Resolving bank asset distress

Debt moratoria, loan forbearance, and the relaxation of classification and provisioning rules during the COVID-19 crisis have created a lack of transparency about the health of bank balance sheets, particularly in the recognition of nonperforming loans (NPLs). Although not yet visible in reported asset quality indicators, rising borrower distress is likely to translate into rising NPL levels. If left unaddressed, high levels could reduce overall lending volumes and affect the financial sector's capacity to support economic activity. Such an outcome can be particularly harmful to small businesses and lower-income households. To reduce these risks, banks should identify and report problem loans accurately and manage revealed exposures while under strong supervisory oversight.

Policy Priorities

The pandemic and the related government policies have reduced the transparency of bank balance sheets. For banking sectors vulnerable to rapid increases in NPLs, the following timely corrective policies to preserve financial stability will help to support the continued provision of credit:

- **Ensuring clear, consistent practices for reporting on asset quality,** enforced by effective supervision and with strong incentives to encourage speed and transparency.
- **Developing the capacity to manage nonperforming loans** to avoid a rapid increase in bad loans impairing the capacity of banks to finance the real economy.
- **Dealing with problem banks swiftly** to prevent broad distress in the financial system, misallocation of financial resources, and failure in the provision of credit.

Introduction

The pandemic and the associated policy responses have significantly affected the financial position of households, firms, and governments. The payment and enforcement moratoria described in chapter 1 have supported borrowers by allowing a temporary halt in their bank repayment obligations. In applying these moratoria, banks have been able to help mitigate the economic fallout from COVID-19 (coronavirus).

It is not yet clear which borrowers will be permanently affected by the pandemic and how debtors will adjust to the structural changes in the economy. It is evident, however, that many borrowers are facing financial difficulties that go beyond liquidity stress. This situation is an unprecedented challenge for banks and bank supervisors because the magnitude of the ongoing shock, the uncertainty of the impact, as well as the ensuing government support have made the screening, monitoring, and management of risk extremely difficult.

Rising borrower distress is widely expected to translate into increases in nonperforming loans (NPLs) in the banking sector, although this is not yet clearly evident in reported NPL ratios. Data suggest that as of August 2021 the ratio of reported NPLs to total loans in most countries was broadly stable (figure 2.1).[1] However, for several reasons the data may not reflect the full reality of NPL levels:

- Moratoria and other borrower support measures were still in place in many countries in the second quarter of 2021,[2] as were fiscal and monetary interventions aimed at cushioning the impact of the pandemic on households and firms (chapter 1).
- Relatively tranquil global financial markets have also influenced countries' domestic financing conditions, especially by easing pressure on government debt refinancing.
- NPL data are often made available with a significant time lag.
- Many countries continue to apply regulatory definitions of NPLs that are predominantly based on payment arrears (and are therefore backward-looking).

Notwithstanding the seemingly positive data, bankers and policy makers anticipate that NPLs will increase significantly when governments lift moratoria and borrowers become obligated to repay their loans according to their original repayment schedules. Some countries are already reporting significant increases in special-mention loans (loans with potential weaknesses in repayment prospects, but not yet considered nonperforming) and an acceleration of preemptive loan restructuring that may delay the recognition of credit losses. These developments suggest that rising pressures on asset quality are forthcoming.

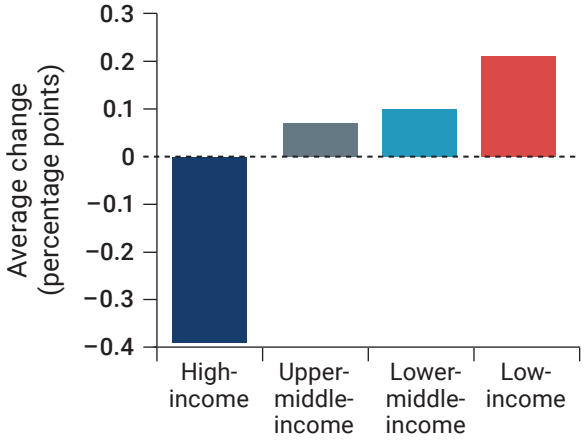
Banks have processes to manage NPLs in the normal course of business, but the scale and complexity of the expected increase in NPLs could overwhelm the capacity of the banking system, creating pressures that affect the broader economy. For example, when dealing with large and rising volumes of NPLs, banks often stop financing both the supply side of the economy by denying lending to viable firms for investment and working capital and the demand side by declining to finance consumption and household credit. For banks highly exposed to slow-growing, low-productivity firms, capital can become tied up in low-performing sectors at the expense of high-growth ones. Looking ahead, then, a rise in NPLs could affect the banking sector's capacity to support the economic recovery with fresh lending, while increasing the risk of bank failures. The concern is greater for emerging economies that are heavily exposed to credit risk and that tend to rely on bank credit to finance the real economy.[3]

