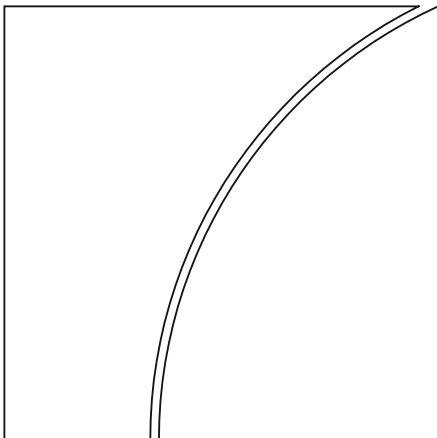


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Supervisory practices for assessing the sustainability of banks' business models

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Supervisory practices for assessing the sustainability of banks' business models¹

Executive summary

Pre-existing and structural vulnerabilities related to unsustainable business models are often the root causes of bank failures. The impairment of a bank's solvency and/or of its liquidity are generally consequences of deeper and far-reaching problems, with their origins frequently lying in poorly conceived and unrealistic business plans and/or the inadequate execution of such plans. The most frequent causes of bank failure include switching from a low-risk business model to a high-risk one, and pursuing rapid growth without developing the appropriate risk culture and risk control environment and functions. Accordingly, and drawing on the lessons from the Great Financial Crisis (GFC), supervisors have become more proactive, more willing to exercise their powers and more inclined to systematically assess the sustainability of banks' business models.

Business model analysis (BMA) is a key component of supervisory frameworks in many jurisdictions that allows supervisors to identify banks' vulnerabilities at an early stage and helps to ensure safety and soundness. This includes assessing the implications of banks' strategic decisions and their consistency with their risk appetite. It also includes determining whether and to what extent the business strategy is adequately resourced, funded and executed. Where the outcomes of the analysis identify existing or potential vulnerabilities, the assessment may provide grounds for supervisory interventions. Therefore, BMA has the potential to enhance bank supervision and make it more effective, proactive and forward-looking.

BMAs have both micro and macro implications. From a microprudential perspective, BMAs are an important part of a more comprehensive assessment of a firm. By identifying the root causes of a bank's weaknesses, BMA's findings may support supervisory actions aimed at ensuring that the board and senior management adjust the business strategy and implement it in a sustainable way. The purpose is to put the bank "back on track" before it becomes a weak bank and breaches regulatory requirements. From a macroprudential perspective, BMA outcomes may inform system-wide policy decisions seeking to address structural problems, such as overcapacity, limited or a lack of profitability, systemic risk concentrations and risks to financial stability more generally.

Comprehensive BMA frameworks typically share common ingredients. These include understanding how a bank generates profits and therefore identifying its sources of income and expenses, and their respective levels as well as assessing whether sources of income are recurrent, well-diversified and stable over time. Additional components include reviewing the bank's growth strategy in its various markets and assessing whether the resources allocated to the implementation of this strategy are adequate.

An effective assessment considers all relevant developments in the business and economic environments in which the bank operates. At present, forward-looking assessments would, in principle, need to consider banks' ability to adapt their business models in light of the end of the long period of low interest rates in a number of jurisdictions, as well as the increasing use of novel technologies in the provision of financial services and competition from new players, such as big tech firms. Also critical but

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even more challenging, a comprehensive BMA would need to take into account the potential impacts of climate change and the banks' ability to identify, manage and mitigate their exposures to climate-related financial risks, including both physical and transition risks.

Granular and good-quality data, adequate data aggregation capabilities and expert judgment are indispensable elements of an effective BMA framework. Such a framework is predicated on banks' ability to produce and aggregate financial data across the banking group as a whole and for each of its main business units and business lines. Some of these may reflect recent information on performances and profitability, from which an assessment is derived about the firm's ability to adequately compensate stakeholders while also sustaining its future development in a balanced way. Others may be more forward-looking and reflect a bank's ability to adapt to – and even take advantage of – changes. In both cases, the information needs to combine quantitative and qualitative assessments.

Processes and procedures related to BMA also share common elements across jurisdictions. The frequency and sophistication of BMAs reflect the level of complexity and systemic relevance of the supervised entities. The most complex tools involving stress tests, profitability forecasts and scenario analyses are generally used for the larger and more systemically important entities and groups. Some tools, such as peer group comparisons, tend to be used in various guises across jurisdictions including for smaller and less complex firms, mainly as a first step to identify outliers. Therefore, by applying the principle of proportionality, BMA can contribute to improving the supervision of banks with different profiles.

Authorities organise BMAs in different ways within their supervisory framework and this has implications for their ability to take actions on the basis of BMA findings. One of the main differences is how business risk is captured and analysed. Some jurisdictions consider it as a separate component of their supervisory review process (SRP) and assess it at bank-wide or group level. Others prefer to assess it for each individual business line along with assessments related to the governance and the risk management of the specific activity. While each type of approach has merits, having business risk as a standalone component of the SRP seems to be more conducive to early supervisory intervention as it provides a more direct association between deficiencies in banks' business models and the implications for their safety and soundness.

A constructive and ongoing dialogue between the supervisory authority and the supervised entity is a pre-condition for an effective BMA. Such an interaction allows the supervisory authority to discuss and, whenever needed, to challenge the bank's strategy and its underlying assumptions and to convince the bank's board and senior management through moral suasion to address deficiencies before they become material and start damaging the bank's performances. In addition, in the course of such a dialogue, BMA's findings are presented and explained to the supervised entity. This practice promotes transparency and accountability.

Clear and transparent supervisory expectations support early intervention when a bank's business model is deemed to be unsustainable. When prudential or operational requirements have been breached, and such breaches have been duly identified, supervisory interventions are mandatory. Supervisory interventions may become more difficult when a bank remains fully compliant with all regulations and risk management standards. In these circumstances, taking pre-emptive actions on the grounds that a business model may become unsustainable at some point in the future is more challenging. Accordingly, clarity and transparency about supervisory expectations in relation to the characteristics of a sustainable business model is a key component of a BMA framework that supports supervisors when they need to take measures at an early stage to prevent deficiencies from becoming material.

Section 1 – Introduction

- 1. Banks rarely become weak overnight, and flaws in business models and strategies are often the root causes of banks' vulnerabilities and bank failures.** While sudden shocks may be the immediate cause of banks' demise, the root causes are generally more structural. They often combine weaknesses in a business model with poor governance, inadequate risk management and insufficient resources. These vulnerabilities, if not identified in time and allowed to fester, will make the bank's activities increasingly unsustainable² to the point where it becomes non-viable.
- 2. This was confirmed in the Great Financial Crisis (GFC) during which banks' failures often resulted from non-sustainable business models.** These business models shared common features including targets based on unrealistic assumptions, high-risk strategies, excessive concentrations across the business model (eg geographies, customer base, sources of income and funding), earnings volatility and investments in complex products without appropriate controls, oversight or understanding of the nature of the risk. These vulnerabilities grew over time and were often compounded by increasing leverage and increasing reliance on volatile and unstable sources of funding.³
- 3. Since then, supervision has become more proactive, more intrusive and better able to ensure that banking institutions are safely and soundly managed.**⁴ Before the GFC, supervision placed little emphasis on banks' strategies, and was more reactive and focused on the negative outcomes of such strategies. In contrast, in the post-crisis period, supervisory frameworks became more forward-looking, by incorporating, for example, periodical assessments of banks' strategies and of the sustainability of their business models. More generally, several authorities have modified their supervisory risk rating architecture and underlying methodologies by embedding a specific supervisory rating component based on business model analysis (BMA). As a result, more emphasis has been placed on business model sustainability, which can have an explicit influence on the overall supervisory risk rating assigned to a firm.⁵ Moreover, supervisors also became more willing to fully exercise their supervisory powers. In addition to fines, some authorities have, for example, taken actions affecting the strategies of firms of any size⁶ or type.⁷

² Sustainable business models may be defined in different ways. For the purpose of this paper, and following guidance provided by the European Banking Authority (EBA (2014)), a bank will be considered to have a sustainable business model if it meets all the following criteria (1) the bank generates strong and stable returns which are acceptable given its risk appetite and funding structure; (2) the bank does not have any material asset concentrations or unsustainable concentrated sources of income; (3) the bank has a strong competitive position in its chosen markets and its strategy is likely to reinforce this strength; (4) the bank's forecasts are based on plausible assumptions about the future business environment; and (5) the bank's strategic plans are appropriate given the current business model and management's execution capabilities.

³ See BCBS (2015).

⁴ For an overview of the characteristics of good supervision, see Elliot et al (2010).

