INTERNATIONAL MONETARY FUND

Monetary and Capital Markets Department

Strengthening Bank Regulation and Supervision

National Progress and Gaps

Ljubica Dordevic, Caio Ferreira, Moses Kitonga, and Katharine Seal

No. 21/05

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Cataloging-in-Publication Data
IMF Library

Names: Đorđević, Ljubica D. | Ferreira, Caio. | Kitonga, Moses. | Seal, Katharine. | International Monetary Fund. Monetary and Capital Markets Department, issuing body. | International Monetary Fund, publisher.
Title: Strengthening bank regulation and supervision : national progress and gaps / Ljubica Dordevic, Caio Ferreira, Moses Kitonga, and Katharine Seal.
Other titles: International Monetary Fund. Monetary and Capital Markets Department (Series).
Description: Washington, DC : International Monetary Fund, 2021. | Departmental paper series. | Includes bibliographical references.
Identifiers: ISBN 9781513566658 (paper)
Subjects: LCSH: Banks and banking—State supervision. | Bank management. | Banking law.
Classification: LCC HG1725.D67 2021

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Glossary

AE	advanced economies
BCBS	Basel Committee on Banking Supervision
BCP	Basel Core Principles for Effective Banking Supervision
BIS	Bank for International Settlements
CP	core principle
G20	Group of Twenty
EMDE	emerging market and developing economies
FSB	Financial Stability Board
FSAP	Financial Sector Assessment Program
GFC	global financial crisis
LC	largely compliant
MNC	materially noncompliant
NC	noncompliant
RBS	risk-based supervision
ROA	return on assets
TA	technical assistance
WGI	World Governance Indicators

Executive Summary

The failings that precipitated the 2008 global financial crisis (GFC) led to an unprecedented international effort to reform and strengthen the regulatory and supervisory framework. The goal of this framework was to deliver more-resilient financial institutions and systems. This departmental paper aims to support the effective implementation of these reforms by distilling the main findings of Basel Core Principles for Effective Bank Supervision assessments conducted by the IMF.

The paper employs two complementary strategies. First, it is pursues textual analysis (text mining) of the assessment reports to identify successes and challenges the authorities are facing. Second, it analyzes the grades in the Basel Core Principles assessments, including their evolution and association with bank fragility.

The findings confirm that jurisdictions have made steady progress implementing the major regulatory reforms. Capital and liquidity regulation, in particular, have been strengthened across the board. However, progress that enhances banking supervision has been slower. Despite the strong association between the institutional setting for supervision and bank soundness and stability, many countries still lack independent bank supervisors who have a clear financial stability mandate and appropriate set of powers. Governance and risk management show some improvement and supervisory techniques and tools are developing and becoming more forward looking, but a relatively large number of jurisdictions still need to effect substantial improvements in these areas. The framework for the management of problem assets also needs urgent improvements and the supervision of related party transactions is a concern, given the potential consequences with respect to bank soundness, and more guidance from international bodies appears merited.

Although this paper does not aim to assess the questions as to whether jurisdictions were prepared for the stress introduced by COVID-19, many of the lessons learned through the GFC are being reinforced by the pandemic. In this regard, the paper sheds light on some areas that are being tested by the economic effects of the pandemic crisis and may help prioritize continuing implementation of reforms. These lessons include the importance of adequate capital, sufficient liquidity, and comprehensive risk coverage of the regulatory framework. Moreover, the experience of the pandemic highlights the relevance of the quality of governance, effective risk management, and the importance of proactive supervision and early intervention by the authorities.

Chapter 1

Introduction

This departmental paper assesses progress made in strengthening prudential standards for banks and the remaining gaps in implementing the international reform agenda. The deficiencies and inadequacies that were laid bare by the 2008 global financial crisis (GFC) led to an unprecedented international effort to reform and strengthen the regulatory and supervisory frameworks. This paper aims to contribute to the effective implementation of these reforms by distilling the lessons learned from assessments of national financial sector oversight frameworks and compliance with the Basel Core Principles for Effective Banking Supervision (BCP). As the paper was being finalized, the COVID-19 pandemic began testing the resilience of the financial sector and the adequacy of the reforms (Box 1). Although the paper does not aim to discuss to what extent jurisdictions were prepared for the stresses introduced by the rapid spread of the pandemic, it sheds light on some areas that will be tested by the health crisis and may help prioritize continuing implementation of reforms.

The IMF regularly assesses and supports the implementation of international reforms through surveillance and technical assistance (TA). The IMF periodically assesses the quality of the oversight framework of its membership, including both their micro- and macroprudential dimensions, through the Financial Sector Assessment Program (FSAP). These assessments are based on international standards that incorporate the postcrisis reforms. The independent, granular, comprehensive nature of standards' assessments makes them the ideal tool to assess reform implementation. Moreover, each year the IMF provides, on average, TA to more than 70 countries on financial sector prudential issues, helping them to strengthen the quality of regulation and build supervisory capacity. By carefully considering the local context, FSAP assessments and TA promote a proportional implementation of international standards. They also provide a unique perspective from which to identify and understand the challenges encountered by the diverse membership in adapting their prudential framework to the international minimum prudential standards.

Overall, FSAP assessments suggest that jurisdictions have made impressive progress adapting their prudential frameworks for banks to the international reform agenda. The ample recognition that the international reform agenda provides a good basis for strengthening financial systems and the pressure created by implementation monitoring mechanisms prompted the adoption of key regulatory pieces. In particular, the enhanced postcrisis prudential standards have helped give many jurisdictions greater resilience in meeting the initial impact of the pandemic. However, the results also show that significant progress is still needed in enhancing the institutional set up for oversight of the banking sector and the effectiveness of supervision. Although the international reform agenda has unquestionably enhanced the minimum prudential standards, effective supervision and enforcement must accompany regulations to ensure a sound prudential framework. Evidence shows that the quality of banking supervision has a significant impact on banks' soundness (Laeven and Ratnovski 2014, Davis and Obasi 2009). Renewed efforts are needed in these areas to ensure that regulations are soundly enforced and risks to financial stability are appropriately monitored and addressed in a timely manner.

The paper has four chapters. Chapter 2 reviews the main elements of the reform agenda and discusses how the implementation of international standards might need to be adjusted to consider the specific characteristics of the local financial system. Chapter 3 summarizes the results of BCP assessments, highlights areas that warrant further improvement, and discusses how implementation of reforms could be strengthened. Chapter 4 concludes and discusses potential ways to address remaining gaps.

Box 1. Reflections on COVID-19 Impact

Research was carried out based on FSAP and BCP findings conducted before the COVID-19 pandemic. At the time of writing, the huge uncertainties about the economic outlook and investors highly sensitive to pandemic developments were exposing pre-existing financial vulnerabilities. Debt levels were rising, and stress tests results suggested that potential credit losses resulting from insolvencies would test bank resilience in some countries. Furthermore, the forecasted slow recovery required greater focus on building resilience to withstand continued deteriorating conditions.

In the wake of COVID-19, a number of questions arise. For example, it will be important to assess whether the reform agenda developed in response to the GFC has sufficiently supported the resilience of the financial sector in a new and different crisis. Equally, the international community will need to consider whether there are new regulatory or supervisory priorities to be addressed. Irrespective of these questions, many of the lessons learned through the GFC are being reinforced by the pandemic. Taking a forward-looking approach to the areas touched on this paper, it is possible to reflect on some likely consequences of the crisis and draw some preliminary conclusions on some post-COVID-19 priorities for the financial sector and its regulatory community.

The powers and credibility provided by a sound institutional setting and clear mandate are key for supervisors to face challenges such as the COVID-19 pandemic. As the pandemic has shown once more, maintaining the confidence in the financial system during a crisis, requires credible and competent supervisory authorities. Supervisors can best meet their primary objective of supporting a safe and sound financial system when the institutional elements—including clear mandates and a transparent system of accountability, sufficiency of powers, skills, and resource—are in place. If these foundations are not in place, then there is an increased risk for poor quality decision making and communication of measures to the financial sector that jeopardize market confidence and financial stability.

Enhancing the framework for the management of problem assets is an urgent priority. Weaknesses in the framework for managing problem assets are pervasive in many countries, as the IMF's work has found. For example, three major deficiencies, including classification and provisioning standards, definition of problem assets, and supervisory oversight are relatively common in both advanced and emerging economies. These weaknesses adversely affect bank capital adequacy, market discipline, and the integrity of reporting to supervisors, ultimately jeopardizing thorough risk assessment and control of a bank's credit risk exposure. Addressing them is a necessary step to restore banking sector health after a major credit shock like the COVID-19 pandemic.

Box 1. Reflections on COVID-19 Impact *(continued)*

Regulatory capital and liquidity buffers that can be used effectively are essential. The Basel III capital and liquidity framework were explicitly designed to create reserves of capital and liquidity that would be available for use in times of stress, thus permitting banks to maintain their activities and mitigating procyclical effects. The pandemic is the first global systemwide stress encountered since the GFC. Preliminary observations suggest that in practice, these buffers might not have worked fully as intended as, in most jurisdictions, banks seem more reluctant to use the buffers than expected. In addition to potential design issues, local understandings and interpretations of the design and flexibility of the framework don't seem fully consistent across jurisdictions and could have also played a role.

The protracted uncertainty generated by the pandemic has challenged risk management and decision making. The ability to gather, monitor, and make decisions on data from all aspects of the business lines, as well as assessing near term and long-term effects on the business model, is essential for banks in managing the impact of the crisis. Supervisors have a major role in terms of supporting and continuing to press for firms to make advances in their governance and risk management practices.

Sound and forward-looking supervisory approaches and processes are critical in identifying and containing losses arising from the COVID-19 pandemic. From its onset the pandemic shock has generated significant stress to financial institutions, but a substantial share of the potential losses is expected to take some time to fully materialize. An effective prudential response requires supervisors to assess upcoming risks and act to safeguard financial stability before the potential materialization of these losses. To the extent that authorities have managed to enhance risk-based techniques, stress-testing and other analytical tools to build a forward-looking supervisory approach, they will be well positioned to identify the best policy options and the most vulnerable institutions which will require closest attention. For jurisdictions facing challenges, including inadequate data, poor information systems and lack of supervisory capacity to adopt the new analytical techniques, the ability to gauge and work to address the impact of the crisis on banks will be impaired.

Chapter

2 Adapting National Approaches to the International Reform Agenda

Postcrisis Prudential Reforms and Minimum Standards for Regulation and Supervision

In the aftermath of the GFC, regulatory and supervisory standards were strengthened across all dimensions. The international reform agenda reinforced the prudential framework to address the fault lines at the source of the crisis. These flaws included inappropriate incentives for managers; deficiencies in techniques to understand, manage, and price risks; and corporate governance weaknesses that hindered proper oversight and comprehension of risks faced by financial firms. Reforms addressed these weaknesses to strengthen firms' resilience, took additional steps to make systemic important banks resolvable without meaningful market disruptions, reduced interconnectedness in the financial system, increased the transparency of derivative markets, and strengthened the oversight and regulation of nonbank institutions.

The stringency of regulatory standards for the banking sector was substantially increased. Basel III, a principal component of the regulatory reform, significantly improved the capitalization and liquidity of the banking sector. However, the reforms extend much further. The regulatory response also includes standards and guidelines strengthening risk management and corporate governance of banks; setting out a revised, global framework for large exposures; improving the treatment of problem assets and expected loan loss provisions; enhancing disclosure requirements; increasing expectations regarding the quality of internal and external audit; and better aligning compensation practices with long-term risks. Importantly, to address systemic concerns and the need to maintain the flow of credit to the real economy, the regulatory framework introduced greater flexibility by incorporating a stronger macroprudential dimension (IMF 2014a). This included tools that can be activated or released through the business cycle such as capital and liquidity buffers that are built up during the upswing of a business cycle and are therefore available to be drawn down in times of stress.

Moreover, several policy initiatives aimed to increase the effectiveness of financial sector supervision. World leaders at the November 2010 Group of Twenty (G20) summit endorsed policy recommendations reaffirming that the new financial regulatory framework must be complemented with more effective oversight. The post-GFC consensus is that supervision should be more comprehensive, intrusive, and forward looking. Accordingly, standard setters enhanced expectations for the institutional framework for supervision and issued guidance and standards that highlighted the need for early remedial actions, raised the bar for risk data aggregation and risk reporting, further emphasized the use of stress testing programs and forward-looking tools, redoubled attention to consolidated supervision and financial conglomerates, heightened supervisory focus on systemically important financial institutions, and strengthened coordination arrangements between supervisors and their foreign and domestic peers.

These postcrisis reforms are embedded in the BCP, which are the de facto minimum standards for sound prudential regulation and supervision of banks. The BCP were revised in 2012 as part of an international agreement to enhance supervisory practices and essential risk management and corporate governance expectations (BCBS 2012a). The revision emphasized the importance of applying a systemwide, macro perspective to the supervision of banks to assist in identifying and taking early actions to address systemic risks. The need for greater supervisory intensity and adequate resources to supervise systemically important banks was also highlighted, as well as an increased focus on crisis management, recovery, and resolution measures. Finally, as the principles refer to current regulatory standards applying at the time of the assessment, they incorporate all the postcrisis regulatory developments, such as the elements of the new capital and liquidity standards.