If unaddressed, high NPL levels may thus severely dampen recovery from the pandemic. To preserve capital and manage uncertainty in periods of economic and financial distress, credit intermediaries are incentivized to ration credit extended to higher-risk borrowers such as micro-, small, and medium enterprises (MSMEs) and underserved, vulnerable households. Similarly, international credit for low-income frontier markets, which have been especially hard-hit by the pandemic, may also dry up

as potential lenders lower their risk exposure to preserve their capital. Taking early, decisive action to address NPLs and to sustain, and where necessary restore, the strength of the banking system is critical to ensure that banks and other lenders have sufficient capital to finance a strong, equitable recovery.

Addressing rising volumes of NPLs is therefore critical to maintaining a healthy financial sector that can support recovery from the pandemic.[4] This chapter describes policy measures aimed at effective, timely resolution of bank asset distress. Experience shows that asset quality issues do not resolve on their own without a swift, comprehensive policy response. If ignored, NPLs tend to grow, creating mounting losses for the financial system. If distress becomes systemic, losses in output are typically highly persistent, especially for the least developed countries.[5]

Figure 2.1 Changes in nonperforming loan ratios, by country income group, 2020–21



Source: WDR 2022 team, based on data from International Monetary Fund, FSIs (Financial Soundness Indicators) (dashboard), https://data.imf.org/?sk=51B096FA-2CD2-40C2-8D09-0699CC1764DA.

Note: For the 106 countries represented in the figure, the latest observed data are from December 2020 (27 countries), February 2021 (1 country), March 2021 (27 countries), April 2021 (2 countries), May 2021 (5 countries), June 2021 (41 countries), July 2021 (2 countries), and August 2021 (1 country).

A comprehensive NPL resolution strategy is thus essential for governments and banking sectors to manage bad loans in a way that protects viable borrowers, while swiftly dealing with nonviable ones so that they do not absorb productive capital. Three components of an effective strategy are covered in this chapter:

- *Identifying NPLs*—clear-cut, consistent practices for banks to use in reporting on asset health, reinforced by effective supervision and strong incentives to encourage speed and transparency.
- *Developing operational capacity for addressing NPLs*—techniques to segment NPLs according to viability and complexity and to deploy the right management method.
- *Handling problem banks*—decisive policies for dealing with banks at risk of failure.

Banks are primarily responsible for resolving NPLs, and yet supervisory authorities should have a clear diagnostic of the factors driving the deterioration of a bank's asset quality. Specifically, they should have accurate data gauging the NPL exposure of individual banks, as well as a breakdown between households and firms and between credit for investment and consumption, together with details on the sectoral composition of credit.[6] Resolving NPLs also requires a legal system that balances the interests of creditors and borrowers and supports debt restructuring and reorganization of viable firms, as well as an orderly exit of unviable ones (the legal system is addressed in chapter 3).

The themes discussed are commonly accepted building blocks of an effective NPL resolution strategy, but country-level priorities may vary, depending on the sophistication and strength of countries' banking sectors, the severity of the economic impact of the pandemic, the capacity of firms to adjust, and developments in the legal, regulatory, and institutional environments. Administrative capacity is another important factor because countries vary in their ability to undertake complex and comprehensive legal, regulatory, supervisory, and taxation policies in a coordinated manner and in conjunction with public and private sector stakeholders.

Policy makers and bank leaders should act with urgency on the advice laid out in this chapter as best fits their capacity—ideally *before* support measures are lifted and distressed asset levels rise—because developing the systems and capacity needed to deal with NPLs takes time.[7] Those who prefer to wait and see risk missing the opportunity to get ahead of the problem. Such a delay not only prevents recovery of viable capital, but also can lead to long-term low investment across an economy.

Why do NPLs matter?