⁵ This is not implying that business model considerations were ignored up to the GFC or that they are not considered in jurisdictions that do not embed a specific supervisory rating component on BMA in their SRP. Rather, BMA considerations may have been – and are – examined as part of the "management" rating and/or implicitly covered in the "earnings" analysis, as opposed to being emphasised as a separate component and reviewed in a systematic way.

⁶ In February 2018, the Federal Reserve imposed an asset cap on Wells Fargo that prevents the bank from growing larger than its 2017 total assets (USD 1.95 trillion). The restriction, which is still in place, was imposed following consumer abuses and compliance breakdowns, including the opening of millions of fake customer accounts and overcharging customers in the bank's mortgage and auto loan businesses. Wells Fargo, one of the largest banks in the United States, is a G-SIB.

⁷ In October 2021, BaFin, the German banking regulator, imposed a cap on the growth of Berlin-based fintech firm, N26, whereby the bank will no longer be able to accept more than 70,000 new customers per month (less than half the average number of new customers it had been taking on in the first nine months of 2021). The constraint was understood to be an escalation measure and follows the assignment of a special supervisor to the bank to monitor improvements in N26's anti-money laundering controls.

4. **BMA is a key component of the supervisory review process (SRP)⁸ that helps to ensure banks' safety and soundness.** BMA is a supervisory tool aimed at assessing banks' ability to generate acceptable returns over the medium and long term. Accordingly, BMA involves assessing the implications of banks' risk appetite and strategic decisions. BMA also involves evaluating whether the business strategy is adequately resourced, understanding the multiple risk concentrations arising from a bank's exposures and funding, and determining whether they are adequately managed. An effective BMA therefore supports supervisory efforts to identify banks' vulnerabilities at an early stage before they become too significant to be corrected.

5. **A comprehensive BMA also aims to assess a bank's ability to address changes in its environment.** That seems particularly relevant in the current context. At present, the industry is facing three fundamental developments with potentially deep implications for banks' business models: first, the risks associated with a reversal of the current low interest rate environment on banks' activities; second, the technological disruption, including the increased competition, arising from new tech players; and third, challenges associated with climate change, including physical and transition risks.⁹

6. **Outcomes of BMAs have both micro and macroprudential implications.** From a microprudential perspective, BMA outcomes are an important part of the SRP and often affect both the bank's overall supervisory rating and the scope and intensity of the bank's supervision. In addition, whenever BMA outcomes suggest that the business model may be unsustainable, these may provide the grounds for supervisory actions to ensure that the bank remains safe and sound, even when it has not yet breached any regulatory or supervisory requirements. From a macroprudential perspective, BMA outcomes may inform policy decisions seeking to address structural problems in the financial system, such as overcapacity, chronically low profitability and risks to financial stability more generally.

7. **International standards and guidance published by the BCBS underline the importance of BMA.** The Basel core principles (CP) mention BMA as one of the key tools supervisors should use to assess the safety and soundness of individual banks and the banking system. The Basel Framework states that the assessment of a bank's risks in the context of the SRP is not a mechanical process and that it depends on the bank's business model and its specific vulnerabilities. The BCBS overview of Pillar 2 supervisory review practices and approaches¹⁰ highlights that business model risk is particularly suited to Pillar 2, which allows for tailored treatments that fit a bank's characteristics.

8. **Supervisory practices relating to BMAs are very heterogeneous.** This is because there is no international guidance describing the key elements of a BMA, specifying how BMA considerations should be integrated in a supervisory framework or providing sound practices in this area. As a result, while some jurisdictions have formally introduced BMA as part of their SRP following the GFC¹¹ and have been using

⁸ BMA is not restricted to the SRP. Other types of BMA take place in other areas. In particular, BMA is a key component in assessing licence applications. In fact, the Basel core principles (CPs) require the use of business model assessments as part of licensing criteria. In particular, they outline the importance of financial authorities reviewing the candidate's business and development plans. This includes analysing the projected development, the adequacy of the resources that it is committing and the extent to which the assumptions underpinning the business and development plans are realistic, or at least plausible. Drawing on the lessons from the GFC, the CPs also state that the supervisory authority has the explicit power to approve, reject or impose supervisory conditions on major acquisitions and/or investments by a bank against prescribed criteria.

⁹ This paper uses the definitions of physical risks and transition risks, and their associated drivers, as defined by BCBS (2021a). Physical risks refer to the potential losses resulting from the increasing severity and frequency of extreme weather events (such as heatwaves, floods or storms), from longer-term gradual shifts of the climate (such as rising sea levels and rising average temperatures) and indirect effects of climate change (such as desertification). Transition risks relate to the process of adjusting towards a lower carbon economy. They include changes in government policies, in technology and in market and customer sentiment which can generate, accelerate, slow or disrupt the transition.

¹⁰ BCBS (2019).

¹¹ According to Duckwitz et al (2019), following the GFC, many supervisors have placed greater emphasis on developing forward-looking criteria in their risk assessment frameworks including by carrying out business model analyses.

this tool for systematic reviews ever since, other jurisdictions apply BMA on an ad hoc basis or include its elements implicitly in their supervisory ratings.

9. **This paper presents a range of supervisory practices regarding BMAs.** In particular, it aims to identify practices that might be relevant to authorities seeking to explicitly introduce BMA in their supervisory process. The paper emphasises practical aspects of BMA, including processes and procedures for developing and conducting a BMA as well as the integration of its outcomes into the overall SRP. In addition to lessons from the GFC, the paper largely relies upon interviews¹² with seven supervisory authorities.¹³ These were selected on the basis of both geographical diversity and the state of development of their respective BMA frameworks. Publicly available information such as supervisory manuals, guidance and reports were also used as input for this paper.

10. **The remainder of this paper is structured as follows.** Section 2 outlines some commonalities of non-sustainable business models, drawing on bank failures, the associated literature and supervisory manual. Section 3 identifies the objectives and main focus of BMA, while section 4 presents the core processes and procedures associated with the development of BMAs. Section 5 discusses the range of supervisory responses when deficiencies are identified in a bank's business model. Section 6 concludes and presents some policy considerations.

Section 2 – Non-sustainable business models

Bank failures and high-risk business models: two illustrations

11. **Weak banks¹⁴ typically have structural vulnerabilities which have been allowed to grow to such an extent that their business models may become compromised.** The impairment of a bank's solvency and/or liquidity are generally consequences of deeper and far-reaching problems, such as poorly conceived business plans or inadequate execution of such plans. Business plans may be poorly conceived for a wide range of reasons including over-ambitious targets, optimistic and flawed assumptions, and insufficient information and knowledge. They may also suffer from inadequate execution, typically because the resources allocated for their implementation are insufficient to begin with, or do not keep pace with the excessive growth of the exposures. The two components – poor conception and inadequate execution – are frequently combined, can reinforce each other and are the origin of many bank failures.

12. **Analysing the root causes of well-documented bank failures provides useful illustrations of how business models can become non-sustainable, even if such an analysis is conducted with the benefit of hindsight.** To illustrate the importance of business model considerations on a bank's safety and soundness and the need to carefully assess the implications of strategic management decisions, the cases of Washington Mutual Bank (WaMu) and of Royal Bank of Scotland (RBS) have been selected.¹⁵ WaMu illustrates cases in which banks change their strategy, switching from a low-risk and low-growth

¹² Interviews conducted between September and December 2021.

¹³ The Bank of England (BoE) Prudential Regulation Authority (PRA), the Central Bank of Brazil (CBB), the Central Bank of the Russian Federation (CBR), the Financial Services Agency of Japan (JFSA), the Monetary Authority of Singapore (MAS), the Single Supervisory Mechanism (SSM) of the European banking union and the United States Federal Reserve (Fed). The access of the CBR to all BIS services, meetings and other BIS activities has been suspended.

¹⁴ According to BCBS (2015), "a weak bank is one whose liquidity or solvency is impaired or will soon be impaired unless there is a major improvement in its financial resources, risk profile, business model, risk management systems and controls, and/or quality of governance and management in a timely manner."

¹⁵ There are numerous cases of bank failures or near failures across jurisdictions following poorly conceived and/or insufficiently resourced business plans. The reason for selecting these two episodes is that they are among the best documented bank failures.

