sovereign exposures; introducing revised standardised risk weights for sovereign exposures held in both the banking and the trading book; removing the national discretion to apply a preferential risk weight for sovereign exposures; and adjusting the credit risk mitigation framework (in particular by removing the national discretion to set a zero haircut for certain sovereign repo-style transactions).

2. Mitigating the 'large exposure' risk of excessive holdings of sovereign exposures, for example by applying higher marginal risk weight add-ons depending on the concentration of a bank's sovereign exposures (sovereign exposures relative to Tier 1 capital).

3. Some combination of Pillar 2 capital adjustments (including to reflect the result of stress tests) and additional Pillar 3 public disclosures of sovereign exposures.

The European Commission is expected to come forward with its own proposals for the treatment of sovereign exposures, including on a single market basis across the EU.

Finalisation of the market risk framework

The revised market risk framework published by the Basel Committee in January 2016 left some elements to be finalised. The Basel Committee issued a consultation paper in March 2018 to take these elements forward, with proposals to:

- Clarify some details of the boundary between the banking book and the trading book, including for equity investments in funds.

- Introduce a simplified alternative to the standardised approach, by recalibrating (applying multipliers to) the Basel 2 standardised approach capital requirements for each category of market risk. This is intended to deliver slightly higher capital requirements than under the January 2016 'full' standardised approach.

- Revise some elements of the January 2016 standardised approach, including the approach to determine foreign currency pairs that are liquid and therefore subject to lower risk weights (this revision will also apply to the internal models approach); correlation scenarios; the treatment of non-linear financial instruments such as options; and reductions in the risk weights applied for interest rate risk, equity risk and foreign currency risk. All of these proposals would reduce capital requirements under the standardised approach, bringing them closer into line with the Basel Committee's original intentions.
- Revise some elements of the January 2016 internal models approach, in particular the definition and data requirements for the application of the profit and loss attribution (PLA) test; the introduction of an 'amber' category whereby less serious failures of the PLA test would result in firms still being able to use an internal model approach for the respective trading desk but with the application of a capital surcharge; and clarifying the meaning of 'representative' real price observations in the context of non-modellable risk factors.

EU legislation – timing and substance

The timing and precise substance of EU legislation to implement the December 2017 Basel Committee revised standards remain unclear.

On timing, the full implementation of Basel 4 will require further substantial amendment of the Capital Requirements Regulation (a 'CRR3') and the Capital Requirements Directive (a 'CRD6'). With CRR2 and CRD5 (which implement the Basel 3 revisions to capital ratios, and the new leverage ratio and liquidity ratios) unlikely to be finalised before the end of this year, and with increasing EU focus on how Basel Committee standards will be implemented in the US, it could prove challenging to implement Basel 4 in the EU even by the Basel Committee's proposed date of January 2022.

On substance, it remains unclear how EU legislation will reflect specific areas of concern in the EU, including preferential treatment for lending to SMEs and for infrastructure financing; the introduction of greater proportionality to reflect the different positions of large and small banks; securitisations; and the development of a Capital Markets Union.

Another key area of substance is how EU legislation will address areas where the Basel Committee standards allow for national discretion. Some of these are, in effect, carried forward from Basel 2 (including the treatment of sovereign, central bank and other public sector exposures, specialised lending and high volatility commercial estate lending), but others are new to Basel 4, including:

- Loan splitting for residential and commercial real estate lending;
- Setting the internal loss multiplier at a value of 1 for the calculation of operational risk capital requirements; and
- Allowing the use of internal loss data for smaller banks (in 'bucket 1'), and increasing the minimum floor for including a loss event in the data collection requirements, in the operational risk framework.

05 How KPMG can help

KPMG member firms have established teams of specialists able to support banks across a wide range of financial and non-financial risks.

KPMG professionals can assist banks with

- Undertaking a gap analysis exercise against the new requirements, and developing roadmaps for implementation.
- Applying KPMG's proprietary benchmarking tool, "Peer Bank", to allow banks to examine the impacts of the new standards on their capital requirements.
- Conducting test calculations of the revised standardised and internal model approaches and assessing the impact on capital planning and risk-adjusted performance measures.
- Evaluating and addressing the business model implications from profitability changes at product and customer level.
- Advising on focused transactions to improve capital allocation or increasing the use of originate-to-distribute products.
- Helping banks to plan and execute a move from the standardised approaches to an internal model based approach for credit and/or market risk. KPMG member firms have assisted a number of European banks in achieving regulatory approval for use of the IRB and IMA approaches (for credit and market risk respectively).
- Developing an appropriate model risk management framework and enhancing the current model development and validation processes.
- Advising on the structure of banks' risk management functions and risk modelling to improve decision-making and the integration of various components of the risk spectrum.
- Reviewing risk frameworks to incorporate the new standards while helping to ensure they remain fit for purpose for current regulatory requirements.
- Helping to prioritise efforts on those aspects of the requirements that are good practice and represent 'no regrets' choices, such as data cleansing (quality) and alignment (Front Office and Risk); Front Office data granularity and availability of data; enhancing model governance; understanding modelling differences across Front Office, Risk and Finance; and assessing regulatory and other programme overlaps and potential efficiencies.
- Preparing internal, regulatory and public (Pillar 3) reporting.
- For credit risk, advising on data collection and operational requirements for the CR-SA, for example documentation requirements for secured loans, and on the design of due diligence procedures.
- For market risk, KPMG professionals have built a tool to assess the impact of market risk based on the introduction of the output floor that can assist banks to analyse their current structure and identify whether the path to IMA will be beneficial or not.
- For operational risk, refining loss-data collection standards and processes to meet the requirements for usage in the internal loss multiplier.

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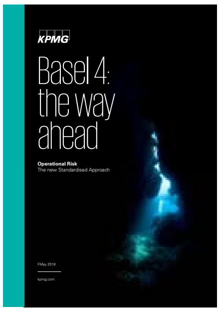
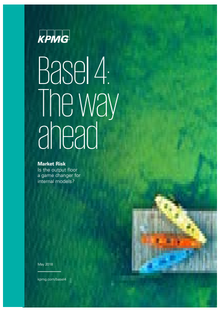
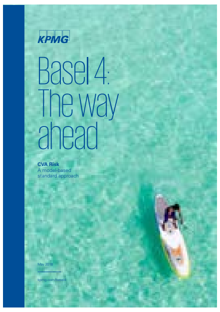
Basel 4: The way ahead



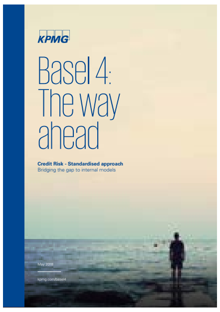
Operational Risk
The new standardised approach



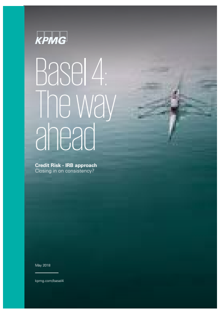
Market Risk
Is the output floor a game changer for internal models?



CVA Risk
A model-based standard approach



Credit Risk - Standardised approach
Bridging the gap to internal models



Credit Risk - IRB approach
Closing in on consistency?