The Basel Committee on Banking Supervision (BCBS) has postponed the implementation of outstanding standards and development of new policies in light of the COVID-19 pandemic. To ensure that banks and supervisors are able to commit their full resources to respond to the impact of COVID-19, the BCBS announced a one-year deferral of the implementation timeline of the outstanding Basel III standards, suspended consultation on all policy initiatives, and postponed all outstanding jurisdictional assessments planned in 2020. However, as highlighted by the the Financial Stability Board (FSB)'s five principles that underpin regulatory and supervisory response to the COVID-19 pandemic, the international community agreed to act consistently with international standards, and not roll back reforms or compromise the underlying objectives of existing international standards.[1]

Proportionality Considerations when Adopting International Standards

All jurisdictions can benefit from the implementation of the international reform agenda. There is broad agreement that the reforms produced well-thought-out standards that address regulatory and supervisory shortcomings. However, considering that many regulatory standards have been primarily designed for large, internationally active financial institutions, there have been questions about the suitability of their application to smaller institutions with less-complex business models, particularly those in emerging and developing economies (Beck, Jones, and Knaack 2018; Center for Global Development 2019).

To avoid unintended consequences and build an effective prudential framework, jurisdictions need to consider the specific characteristics of their financial system. Financial sectors across the world differ markedly in terms of complexity, nature of institutions, and financial depth. Legal and institutional frameworks also vary considerably. When implementing international standards, it is good policymaking to consider local characteristics and reflect on the suitability of international standards in achieving the policy goals in the local context. This approach is aligned with and required by the proportionality concept embedded in the core principles' methodologies, which are the basis for policy advice on prudential issues for the financial sector.

Regulatory and supervisory proportionality aims to keep the level of intervention appropriate to what is needed to achieve the policy goals. Although the reforms addressed gaps identified after the GFC, greater complexity was also introduced, particularly concerning trading operations and exposures to derivatives and securitization. As a result, some institutions might not have the necessary scale or business model that warrants the full implementation of some specific standards. A proportionate approach balances the regulatory complexity with the complexity of the system or individual institution. In this way the proportionate approach delivers the regulatory framework that is the best fit for the needs of the jurisdiction.

Proportionality is not about weakening prudential standards. The regulatory principles critical for financial stability are also necessary for financial development. Thus, there should be little or no conflict between these objectives.

[1]https://www.fsb.org/2020/04/COVID-19-pandemic-financial-stability-implications-and-policy-measures-taken/. The Basel Committee has also reaffirmed its expectation of full, timely, and consistent implementation of all Basel III standards, in a revised timeline. https://www.bis.org/press/p200327.htm.

Evidence shows that healthy credit provision is underpinned by resilient and well-capitalized financial institutions (Michelangeli and Sette 2016, Gambacorta and Song Shin 2018).

The IMF has been supporting its membership in implementing international prudential standards in a proportionate manner. When providing TA or assessing compliance with international standards, IMF staff consider the context in which the supervisory practices are applied, the risk profile and systemic importance of a broad set of institutions, and different stages of development and complexity of financial systems (IMF 2014b; Ferreira, Jenkinson, and Wilson 2019).

Building a Proportional Prudential Framework

While the prudential framework should consider local circumstances, adjustments to international standards have limits. By establishing minimum prudential requirements that should be observed by every jurisdiction and a framework that facilitates a cross-country risk assessment of financial institutions, international standards promote trust in the global financial system and constrain regulatory arbitrage. They also increase the ability of countries to rely on each other's regulatory and supervisory systems, effectively reducing the risk of regulatory fragmentation that could hinder cross-border flows. Therefore, while proportionality considerations are appropriate, implementation of prudential standards needs to preserve the thrust of the international prudential framework (Box 2).

Core principle assessments show that proportionality has been a key consideration of jurisdictions adapting their national prudential framework to the international reforms. Proportionality is mostly applied in implementing the more prescriptive regulatory standards (for example, capital and liquidity). In this process, several countries use balance sheet and simple risk indicators to segregate their bank populations into multiple categories for regulatory purposes. Switzerland, for instance, introduced a five-tier classification, ranging from a framework super-equivalent to Basel III (that is, a higher standard than the minimum requirement) for the most systemic banks, to a simplified approach for the smallest well capitalized and liquid banks (IMF 2019b). The Bahamas simplified the Basel III definition of regulatory capital for all banks, while applying a stringent, super-equivalent minimum requirement (IMF 2019c). Consistent with risk-based approaches, proportionality has also been extensively used by the United States and other countries in allocating supervisory resources and setting supervisory expectations on corporate governance, risk management, stress testing, and recovery plans (IMF 2020b). Along the same line, systemically important institutions have been subject to heightened standards and scrutiny.

Box 2. Guiding Principles for Proportional Implementation of International Standards

The IMF experience providing TA and assessing compliance with international standards suggest that the following guiding principles can be useful:

- **Adaptations or partial implementation of international standards should be considered only when there are clear reasons and benefits for doing so.** While proportionality considerations are key and international standards might need to be adapted to ensure the effectiveness of the prudential framework in the local context, changes need to be clearly justified.
- **Adjustments should keep the rigor of and reflect international minimum thresholds.** Although international standards may need to be adapted to better suit specific circumstances, focus should be in reducing disproportional compliance costs. Changes should not result in less-rigorous prudential frameworks that lead to less-resilient financial institutions or promote riskier behavior. In particular, capital and liquidity buffers should be commensurate with the minimum amounts established by international standards.
- **Tailoring must consider whether features of the risk environment are more pronounced in certain jurisdictions**. When there are relevant risks not appropriately addressed by international standards, the national framework should go beyond international requirements. Should a jurisdiction be prone or subject to factors such as market illiquidity, high volatility, or the problematic enforcement of claims and the execution of collateral above the level embedded in international standards, more-stringent prudential measures may be needed than the international standard provides.
- **A proportional and risk-based approach to supervision should ensure additional focus and resources for weaker and more systemically important institutions.** However, all segments of the financial markets require a minimum intensity of supervision, including onsite work, to identify weaknesses which cannot be easily detected via reporting and offsite surveillance.
- **While some financial systems and institutions may merit simpler standards, due consideration should be taken of the fundamental weaknesses identified during the GFC.** These include, but are not limited to (1) higher and better quality capital buffers, (2) liquidity buffers to avoid destabilizing fire sales and the need for intervention by public authorities, (3) a greater systemwide or macroprudential perspective in the microprudential supervision of financial institutions, (4) efforts to make systemically important institutions resolvable to mitigate moral hazard and avoid costly bailouts, (5) sound corporate governance and risk management, and (6) a legal and operational framework for financial sector oversight to allow supervisors to take preventative measures at an early stage, even when no minimum regulatory threshold has yet been breached.

Box 2. Guiding Principles for Proportional Implementation of International Standards *(continued)*

- **As financial systems deepen and become more complex, the regulatory and supervisory framework should evolve toward international standards.** While tough but simpler prudential approaches might be considered, as the financial system develops the national regulatory framework should also evolve to address new risks and realize the benefits of deeper financial markets. Similarly, the evolution of the financial system needs to be matched by enhanced supervisory capacity.
- **Local rules and supervisory practices should meet the expectations of the core principles even when the full set of international standards are not applicable.** The core principles do not impose a single template for supervision, meaning that authorities are guided in what supervision should cover, but not how to execute those elements. In this respect, the core principles are universally applicable and represent the de facto minimum standard for sound prudential regulation and supervision.

CHAPTER

3 Taking Stock and the Lessons from Experience

Methodological Approach

The IMF closely monitors and encourages the implementation of reforms through surveillance and TA.[1] Article IV surveillance and FSAP closely follow the implementation of reforms in member jurisdictions and make recommendations to enhance compliance with internationally agreed standards. The process is complemented by extensive TA activities that help the membership strengthen their regulatory and supervisory frameworks. The IMF has formally adopted the BCP as standards that it will assess in its surveillance work, alongside the World Bank, for emerging and developing and economies (EMDEs). Assessments are usually conducted within the FSAPs but occasional standalone assessments are also performed. Since 2006, more than 100 jurisdictions have been assessed.

This paper draws on the results of BCP assessments to evaluate progress in the implementation of reforms. Since their issuance, the BCPs have become the standard tool for assessing the quality of supervisory systems and identifying areas for improvements. The experience gained through ongoing TA missions on banking supervision and regulation conducted by IMF staff are also reflected in the findings and recommendations. It should be noted that the focus of the analysis is on implementation, and this paper does not contain an assessment of the rationale for and of the performance of the post-GFC regulatory reforms.

[1]Standard-setting bodies, such as the FSB and BCBS, develop and agree on prudential standards but have no legal enforcement ability. These bodies rely on the commitment of their members and peer pressure mechanisms to encourage compliance. Following the GFC, several new monitoring mechanisms have been used to ensure transparency and support momentum. The FSB developed a comprehensive monitoring mechanism which relies on peer reviews, surveys, and reports from standard setters. The BCBS has also developed an approach to assess the timeliness and consistency of the implementation of Basel III (BCBS 2019b, 2020).

The independent, granular, and comprehensive nature of BCP assessments makes them the ideal tool to assess the implementation of the reforms. The methodological approach of BCP assessments offers a number of important benefits. First, the comprehensive scope of the BCP methodology requires assessors to make a detailed scrutiny of the legal framework, the institutional setup, the quality of supervision, and enforcement of regulation. Second, the assessments are conducted by independent experts and subject to a rigorous review process that helps to ensure consistent, high-quality assessments. Third, the assessments are conducted in the jurisdiction and involve significant preparation by and close engagement with the host authority. Finally, the proportionality approach embedded in the BCP methodology makes them universally applicable.

This paper analyzes the 47 BCP assessments completed between 2012 and 2019 to identify achievements as well as areas where more progress is warranted.[2] The paper uses two approaches—textual and econometric—focusing more on the textual examination. The textual approach, examined comments provided by the BCP assessors that elaborate on the key elements driving the grades.[3] Some insights are also provided by the econometric analysis which, by contrast, uses the gradings themselves.[4]

The textual analysis examines the comments section of the BCPs to reveal and explore common themes across jurisdictions. The process can be summarized in three steps. First, the analysis identifies the most common weaknesses found in complying with each principle. Second, a mapping process is developed that links specific expressions in the BCP comments with the weaknesses previously identified. Third, simple statistics are calculated to observe the relative prevalence of each weakness. Finally, the textual results are contextualized by technical expert interpretation. It should be noted that comments provided by assessors are geared toward explaining grades and providing recommendations to help countries improve the effectiveness of supervision. Therefore, comments are intentionally biased toward pointing out weaknesses and generating constructive recommendations rather than recording strengths.

[2]All the assessments followed the 2012 BCP methodology and covered 18 AEs and 29 EMDEs. Two entries covered euro area and CEMAC (Central African Economic and Monetary Community), which represent 25 countries.

[3]Comments and grades are important outcomes of the assessment process. Comments provide detail, explanation, and nuance, while grades offer a summary impression of the quality of a jurisdiction's supervisory framework. The textual analysis examined commentaries for the individual principles within the assessments. These commentaries set out the assessors' professional evaluation of whether the jurisdiction meets the detailed criteria for that principle and explains why the jurisdiction's performance merits the grade it has received based on the BCP guidance that establishes the grading methodology. Analyzing the commentary, therefore, yields insight into the performance of the underlying criteria, allowing themes to emerge.

[4]Due to data constraints, the econometric analysis is restricted to the 26 countries listed in Annex Table 1.

Complementary econometric analyses offer insights into the importance of compliance with some key BCPs to enhance financial stability. The paper uses data on 8,590 banks from 26 countries drawn from a standardized cross-country Fitch Connect database to relate banks' fragility to a country's BCP compliance (Annex Table 1). The econometric analysis focuses on three Core Principles (CPs) that are particularly informative about the institutional set up for supervision and governance of banks and, therefore, build the foundations for compliance with other CPs. The principles are: Supervisory Powers, Responsibilities and Functions (CP1); Independence, Accountability, Resourcing, and Legal Protection of Supervisors (CP2); and Corporate Governance (CP14). These three CPs also have sufficiently high variation in BCP grades in the regression sample to enable meaningful econometric testing. Given the foundational nature of CPs 1, 2, and 14, issues that could bias the econometric results by introducing variation in the CP grades are also less of a concern. These issues include double jeopardy (that is, common issues that affect more than one CP but whose impact is considered in just one CP), which could lead to a compliant grade even though some of the criteria are not fully met.