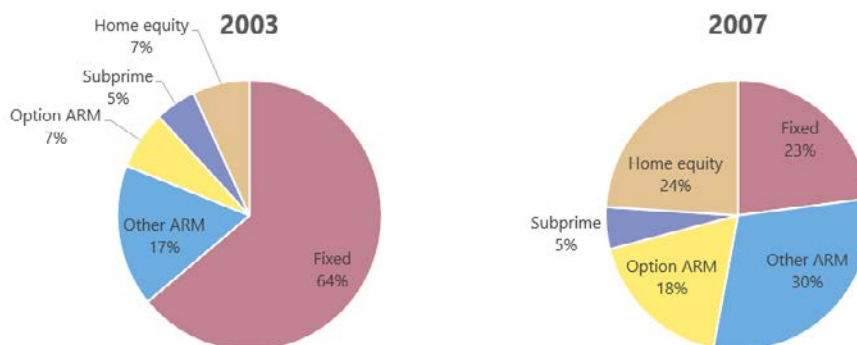
business model to one targeting high overall organic growth and emphasising riskier segments of its markets (Box 1). RBS is an example of a poorly conceived external growth strategy, based on high leverage, short term wholesale funding and significant holdings of high-risk/high-return exposures (Box 2).¹⁶

Box 1

Shifting to a high-risk (and high-growth) lending strategy

In 2004, following a period of external growth, WaMu embarked on an organic high-growth strategy to maximise profitability, targeting higher-margin (and high-risk) loans. This entailed a shift from low-risk, fixed-rate, government-backed mortgages loans^① towards originating riskier types of residential mortgages. The targets were overall annual asset growth of at least 10% and an average yearly return on equity (ROE) of at least 18% over the next five years, implying much higher growth rates in the higher-risk lending areas.

Maximising profitability was to be obtained through riskier types of loans because these generated higher returns through higher interest rates and fees charged to the borrowers, as well as higher prices obtained when selling the loans to be securitised (“gain on sale”).^② For example, subprime loans were deemed to generate more than seven times the gain on sale of traditional fixed-rate loans. Accordingly, WaMu’s new strategy focused on originating and purchasing as many higher-risk mortgages as it could. These products were increasingly offered to riskier borrowers who did not qualify for traditional loans.



The shift in strategy from conservative to riskier practices changed the composition of WaMu’s mortgages. In 2003, WaMu’s originations and purchases of risky loans, including option adjustable-rate mortgage (ARM), and home equity and subprime loans, represented 19% of the overall portfolio. By the end of 2007, low-risk mortgages (ie fixed loans) made up less than a quarter of the total portfolio while high-risk loans made up almost half of it. High-margin products led to the build-up of risks in the home loans portfolio. Alt A loans with poor underwriting, incomplete documentation or credit history and in which the borrower’s income had often not been verified, were introduced into all portfolios loans. Option ARM loans generated risks of payment shocks and encouraged negative amortisation, especially after the end of the first two to three years (teaser rate period). Home equity loans (HELs) had the potential to generate losses as the value of the collateral could become insufficient to repay the subordinated HEL. Subprime loans generally had higher default probabilities because they targeted less creditworthy borrowers and had higher loan-to-value and debt-to-income ratios.

① The mortgages were eligible for repurchase by Fannie Mae or Freddie Mac as part of their mortgage-backed security activities. ② Gain on sale refers to the profit made when selling or securitising a loan. Low-risk fixed-rate mortgages (those with loan-to-value ratios of no more than 80%) were generally sold at low prices to government sponsored enterprises (Fannie Mae and Freddie Mac) while riskier loans could be sold at higher prices to private investors because they generated higher coupons. However, the analysis underestimated (or even ignored) the fact that the higher coupons were meant to reflect higher potential losses.

Source: United States Senate (2011).

¹⁶ WaMu was closed on 25 September 2008. The Federal Deposit Insurance Corporation (FDIC) was named receiver, selling the bank’s assets to JPMorgan Chase. Royal Bank of Scotland became dependent on Bank of England Emergency Liquidity Assistance on 7 October 2008 and was subsequently nationalised.

RBS's failed external growth strategy

In the years before the GFC, RBS's business model had already become vulnerable. RBS had lower capital ratios than its peers^① following the bank's senior management policy to operate under "capital efficiency". Although compliant with minimum regulatory requirements^② at that time, RBS's capital position was weaker than it looked because it relied more on capital instruments than its peers, and with very limited loss absorption on an going concern basis.

RBS's liquidity was also stretched because of the bank's growing and deliberate reliance on short-term wholesale funding in order to maximise short-term profitability.^③ A high proportion of wholesale short-term funding was overnight funding.^④ This reflected a general belief at the time according to which short-term wholesale funding was (and would remain) cheap and abundant so that it seemed to make good business sense to maximise profitability by increasing the maturity mismatch between assets and liabilities.

RBS also held large amounts of hard to value and/or risky exposures in both its banking and trading books. Between end-2004 and end-2007^⑤, total assets grew at an average annual rate of 24%, with most of the growth concentrated on riskier exposures such as commercial real estate and unsecured consumer lending in the banking book, and structured credit and leveraged financing in the trading book.

The acquisition of ABN AMRO, and the way it was financed, deteriorated the bank's capital and liquidity positions further and considerably increased the proportion of higher risk exposures that RBS was holding by the end of 2007. Because of limited due diligence, RBS was unable to assess the quality of ABN AMRO assets, many of which were also hard to value. These would become illiquid and generate huge losses between 2007 and 2010.^⑥ RBS's decision to finance the acquisition mostly through short-term debt issuance further strained the bank's financial position.^⑦ The size of the consolidated balance sheet doubled,^⑧ and leverage increased considerably. Reliance on wholesale short-term funding also grew by about 15% between September and December 2007.

① The *FSA board report* estimated that at end-2007, the average common equity Tier 1 ratio (or "core Tier 1") of RBS's peers stood at 5.7% against 1.97% for RBS. Peers included Barclays, HSBC, HBOS, Lloyds TSB and Standard Chartered. ② At end-2006, RBS published a total capital ratio of 11.7% compared to an 8% minimum requirement and a Tier 1 ratio of 7.5% against a 4% minimum requirement. ③ The funding gap, that is the gap between assets and the amount of retail customer deposits, was the amount that needed to be funded by wholesale sources. It had already reached £500bn by end-2006 at a time when RBS's total assets were about £871bn. ④ For example, on 11 September 2007, 70% of the funding gap was funded by overnight wholesale funding. ⑤ Excluding the impact of the ABN AMRO acquisition. ⑥ RBS exposures to collateralised debt obligations, collateralised loan obligations and other asset-backed securities more than doubled as a result of the acquisition. The acquisition also increased the UK bank's exposures to credit derivative product companies and conduits, most of which (80%) had originally been held by ABN AMRO. Losses posted between 2007 and 2010, arising from credit trading and the banking book would exceed £50bn, with another £30bn attributable to goodwill write-offs. ⑦ RBS funded its share of the acquisition with some equity (16% of the total) but mostly through debt (£22.6bn – 84% of the total). Over half of this debt had a maturity of less than a year. ⑧ As of 31st December 2007, RBS's total balance sheet had more than doubled when compared to end-2006, reaching £1,900bn.

Sources: RBS (2006) and FSA (2011).

Supervisory definition of non-sustainable business models

13. **While there is no internationally agreed definition of a non-sustainable business model, some supervisory frameworks include criteria that can be used to support such a determination.** In some jurisdictions, supervisory manuals provide guidance to support the identification of non-sustainable business models (Box 3). In addition, some supervisory authorities highlight specific sources of business risks in their supervisory guidelines, especially when these are considered particularly relevant in their jurisdiction.¹⁷

Box 3

European Banking Authority (EBA) considerations for assigning a business model and strategy score

The EBA guidelines for the supervisory review and evaluation process (SREP) includes considerations that are designed to help supervisors to determine whether and to what extent a bank's business model and strategy may constitute a risk to the viability of the institution. The following elements, for example, are associated with banks with a high level of business risk:

- very weak and highly unstable returns;
- reliance upon an unacceptable high-risk appetite or an inadequate funding structure to generate appropriate returns;
- extreme asset concentrations or unsustainably concentrated sources of income;
- very poor competitive position for products/services in its chosen markets and involvement in business lines that have – at best – limited prospects, and strategic plans are very unlikely to address the situation;
- financial forecasts drawn up on the basis of very unrealistic assumptions about the future business environment; and
- strategic plans are not plausible given the current business model and management execution capabilities.

Source: EBA (2014).

¹⁷ Over the years, several banks with unsustainable business models have been classified by the CBR as “weak banks” and were subsequently closed. In many of these cases, the main reason was that banks had highly concentrated exposures either to their shareholders or to firms controlled by their shareholders. Accordingly, the CBR amended its supervisory guidelines to include descriptions of so called “captive” business models, with some of these being considered unsustainable.