High NPL levels burden all levels of an economy. For borrowers, failure to repay a debt may lead to the loss of assets and business opportunities and jeopardize future access to credit, which has negative spillover effects on the broader economy. For banks, asset quality problems can lead to capital misallocation, higher funding costs, and lower profitability.[8] These issues can drive up the cost of finance for borrowers and impair a bank's ability to run a viable, sustainable business. Banks may respond by reducing lending volumes, which often leads to the exclusion of underserved, higher-risk groups such as MSMEs, women, and the poor.[9]

At the aggregate level, high NPLs depress economic growth. Because capital is tied up in underperforming sectors, growing sectors may have limited access to new capital, and so market confidence suffers.[10] Banks with high exposure to NPLs and narrow capital buffers may be inclined to reduce the provision of credit[11] and continue to finance weak or insolvent borrowers—so-called zombie lending.[12] When banks' capital is locked up in troubled sectors and companies, some second-round business failures may be prevented, but it also diverts funds from more productive sectors of the economy. Inefficient firms could thus have a dominant impact on the functioning of input and output markets, translating into lower economic output, investment, and employment.[13]

The challenge is particularly acute following financial crises when bank exposure to problem assets often persists at elevated levels because of a lack of incentives and frameworks to resolve them. The ensuing weak growth, in turn, reduces fresh lending and slows the reduction in NPLs.[14] The experiences of countries in Central, Eastern, and Southeastern Europe (CESEE)[15] in the aftermath of the 2007–09 global financial crisis reveal the long-term problems and severer recessions that can result (see online annex 2A[16]). The increase in NPLs in the CESEE region was rooted in excess credit growth and lax underwriting practices by banks, whereas in the COVID-19 crisis the pressures on asset quality arise from an unprecedented economic shock and restrictions in economic activity that affect borrowers' incomes and weaken their debt-weathering capacity. Another difference is that under the current circumstances governments' ability to contain the impacts of the pandemic on firms and households affects which borrowers remain viable. Weaknesses in the macroeconomic, institutional, corporate, and banking sectors that have driven past crises are a factor as well.

The experiences of the CESEE countries following the global financial crisis nonetheless clearly illustrate the dangers of a delayed initial policy response.[17] By allowing the underlying problems to fester, countries compromised the capacity of their banking sector to finance the real economy and ultimately were left trapped in a bad equilibrium of low growth linked to a weak financial system. Avoiding a repeat of this scenario is a priority for policy makers everywhere. Despite important differences in the two crises in the underlying causes and the starting positions of individual countries, the key lesson from the CESEE region, as well as from other regions and at other times, is that rising NPLs require a prompt, comprehensive policy response.

This negative cycle of high NPLs leading to low economic growth is not inevitable. Evidence comparing countries that have proactively pursued strong measures to reduce the stock of NPLs in the wake of an economic crisis with those that have taken a more passive approach reveals that the former approach

results in superior economic and credit growth recovery.[18] Sound ex ante policies play an important role in preventing NPL problems from building, while robust corporate governance, effective supervision, and regulation of banks facilitate NPL resolution. Policy makers and bankers can expedite financial recovery by addressing fragilities at both the individual bank level and banking system level, beginning with rules and incentives around transparency about the true state of banking assets.

Identifying NPLs: Asset quality, bank capital, and effective supervision

Accurate, timely indicators of bank asset quality are essential to assessing borrowers' capacity to meet repayment obligations to their lenders and whether such capacity has been significantly and permanently eroded, leading to credit losses for banks. Policy makers need this information to understand the scale of emerging asset quality problems and thus articulate a well-informed policy response and an NPL resolution strategy, including judgments on whether to extend temporary moratoria and other forms of support to affected households, firms, and industries. This information is also critical to separating weak banks from healthy ones, instilling public trust in the integrity of reported bank financial statements, avoiding disorderly runs and panics arising from opacity, and initiating timely supervisory action on weak banks.

The support measures discussed in chapter 1 have eased short-term pressures on borrowers. But by their very nature, they have also made it harder to determine which borrowers are experiencing financial distress likely to result in repayment difficulties once support is withdrawn.[19] Uncertainty about future policy support—such as when moratoria will be lifted or whether new support may be added—may create incentives for banks to hold back on detailed credit risk monitoring and management of emerging loan performance problems as they wait for additional information. This situation may only amplify the incentives for a bank to underestimate the deterioration of its asset quality. It will then report a stronger financial position because as soon as it classifies loans as under- or nonperforming, it must set aside provisions for anticipated credit losses, which lowers earnings and absorbs capital. These incentives are stronger for lower-capitalized banks—losses may signal financial weakness and trigger supervisory intervention and the need for new capital.[20] This context of uncertainty and mixed incentives puts the onus on supervisors to establish a set of requirements for the asset quality indicators that banks must monitor and share.