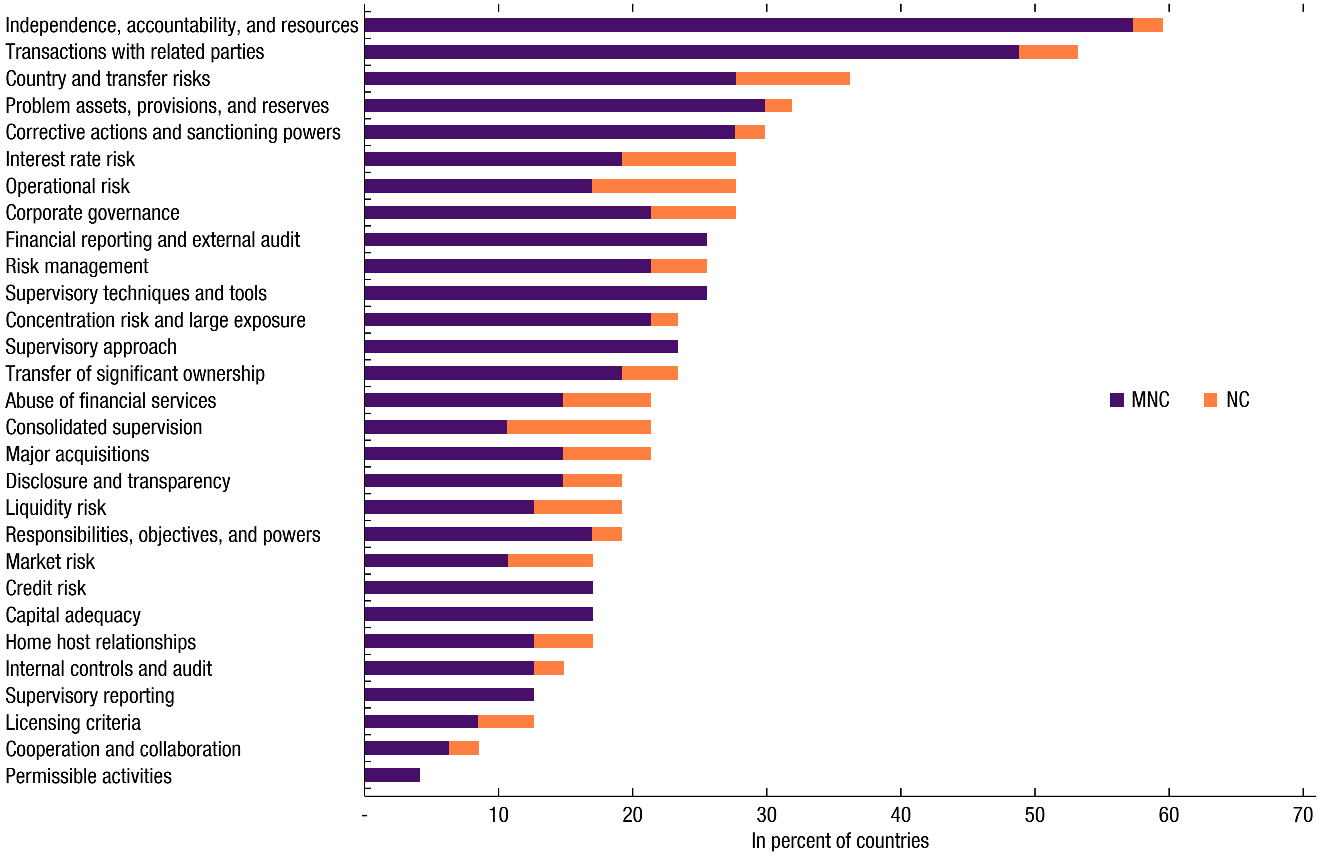
High-Level View of the Results of the BCP Assessments

BCP assessments indicate that countries have made substantial progress in implementing Basel capital and liquidity standards. However, the assessments also show that more efforts are needed in other areas, including addressing persisting weaknesses of the supervision framework. The Basel III capital and liquidity standards have been a main pillar of the international reform. BCP assessments show that principles linked with capital and liquidity standards have a relatively high level of compliance, clearly indicating a strong commitment by jurisdictions to implement the new regulatory framework. However, other areas of the regulatory reform agenda, such as principles related to effective corporate governance, risk management, and the treatment of problem assets have a lower degree of compliance. Similarly, despite the call for enhanced and more effective supervision, many countries show substantial weaknesses in the institutional framework for supervision and lack of powers and effective supervisory processes to identify and take timely corrective actions (Figures 1 and 2). The remainder of the paper discusses these findings and considers the implications for supervisors.

The Institutional Setting for Financial Sector Oversight

An effective prudential framework requires supervisors who possess the ability and willingness to address safety and soundness concerns in a timely manner. To

Figure 1. Limitations in Compliance with Individual Basel Core Principles

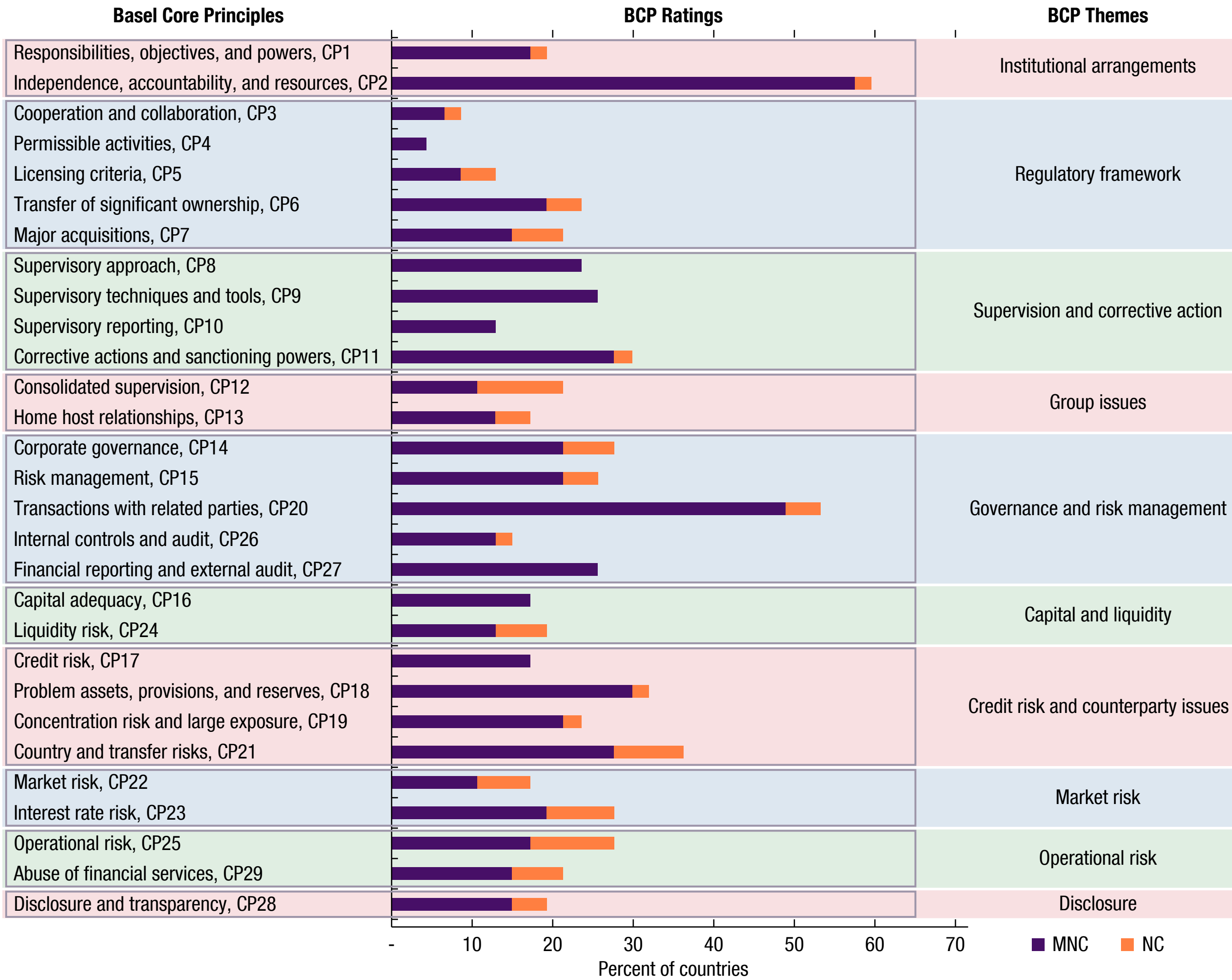


Sources: Basel Core Principles for Effective Banking Supervision database; and IMF staff calculations.
Note: MNC/NC = aggregate of materially noncompliant and noncompliant ratings.

mitigate risks to financial stability, supervisors need to develop and enforce rules defining acceptable behavior for banks, monitor emerging risks, and act to address unsafe practices. Fulfilling these tasks requires a sound institutional setting that provides sufficient powers and incentives for prompt supervisory action. Minimum international requirements for the institutional framework for bank supervision are largely set out in two principles: CP1 (on responsibilities, objectives, and powers) and CP2 (on independence, accountability, resourcing, and legal protection for supervisors).

Following the GFC, international minimum requirements for the institutional setting were substantially strengthened by the BCBS. Policies developed by jurisdictions represented on the FSB and the BCBS and endorsed by G20 leaders emphasized that supervisors need to have strong and unambiguous mandates, sufficient independence to act, appropriate resources, and a full suite of tools and powers to identify and address risks proactively,

Figure 2. Basel Core Principles Thematic Groups



Sources: Basel Core Principles for Effective Banking Supervision database; and IMF staff calculations.
Note: MNC/NC = aggregate of materially noncompliant and noncompliant ratings.

including regular stress testing and early intervention (G20 Seoul Summit 2010). In response, the BCBS's 2012 review of the BCPs embodied these expectations in the relevant principles. In particular, the review (1) explicitly stated that the primary mandate of supervisors should be safety and soundness, (2) provided more guidance on operational independence, (3) expressly noted that resource allocation must consider systemic risks posed by banks, and (4) updated and expanded the list of required supervisory powers. In particular, the standards stressed the importance of supervisors' decisions and actions being safeguarded from industry or government influence, which can be exerted through direct or indirect avenues.

The COVID-19 pandemic has further emphasized the need for a strong institutional framework. The sharp collapse of borrowers' income and the resulting consequence on loan performance is likely to severely impact banks' balance sheets. Central Banks and supervisors have had to respond quickly to preserve financial stability by mitigating the risk that temporary liquidity strains could impair the normal function of the financial system, amplifying losses in the banking system and in the overall economy. That action has required a balancing act between, on the one hand, encouraging banks to restructure loans and use the flexibility embedded in the accounting standards and prudential framework while, on the other hand, maintaining the confidence in the banking system by ensuring that losses are not hidden and prudential standards are not relaxed. Supervisors with clear safety and soundness mandates and which are appropriately shielded from political pressures are better positioned for this task due to their established higher credibility. Moreover, for a number of authorities, deficiencies in staff resources, whether in numbers, relevant skills, and information technology capacity to operate remotely, will have exacerbated the ability to manage the impact of the pandemic effectively.

Lack of operational independence is the most common challenge faced by supervisors (Figure 3).[5] Supervisors in the vast majority of the assessed countries lacked the independence set out in the revised BCPs. Supervisory independence was often impaired by appointments and dismissal procedures that either lacked a defined criterion or were not transparent. Constraints on independence also manifested through government influence on decision making. For example, the governing body of many authorities was skewed inappropriately toward government ministers or other appointees. In other cases, supervisory decisions required some form of political approval or were subject to review and potentially could be overturned by political authorities. Lack of budgetary autonomy, which is often associated with insufficient resources to carry out the supervisory mandate, persists in some countries. For some authorities the budgetary amount and specific allocation of spending, is controlled at a political level, even when the supervisor is funded by industry fees.

It should be noted that the interference can be indirect or just a potential concern. As an example, BCP assessors noted that the power granted to the Minister to issue directions to the Australia Prudential Regulation Authority about policies it should pursue is a matter of potential concern because it could lead to direct or indirect interference in supervisors' standard-setting powers, even if this power has never been exercised so far (IMF 2019a).

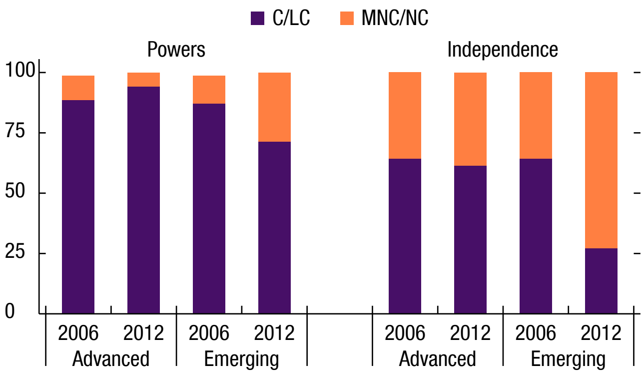
[5]The weaknesses flagged in Figure 3 and in subsequent figures are materially different in each country. In some cases, despite the existence of a weakness, a relatively low materiality still allows a compliant or largely compliant grade for the principle.

Figure 3. Weaknesses in Institutional Setting for Bank Supervision

While the importance of a sound institutional setting for effective bank supervision has been widely accepted, many countries do not equip bank supervisors with the necessary powers and conditions for their work.

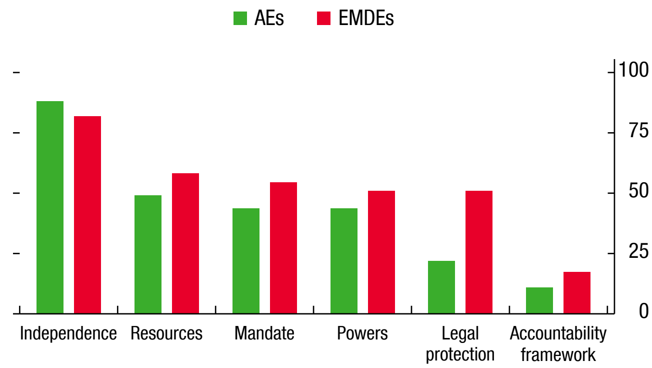
The new standards raised the bar for the institutional framework which many jurisdictions have not met.

1. Evolution of the Institutional Framework
(Percent of countries)



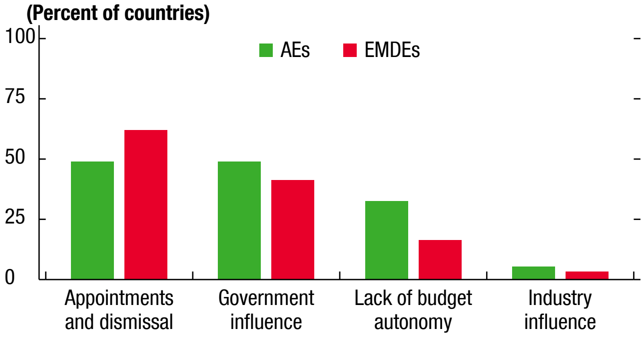
Insufficient independence of supervisors is the most common weakness, followed by lack of resources and absence of a clear mandate for financial stability.