Section 3 – Key objectives of BMAs

14. **Most surveyed authorities carry out BMAs to assess whether banks' profitability is sustainable over the medium term.** In particular, authorities conducting BMA seek to better understand the profitability drivers of a specific bank or banking group. In doing so, authorities aim to identify the key vulnerabilities of an institution's business model. Additional objectives include developing an understanding about the ability of banks to adjust, adapt and more generally change their business models as circumstances evolve; assessing the consistency of their strategy, risk appetite, governance, internal controls and resource allocation. Another objective is to prevent banks with weak profitability resorting to excessive risk-taking behaviours.¹⁸

15. **As a key component of the SRP in most surveyed jurisdictions, BMA complements the overall assessment of a bank's governance and risk management, but approaches differ in relation to the weight given to BMA.** In some jurisdictions, business model risk (or business risk) is reviewed on a standalone basis, across the whole bank. Such a separate assessment enhances the importance of this component by singling out its contribution to the process of assigning a supervisory rating to a specific bank.¹⁹ This component typically involves an assessment of the sustainability of an entity's business model and includes an evaluation of aspects related to the bank's strategy, risk appetite and ability to respond to changing circumstances. In this assessment, supervisors also consider the market and business environments in which the bank operates. They assess whether its profitability is sufficient to generate an adequate return on capital and whether it is sufficiently stable to ensure the bank's future as a going concern. In other jurisdictions, business risk is not a standalone component of the SRP. Rather, it is reviewed for each of the bank's business lines, with BMA being used as an additional tool to assess the consistency of the bank's strategy, risk appetite, risk management, governance capabilities and resources.²⁰

16. **Understanding how banks generate profits is one of the core objectives of a BMA.** Accordingly, for many authorities, a BMA's starting point is to review historical information about sources of income, operating costs and their allocations, and economic capital allocations across the banking group as a whole, as well as for each of its main business units and business lines. This also includes analysing the break down and allocation of income and costs by types (eg interest income, fees and commissions, trading income, impairment costs, funding costs and administrative costs) and by products and services (eg deposits, payments and mortgages). That, in turn, implies that banks should have IT systems that are sufficiently flexible and robust²¹ to provide the necessary breakdowns and allocations to enable supervisory authorities to conduct an in-depth BMA.

¹⁸ Weak banks may be tempted to adopt excessive risk-taking behaviours as part of "gambling for resurrection" strategies, at the risk of fatally compromising their financial position and putting their customers' deposits at risk.

¹⁹ For example, business model assessment is the first of the four key elements of the SREP that is carried out by the SSM in the participating EU Member States. The three other components include an assessment of governance and risk management arrangements (internal governance), an assessment of whether the bank's capital is adequate to its risks (risks to capital) and an assessment of whether its liquidity is adequate to the liquidity and funding risks that it is running (risks to liquidity). Brazil is also an example of a jurisdiction in which business model risk is reviewed bank-wide and on its own.

²⁰ In Singapore, for example, MAS uses the Comprehensive Risk Assessment Framework and Techniques (CRAFT) to assess the risks arising from the business model and strategy of individual financial institutions. Under this approach, business risk is assessed as part of the material activities undertaken by financial institutions and is an important input for supervisors to better understand the risks a bank is exposed to and the adequacy of its risk management capabilities. For example, by evaluating the earnings component in CRAFT, BMA contributes to supervisors' assessments about the sustainability and quality of an institution's earnings, as well as to whether they are aligned with the strategic direction of the institution.

²¹ ECB (2018) identified the ability of banks to break down costs and revenues by business line or distribution channel as a key area for improvements. In the same year, the BCBS also identified the need for large international banks to significantly improve their risk aggregation and risk reporting abilities as part of its progress report on the subject (BCBS (2018)).

17. **When analysing the sustainability of banks' profits, supervisors are interested in their absolute levels, recurrence and stability over time.** For example, income generated by one-off, non-recurring events are often expunged from relevant indicators. More generally, supervisors tend to assess regular and stable sources of income more positively than volatile income streams such as those from higher-risk markets or lending activities (eg high-yield bonds and leveraged lending) even when income from such sources may be significantly higher under favourable (but unstable) market conditions. The degree to which the sources of income and the sources of funding²² are diversified is also a relevant consideration²³ as well as the extent to which the bank's profits are consistent with its strategy, risk profile and risk appetite.²⁴

18. **The sustainability of a business model also refers to its ability to generate returns that are high enough to ensure that the bank remains a going concern.** Overall, returns will be deemed "acceptable" by a supervisor, if – in addition to being stable and recurrent – they exceed the bank's funding costs, its operating costs and the cost of risk, while also delivering distributable income that is deemed sufficient by shareholders to compensate their investments. In addition, returns would have to be large enough to ensure sufficient internal capital generation that is compatible with the bank's growth strategy and risk appetite. Moreover, the excess (or profit) must, in principle and at a minimum, be sufficient to cover the bank's cost of capital – meaning that the level of return on equity (ROE) must be sufficient to ensure the business model's sustainability.²⁵

19. **Assessing the sustainability of a large and complex bank's business model implies analysing the business mix of the entity or group as a whole, including its ability to generate sufficiently well diversified returns.** Large banks and international banking groups often have complex business models comprised of several business lines and can also operate in multiple jurisdictions. Some business lines may have volatile or cyclical income such as trading activities or mergers and acquisitions. Meanwhile, others may be highly complex and/or involve higher risks such as structured products, derivatives, leveraged lending and project financing.

20. **Assessing sustainability also means reviewing the bank's growth strategy.** Strategies with very ambitious growth targets in certain market segments typically raise sustainability concerns. This is particularly the case when the planned growth rates exceed those of peers and/or those forecasted for the market segment as a whole. This is because such a rapid expansion often implies accepting higher levels of risk than those that market peers are prepared to take or moving into new risk areas with which

²² For example, supervisors tend to view core deposits received from retail and small businesses more favourably than market-based and more volatile funding received from large institutional investors because the former generally provide banks with more stable funding than the latter.

²³ A related consideration is exemplified by EBA (2014), which sets expectations for supervisors to assess concentrations in incomes related to customers, sectors and geographies.

²⁴ MAS, for example, assesses the sustainability and quality of an institution's earnings, as well as whether earnings are sufficient to support the operations and meet capital and provision needs. In conducting this assessment, MAS applies a combination of qualitative and quantitative information. This includes an assessment of multiple indicators, analyses of the contribution of income by business segments and geographies, evaluation of a bank's reliance on non-recurring earnings sources (eg one-off gains) and peer-group analyses. For further details, see MAS (2015).

²⁵ CBB's assessment of banks' earnings, which feeds into the BMA, considers three dimensions: sufficiency, quality and sustainability. Sufficiency of earnings is primarily concerned with the banks' ability to generate a level of net income which is commensurate with its risk profile and growth strategy. Quality of earnings is evaluated based on the sources of income, the diversification of such sources, consistency with the bank's business model and strategy, and the recurrency of the various income streams. Lastly, sustainability involves an assessment of whether the firm has sufficient and adequate resources and capabilities to ensure that current profits can be sustained in the medium term.

the bank may not be familiar. In many cases, strategies that aim to increase volumes are accompanied by lower underwriting practices in order to rapidly gain market share and increase profitability.²⁶

21. **An additional consideration when assessing the sustainability of a bank's business model is the adequacy of its resources to implement its planned strategy.** Supervisors typically place much emphasis on assessing whether the quality and effectiveness of a bank's risk management and internal controls are consistent with its risk appetite and overall strategy. In particular, supervisory authorities assess the sufficiency of the bank's resources for each of its main business lines and, more generally, the adequacy of the bank's execution capabilities and its ability to implement the desired strategy in a safe and sound way.²⁷ In addition, considerable attention is given to the adequacy of the bank's management information system (MIS), including its information technology and systems, and the adequacy and quality of its control functions, including staffing, technical expertise and seniority, and recognition within the institution.²⁸

22. **BMAs conducted by most surveyed supervisors also include the need to ensure that banks' business models adapt to changes in their operating environment.** Ensuring that business models are adapted to changes that affect their environment assumes the ability to identify the main factors of change and assess their impacts on business models. The ongoing competition from big tech and fintech firms²⁹ and potential changes in the interest rate environment,³⁰ as well as climate change and the associated financial risks³¹ are key developments currently affecting banks' operating environment. These developments underscore the relevance of BMA at the current juncture.

²⁶ For instance, a key component of the CBB's BMA is the assessment of a firm's strategy. This includes assessing and understanding at a minimum, five elements relating to the firm's strategy: (1) strategic objectives of the firm (eg increasing market share in mortgage lending by five percentage points in three years); (2) strategic initiatives planned or underway (eg launch of new services); (3) essential conditions for the successful implementation of the firm's strategies (eg hiring of staff with specialised skills); (4) competitive strengths (eg provision of high-quality services to customers) and weaknesses (eg concentrated and unstable funding structure) of the firm's business model; and (5) opportunities (eg new regulation facilitating the provision of new services) and threats (eg new players entering the firm's market) to the firm's strategy.