But setting such requirements is complicated. And national practices vary for many reasons.[21] Nonetheless, banks and supervisory authorities are not entirely on their own. The Basel Committee on Banking Supervision (BCBS) has published helpful guidance on defining nonperformance that highlights the importance of assessing borrower payment capacity (the unlikely-to-pay criterion), as well as payment performance—in particular, the degree of delinquency or number of days payments are past due, with 90 days past due an important threshold (see box 2.1).[22]

Standard setters have provided helpful additional guidance on the application of regulatory frameworks during the pandemic, promoting greater consistency.[23] According to the BCBS, (1) periods of repayment moratoria should not be counted in days past due for assessing loan performance; (2) judgments of the ability to meet payment obligations should focus on the borrower's ability to meet the requirements of rescheduled payments after the moratorium ends; and (3) borrower acceptance of a repayment moratorium or other relief measures such as guarantees should not automatically lead to the loan being categorized as forborne.[24] To support their judgments on the ability of borrowers to meet rescheduled payments, banks must during the moratoria continue to monitor the financial health of borrowers and

Box 2.1 International guidance on loan classification and problem assets

No agreed-on international standard exists for loan classification or the treatment of problem assets. Nonetheless, countries' approaches have common features such as formal loan classification schemes based on loan quality.[a] To support greater convergence, the Basel Committee on Banking Supervision (BCBS) published detailed guidance on defining nonperforming exposures (as well as forbearance), giving supervisors clear reference points (BCBS 2016).

Two principal criteria guide nonperformance: (1) *delinquency*—material exposures that are more than 90 days past due (that is, unpaid), and (2) *unlikely to pay* (*UTP*)—full repayment under the contractual terms (original or modified) is unlikely without the bank's realization of collateral, regardless of whether the exposure is current and regardless of the number of days the exposure is past due.

The presence of arrears or evidence of UTP defines an exposure as nonperforming. Although the availability of collateral affects the amount that banks must provision, it does not affect the assessment of whether a loan is nonperforming. In addition, if a bank has a significant exposure to a corporate borrower that is nonperforming, then all exposures (on– and off–balance sheet) to the borrower should also be considered nonperforming regardless of actual repayment status.

Assessments of repayment likelihood should draw on a comprehensive analysis of the financial situation of the borrower based on specific indicators. The BCBS also provided guidance on how to recategorize nonperforming exposures as performing should the counterparty's situation improve and full repayment is likely (as evidenced by successful payments during a probationary period). Related to forbearance, the guidance provides that forbearance applies where there is *financial difficulty*—a borrower is experiencing difficulty meeting its financial commitments—and *a concession*—a bank grants a concession that it would not otherwise consider.

a. The following is an example of a hierarchy of loan quality categories: normal, special mention (or watch), substandard, doubtful, and loss. For details at the country level, see World Bank, BRSS 2019 (Bank Regulation and Supervision Survey, 2019) (dashboard), https://www.worldbank.org/en/research/brief/BRSS.

conduct rigorous assessments of their repayment capacity and likely longer-term viability using a range of financial and economic indicators.[25]

Judgments about borrowers' capacity to meet future debt service obligations can be challenging under the best of circumstances, let alone during a pandemic and a highly uncertain economic outlook. Still, this challenge should not discourage banks from proactively identifying borrowers that are likely to face solvency challenges, recognizing credit losses, and classifying and provisioning for such loans. In short, uncertainty and lack of an international standard need not prevent supervisors from requiring banks to adhere to rigorous criteria for defining and reporting on asset quality, with the BCBS definitions providing a useful basis on which to build.

Seeking accurate asset quality metrics for the banking system

Asset quality is fundamental to analyzing a bank's capital position and financial health. It highlights exposure to credit risk, especially whether borrowers are likely to fail to fulfill their repayment obligations, creating losses for the bank. High-quality indicators that enable banks and their supervisors

to assess borrowers' payment performance and capacity, and thus the quality of the bank's loan assets, are essential elements of strong bank management and effective supervision (see table 2.1), particularly in emerging markets that tend to have relatively simple, bank-centric financial systems.[26] Drawing on the 2019 Bank Regulation and Supervision Survey (BRSS), which uses 2016 data, table 2.1 summarizes key features of asset classification systems in emerging economies prior to the guidance supplied by the BCBS.[27] Most respondents deployed a consistent asset classification scheme, applied the principle that the availability of collateral does not affect the classification of loan performance, and required successful performance of restructured loans over a probationary period before classification could be upgraded.

Such indicators underpin financial statements recording performance as well as financial strength. Indicators of deteriorating asset quality also serve as an early warning system for loan performance problems. They enable banks to take preemptive action to resolve problems and avoid the deadweight costs of nonperforming assets. Supervisory authorities also rely on asset quality data and corresponding measures of capital strength to gauge a bank's capacity to absorb credit losses and its ability to supply new credit for a vigorous economic recovery.