2. Weaknesses in the Institutional Framework
(Percent of countries)



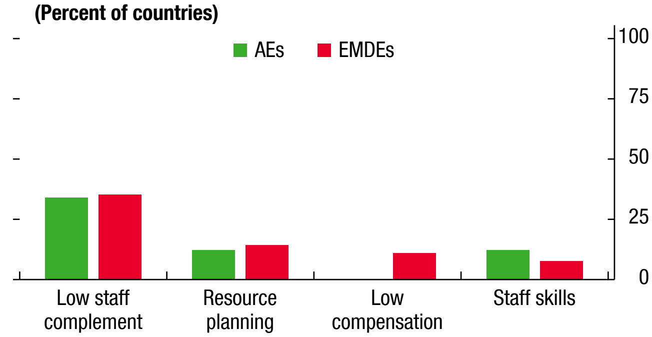
Supervisors' independence is mainly impacted by deficient appointment and dismissal processes and government influence in key decisions.

3. Lack of Independence
(Percent of countries)



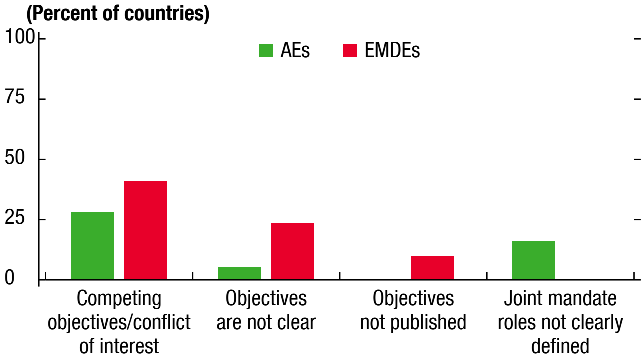
Insufficient staff, compensation, and specialized skills impedes supervisory effectiveness. Resource planning is weak in some jurisdictions.

4. Resource Constraints
(Percent of countries)



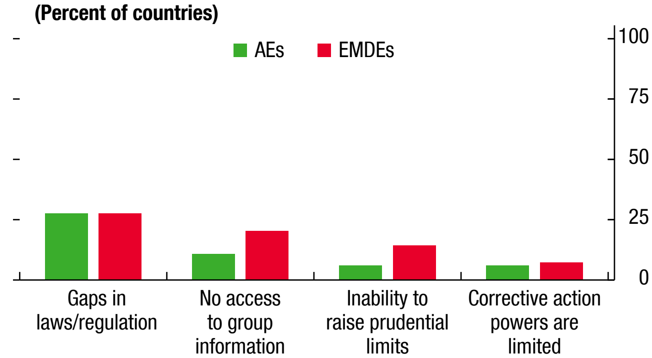
Many supervisors have mandates that do not give primacy to safety and soundness or are unclear.

5. Supervisory Mandate Deficiencies
(Percent of countries)



Common issues include lack of adequate powers to access group information or raise prudential limits. In other instances, their corrective powers are also limited.

6. Inadequate Supervisory Powers
(Percent of countries)



Sources: Basel Core Principles for Effective Banking Supervision database; and IMF staff calculations.
Note: AEs = advanced economies; C/LC rating = aggregate of compliant and largely compliant ratings; EMDEs = emerging market and developing economies; MNC/NC = aggregate of materially noncompliant and noncompliant ratings.

Similarly, in Canada, the Ministry of Finance can override the prudential judgement of the supervisor, the Office of the Superintendent of Financial Institutions—in certain key areas, though, this has not yet been a practical concern (IMF 2020a).

Availability, capacity, and continued development of supervisors is a key challenge in all jurisdictions. Staffing issues—notably staff shortages and insufficient supply of needed skills—were frequently observed. Other issues related to inadequate staff compensation and resource planning. Staff shortages were attributable to high turnover and expanded responsibilities that put pressure on the existing resource envelope. Not surprisingly, staff shortages were also linked to a lack of budget autonomy, which affected the ability to increase staff or attract appropriate skills by creating credible compensation packages.

Supervisory decisions are also impacted by unclear mandates. Without clarity in the definition and scope of the supervisory mandate, authorities can struggle to identify priorities and take timely and appropriate decisions. While, as described in the BCPs, the primary mandate of regulatory authorities ought to be to promote the safety and soundness of the banking sector, the analysis in this paper found that the mandate was not clearly defined in about half of the assessed countries or was expanded to require support for developmental objectives. This, in turn, could create potential conflicts of interest with prudential objectives.

In addition, assessments often found gaps in legal powers of the supervisor. Missing powers included one or many of the following: powers to intervene or carry out remedial action before the breach of minimum requirements, obtain information, revoke a license, or prevent a license from being granted or transferred to parties not deemed to be fit and proper.

The importance of an appropriate institutional setting for bank supervision is corroborated by empirical evidence. The econometric analysis suggests that the better a jurisdiction meets CP1 and CP2, the less fragile its banks typically are.[6] The finding is not surprising as supervisors with clear safety and soundness mandates, and which are shielded from industry and political pressures, are more geared toward early intervention. In addition, since supervision depends significantly on judgment, the availability of experienced supervisors with an appropriate set of skills is key. Such skilled professionals are more likely to be present when the institutional setting is sound. Fraccaroli, Sowerbutts, and Whitworth (2019) echo this finding documenting the inverse relationship between supervisory independence and incidence of nonperforming loans. Our subsample analysis (columns 2 and 3), however, shows

[6]One grade higher compliance with CP1 (CP2) translates into a 93 (100) percent higher Z-score, respectively (Annex Table 3).

that this relationship is considerably weaker for systemically large banks, as well as for foreign-owned banks, for whom the local authority will be host supervisor. This result seems to highlight the challenges for the supervision of large and complex institutions and the role played by home supervisor.

Prudential Regulations

Capital and Liquidity

Capital and liquidity are the cornerstones of stability for individual banks and the financial system as a whole. Adequate capital and liquidity buffers can reduce the probability and impact of banking crises (BIS 2010, Dagher and others 2016) and the GFC provided lessons on the consequences of weak capitalization and illiquidity. Inadequate capital cushions gave banks scant time to obtain new resources and remain solvent when losses mounted quickly. Moreover, the nature of the crisis demonstrated that liquidity shocks could cause a solvent bank to fail. Pressure to raise cash in frozen markets forced firms to sell assets at a deep discount, or "fire sale value," thus increasing losses and further eroding their capital in one of the classic vicious cycles of the crisis. Conversely, firms with stronger capitalization and deeper liquidity buffers weathered the storm better. Market perception of greater strength enabled such firms to continue operating on normal, or nearer-to-normal terms, for longer. Strength in capital and liquidity yields greater market confidence and lower losses in stress periods.

Capital and liquidity reforms were central to the post-GFC regulatory response. Prior to the crisis, deficiencies in regulation allowed institutions to be weakly capitalized and poorly protected against liquidity shocks. The Basel III reforms thus addressed the methods of capital computation, the calibration and risk coverage of the standards, and the instruments eligible to satisfy the new minimum capital and liquidity standards. In sum, banks had to hold more and higher quality capital to meet standards and ensure liquidity buffers to withstand prolonged liquidity stress. The BCP standard addresses the supervision of capital and liquidity primarily in two principles: capital (CP16) and liquidity (CP24). These principles expect jurisdictions to have in place appropriate regulations and also include a wider set of expectations imposed on banks and supervisors such as planning, risk management, contingency arrangements, and stressed scenarios. Importantly, supervisors are expected to have the powers and to use discretion to set standards above the agreed minimum level to reflect local circumstances. Only Basel member jurisdictions are required to meet the full set of current Basel standards for their internationally active banks. For other jurisdictions and for non-internationally active banks, the Basel capital and liquidity agreements represent a standard that should be applied in a proportionate manner, and upon which the IMF bases its advice.

The flexibility of the capital and liquidity framework has proved invaluable during the COVID-19 pandemic. The GFC highlighted the importance of maintaining the flow of credit to the real economy in time of stress. In response, Basel III established various capital and liquidity buffers that could be drawn down in response to a shock. These buffers improved banks' capacity to absorb losses and reduced the procyclicality of the regulation. At the onset of the pandemic, supervisors in a number of countries were able to release the countercyclical capital buffer (where previously applied) and encourage institutions to use the capital conservation buffer to provide credit to solvent borrowers facing temporary challenges. Furthermore, in sharp contrast with the GFC, most banks and banking systems entered this period of stress with significantly stronger capital and liquidity reserves. This is especially true for global systemically important banks.

Enhanced regulations for capital and liquidity are broadly in place across jurisdictions and their commitment to ensuring the quality of the new standards is evident (Figure 4). Relatively strong compliance with the core principles related to liquidity risk and capital adequacy (even after the strengthening of the international standards) is an indication of authorities' commitment. The BCBS's regulatory consistency assessment program, which has been monitoring the adoption of Basel III standards by member jurisdictions have also shown a strong alignment between domestic regulation and the Basel III standards. Many non-BCBS jurisdictions are also choosing to implement key elements of Basel III; in doing so, nearly all are applying proportionality (for example, adopting a modified or simpler version of existing Basel standards while maintaining or even increasing the stringency of regulations).

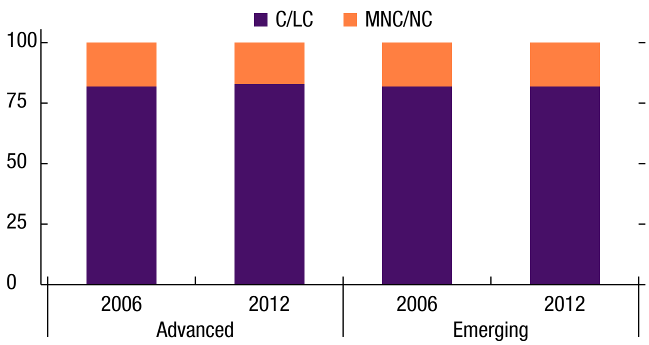
Despite reforms, however, many revised frameworks have deficiencies which undermine the appropriate capitalization of individual banks and the banking system. About half of the assessed countries have weaknesses in their capital rules such as limited risk coverage, absence of additional loss absorbance for systemically important banks and prudential adjustments that do not ensure the quality of regulatory capital. However, in most cases, these weaknesses are not sufficiently significant to warrant an MNC or NC grade. Findings from FSAPs and TA also show that not all supervisors have the power to adjust the required levels of capital for individual banks, or for the banking system as a whole, to be commensurate with their risk profiles. In addition, even among supervisors with the necessary powers, many have not developed processes or the capacity to effectively challenge banks' internal capital assessment and require additional capital for risks not adequately accounted for in the reg-

Figure 4. Capital Adequacy and Liquidity Risk

Most jurisdictions have enhanced their capital and liquidity standards in their prudential framework; however, there are remaining deficiencies in the capital and liquidity rules.

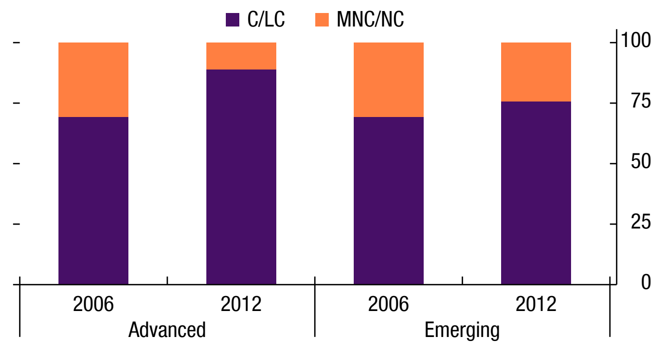
Most jurisdictions have successfully incorporated enhanced capital ...

1. Evolution of Capital Assessment[1]
(Percent of countries)



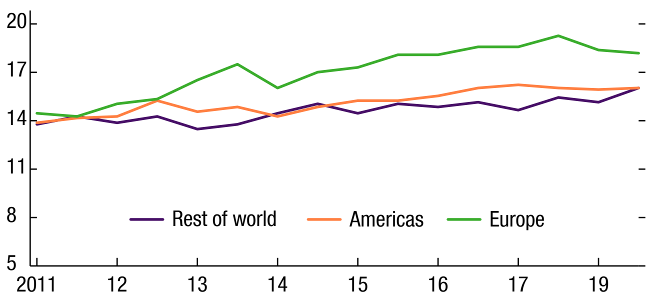
... and liquidity frameworks in line with BCP standards.

2. Evolution of Liquidity Assessment
(Percent of countries)



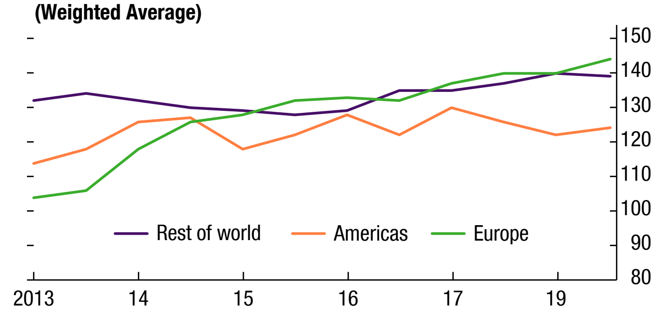
The implementation of the new standards has improved the capitalization of the banking sector ...

3. Transitional Basel III Total Capital Ratios[1]



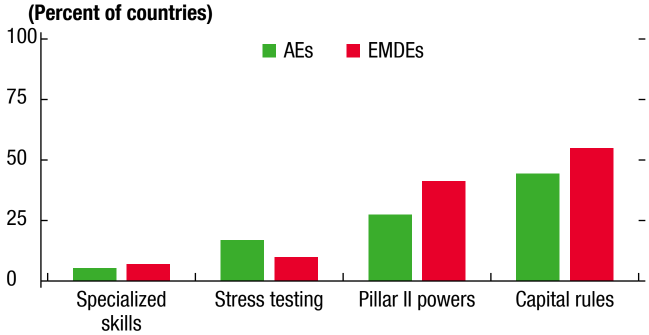
... and required banks to hold larger liquidity buffers.