²⁷ For instance, the Hong Kong Monetary Authority (HKMA) reviews resources related to capital, funding, staffing, operation systems, communication channels, delivery networks and managerial resources and capabilities when assessing the sustainability of banks' strategic decisions. For further details, see HKMA (2017).

²⁸ One of the essential criteria of CP 15 specifies that "the supervisor determines that banks have information systems that are adequate (both under normal circumstances and in periods of stress) for measuring, assessing and reporting on the size, composition and quality of exposures on a bank-wide basis across all risk types, products and counterparties. The supervisor also determines that these reports reflect the bank's risk profile and capital and liquidity needs, and are provided on a timely basis to the bank's board and senior management in a form suitable for their use (BCBS (2012)). The BCBS' *Principles for effective risk data aggregation and risk reporting* contain even more detailed and specific expectations regarding the capabilities of banks' IT systems (BCBS (2013)).

²⁹ See Crisanto et al (2021) for a discussion about the comparative advantages of big techs firms.

³⁰ See Bubeck et al (2020) for a discussion about the impact of negative monetary policy rates and banks' risk-taking behaviour.

³¹ See BCBS (2021a).

Single Supervisory Mechanism (SSM) thematic review on profitability and business models

In 2016, the SSM launched a thematic review aimed at assessing banks' profitability drivers and the sustainability of their business models. The objectives of the review were to (i) provide tools for supervisors to conduct consistent BMA for individual banks; (ii) assess banks' ability to steer their business models; (iii) identify potential impacts of weak profitability on banks' risk-taking behaviours; and (iv) enhance the ability of supervisors to carry out horizontal analyses. The review was based on specific guidance developed to ensure thorough, consistent and homogeneous assessments across banks.

For banks participating in this exercise, the scope of the review included assessments of the sustainability of their net income, their governance arrangements to steer profitability and their ability to deliver/execute their strategies. This included analysing the composition of banks' income and cost by business lines, and how it would evolve over time, as well as assessing the consistency of the strategy, governance and risk appetite of banks. It also entailed conducting a profitability forecast exercise on the basis of the banks' own forecasts using selected profitability indicators on a three-year time horizon. Direct interactions with supervised institutions were a crucial component of the review and allowed for in-depth assessments of some aspects of banks' business models, such as banks' understanding of their cost structures and pricing frameworks.

The thematic review reached four main conclusions. First, the profitability and the sustainability over the medium term of several banks' business models that operate in the European banking union were still questionable and/or uncertain as a result of high non-performing loan levels, competitive pressures and the impact of the low interest rate environment on their respective incomes. Second, levels of profitability varied significantly across banks, with more cost-efficient and more diversified banks generally faring better than their peers. Third, some banks struggled when attempting to adjust their business models to increase their profitability and reach their long-term profitability objectives. Lastly, banks with a better internal setup to steer profitability were able to generate higher returns over the last few years.

The outcomes of individual reviews were communicated to each bank through dedicated meetings in which identified weaknesses and challenges were discussed. Conclusions and recommendations were sent to the institutions in follow-up letters enclosing risk-mitigation programmes in some cases. The outcomes of the thematic review also contributed to the business risk assessment of each bank as part of its subsequent SREP and led to deep-dives and on-site inspections where further investigation was needed or in order to assess progress made in implementing the risk-mitigation programmes.

Source: ECB (2018).

Section 4 – Processes and procedures

Internal organisation

23. **Different organisational approaches are used to conduct BMAs.** For systemically important banks (SIBs), the most common approach is to have the supervisory team dedicated to the supervision of a specific financial institution conduct its BMA with the support of supervisory units with specialised skills in assessing specific business lines, products or services.³² A different approach, which underscores the importance of BMA, is to have a specialised team responsible for coordinating the work related to BMA for the whole financial authority.³³ For smaller and less complex financial institutions, a more horizontal

³² This includes, for example, teams with relevant skills to analyse strategies related to underwriting practices and/or trading activities such as origination of securitisation transactions and/or derivatives trading.

³³ This is the approach used by the UK PRA, for example.

approach is typically used whereby teams analyse, compare and contrast groups of firms with similar business models (eg financial cooperatives, payment service providers and securities brokers) before identifying the most vulnerable outliers. This approach is predicated on the ability of supervisors to define groups of financial institutions with sufficiently homogeneous characteristics.³⁴

Collecting information

24. **Supervisors rely on both quantitative and qualitative information to conduct BMA.** This includes information collected from banks' financial reports and business plans, supervisory reports as well as dialogues with banks' board members, senior management, business heads, control and risk management functions, and internal and external auditors. These conversations are particularly useful for supervisors to understand the bank's strategy, its own forecasts, the underlying assumptions and their plausibility. They may also inform supervisors about how agile the bank may be and how fast it can react and adjust its strategy to rapid changes in its financial and economic environments. Moreover, they may provide insights about opportunities, as well as threats and vulnerabilities, that banks believe they may face in the foreseeable future. They may also inform supervisors about the bank's perception of its strengths and weaknesses relative to its peers.³⁵

Box 5

Central Bank of Brazil (CBB) approach to peer group analysis

In addition to assessing the sustainability of business models for individual firms, the CBB regularly applies business model analyses to clusters of financial institutions, that is groups of firms that have some similar characteristics. In order to do so, the CBB has developed a process to group banks into peer groups according to their activities.

This automated process is based on a set of indicators defined by the supervisory authority and relies on comprehensive and granular data available to the CBB. This includes information coming from financial statements and supervisory reports as well as granular data on loans obtained from a credit bureau. Supervisory judgment is applied at the end of this process to ensure that all relevant qualitative information is also taken into account when assigning a bank to a specific cluster. One implication is that the classification delivered by the automated system may be modified through such judgment.

By the end of this process, which is conducted twice a year, each one of the approximately 140 banks operating in Brazil is assigned to a cluster. This includes, for example, a cluster consisting of firms whose business model is predominantly focused on lending to individuals and small and medium-sized enterprises; or a group of financial institutions whose investment banking activities represent their main business line.

Once clusters are formed, the CBB conducts several types of analyses including backward- and forward-looking assessments of the profitability for each of these groups. Tailored stress test exercises for specific groups of banks and peer groups are another type of assessments. Findings from these analyses are brought to the attention of the Financial Stability Committee if sectoral risks are considered to be material enough to affect the stability of the financial system. Such analyses may also feed into the overall SRP and may provide additional insights for supervisors assessing the sustainability of business models at the firm level, especially for the outliers identified in this process. Accordingly, the outcomes of these exercises provide an additional input when defining the scope and intensity of the supervision of specific banks.

³⁴ See boxes 5 and 9 for examples of such an approach.

³⁵ See EBA (2014), for an example of sources of quantitative and qualitative information used to conduct BMA.

Conducting analyses

25. **The frequency and sophistication of BMAs are typically related to the systemic importance³⁶ of the supervised firm.** BMA is usually carried out at least annually for systemically important banks (SIBs) in the context of the SRP.³⁷ In addition, a BMA is typically updated when a business model is subject to any significant change. These may be caused, for example, by changes in the bank's strategy, mergers and acquisitions and/or the restructuring or sale(s) of one (or several) significant business line(s) or subsidiary(ies), whether in terms of volumes or in terms of revenues. In contrast, given resource constraints, surveyed authorities typically conduct BMAs on a less frequent basis for smaller and non-systemic financial institutions, using a streamlined version of the framework that is used for SIBs. This may involve more reliance on quantitative tools and automated processes to detect vulnerabilities, and carrying out analyses for clusters of financial institutions sharing some similar characteristics rather than assessing the individual business models and business lines for each firm or group in detail.

26. **In conducting BMAs, authorities use methods that combine qualitative and quantitative tools with expert judgment.** Tools include different levels of analysis. This may start with cluster analysis where performances of similar business lines belonging to individual banks are compared and contrasted as much as possible. Stress tests based on multiple scenarios and sensitivity tests to assess how sensitive banks' profits may be to changes in external factors, such as changes in interest rates and/or in funding costs, constitute another set of tools. These analyses often involve breaking down the bank's revenues, costs and impairment provisions by lines of business or by significant entities and/or geographical areas. It also often involves comparing a given bank's performance with that of its peers in the specific line of business or area.

27. **Sophisticated profitability forecasts³⁸ under different scenarios can also be used under BMAs.** The starting point is typically to assess the historical data about profitability, including the breakdown of income streams and costs, how it has evolved in recent years and to identify any underlying trends. A similar approach is usually carried out for the most relevant assets and liabilities at group level and may also include separate evaluations for relevant business units and subsidiaries. However, this approach would often not reflect changes that might be taking place in the business and economic environments in which the firm operates.