Underappreciation of a deterioration in underlying loan quality, and thus inadequate provisioning, leads to overstated capital levels. An overstatement hampers policy analysis, encourages complacency by banks and policy makers, and affects market functioning. At the onset of the pandemic, banks' reported capital levels in many countries were higher than in the past because they had been bolstered by stronger regulatory standards following the global financial crisis. Nonetheless, significant differences across jurisdictions and regions (as well as within them) reflect the differing capacity of banking systems to absorb the pandemic shock.

Table 2.1 Countries' adoption of selected indicators of asset classification systems, by country income group

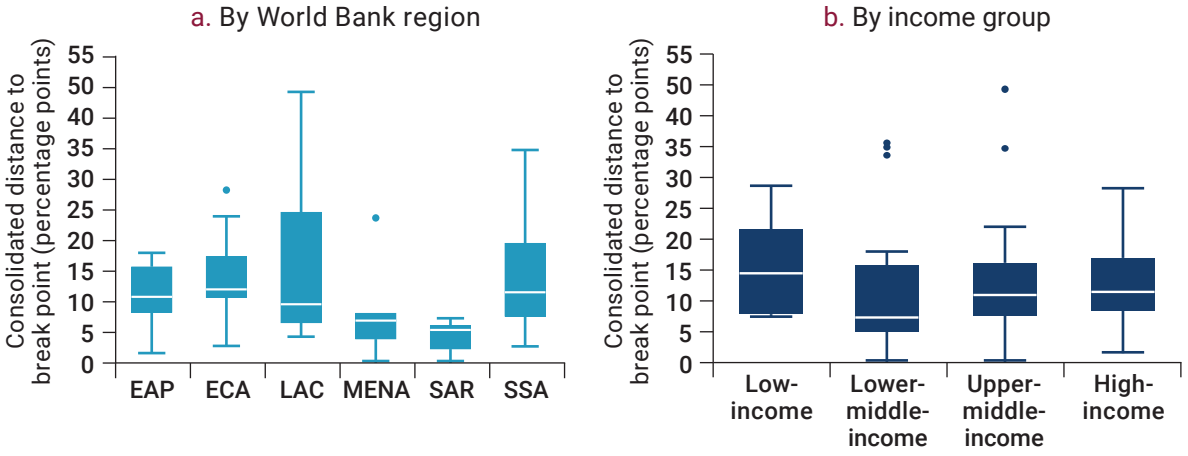
Share of countries answering "yes" (%)

Indicator	Low-income	Lower-middle-income	Upper-middle-income
Asset classification system under which banks have to report the quality of their loans and advances using a common regulatory scale	88	88	95
Availability of collateral allows banks to avoid classifying a loan as nonperforming	6	9	18
Banks allowed to upgrade the classification of a loan or advance immediately after it has been restructured	13	18	21

Source: Data from World Bank, BRSS 2019 (Bank Regulation and Supervision Survey, 2019) (dashboard), https://www.worldbank.org/en/research/brief/BRSS.

Note: The fifth iteration of the BRSS collects information on 160 jurisdictions and the European Central Bank. This table reports information on low- and middle-income countries. It excludes both high-income countries and jurisdictions with a population of less than 500,000. The breakdown of countries by income level is low-income, 16; lower-middle-income, 34; and upper-middle-income, 38.

Figure 2.2 Capacity of banking systems to absorb increases in nonperforming loans, by World Bank region and country income group



Source: WDR 2022 team, based on Feyen and Mare (2021).

Note: The figure reports the percentage point increase in the nonperforming loan (NPL) ratio at the country level that wipes out capital buffers for banks representing at least 20 percent of banking system assets (see Feyen and Mare 2021). Higher values denote a higher capacity to absorb NPL increases. The horizontal line dividing each box is the median value of each group. The height of the box is the interquartile range. The whiskers span all data within the 1.5 interquartile range of the nearer quartile. Dots represent values outside the whiskers. Panel a shows the distribution of the percentage point increase in the NPL ratio across World Bank regions. Panel b illustrates the distribution of the percentage point increase in the NPL ratio across country income groups. The underlying bank-level data are from up to July 2021. EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MENA = Middle East and North Africa; SAR = South Asia Region; SSA = Sub-Saharan Africa.