4. LCR
(Weighted Average)



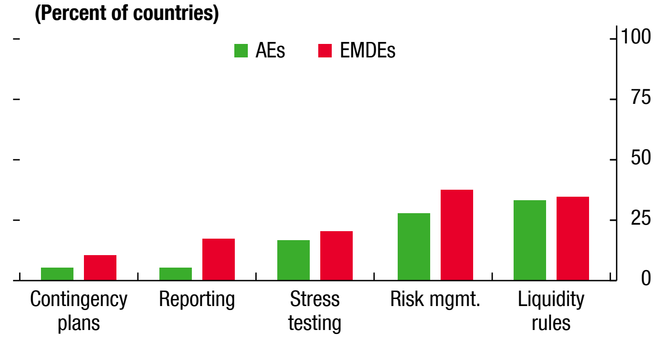
However, challenges persist as deficiencies in capital rules are common, and supervisors often lack Pillar II powers and processes to impose bank specific charges.

5. Capital Adequacy Deficiencies
(Percent of countries)



Some jurisdictions need to further emphasize liquidity risk management and better design and calibrate quantitative liquidity rules.

6. Liquidity Risk Deficiencies
(Percent of countries)



Sources: Basel Committee on Banking Supervision; IMF, Standards and Codes Database; and IMF staff calculations.
Note: 2006 = assessments conducted using the BCP methodology established in 2006; 2012 = revised BCP methodology issued in 2012; AEs = advanced economies; BCP = Basel Committee on Banking Supervision; C/LC = aggregate of compliant and largely compliant ratings; EMDEs = emerging market and developing economies; MNC/NC = aggregate of materially noncompliant and noncompliant ratings.
[1]Americas: Brazil, Canada, Mexico, United States; Europe: Belgium, Finland, France, Germany, Italy, Luxemburg, Netherlands, Russia, Spain, Sweden, Switzerland, Turkey, United Kingdom; rest of world: Australia, China, India, Saudi Arabia, Singapore, South Africa.

ulatory framework. The importance and need for this individual fine tuning have been explicitly recognized in the Basel Framework since 2005, in the "supervisory review process" or "Pillar 2" but effective implementation remains challenging. The 2017 BCP assessment of Japan, for instance, noted the lack of a Pillar 2 capital framework. The assessors observed that adding a Pillar 2 framework would give the Japan Financial Services Authority more influence in both capital planning exercises and in discussions with banks about risk management practices (IMF 2017).

Quantitative and qualitative liquidity requirements can be improved further in several jurisdictions. Despite the broad success in implementing the new Basel liquidity standards, nearly a quarter of jurisdictions are considered NC or MNC with CP24 (on liquidity risk). Most weaknesses arise from inappropriate quantitative limits, which fail to address liquidity needs in foreign currency, do not define liquid assets appropriately or are not imposed on a consolidated level.[7] Supervisory failure to determine whether banks have sound strategies, policies, and processes to manage liquidity risk were also found to be common. Assessments have also noted related supervisory weaknesses, such as insufficient onsite inspections, weak or absent supervisory guidelines, and a lack of contingency plans. In some jurisdictions, for instance, there is no explicit requirement, for supervisors to conduct separate analysis of liquidity risk strategy and monitoring of liquidity needs for each significant currency and to evaluate the bank's ability to transfer liquidity from one currency to another across jurisdictions and legal entities.

Corporate Governance and Risk Management

Governance failures can leave institutions critically vulnerable to unidentified and unchecked risks. The postcrisis consensus following the GFC considers that weak corporate governance and risk management practices was a primary factor in the crisis itself. The experience of the securitization market was one illustration of this factor where banks had engaged in complex products whose risks they did not fully understand, and therefore could not monitor, and which in a number of cases led to portfolios of toxic assets where valuation and determination of losses were extremely problematic.

Several international bodies have engaged in reforms to strengthen governance and risk management standards. Essential elements of the Organisation for Economic Co-operation and Development Principles of Corporate

[7]For instance, there is no explicit requirement, at European Union-wide level, for supervisors to conduct separate analysis of liquidity risk strategy and monitoring of liquidity needs for each significant currency and to evaluate the bank's ability to transfer liquidity from one currency to another across jurisdictions and legal entities (IMF 2018).

Governance were folded into the BCPs in a new principle on corporate governance in banks (CP14). The new standard was further supported by the BCBS release, in 2015, of the Corporate Governance Principles for Banks, which specifically focused on addressing failings in executive management and boards of directors. These principles underline the fact that boards of directors need to take responsibility for the strategy and enterprisewide risk management and conduct of their institutions. Moreover, they emphasize the need to achieve robust and transparent risk management and decision making to promote public confidence and the safety and soundness of the banking system. In a similar vein, the principle on risk management (CP15) was enhanced to incorporate heightened expectations regarding banks' policies, processes, and risk governance.

The COVID-19 crisis will test banks' governance and risk management skills. The ability to gather, monitor, and make decisions on data from all aspects of banks' business lines is essential in managing the impact of the crisis. As in the GFC, the banks which can rapidly gather, analyze, and monitor data and can mobilize management to design containment strategies will be the firms best placed to manage the turbulence from the COVID-19 pandemic.

Jurisdictions have made significant progress incorporating revised governance standards in national regulation. Although the principles on corporate governance and risk management show some of the lowest overall level of compliance, this should not detract from the fact that textual analysis confirms that a great deal of regulatory work has taken place. Advanced economies (AEs) in particular, have generally been successful in updating their regulatory frameworks, even when supervisory practice still needed to be enhanced. Encouragingly, work on risk management and corporate governance appears to have consolidated improvements in the quality of internal controls (Figure 5).

Assessors have identified strong efforts to improve supervision of corporate governance and risk management. A common thread in developing practices relates to the function of the board of the banks, which is at the heart of corporate governance. New standards establish clearer expectations for the performance of the boards. They also expect supervisors to express their own clear expectations and to have good quality frequent contact with the boards. The ability to address and challenge the effectiveness of a board's stewardship of its institution is a powerful supervisory tool and was an early focus of the work of the European Central Bank when the Single Supervisory Mechanism was launched.

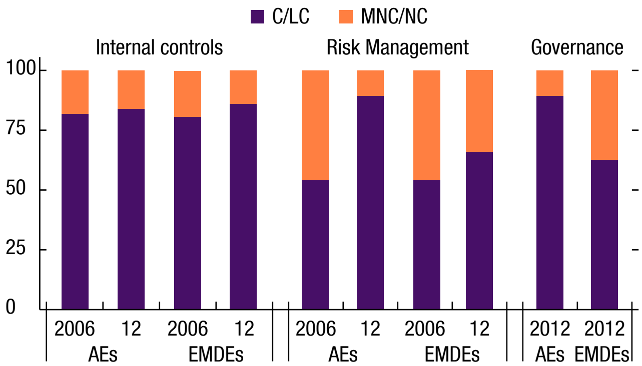
Corporate governance and risk management have spurred enhancements in supervisory approaches, but areas of weaknesses persist. Supervisory analytics have been reoriented, to a greater or lesser extent, by a number of authorities to embed corporate governance and risk management in their supervisory

Figure 5. Corporate Governance, Risk Management, and Related Parties

Many countries are still implementing new frameworks; updating the legal framework and evolving supervisory practices are the main challenges.

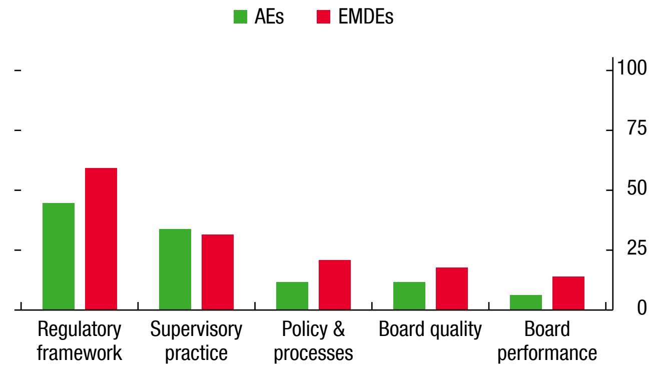
Advances in risk management and corporate governance[1] have consolidated improvements in oversight of internal controls.

1. Evolution of Controls and Governance
(Percent of countries)



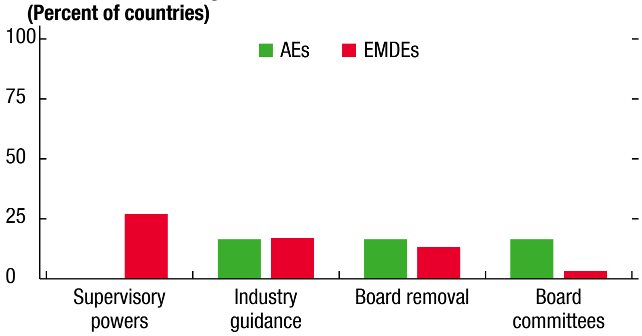
Establishing the regulatory framework for bank governance and adapting supervisory practices are the key challenges faced by many jurisdictions.

2. Weaknesses in Governance
(Percent of countries)



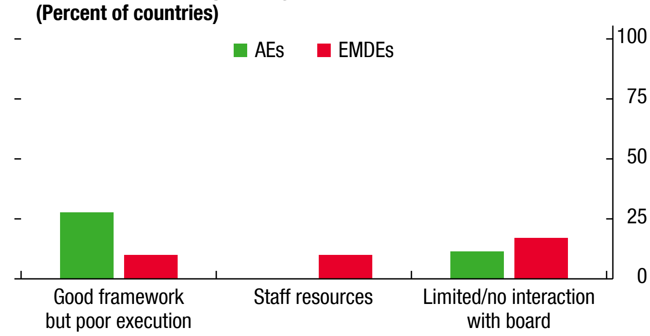
Countries are at different stages of setting up their legal and regulatory framework for corporate governance.

3. Weaknesses in the Legal Framework
(Percent of countries)



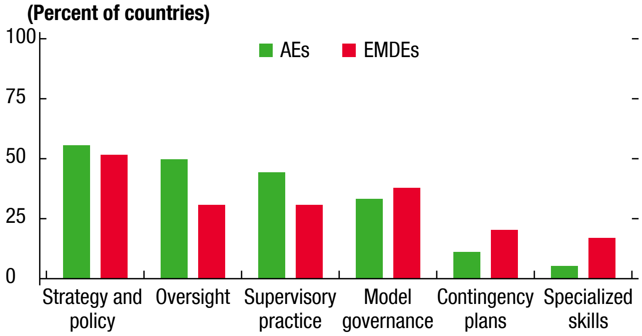
While the broad supervisory framework is generally adequate, its execution can be poor and limited interaction with the board is one feature of this.

4. Weak Governance Supervisory Practice
(Percent of countries)



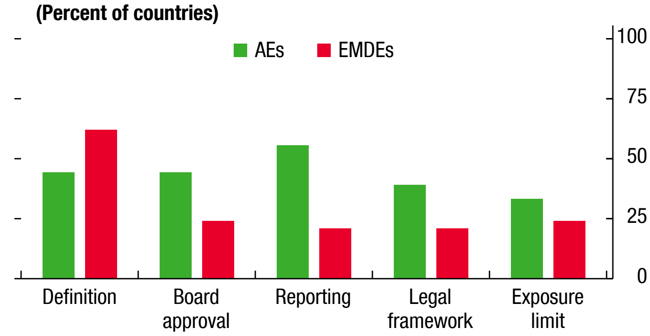
Risk management supervision needs to deliver clear guidance to the industry which can be challenging.

5. Weaknesses in Risk Management Supervision
(Percent of countries)



Supervision of related party risks has been poor; a significant flaw has been the absence of or overly narrow definition of related parties' transactions.

6. Deficiencies in Related Parties Framework
(Percent of countries)



Sources: Bank for International Settlements; Basel Core Principles for Effective Banking Supervision database; and IMF staff calculations.
Note: 2006 = assessments conducted using the BCP methodology established in 2006; 2012 = revised BCP methodology issued in 2012; AEs = advanced economies; BCP = Basel Committee on Banking Supervision; C/LC = aggregate of compliant and largely compliant ratings; EMDEs = emerging market and developing economies; MNC/NC = aggregate of materially noncompliant and noncompliant ratings.
[1]Corporate governance is a new principle under the BCP 2012 methodology.

assessments, perhaps none more so than Brazil which takes governance as the foundation of their assessments. Some jurisdictions have undertaken significant legislative change to ensure the supervisors will be able to carry out their role (for example, the Russian Federation), but regulatory gaps specific to corporate governance affected up to half the assessed jurisdictions. They included weak supervisory powers, such as failure to establish or assess fit and proper standards and lack of supervisory power to remove unfit board members or executive management. Regulatory gaps also relate to lack of guidance to firms on the supervisors' expectations, or the complete exclusion of some sectors of banks from any corporate governance standards.

Both industry and supervisors have recognized the need for firms to enhance their risk management practices. Ensuring a coherent enterprisewide risk management strategy has been challenging for many firms and has put a premium on supervisors providing clear guidance on the new standards. It is notable that most challenges in risk management, other than resource constraints, have affected both boards and supervisors in AEs and EMDEs in very similar proportions. Overreliance by supervisors on firms' self-reporting and insufficient frequency of supervisory activities was also identified in some jurisdictions and such supervisors would, potentially, have been using unreliable or poor-quality information on firms' practices.