28. **Most authorities consider a range of scenarios when conducting BMAs.** The baseline scenario generally assumes no significant changes to the operating environment, strategy or business mix of the firm being assessed during the time horizon of the exercise. Building upon this initial scenario, authorities model what would happen to the firm's future profitability and its main components should material changes take place. For instance, one of the main applications of BMA currently for several surveyed authorities, standard setters and other organisations is assessing the impact of the ongoing digitalisation of finance and the entry of fintech and big tech firms into the market on incumbent banks' business lines – more specifically on their safety and soundness.³⁹ Other scenarios considered by surveyed authorities include a low for longer interest rate environment; a premature unwinding of the pandemic-

³⁶ For example, the PRA adopts different approaches depending on the risks to financial stability posed by a specific institution. In general, BMAs for all firms would include an assessment of the main sources of income and how they are generated. For firms posing a greater risk to the stability of the financial system, this evaluation also includes an assessment of profitability drivers, profitability forecasts, performance targets and underlying assumptions.

³⁷ For example, CBB conducts BMA for all SIBs at least on an annual basis as part of its SRP. For non-systemic banks, the duration of the supervisory cycle is two or three years, depending the size of the firm.

³⁸ For example, one of the main components under ECB (2018) was a profitability forecast exercise, consisting of collecting, benchmarking and analysing banks' forecasts of their main profitability indicators over the next three years. Since the thematic review, this exercise has become a regular activity, which is conducted annually and with its results feeding into the overall SREP assessment.

³⁹ See, for example, ECB (2018), CGFS (2018) and FSB (2019).

related support measures with material impacts on banks' non-performing loans; and a transition to a lower carbon economy.⁴⁰

29. **Existing scenario analysis and stress testing tools may be adapted to make BMAs more forward looking.** In some cases, models similar to those developed for stress testing purposes but with longer time horizons are used to estimate the future profitability of individual business lines under a range of plausible scenarios, including a baseline scenario and a number of unfavourable scenarios. However, extending time horizons beyond the three to five years that are traditionally used in regulatory stress testing exercises raises issues as profitability estimates become more uncertain and increasingly driven by the assumptions made under each scenario.

30. **A related issue is the increasing need to integrate climate-related risks in BMAs in order to assess their potential impacts on business lines.** Scenario analysis and stress testing techniques are beginning to be extended to climate-related risks to evaluate the effects of severe but plausible climate scenarios on business lines.⁴¹ However, these techniques are still largely under development with exercises being refined and improved. In practice, banks focus their climate scenario analysis on specific types of exposures, typically those that are the most vulnerable to climate change. While these may vary across banks, most early efforts focus on credit risk, and on real estate and corporate exposures in particular.⁴²

Ensuring quality and consistency of assessments

31. **While BMA has the potential to make supervision more effective, its practical implementation gives rise to multiple challenges.** Identifying an unsustainable business model at an early stage, when the firm has not breached any limits – in particular, when supervisors consider that it has adequate amounts of capital and liquidity – is a task that presents significant challenges. Applying expert judgment based on qualitative and quantitative information to assess whether the firm's existing business model is capable of generating strong and stable returns in the coming years, commensurate with its risk profile, while considering potential developments that may affect the business environment where the firm operates, is indeed both complicated and somewhat subjective. It involves experience and expertise, but also assumptions and personal judgement, often with little tangible evidence to support them. In other words, BMA, to a large degree, and possibly larger than for other components of the supervisory framework, relies substantially on supervisory judgment.

32. **Most supervisory processes have measures in place to ensure a minimum level of quality and consistency across supervisory assessments.** The overarching objective is to guarantee a minimum level of consistency across the methods used and between supervisory findings in order to allow for comparability and to facilitate peer group analyses. This includes having a group of senior and highly experienced staff members performing quality control reviews of business model assessments before these are communicated to financial institutions. In practice, this may take the form of a panel where individual supervisors present the conclusions of their assessment of the sustainability of a specific business model and the proposed rating associated with this assessment to a college of senior experienced supervisors. The college then discusses the draft conclusions and may challenge them. Confirmation of the final BMA rating is usually done by a joint team of supervisors or by a senior supervisory staff member.

⁴⁰ Drawing on three recent stress tests for climate risk, Baudino and Svoronos (2021) also argue that the outcome of these exercises may be a relevant input for supervisors in their discussions with firms about the sustainability of their business models.

⁴¹ The NGFS has developed climate scenarios with the aim of providing a common reference framework for central banks and supervisors. See in particular NGFS (2021a,b).

⁴² See BCBS (2021b) for further information.

33. **Most authorities have also developed comprehensive supervisory manuals to ensure that individual supervisors follow a consistent approach.** These supervisory manuals typically include questions supervisors should answer when conducting BMAs, minimum information they should collect to inform their assessment and quantitative indicators supervisors are expected to analyse.

Box 6

Prudential Regulation Authority (PRA) supervisory guidance

In conducting a BMA, PRA supervisors are expected to use expert judgment and relevant information to form an opinion on the medium-term sustainability of a firm's business. In order to provide guidance and ensure consistency, PRA has developed internal guidelines for supervisors of non-systemic banks, which outline the questions supervisors should aim to answer when conducting a BMA for a specific firm. These include the following.

First, supervisors must understand the drivers of a bank's profitability. This includes having a clear understanding about (1) the key drivers for the bank's net interest margin and its main components (eg funding costs and interest income); (2) whether and to what extent other sources of income contribute more to the bank's profitability than the net interest margin; and (3) events that could impact profitability in the future either on a transitory or permanent basis.

Second, supervisors must assess how agile the firm is when reacting to changes in its economic and business environment. This includes analysing the firm's maturity profile of assets and liabilities; hedging strategies; funding structure (including volumes and the types of funding the firm would have access to under stress); and the composition, risk, return and risk diversification of the loan portfolio.

Third, supervisors are also expected to assess whether discrete changes in the firm's risk profile – for instance, when acquiring a subsidiary or developing a new business line – are aligned and fit with its overall strategy. This implies, for example, understanding whether the strategic goals set by the firm (eg direction, target balance sheet size, capital and liquidity positions) indicate a change in its risk appetite from the current position. It also involves assessing whether the bank has adequate resources to manage the risks and vulnerabilities that may arise from its change in strategy.

34. **While supervisory judgment is a key component of BMA, clear and objective criteria and robust processes can limit the risk of arbitrary and unfounded conclusions.** This may be achieved by setting minimum requirements – in internal supervisory manuals or published supervisory guidance – that a bank must meet in order to be able to obtain a predefined assessment grade or rating for its business model. In addition, the quantitative parts of the BMA framework could be automated and that may enhance the assignment process of the BMA rating in terms of integrity and quality control. Areas where process integrity and quality control may be enhanced include, for instance, financial ratios calculations and their comparison with predefined thresholds. Similarly, automation may allow the introduction of automatic backstops and alerts within the BMA process that can limit the scope for arbitrary and unjustified judgments.

CBR supervisory standard for BMA^①

The CBR's supervisory standard for BMA requires supervisors to assign a rating for banks' business risk, from one (low risk) to four (high risk). This process involves three main steps, and all of them include objective criteria and controls to ensure consistency and comparability of the outcomes and the integrity of the process.

The first step is completely quantitative and fully automated. In this step, multiple financial indicators (eg on asset quality, profitability, capital and liquidity adequacy, and funding structure) are calculated for each bank and compared against predefined parameters. As a result, each individual indicator receives a rating of its own. These individual ratings are then combined to give rise to the overall rating of the firm for step one. The table below provides examples of the predefined parameters used to define the ratings for specific indicators.

Financial indicator (%)	Rating			
	1	2	3	4
Return on equity	≥15	<15 and ≥10	<10 and ≥0	<0
Net interest margin	≥4	<4 and ≥3	<3 and ≥2	<2
Cost-to-income ratio	≤50	>50 and ≤65	65 and ≤80	>80

The second step is qualitative in nature and is based on a questionnaire for supervisors about various aspects of the bank's business model and strategy. This includes, for example, assessing and assigning a rating for the following items: the firm's market share, competitive advantages, business perspectives and business plans as well as the adequacy of its resources, its exposures to related parties ("captivity") and the transparency of its ownership structure.

The objective of this step is to assess and ultimately assign a rating to each of these items. In doing so, supervisors need to observe a set of predefined conditions associated with each rating for each item. For example, when assessing the bank's market share, a supervisor would assign a rating of one (ie low risk), in principle, only if the conclusion was that the firm had a strong market position versus its competitors in main bank's business segments (in terms of key-products, regions, client segments) and also had pricing power for key products and services in these segments. That said, in practice, supervisors can exercise discretion and assign a rating of one in this step even if not all these conditions were met. In this case, however, such deviations would have to be duly justified and documented.