Figure 2.2, which is based on data up to July 2021, shows the percentage point increase in NPLs—known as the consolidated distance to break point (CDBP)—at which banks representing at least 20 percent of banking system assets would become undercapitalized.[28] Countries with smaller CDBP values have banking systems with less capital space to absorb increases in NPLs and therefore are more vulnerable to a credit shock. The South Asia Region (SAR) is the most vulnerable, followed by the Middle East and North Africa (MENA) and Latin America and the Caribbean (LAC) Regions (figure 2.2, panel a). The weakest banks in the Sub-Saharan Africa (SSA) and Europe and Central Asia (ECA) Regions could, on average, sustain higher increases in NPLs before capital is depleted.[29] In terms of income groups (figure 2.2, panel b), lower-middle-income countries show the greatest vulnerability because a smaller increase in NPLs (for the median country of approximately 7 percentage points) would deplete capital buffers for a significant portion of banking system assets.

Asset quality indicators not only give banks insight into the existing portfolio, but also serve as the foundation of strong credit risk management standards, including underwriting of new credit. Robust standards increase the likelihood that available funds finance productive new investments. They also guard against competing pressures to prop up unviable borrowers, and thus support the efficient reallocation of capital to support the recovery. The need for strong underwriting standards is particularly relevant in countries with state-owned banks that expanded credit provision during the pandemic. Some countries also rolled out extensive additional public credit guarantee schemes to help support the economy through the pandemic. Care is needed to ensure that public funds help address market failures—for example, to extend credit to MSMEs facing temporary liquidity distress arising from the pandemic or to provide longer-term infrastructure financing that would strengthen the supply capacity

of the economy during the recovery. Authorities should avoid the temptation to lower underwriting standards and weaken credit assessments because such a step would increase potential losses, misallocate resources, and distort competition with private commercial banks.

Guarding against incentives for mismeasurement

Banks underreport the magnitude and extent of asset quality problems in several ways. For example, they may delay recognizing the failure of particular borrowers to pay and instead evergreen loans by simply rolling them over at maturity to "extend and pretend" rather than designate the loan as past due and nonperforming. Even when a bank has recognized that a borrower is facing a repayment problem, it may underrecord the severity of the problem in the hope that the borrower's repayment capacity will improve over time. A bank may also place a high value on the collateral posted as security for a loan instead of seeking additional protection when market values decline. Meanwhile, banks can obscure their exposure to problem loans by transferring NPLs to off–balance sheet affiliates not reported in their consolidated financial position. Because this act is often conducted less than transparently to escape supervisory scrutiny, consolidated and cross-border supervision are particularly important in curbing this kind of arbitrage. Supervisors will need to develop a full understanding of financial groups' business(es) and main shareholders, economic interests, and intragroup transactions following the principle of economic substance over legal form.

Incentives to underplay the true extent of exposure to problem loans will likely increase as moratoria end and other support measures are phased out. Weak banks face a particularly strong incentive to disguise problems because full recognition of credit losses may push their capital below the regulatory requirements, triggering reputational risks, an adverse impact on the costs and availability of funding, as well as heightened scrutiny and supervisory intervention to restore the bank's position.[30]

If not countered by strong bank internal governance and intense, intrusive bank supervision, such incentives can create significant discrepancies between reported asset quality figures and the underlying economic realities, as illustrated by the asset quality reviews (AQRs) in countries facing banking stress in the aftermath of the global financial crisis.[31] For example, following the AQR by the European Central Bank (ECB) when it assumed responsibility for banking supervision,[32] a special diagnostic review conducted in Serbia in 2015 identified an additional 4.7 percentage points of NPLs in the total loan book (lowering the capital adequacy ratio by 1.76 percentage points).[33] Similarly, an AQR in India in 2015–16 identified an additional 2.5 percentage points of bank advances as nonperforming.[34] AQRs may become useful once there is more clarity about the longer-term economic impact of the pandemic. At this point, not all businesses are fully operational, relief measures are still in place, and there is major uncertainty about the ultimate credit losses stemming from the COVID-19 crisis.

Recognizing the role of supervision

Bank supervisors play a key role in establishing and upholding consistent, robust standards of credit risk management and loan asset classification. Policy makers and academics agree about the importance of strong, independent banking supervision in maintaining public trust in the banking system. The role of supervisors is especially important under the current circumstances because the growing pressures on asset quality may require them to take firm action.