Empirical analysis shows that effective supervision of corporate governance in larger banks is strongly correlated with greater bank soundness. Similarly, to the analysis undertaken for the CPs that determine sound institutional setting, the econometric results indicate that a one grade higher assessment of CP14 compliance is typically associated with substantially sounder large banks.[8] This correlation suggests that the supervisory attention to the quality of internal governance of an institution is beneficial for the institution's performance.

Credit Risk and Problem Assets

Credit risk is a major cause of serious bank problems. For most banks, loans are the largest and the most obvious source of credit risk. Credit risk, however, permeates all activities of a bank, including those in the banking book and in the trading book, and both on and off the balance sheet. Historically, undue relaxation of credit origination standards, poor risk management and lack of attention to changes in circumstances that can lead to a deterioration of the credit standing of banks' counterparties have often resulted in substantial banking problems.

[8]One grade higher compliance with CP14 translates into a 77 percent higher Z-score of systemically large banks (Annex Table 3).

The GFC highlighted the importance of timely recognition of credit losses. Pre-GFC standards were seen as preventing banks from building adequate reserves for emerging losses. Loan loss provisioning requirements that resulted from the underlying incurred loss approach were considered "too little, too late." Further, the postponement of the recognition of expected credit losses until evidence of impairment increased the procyclicality of regulation by facilitating credit growth during boom and impelling a sharp reduction in the subsequent bust. To address this weakness, G20 leaders called for action and accounting standard setters developed new standards for loan loss provisioning based on expected credit losses.

At its early stage, the uncertainty surrounding the impact of the COVID-19 pandemic is challenging the implementation of the expected credit loss approach. The unprecedented uncertainty about the impact of the coronavirus on business challenged banks to produce reliable forecasts of likely credit losses. Moreover, there were concerns that in the case of an abrupt shock, expected credit loss methodologies can trigger a substantial increase in provisions. Supervisors responded providing guidance to banks and encouraging them to use the flexibility inherent to the accounting standards to restructure loans and avoid inappropriate classification of exposures to viable firms. In light of the pandemic, the Basel Committee also adjusted the transitional arrangements for the regulatory treatment of expected credit loss accounting. The adjustments provided jurisdictions with greater flexibility in deciding how to phase in the impact of additional provisions on regulatory capital.

Processes and policies to identify and manage problem assets fall short of agreed standards in more than 30 percent of the assessed jurisdictions. CP18, on problem assets, provisions, and reserves, is among the least-observed BCPs. Weaknesses of policies and procedures for asset classifications and provisioning are very common, particularly in EMDEs (Figure 6). In these countries, the accuracy of asset classification and provisioning by banks and therefore the integrity of reporting to supervisors are called into question given inadequate criteria, lack of processes to avoid evergreening of loans, and low frequency of supervisory reviews. Inadequate definitions of nonperforming loans, loan restructuring, and forbearance are also common and weaken transparency, market discipline, and supervisory reporting. Finally, weak policies and processes for collateral valuation hinders the ability of banks and supervisors to determine appropriate amounts of loss provisioning. These weaknesses adversely affect the capital adequacy of banks and hamper appropriate risk assessment and control of a bank's credit risk exposure.

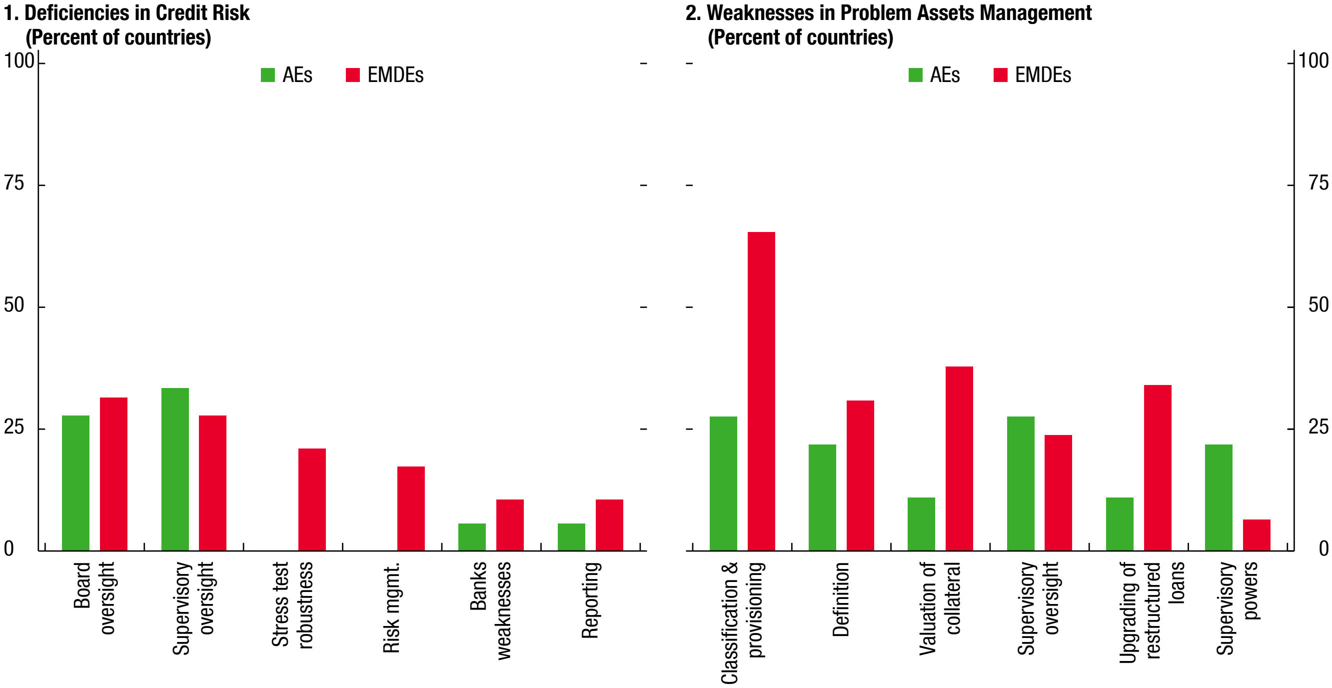
Addressing the deficiencies in the management of problem assets is a necessary step to restore banking sector health after a major credit shock like the COVID-19 pandemic. The severity of the economic implications of the

Figure 6. Credit Risk and Problem Assets

Despite the post 2008 GFC focus on improving the management of problem assets and timely loan loss recognition, challenges remain. Addressing these deficiencies is a necessary step to restore banking sector health after a major credit shocks like the COVID-19 pandemic.

In some countries, there is room to improve banks' boards oversight and the overall supervision process, including by expanding the scope of inspections and increasing its frequency.

Weaknesses of policies and procedures for asset classifications and provisioning are very common, particularly in EMDEs, calling into question the integrity of financial statements and reporting to supervisors.



Sources: Bank for International Settlements; Basel Core Principles for Effective Banking Supervision database; and IMF staff calculations.
Note: AEs = advanced economies; EMDE = emerging market and developing economies; GFC = global financial crisis.

pandemic highlighted several financial vulnerabilities that could be crystalized by the crisis. High levels of debt may become unmanageable in the economic slowdown, and the losses resulting from insolvencies could test banking sector resilience in some countries. Asset quality in the banking sector might deteriorate quickly requiring a robust framework for the management of problem assets that is not in place in many jurisdictions. The lack of a truly international standard for loan classification and loan loss provisioning is one of the significant challenges in this area. Nevertheless, national authorities and standard setters need to renew their efforts to provide clear guidance and expectations to firms as sound management of problem assets is critical in facing the challenges posed by the COVID-19 pandemic.

Related Party Risks

Related party activities, which touch on credit risk, governance, and control of an institution, can be a channel for the abuse of a bank or even a banking system. Supervisory expectations for related party risk were refreshed and enhanced in the revised BCP methodology as well as the revision of the standards for supervision of financial conglomerates (BCBS 2012b). Persons or entities connected with a bank, including corporate entities within a group or conglomerate, should not receive preferential treatment as this behavior can and, in practice has, led to significant abuses of integrity and viability of firms. Documented experiences, for example in IMF programs in Moldova and Ukraine, illustrate the destructive impact of related party activity.[9] Related party supervision is therefore intended to mitigate the risk that the bank could be abused by its owners and managers and poorly placed to protect its own financial integrity and the interests of its depositors. Nevertheless, unlike corporate governance or risk management, there is no separate set of supervisory guidance or principles on this topic released by the regulatory community.

Many jurisdictions pay little or no attention to related party risks. More than half of the jurisdictions assessed were rated MNC or NC in relation to the agreed international principle for the regulation and supervision of this specific risk. It is the second least well observed of the BCPs, following the CP related to the independence and resources of the supervisor. Most weaknesses in the related party regimes stemmed from the legal framework, particularly regarding the definition of a related party. Many definitions were unduly narrow, not necessarily covering related banks, and/or close relatives of directors or executive management or major shareholders. Definitions were also scattered in different supervisory or legal texts, sometimes conflicting with each other. Supervisory failure to monitor or require reporting was also identified, leaving the authorities unsighted on the development of concentration risks. In more extreme cases, this supervisory failure can render the authorities unaware that ultimate beneficial owners of banks are obtaining preferential services or even exercising effective control of the bank. For those jurisdictions with weak practices for related party risks, the turbulence associated with the COVID-19 pandemic represents a heightened risk for vulnerable banks.

Supervisory Approach and Practice

The post-GFC consensus is that supervisory practice, monitoring, and analysis need to be intrusive, and enforcement needs to be conclusive. Numerous

[9]See Republic of Moldova: FSSA, 2014 and 2017 Ukraine Article IV Staff Report.

bodies, including the IMF (IMF 2010), have reinforced this message and the BCPs embody this premise. As discussed above, the revised BCP methodology drew on the insights and practices of supervisors around the globe, and the methodology is supplemented by further BCBS standards and guidelines that support practices and amplify expectations. Examples include (1) the framework for dealing with weak banks, which stresses the need for early remedial actions (BCBS 2015); (2) the importance of forward-looking tools for supervision in the original and stress testing practices (BCBS 2018); and (3) risk data aggregation and risk reporting (BCBS 2013). Increasing the intensity and effectiveness of supervision is also a key pillar of the FSB framework (FSB and IMF 2010, FSB 2014) and the Joint Forum's revised principles for sound supervision of financial conglomerates (BCBS 2012).

The agility and quality of supervisors' monitoring, analysis, and follow up actions will again be critical in identifying and containing issues arising from the COVID-19 pandemic. To the extent that authorities have managed to enhance risk-based techniques and analytics, they will be well positioned to identify the most vulnerable institutions which will require closest attention and potential intervention in firms and systems as a result of the pandemic.

Most, if not all, jurisdictions have moved or are moving to risk based supervisory processes. The BCPs require a risk-based supervisory (RBS) approach, devoting more resources to the institutions and issues that have been identified as riskier. Necessarily, this approach is dependent on the quality of the risk assessment. Otherwise, time and resources could be misdirected. However, there is no single model. Indeed, supervisors, such as the Hong Kong Monetary Authority, the Central Bank of Ghana, and the Australian Prudential Regulation Authority have taken different approaches in terms of their methodologies for detailing the types of risks that are assessed and how to evaluate such risks, whether static or dynamic, whether mitigated or not, whether high impact or not. However, each has adopted and continues to refine their RBS approach. One potential problem is that jurisdictions can be tempted to devote a disproportionate level of resources to the largest institutions. All institutions require a minimum level of supervisory oversight and this can be challenging in poorly resourced authorities. Neglecting to carry out this minimum level of oversight could lead to risks in some banks being missed until a late stage. Such risks among even relatively small banks could in the aggregate lead to systemic risk and instability. The quality of risk analysis, importance of prioritization, and frequency in supervisory risk cycles has surfaced in several assessments.

Considerable progress is being made in the use of techniques that can yield forward-looking insights such as stress testing, peer group review, and business model analysis. Peer group review of banks is a frequently adopted recommendation, as horizontal reviews and deep dives into similar firms on priority supervisory themes can be highly informative in identifying outliers and also good practices. Stress testing and business model analysis epitomize another post-GFC impetus by supervisors to obtain a more forward-looking, informed view of the drivers and sustainability of banks' business lines and strategies. While few stress tests are likely to have included a pandemic shock as severe as the one generated by COVID-19, the utility of these tests, where they have been carried out, will have been in helping to identify the kinds of shocks and degree of severity that firms can withstand and this is the type of information supervisors need in order to target their attention effectively. In addition, as the health crisis evolved and supervisors had to adjust their policy response, stress tests emerged as one of the key tools to assess different policy options. As with all supervisory techniques, the effectiveness of these emerging practices is reliant on the quality and reliability of data the supervisors work with (Figure 7). Data adequacy can reflect a jurisdiction's technological development and/or adequacy of funds to invest in systems. Insufficient or low-quality data—whether by type, granularity, frequency, or inconsistency—is a concern in nearly two-thirds of the assessments undertaken by IMF staff. Notably, there is little difference between advanced and developing jurisdictions with respect to whether they undertake active verification to ensure that supervisory data can be relied upon.

Timely intervention and corrective action are the hallmarks of an effective supervisor. Supervisory examination and analysis are only part of the whole picture and need to be complemented by well-timed, appropriate actions. Identifying a weakness, but not acting to correct the vulnerability, is a supervisory failure, as delay heightens the potential for a disorderly outcome for the bank and increased chance of losses. Overall, about a third of the jurisdictions have meaningful weaknesses in their framework for corrective actions, indicating several challenges to comply with the BCP criteria. As noted earlier, not all supervisors are equipped with a full and graduated set of powers suitable for a range of possible circumstances. Missing powers included adequate authority to resolve a bank or revoke its license and inability to sanction individuals and to raise prudential standards for banks.