In the final step, supervisors combine the information collected in the first two steps to determine the final business risk rating for the firm. While there is room for discretion, the final rating would need to be consistent with the ratings assigned in previous steps. In addition, the framework includes backstops to limit supervisory discretion and ensure that the ratings associated with lower business risk (ie ratings one and two) are not assigned to firms that present relevant deficiencies in their business model. For example, a bank that has posted losses in more than six quarters over a period of two years would not be entitled to receive such ratings.

^① The access of the Central Bank of the Russian Federation to all BIS services, meetings and other BIS activities has been suspended.

Integrating BMA into the supervisory review process

35. **The approach used to integrate BMA into the overall SRP varies across jurisdictions.** For some jurisdictions, business risk is an explicit and separate component of the SRP, with conclusions arising from the BMA feeding into the overall assessment. When this is the case, the assessment of the bank's business model sustainability is typically expressed as a score, which, when combined with the scores of the other SRP components, produces the bank's overall rating. In this context, a firm with a low BMA rating

is unlikely to receive a high overall rating. In other cases, business risk is not a standalone component and business model sustainability considerations affect several dimensions of the SRP, such as assessments related to governance, and to risk management more broadly, but also assessments related to income and profitability of specific business lines.⁴³

Box 8

SSM framework for business model assessment

BMA is one of the four components of the SSM's SREP. The SREP assessment of an institution's business model is currently split into two components: (i) business model viability, and (ii) business model sustainability. Business model viability relates to the bank's ability to generate acceptable returns from a supervisory perspective over the next 12 months given its quantitative performance, key success drivers and dependencies, and business environment. Business model sustainability refers to the ability of an institution to generate acceptable returns from a supervisory perspective over a period of three years and through a full business and economic cycle.

The business model assessment is conducted through a specific risk assessment system, which is fed with periodic reporting. Other relevant sources of information include ad hoc information obtained by the respective supervisory teams from various sources, such as managerial information and financial reports, the institution's strategic plans with forecasts and underlying assumptions, external audit reports, reports on the environment in which the bank operates and inputs stemming from on-site inspections and deep-dive analyses.

In conducting a BMA, SSM supervisors follow three main steps.

Step one assesses the relative importance of a bank's business areas (eg business lines, product lines and geographies), using metrics such as the contribution of the business area to overall revenues and costs, share of assets and market position. As part of this step, the main activities of the institution or banking group are reviewed to identify which of them could threaten the institution's viability and sustainability. Assigning institutions to peer groups on the basis of their product/business lines is also part of this first step.

As part of step two, the institution is assigned a score ranging from one (low risk) to four (high risk) based on profitability and efficiency indicators (eg return on assets and cost to income ratio). This is based on scores ranging from one to four that are assigned to each of these indicators according to predefined thresholds. Indicators are calculated based on regulatory reporting for availability and consistency reasons. The relevance of the indicators and the thresholds used are monitored on a regular basis and updated as needed.

Finally, in step three, supervisors analyse the sustainability of the institution's business model over the medium term and over-the-cycle. As part of this step, quantitative and qualitative information coming from a wide range of sources is used to assess the respective vulnerabilities of different business models. This includes analysing the main exogenous factors that influence the success of the business model (eg changes in the monetary policy stance) as well as institutions' strategic and financial plans, including the plausibility of the assumptions that underpin their business strategies. This phase ends with the overall assessment of an institution's business model risk. Step three can lead to an adjustment of the step two score by plus two/minus one notches.

In this context, an overall score of one would be assigned to a bank if the supervisory view after the conclusion of this process was that the bank's business model and strategy pose little or no risk to its viability or sustainability. This would be the case if several conditions were met, including, for example, the supervisor concluding that the bank "generates strong and stable returns, which are acceptable given its risk appetite and funding structure", "has a strong competitive position in its chosen markets and a strategy likely to reinforce this" and its "strategic plans are appropriate given the current business model and management execution capabilities".

Sources: EBA (2018) and ECB (2021).

⁴³ In 2021, CBB revised its SRP with a view to making it more forward-looking by giving BMA a more prominent role. In the previous framework, BMA was considered through the components of the SRP. These included supervisory assessments in relation to banks' strategy, earnings and capital planning. In contrast, under the new framework, BMA has become a standalone component of the SRP, which includes supervisory considerations related to the very same components. In this new framework, the rating associated with BMA accounts for 40% of the overall rating of the financial institution.

Section 5 – Supervisory responses

36. **Clear communication with supervised entities is particularly important in the context of BMA frameworks.** This is because of the need for supervisors to assess banks' business models to help ensure their safety and soundness while avoiding any second-guessing of the business decisions taken by the senior management or the board. Supervisors typically hold meetings with the bank's senior management on a quarterly basis in line with public disclosures of quarterly results, or even more frequently for some of the larger institutions. On those occasions, authorities may inform firms about their assessment and disclose their supervisory forecasts, their assumptions and the scenarios they may have used as part of their BMA. This step, which promotes transparency and accountability, is also considered an opportunity for the institution being evaluated to better understand supervisory expectations. Banks typically use this opportunity to discuss supervisory conclusions and provide further information supporting their views about the sustainability of their business model.

37. **Supervisors often use moral suasion to express their concerns and to encourage banks to address deficiencies identified in the course of the SRP.** In practice, BMA findings are not standalone and are often presented to the banks as part of their global SRP assessment. As a result, in some jurisdictions, the supervisory communication and actions taken regarding a bank may largely depend upon the overall SRP assessment and the composite supervisory rating. Moral suasion is often the preferred approach by supervisors, particularly when risks are not yet considered material because they have been detected at an early stage. While these recommendations are not legally binding in the sense that institutions do not expose themselves to penalties or sanctions if they fail to comply with them, supervised entities are expected to respond to them by both commenting on the findings and reporting, often within a pre-determined and mandatory timeframe, any actions aimed at addressing the shortcomings identified by the supervisor.

38. **However, when moral suasion is not enough and supervisory expectations are not satisfied, supervisors may impose corrective measures.** The intensity of the measures depends on the severity of the shortcomings identified and whether, and to what extent, prudential or operational requirements may have been breached or not. This typically includes tools ranging from additional reporting requirements, to fact-finding on-site inspections and follow-up letters, to more stringent measures such as sanctions and constraints on activities.⁴⁴

39. **The degree to which the bank responds to, and addresses in a satisfactory manner, the supervisory concerns regarding the sustainability of its business model forms the main basis for determining if a further escalation of supervisory activity is warranted.** If, for example, the bank's response is considered unsatisfactory or the bank is considered to be uncooperative, then supervisors would have sufficient grounds to request that it develops and implements a remedial plan to address the deficiencies identified.⁴⁵ Actions in those plans would generally aim to promote enhancements in the firm's risk management capabilities and/or in its governance practices.⁴⁶ The financial authority, in turn, will discuss the plausibility of the proposed actions and/or require further actions if necessary.

⁴⁴ See Figure 1 in BCBS (2015) for a list of discretionary supervisory measures that can be imposed to address banks' weaknesses.

⁴⁵ The prompt corrective framework in Peru, for example, includes uncooperativeness as a potential trigger for supervisory actions. See Svoronos (2018) for further details.

⁴⁶ In addition to remedial plans, CBR has, for instance, the power to require non-systemic banks to produce recovery plans (systemic banks are required to produce recovery plans on a regular basis) whenever business risk is deemed significant.

40. **More severe supervisory actions may be applied where serious deficiencies have been identified.** For example, a high level of business risk may translate into additional capital requirements, in addition to other requirements, to reinforce its risk management and reduce its risk-taking. This will be the case in particular in those jurisdictions where the SRP gives rise to Pillar 2 capital add-ons in the form of additional minimum or buffer requirements.⁴⁷ Moreover, some supervisors have powers to limit risk-taking, including by imposing restrictions on certain activities that the bank may perform, or by imposing an overall cap on the size of the bank's balance sheet as well as to determine the sale of specific assets, business lines or subsidiaries.⁴⁸ These measures, however, are perceived as extreme and are generally limited to situations in which there is a material threat to supervisory objectives or, more generally, to the institution's safety and soundness. Additionally, less intrusive, less public and less severe actions (eg moral suasion) must also have proved to be unfruitful and the financial authority believes that the firm will not take appropriate remedial actions on its own.

41. **In practice, some supervisors prefer not to take supervisory actions against banks with unsustainable business models when such banks still fully comply with all regulations and standards.** This approach is driven, at least in part, by concerns that supervisory actions in response to vulnerabilities in bank's business models may be perceived as a direct involvement of the financial authority in the day-to-day business of the firm and in its strategic decision-making process. In other words, by steering the business of the bank in a specific direction, supervisors could be perceived as overriding the firm's board and senior management without due cause and taking over their responsibilities. This could also give rise to potential liabilities, particularly if the bank were to fail as a result of such actions (or despite such actions). An additional consideration raised by surveyed authorities is the difficult task of defining an unsustainable business model in a way that could be used in the context of an early intervention framework to trigger supervisory actions.