After the global financial crisis, the supervisory community strengthened frameworks for identifying and managing problem assets. The BCBS reinforced its "Core Principles for Effective Banking Supervision," which set out a minimum baseline for sound practices designed to be of universal applicability

for all countries. To facilitate global application, the principle of proportionality underlying the requirements recognizes that practices should be commensurate with the risk profile and systemic importance of the banks being supervised (see spotlight 2.1 for a discussion of the challenges facing microfinance institutions and their supervisors).[35]

The principles lay out clear expectations about the treatment of problem assets, provisions, and reserves, which were strengthened as part of the overall reinforcement.[36] They clarify that supervisors should be granted, and where necessary apply, powers and remedial measures to ensure that loan classification is appropriate and that provisioning, reserves, and capital are sufficient. In practice, this clarification entails conveying powers to a supervisor to require higher provisions when judged necessary and to set additional capital requirements to cover the risks of high levels of NPLs where remediation strategies appear weak.[37] Notwithstanding the recent improvements, further progress in strengthening approaches in this area remains a priority. Detailed assessments of supervisory practices and processes undertaken during the joint World Bank/International Monetary Fund (IMF) Financial Sector Assessment Program (FSAP) reveal that supervisors continue to fall short in meeting the standards of sound practice.[38] Undertaking a speedy self-assessment of conformance to the high-level criteria set out for the identification and management of problem assets may help authorities to make the needed improvements in view of the pervasive weaknesses in supervisory frameworks and the pressing urgency from the pandemic.

Although supervisory reporting has been streamlined during the pandemic, banks must frequently report reliable, detailed, up-to-date information on credit quality. This information should cover the performance of loans that have benefited from borrower relief measures in order to contribute to high-quality prudential supervision and broader policy analysis of the impact of the pandemic. Supervisors can also build on their information base using high-frequency digital data on economic activity and financial prospects, as well as technology that facilitates analysis of data from a wide range of sources (see box 2.2). To support this process, credit bureaus, lenders, and supervisory authorities in some countries are exploring and expanding the use of alternative credit data such as account data and rental data (when permitted by the customer), in combination with advanced digital technology, to enhance the accuracy of credit scoring. The results have been positive, although the need to ensure compliance with consumer protection and privacy regulations remains critical (see chapter 4).[39] Techniques such as stress tests may also supplement financial analysis and help identify emerging risk exposures.

Even where moratoria are still in place, supervisors should encourage banks to undertake thorough assessments of borrowers' likeliness to pay. Moratoria dampen signals of deterioration in repayment performance. Credit assessments can thus inform decisions on the need for, as well as the terms of, restructuring loans to viable borrowers. They can also guide early actions by banks to enforce and recover their claims when borrowers face high risks of insolvency. Banks should be required to perform periodic assessments and report a set of standard indicators on credit risk (such as the availability and quality of collateral and the repayment behavior prior to the pandemic). Using these indicators, supervisors can monitor the performance of these loans. Such information will contribute to policy judgments on whether to temporarily extend loans and on targeting of moratoria, regulatory, and supervisory measures, as well as additional borrower support.[40]

Although the questions of when and how to phase out measures such as moratoria do not have simple answers, the general principle should be to unwind them as soon as economic circumstances and the pandemic allow. Decisions on extensions of moratoria should also be based on a thorough understanding of the financial position and debt-carrying capacity of borrowers. And not least, the financial impact of moratoria on banks needs to be carefully considered. An extension implies that banks must forego regular debt repayments on a possibly significant part of their loan portfolio, which may affect their liquidity.

Box 2.2 The use of financial technology in banking supervision (suptech) during the pandemic

Some advanced economies that had developed suptech tools before the pandemic have been able to use these tools to monitor the impact of the pandemic on the health of their financial sector. The Central Bank of the Netherlands, for example, is developing an interactive reporting dashboard designed to give supervisors insight into banks' exposure to COVID-19–related risks. This tool draws on a variety of data sources and enables the monitoring of relevant indicators for specific banks, as well as peer group analysis. Planned improvements in suptech include incorporating public COVID-19 information and analyzing comment fields using textual analysis.

The Monetary Authority of Singapore (MAS) has deployed automation tools using natural language processing to gather international news and stay abreast of COVID-19–related developments. MAS has also used NLP to analyze consumer feedback on COVID-19 issues and to monitor vulnerabilities in customer and product segments. Meanwhile, as the pandemic unfolded MAS collected weekly data from regulated institutions to track the take-up of credit relief measures. Data aggregation and transformation were automated and visualized for monitoring. In the United States, a Federal Reserve Bank is currently developing an NLP tool to analyze public websites of supervised regulated institutions to identify information on "work with your customer" programs in response to the pandemic.