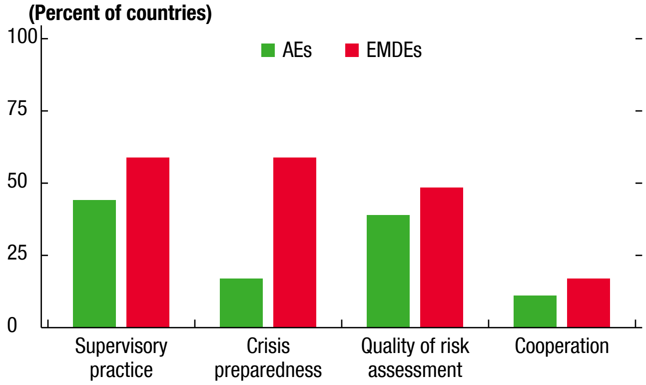
The assessments undertaken by IMF staff have also uncovered supervisory delay, even when there are powers to act. In some cases, delay is a result of poorly designed internal systems, or highly complex and burdensomely bureaucratic legal systems. Other supervisors face poor legal processes and arbitrary reversal of supervisory decisions by external authorities. Lack of assertiveness or willingness to act was cited in more than one-fifth of the assessments; examples include supervisors taking mild action (for example, a low fine), not escalating sanctions when there are multiple infractions, or simply taking no corrective actions at all. Delayed intervention was found in nearly a tenth of the cases and was primarily associated with a lack of a clear framework to activate and process concerns.

Figure 7. Supervision

Supervisory techniques are improving and becoming more forward looking, but attention is still needed in data quality, crisis preparedness, and timely corrective actions.

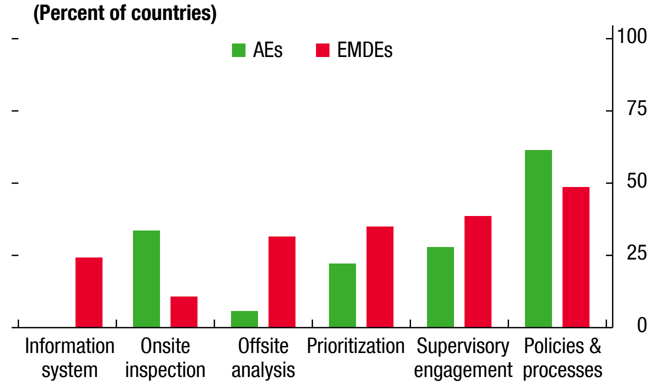
Despite advances in risk-based supervision, weak supervisory practices and insufficient preparedness for crisis are still observed.

1. Deficiencies in Supervisory Approach
(Percent of countries)



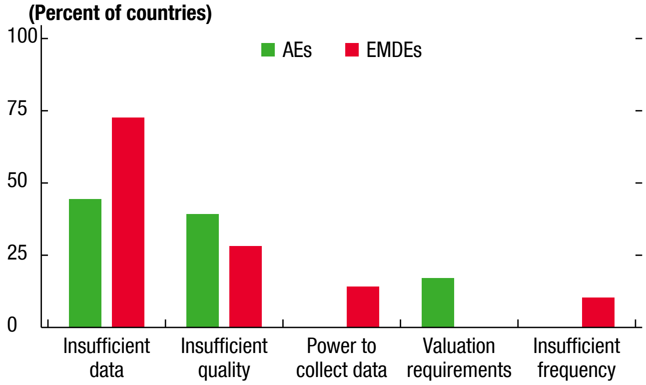
The quality of policies, procedures, and prioritization is also challenging and supervisory engagement with the boards and management of banks is still developing.

2. Weaknesses in Supervisory Technique
(Percent of countries)



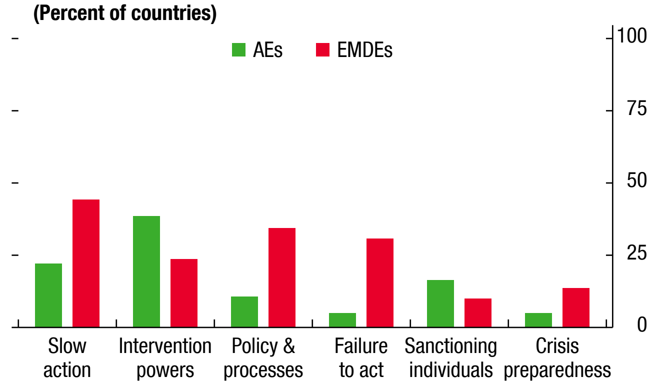
Comprehensive and high-quality data reporting is improving in almost all jurisdictions, but gaps in coverage and granularity need to be addressed.

3. Supervisory Reporting Concerns
(Percent of countries)



Several factors can hinder timely corrective action. A good-quality supervisory process is as important as a full suite of powers.

4. Corrective Action Issues
(Percent of countries)



Sources: Bank for International Settlements; Basel Core Principles for Effective Banking Supervision database; and IMF staff calculations.
Note: AEs = advanced economies; EMDEs = emerging market and developing economies.

Chapter

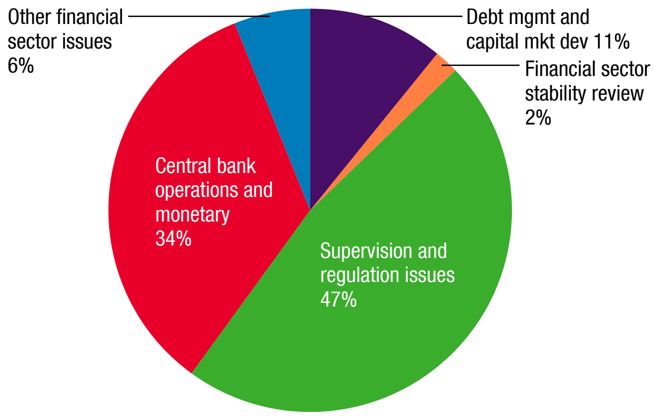
4 Conclusions

BCP assessments show a strong commitment of jurisdictions to the reform agenda. Impressive progress in adopting the capital and liquidity standards for banks and other regulatory pieces has substantially strengthened the financial system and illustrates the importance jurisdictions attach to lessons from the GFC. More recently, however, finalized standards were increasingly lagging the original implementation timetable, and some dilution of the standards has been observed. The need to reprioritize regulatory and supervisory efforts in the face of the COVID-19 strains has led to several international bodies extending the transitional timetables for implementation of the new standards. Many countries have followed the direction set by the Basel Committee and postponed the implementation of new prudential standards, including outstanding pieces of the Basel III framework. It will be important to regain the implementation momentum once it is possible. Ultimately, consistent implementation of the outstanding reform agenda remains critical. As reinforced by the FSB and BCBS in their response to the COVID-19 pandemic, the international community agreed to act consistently with international standards, and not roll back reforms or compromise the underlying objectives of existing international standards.[1]

Many jurisdictions have strengthened their financial systems by implementing the main elements of global regulatory reform. The early stages of the pandemic crisis have shown the unequivocal benefits of a strengthened prudential framework. An effective prudential framework, for some countries, however, will require proportionate adaptation to reflect the scale, sophistication, and particular features of the local markets, as well as the quality of information available and supervisory capacity. The IMF will continue to provide support to effective implementation through surveillance and TA,

[1]https://www.fsb.org/2020/04/COVID-19-pandemic-financial-stability-implications-and-policy-measures-taken/ ; https://www.bis.org/press/p200327.htm.

Figure 8. Monetary and Capital Markets Technical Assistance by Topic
(Percent of total TA)



Source: IMF staff.

following the principles outlined in Box 3 to preserve the thrust of the international prudential framework and the BCPs.

A strong institutional setting for supervision is the foundation for a sound financial system, but not straightforward to put into place. The assessments indicate that, almost across the board, there is a need to enhance the institutional arrangements for the supervisory processes. When the institutional elements are in place (including clear mandates and a transparent system of accountability, sufficiency of powers, skills, and resources), supervisors can meet their primary objective of supporting a safe and sound financial system.

Regulatory reform requires strong supervision and enforcement to achieve its full effectiveness. Many strides have been made in the evolution of supervisory techniques, including the increasing use of RBS and forward-looking techniques from stress testing, as well as peer group approaches to business model analysis. Progress is not universal, however, and some countries are facing challenges, including inadequate data, poor information systems, and lack of supervisory capacity to adopt the new analytical techniques. Efforts to enhance supervisory capacity in traditional areas as well as new risks to financial stability, whether financial innovation, climate change, or cyber threat, need to continue.

The consequences of poor governance, weak risk management, and lack of timely supervisory action were key lessons from the GFC. The financial stresses triggered by the COVID-19 pandemic will test these same areas again. In some instances, IMF programs have required reforms to address weaknesses in governance, risk management, and related parties to restore and secure financial stability. Likewise, IMF staff have provided TA in these areas (Figure 8). The notable lack of supervisory focus on related party risks suggests that there is a role for the international community to amplify guidance or regulations. The current pandemic may in fact have intensified the risk of abuse of banks through related party channels as a need for credit will apply to connected counterparties as much as other borrowers and the bank may not possess the ability to establish appropriate terms or deny the credit. Greater priority may be needed to address the issue.

The COVID-19 pandemic makes it urgent to enhance the framework for the management of problem assets. Weaknesses in the framework for asset classification and provisioning are pervasive in many countries. These weaknesses adversely affect bank capital adequacy, market discipline, and the integrity of reporting to supervisors, ultimately preventing appropriate risk assessment and control of a bank's credit risk exposure. National authorities and standard setters need to renew their efforts to build a sound and internationally harmonized framework for the management of problem assets that can address challenges such as the ones posed by the COVID-19 pandemic.

IMF staff will continue to provide active support to jurisdictions wishing to benefit from relevant aspects of the reform agenda, whether through TA or FSAPs. Through surveillance and TA work, staff will continue to promote the importance of sound institutional setting for financial sector supervision that includes adequacy of skills and resources and unambiguous mandates for financial sector supervisors, as highlighted in the international standards. Efforts will focus on building supervisory capacity in traditional banking supervision areas, such as risk-based supervision, corporate governance, and credit risk as well as in new risks to financial stability such as fintech, cyber risks, and climate change. All of this work will be guided by the proportional approach and principles that were outlined earlier in the paper (Box 2) as advice must be shaped to the context of the jurisdiction and will need to take into account the effects of the COVID-19 pandemic on financial systems and institutions.

Box 3. Basel Core Principles for Effective Banking Supervision

The BCP are standards—agreed and issued by the BCBS—for sound prudential regulation and supervision of banks (BCBS 2012). The BCP were originally issued in 1997 and have been refreshed twice, in 2006 and 2012, to provide greater guidance to supervisors and enhance the minimum standards for banking supervision. All the postcrisis prudential regulatory reforms and the revised expectations for the supervision of the banking sector are embedded into the BCP, through references to the individual prudential standards issued by the BCBS that are in force at the time of an assessment.

The BCP methodology draws on the insights and practices of supervisors around the globe. It sets out expectations for the legal and regulatory framework, and the supervisory approach, techniques, data, and intervention (remedial action). By adopting a broad and collaborative approach in its preparation, which aimed to be as inclusive as possible, using a global consultation and discussion at the International Conference of Banking Supervisors, the methodology is able to pool and distill experience and skill from as diverse a set of countries as possible.

The BCP provide a structure that looks comprehensively at the many dimensions of banking supervision. The BCP are composed of a set of 29 high-level principles divided between what supervisors do and what they expect banks to do. Each principle sets out specific essential criteria that are needed to satisfy that principle. Principles 1 to 13 address supervisory powers, responsibilities, and functions, focusing on effective risk-based supervision and the need for early intervention and timely supervisory actions. Principles 14 to 29 cover supervisory expectations of banks, emphasizing the importance of good corporate governance and risk management, as well as compliance with supervisory standards.

Assessments of the BCP by external parties grade each principle following a four-point scale: compliant (C), largely compliant (LC), materially noncompliant (MNC) and noncompliant (NC). The methodology includes guidance on how a grade should be evaluated. It should be noted, however, that the primary goal of the assessment is not to apply a "grade" but rather to focus the authorities on areas needing attention.

The BCP methodology itself is founded on the proportionality approach making the BCP universally applicable. The BCP apply to all supervisory authorities, whether they are standalone authorities, integrated authorities, or banking supervisory arms of central banks. They are also relevant to all types of banking entities. Further, although the principles explicitly include many elements that form a minimum part of what supervisors should do, they do not instruct supervisors how to execute those elements. In addition, the BCP allow supervisors to adapt their processes and actions to the size, complexity, and risk profile of the institutions under supervision. The BCPs are for everyone.

Annex 1. Econometric Analysis

Testable Hypothesis

This paper tests whether BCP compliance correlates with higher bank soundness on average, and whether this association is different across banks depending on their size and/or ownership type (domestic vs. foreign owned).

Model Specification

$$Z_{ij} = \beta_0 + \beta_1 X_{1j} + \beta_2 X_{2ij} + \beta_3 X_{3j} + e_{ij}$$

where i indicates a bank and j indicates a country:

Z_{ij} = ln(Z_score)

X_{1j} = compliance score on a specific Basel core principle in country j

X_{2ij}= vector of bank characteristics (see below for a list of bank-level controls)

X_{3j}= vector of country characteristics (see below for a list of country-level controls)

A natural logarithm is taken of Z-score to smooth out higher values of the Z-score and avoid truncating the dependent variable at 0.

$$Z\_score = \frac{\text{ROA} + (\text{E/A})}{\text{std.(ROA)}}$$

Z_score denotes the number of standard deviations (using five-year window) by which returns would have to fall from the mean, to wipe out all equity in the bank. A higher Z-score indicates lower overall bank risk and is thus a broad measure of bank soundness.