42. **In order to overcome these challenges, supervisors often ground their actions on specific shortcomings identified during the BMA, with these shortcomings justifying their interventions on the basis of safety and soundness considerations.** This can include deficiencies related to poor governance practices, inadequate risk management, excessive risk concentrations or inconsistencies between the bank's strategy and its risk appetite. This is usually the preferred approach by most supervisors because producing robust evidence of such deficiencies is perceived as more straightforward than demonstrating that a bank's business model is not sustainable. In addition, most prudential frameworks are well equipped to deal with such situations. This is because early intervention regimes in many jurisdictions often provide supervisors with sufficient grounds to take actions on the basis of qualitative assessments about the adequacy of the firm's risk management capabilities and governance arrangements. Moreover, many of these regimes have been revised since the GFC to allow for and encourage earlier interventions while supervisory authorities have also become more inclined and more willing to use their powers at an earlier stage.⁴⁹

43. **BMA outcomes may also have macroprudential implications.** For example, BMA may inform and support policy decisions seeking to address structural problems in the financial system, such as overcapacity, lack of profitability and funding limitations in the industry as whole or in specific sectors.⁵⁰ Similarly, it may also contribute to the assessment by authorities of the impact of changes in banks' operating environment including those associated with the digitalisation of finance and the entry of big

⁴⁷ See Box 8 for an example.

⁴⁸ For example, in March 2018, the US Federal Reserve imposed an asset cap on Wells Fargo, barring it from growing its balance sheet until it improved risk management controls.

⁴⁹ Besides the more quantitative triggers (eg based on capital adequacy ratios), the prompt corrective action framework in the Philippines integrates rating-based and discretionary triggers, which may be used as the basis to justify early supervisory action. This includes, for example, a trigger associated with the level of the management component rating. For further details, see Svoronos (2018).

⁵⁰ See Box 4 for an example.

tech firms into financial services, impacts of climate-related financial risks and changes in the monetary policy stance. Additionally, supervisory conclusions about higher than usual business risks related to a particular business model or to specific business lines may provide relevant insights for the development of new regulation and supervisory guidance regarding specific concerns such as inappropriate credit underwriting policies.⁵¹

Box 9

The new supervisory approach of the Financial Services Agency of Japan (JFSA)

In March 2019, JFSA published a document setting out its new approach to prudential supervision (JFSA 2019). This new approach aims to promote a shift away from a “backward-looking, element-by-element check on compliance with formal requirements” and to make JFSA’s prudential supervision more agile, more forward-looking and more able and willing to intervene at an earlier stage.

To achieve this, the new approach puts greater emphasis on the early identification and remediation of vulnerabilities, so as to allow financial institutions and authorities more options and time to address them. Moreover, this new approach aims to ensure that firms find their own way to develop a sustainable business model, which includes having risk management capabilities that are commensurate with the firm’s risk profile as well as being able to generate sufficient and stable earnings. Accordingly, the assessment of the business model sustainability of banks has become more focused under JFSA’s supervisory approach to prudential supervision.

In this context, BMA is considered particularly useful for assessing the sustainability of regional banks’ business models. This is because many of these banks have relatively simple and similar business models, which allows for more meaningful peer group analyses as comparisons can be made on a more consistent basis.

One example of the application of BMA under the new supervisory approach, which has become part of the guidelines for supervising regional banks, is to assess the likelihood of a financial institution breaching the minimum requirements. In addition to assessing the actual capital adequacy ratios, JFSA also takes into account interest rate risk in banking books, concentration risk and other risks, including business risk, that may not be sufficiently captured by the Pillar 1 risk-weighted assets framework. In addition, JFSA takes into consideration information related to the firm’s current and expected earnings in light of the economic environment, demographics – which are particularly relevant in the context of a rapidly aging population – and the prospects of specific industries to which the firm is exposed.

Whenever there are concerns over medium- to long-term soundness due to low profitability, JFSA puts measures in place at an early stage even if no major problems are expected to occur in the short term. This includes increasing the intensity of supervision and establishing a dialogue with the bank to reach a common understanding on issues relating to the low profitability and its causes. Through this process, if warranted, supervisors make recommendations to the firm to adopt pre-emptive measures and then follow-up on their implementation.

Source: JFSA (2019).

Section 6 – Conclusions

44. **BMA is an important component of an effective framework for bank supervision.** This is because BMA supports supervisors’ efforts to identify banks’ vulnerabilities at an early stage. It therefore helps to promote the safety and soundness of banks. A well designed and comprehensive BMA approach provides supervisors with the basis to understand, analyse and assess the sustainability of a bank’s business model. BMA also allows supervisors to have a better understanding of the consistency between banks’ strategic decisions, their risk appetite and the resources allocated to their strategies. Lastly, BMA allows supervisors to assess a bank’s ability to adapt to changes in its operating environment. Therefore, BMA has the potential to enhance supervision and make it more proactive and forward looking.

⁵¹ See, for example, ECB (2020).

45. **Granular and good-quality data, adequate data aggregation capabilities, suitable analytical tools, regular dialogue with the bank and expert judgment are indispensable elements of an effective BMA framework.** An effective BMA is predicated on banks' ability to produce and aggregate financial data across the banking group as a whole and for each of its main business units and business lines. Moreover, in order to make the best use of this data and transform it into relevant supervisory inputs, supervisors need to develop and use analytical tools including stress tests, peer group assessments, profitability forecasts and scenario analyses. By combining the outcomes of these tools with qualitative information such as that obtained in the course of the regular dialogue with the bank's board and senior management and applying expert judgment, supervisors are able to form a qualified opinion about the sustainability of banks' business models.

46. **In conducting BMA, supervisors need to consider all relevant developments in the business and economic environments in which the bank operates.** This is because a bank that does not sufficiently adapt its business model to reflect changes in its operating environment may eventually see this business model decay and become unsustainable. At present, forward-looking assessments would need to include evaluations of banks' ability to adapt their business models in light of the end of the period of "low-for-long" interest rates in a number of jurisdictions as well as the increasing use of novel technologies in the provision of financial services and competition from new players, such as big tech firms. A comprehensive BMA would also need to take into account the potential impacts of climate change and banks' ability to identify, manage and mitigate their exposures to climate-related financial risks including both physical and transition risks.

47. **By applying a proportionate approach, BMA can contribute to improving the supervision of banks with different profiles in an efficient way.** For large and complex financial institutions, an effective BMA framework could, in principle, take advantage of the full range of supervisory tools including stress tests, scenario analyses and profitability forecasts. The framework would also maximise the use of quantitative as well as qualitative information, including that obtained from frequent interactions with the firm. Moreover, assessments would be conducted at least annually and would rely on the expertise of firm-specific supervisory teams. In contrast, for smaller and less complex firms, the BMA framework would mostly rely on quantitative data and largely automated processes. In this context, assessments would be conducted for clusters of financial institutions sharing some similar characteristics (ie peer group analyses) as a first step to identifying outliers.

48. **Greater formality in defining what constitutes a non-sustainable business model increases the effectiveness of BMA frameworks.** The publication of clear guidance on the characteristics of non-sustainable business models as well as on the processes supervisors use to assess business risk provides clarity about supervisory expectations. It can also deter practices that heighten business risk. Conversely, more transparency regarding supervisory expectations on what constitutes a sustainable business model incentivises the board and senior management of banks to factor these expectations into their decision-making processes. Furthermore, additional transparency improves the quality and effectiveness of the dialogue between supervisors and supervised firms and may therefore facilitate the adoption of early corrective measures to address supervisory concerns, even when no regulatory limits have been breached.

49. **Giving more prominence to business risk in SRPs may help supervisors take early actions on the basis of BMA findings.** This can be achieved by having business risk assessed as a standalone component of the SRP. This approach directly links specific aspects of business models which – on the basis of supervisory experience and expertise – are deemed to be weaknesses, with negative implications for banks' safety and soundness. This linkage allows supervisors to identify a bank's vulnerabilities and alert the bank's management and board at an earlier stage than when obliged to wait for a regulatory breach to happen. It therefore also allows supervisors to address these issues before they fester and become more difficult to address or resolve. Moreover, giving more prominence to BMA by making it into a discrete component of the overall supervisory rating provides supervisory authorities with a potentially powerful tool through which they can exercise moral suasion. This is because a negative evaluation by the

supervisor of the bank's business risk will ultimately impact the overall assessment of the bank as part of the SRP, which in turn will enable the supervisor to deploy its Pillar 2 toolkit. Accordingly, this approach has the potential to make the overall SRP more forward looking and proactive.

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