The model is estimated using the Ordinary Least Squares in a pooled cross-sectional analysis with time controls.

Main Explanatory Variable of Interest (X_{1j})

BCP compliance grade on 1–4 scale (where Noncompliant /NC/=1, Materially Noncompliant /MNC/=2, Largely Compliant /LC/=3, Compliant /C/=4).

Controls (X_{2ij} and X_{3j})

- *bank level* (X_{2ij}) are lagged by 1 year: bank size (total assets), capitalization (equity ratio), profitability (return on assets [ROA]), cost efficiency (overhead costs to total assets), liquidity (liquid assets to total assets), bank specialization (commercial bank indicator).
- *country level* (X_{3j}): country size (Gross Domestic Product [GDP]), development level (GDP per Capita and GDP per Capita Growth), inflation, rule of law (World Bank's World Governance Indicators database).

In the heterogeneity analysis, large banks are defined as banks that are larger or equal to 10 percent of a country's GDP, while foreign owned banks' classification refers to the foreign subsidiaries as opposed to domestic banks. The results presented are robust to using a threshold of 5 percent of country's GDP to indicate large banks. The ownership information is only available in Fitch Connect for the latest year in the database (that is, current status at the time of downloading the sample), so the authors use backward extrapolation where needed, under the assumption that the ownership status has not changed since the year of the BCP assessment.

Given that the sample has only 26 countries, clustering standard errors at the country level is problematic due to the low number of clusters. The econometric issue of few clusters is discussed by Miller and Cameron (2015). Despite this data limitation, a robustness check clustering the standard errors at the country level does preserve the bulk of our results.

This econometric analysis focus on three CPs—CPs 1, 2, and 14—that are particularly informative about the institutional set up for supervision and governance of banks and, therefore, builds the foundation for compliance with other CPs. Given their foundational nature, these CPs are also less likely to be biased due to double jeopardy and proportionality considerations in grading. Importantly, these CPs also have sufficiently high variation in grades

Annex Table 1. Banks Distribution per Economy

Economy Name	Number of Banks	Percent of Total
Albania	6	0.07
Austria	30	0.35
Azerbaijan	10	0.12
Bahrain	11	0.13
Bulgaria	8	0.09
China	71	0.83
Democratic Republic of Congo	3	0.03
Denmark	49	0.57
Georgia	8	0.09
Germany	1,256	14.62
Guatemala	3	0.03
Hong Kong SAR	5	0.06
Iceland	5	0.06
India	49	0.57
Ireland	4	0.05
Italy	206	2.4
Japan	137	1.59
Kazakhstan	11	0.13
Norway	78	0.91
Russian Federation	408	4.75
Singapore	6	0.07
South Africa	7	0.08
Switzerland	229	2.67
Turkey	7	0.08
United Kingdom	56	0.65
United States	5,927	69
Total	**8,590**	**100**

Sources: Fitch Connect; and IMF staff calculations.

in the regression sample of banks to enable meaningful econometric testing. Namely, the estimation sample is strongly concentrated in AEs which typically have more banks (Annex Table 1) and high CP compliance, which results in little variation for most CPs.

Data

The paper combines data from IMF Standards and Codes Database on BCP assessments between 2013 and 2017 with internationally standardized data on bank financials from Fitch Connect and macroeconomic data from the World Bank databases on World Development Indicators and Worldwide Governance Indicators. The sample is restricted to commercial, cooperative, and savings banks. The resulting sample used in the regression comprises 8,590 banks from 26 countries (Annex Tables 1 and 2).

To alleviate concerns of the sample being unevenly distributed across countries, we perform a robustness check where we drop the US banks—which account for the largest chunk of the sample. In doing so, our overall conclusions remain.

Annex Table 2. Descriptive Statistics of Estimation Sample

	Observations	Mean	Median	Min	Max	Std. Dev.
BANK LEVEL						
Z -score	8,590	131.11	67.04	2.56	1,257.13	202.90
Bank size (millions of USD)	8,590	3,663.33	239.51	4.07	3,367,898	54,384.43
Equity to total assets	8,590	0.12	0.1	0.004	0.9997	0.08
Return on assets	8,590	0.01	0.01	−0.28	0.59	0.02
Overhead costs to total assets	8,590	0.04	0.03	6.64E-05	0.997	0.06
Liquid assets to total assets	8,590	0.13	0.09	3.08E-05	1	0.13
Commercial bank	8,590	0.72	1	0	1	0.45
Large bank (≥ 10% GDP)	8,590	0.003	0	0	1	0.06
Large bank (≥ 5% GDP)	8,590	0.006	0	0	1	0.08
Foreign bank (2013)	2,527	0.08	0	0	1	0.27
COUNTRY LEVEL						
GDP (bill USD)	26	1,943.49	370.82	12.75	16,710.46	3,795.21
GDP per capita	26	30,192.62	28,006.98	397.34	90,132.35	25,632.30
GDP per capita growth	26	2.02	1.75	−2.86	8.01	2.44
Inflation rate	26	1.97	1.84	−8.81	8.10	3.29
Rule of law index	26	0.67	0.42	−1.45	2.10	1.14
CP1 compliance	26	3.23	3	1	4	0.76
CP2 compliance	26	2.50	2.50	1	4	0.65
CP14 compliance	26	2.92	3	1	4	0.74

Sources: Fitch Connect; IMF, Standards and Codes database; World Bank; and IMF staff calculations.

Interpretation of Results

The estimated coefficients (Annex Table 3) should be interpreted as correlations between the dependent variable and our main explanatory variable of interest, rather than necessarily a causal relationship. Although we control for a rich set of covariates, endogeneity issues may still arise, including omitted variable bias from factors we could not control for (or do so fully), and reverse causality.

Annex Table 3. Regression Estimation Results

	All	By Bank Size	By Foreign Ownership
CP1 (Responsibilities, Objectives, and Powers)			
	All	**By Bank Size**	**By Foreign Ownership**
Compliance with CP1	0.933***	0.972***	0.799***
	(0.067)	(0.070)	(0.102)
Large bank (D) × CP1 compliance		−0.762**	
		(0.334)	
Large bank (D)		2.558**	
		(1.069)	
Foreign bank (D) × CP1 compliance			−0.672***
			(0.146)
Foreign bank (D)			2.028***
			(0.520)
Adjusted R2	0.26	0.26	0.19
CP2 (Independence, Accountability, Resourcing, and Legal Protection for Supervisors)			
	All	**By Bank Size**	**By Foreign Ownership**
Compliance with CP2	1.002***	1.042***	0.822***
	(0.089)	(0.091)	(0.131)
Large bank (D) × CP2 compliance		−0.883***	
		(0.335)	
Large bank (D)		1.939**	
		(0.860)	
Foreign bank (D) × CP2 compliance			−0.278**
			(0.119)
Foreign bank (D)			0.473
			(0.359)
Adjusted R2	0.25	0.26	0.19
CP14 (Corporate Governance in Banks)			
	All	**By Bank Size**	**By Foreign Ownership**
Compliance with CP14	−0.027	−0.080	0.023
	(0.088)	(0.094)	(0.143)
Large bank (D) × CP14 compliance		0.774***	
		(0.293)	
Large bank (D)		−2.872***	
		(0.959)	
Foreign bank (D) × CP14 compliance			0.347
			(0.236)
Foreign bank (D)			−1.333*
			(0.708)
Adjusted R2	0.24	0.24	0.17
Observations	8,590	8,590	2,527

Source: IMF staff calculations.
Dependent variable is ln[Z-score]. (D) indicates a dummy variable.
Large bank denotes a bank with total assets ≥ 10% GDP. Foreign bank indicates a foreign subsidiary.
The additional controls for bank characteristics are all lagged one period and include: ln[TA], equity ratio, ROA, overhead costs to TA, liquid assets to TA, commercial bank (D). TA = technical assistance.
The controls for country characteristics include: GDP, GDP per capita (level and growth), inflation, rule of law.
Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

References

Basel Committee on Banking Supervision (BCBS). 2012a. *Basel Core Principles for Effective Bank Supervision.* Basel: Bank for International Settlements.

Basel Committee on Banking Supervision (BCBS). 2012b. *Principles for Supervision of Financial Conglomerates*. Basel: Bank for International Settlements.

Basel Committee on Banking Supervision (BCBS). 2013. *Principles for Effective Risk Data Aggregation and Risk Reporting*. Basel: Bank for International Settlements.

Basel Committee on Banking Supervision (BCBS). 2015. *Guidelines for Identifying and Dealing with Weak Banks*. Basel: Bank for International Settlements.

Basel Committee on Banking Supervision (BCBS). 2018. *Stress Testing Principles*. Basel: Bank for International Settlements.

Basel Committee on Banking Supervision (BCBS). 2019a. *Basel III Monitoring Report*. Basel: Bank for International Settlements.

Basel Committee on Banking Supervision (BCBS). 2019b. *Seventeen Progress Report on Adoption of the Basel Regulatory Framework*. Basel: Bank for International Settlements.

Basel Committee on Banking Supervision (BCBS). 2020. "RCAP on Consistency: Jurisdictional Assessments," Retrieved March 6, 2020. https://www.bis.org/bcbs/implementation/rcap_jurisdictional.htm.

Bank for International Settlements (BIS). 2010. "An Assessment of the Long-Term Economic Impact of Stronger Capital and Liquidity Requirements." Basel, August.

Beck, Thorsten, Emily Jones, and Peter Knaack. 2018. "Basel Standards and Developing Countries: A Difficult Relationship." VoxEU, October.

Center for Global Development. 2019. "Making Basel III Works for Emerging Markets." Washington, May.

Dagher, Jihad, Giovanni Dell'Ariccia, Luc Laeven, Lev Ratnovski, and Hui Tong. 2016. "Benefits and Costs of Bank Capital." IMF Staff Discussion Note 16/04, International Monetary Fund, Washington, DC.

Davis, E. Philip, and Ugochi Obasi. 2009. "The Effectiveness of Banking Supervision." Working Paper 09–27, Brunel University, London.

Ferreira, Caio, Nigel Jenkinson, and Christopher Wilson. 2019. "From Basel I to Basel III: Sequencing Implementation in Developing Economies." IMF Working Paper 19/127, International Monetary Fund, Washington, DC.

Financial Stability Board (FSB). 2014. *Supervisory Intensity and Effectiveness, Progress Report on Enhanced Supervision*. Basel.

Financial Stability Board (FSB). 2010. *Intensity and Effectiveness of SIFI Supervision: Recommendations for Enhanced Supervision*. Basel.

Financial Stability Board (FSB). 2019. *Implementation and Effects of the G20 Financial Regulatory Reforms – 5th Annual Report*. Basel: Bank for International Settlements.

Fraccaroli, Nicolo, Rhiannon Sowerbutts, and Andrew Whitworth. 2019. "Does Regulatory and Supervisory Independence Affect Financial Stability?" Staff Working Paper 893, Bank of England, London.

Gambacorta, Leonardo, and Hyun Song Shin. 2018. "Why Bank Capital Matters for Monetary Policy." *Journal of Financial Intermediation* 35 (PB): 17–29.

Hirtle, Beverly, Anna Kovner, and Matthew Plosser. 2019. "The Impact of Supervision on Bank Performance." Federal Reserve Bank of New York Staff Reports 768, Federal Reserve Bank of New York, May.

International Monetary Fund (IMF). 2010. "The Making of Good Supervision: Learning to Say 'No.'" IMF Staff Position Note 10/08, Washington, DC.

International Monetary Fund (IMF). 2014a. "Staff Guidance Note on Macroprudential Policy." Washington, DC, December.

International Monetary Fund (IMF). 2014b. "Staff Guidance Note on Macroprudential Policy – Considerations for Low Income Countries." Washington, DC, November.

International Monetary Fund (IMF). 2017. "Japan: Financial Sector Assessment Program-Detailed Assessment of Observance on Basel Core Principles for Effective Banking Supervision." Washington, DC, September.

International Monetary Fund (IMF). 2018. "Euro Area Policies: Financial Sector Assessment Program-Technical Note-Detailed Assessment of Observance of Basel Core Principles for Effective Banking Supervision." Washington, DC, July.

International Monetary Fund (IMF). 2019a. "Australia: Financial Sector Assessment Program-Detailed Assessment of Observance on Basel Core Principles for Effective Banking Supervision." Washington, DC, February.

International Monetary Fund (IMF). 2019b. "Switzerland: Selected Issues on Banking Supervision." Technical Note, Washington, DC, June.

International Monetary Fund (IMF). 2019c. "The Bahamas: Financial Sector Assessment Program-Detailed Assessment of Observance on Basel Core Principles for Effective Banking Supervision." Washington, DC, May.

International Monetary Fund (IMF). 2020a. "Canada: Financial Sector Assessment Program-Technical Note-Deposit-taking Sector: Regulation and Supervision." Technical Note, Washington, DC, January.

International Monetary Fund (IMF). 2020b. "United States: Financial Sector Assessment Program – Technical Note -Banking Supervision and Regulation." Technical Note, Washington, DC, July.

Laeven, Luc, and Lev Ratnovski. 2014. "Corporate Governance of Banks and Financial Stability." VoxEU, Center for Economic Policy Research. Retrieved March 5, 2020. https://voxeu.org/article/corporate-governance-banks-and-financial-stability.

Michelangeli, Valentina, and Enrico Sette. 2016. "How Does Bank Capital Affect the Supply of Mortgages? Evidence from a Randomized Experiment." BIS Working Paper 557, Bank for International Settlements, Basel, April.

Miller, Douglas L., and A. Colin Cameron. 2015. "A Practitioner's Guide to Cluster-Robust Inference". *Journal of Human Resources* 56 (1): 317–72.