At the same time, phasing out the measures will likely lead to an increase in total NPL volumes and provisioning charges, which will affect capital, particularly if banks operate with thin capital buffers.[41]

All this will create a more challenging environment for banking supervisors. As pressures on asset quality build, banks may step up efforts to disguise the extent of their difficulties. Supervisory work programs will likely shift toward thematic examinations and in-depth on-site inspections focusing on credit risk. These efforts will be necessary to clarify the true extent of the deterioration of asset quality and the corresponding credit losses. These challenges may be compounded by pressures on the operational independence of prudential supervisors. In the face of mounting stress on bank asset quality, supervisors may be pushed to soften judgments and enforcement or to weaken regulatory standards altogether.

Supervisors should also ensure that legitimate supervisory information needs are met, while avoiding unnecessary burdens. Formally assessing likeliness to pay is more challenging than counting days past due because it requires a more detailed analysis and judgment. In practice, then, some banks and supervisors may have placed more weight on the days past due in identifying NPLs and assessing provisions. However, taking full account of likeliness to pay is important, particularly under the current circumstances. Indeed, the judgments involved in assessing payment capacity on an ongoing basis over the full credit life cycle are an integral part of effective credit risk management, as again highlighted by the "Core Principles."

Illustrating the recommended approach, banks in India and Malaysia, encouraged by their regulators, increased provisions preemptively in 2020 during the moratorium, recognizing that underlying asset quality was deteriorating and that additional performance problems were likely to crystallize at the end of the repayment standstill.[42] The National Bank of Rwanda also highlighted the supervisory expectation that banks proactively assess borrowers' repayment capacity even if not more than 90 days past due in order to accurately determine the level of problem loans, appropriately classify and provide for them, and ultimately assess the adequacy of capital.[43]

While emphasizing the flexibility embedded in the regulatory framework to relieve the pressures of the pandemic, the BCBS and the Financial Stability Board (FSB)[44] have noted the importance of upholding agreed-on minimum standards and applying consistent definitions and classifications. Some countries, however, have not complied fully with these recommendations. They have instead diluted definitions and weakened the application of loan quality standards. For example, Argentina and Turkey relaxed definitions and diverged from international standards by stretching the 90 days past due criterion. Meanwhile, recognizing emerging problem loans, some banks in Colombia reset days past due to zero at the start of the pandemic for borrowers already experiencing repayment arrears. In other cases, supervisors are treating restructured, forborne NPLs as new loans, without undergoing the normal probationary reentry period requiring borrowers to successfully make rescheduled repayments for one year.[45] The various pressures to weaken loan quality standards apply equally to jurisdictions that have not yet had the capacity to implement the international guidelines.

Resisting pressures to lower regulatory standards and soften supervision is critical. Although easing standards may lower measured NPLs, it does not address the underlying problem of banks' exposure to troubled assets. It also weakens the comparability and consistency of reported data, and it creates opacity about the financial position of borrowers and banks that can lower trust in the financial sector. The risk is that neither banks nor supervisors see emerging asset quality problems in time to resolve them before they become embedded and much costlier to address. Where standards have been relaxed during the pandemic, supervisors should clarify that this relaxation is temporary and have plans to restore prudential standards of asset quality.

Fortunately, such relaxation is rare. The majority of supervisors have maintained consistent regulatory approaches and have provided helpful guidance on how to utilize the flexibility in the supervisory and regulatory frameworks, while taking account of moratoria and other temporary support measures.[46] Nonetheless, until the pandemic and the economic crisis are over, political and industry pressures to dilute regulatory norms, soften supervisory enforcement, or challenge the independence of regulatory agencies may continue to increase as banks' asset quality deteriorates.

Supervisors in countries that traditionally have relied heavily on state-owned banks for economic management, and where the state acts not only as regulator but also as owner and promoter of a large part of the banking sector, may be in a particularly difficult position to fend off these pressures (see box 2.3). This is especially true when state-owned banks provide countercyclical lending to mitigate the

Box 2.3 Bank supervision and state ownership of banks

The state continues to play a prominent role in the financial sector of many countries.[a] State-owned banks comprise financial intermediaries that range from strictly commercial to purely developmental. In general, commercial banks operate in competition with the private sector, target profit maximization, take deposits from the public, and extend loans directly to their customers without a specific policy mandate. At the other extreme, development state-owned banks typically operate under a narrow policy mandate, may not collect deposits, and rely on direct lending instruments, as well as the provision of technical assistance. Commercial state-owned banks are usually under the purview of the banking regulatory agency, whereas their development counterparts are often not regulated. The latter may act as providers of public money to private banks, or they may, in some cases, also lend directly.

(Box continues next page)

Box 2.3 Bank supervision and state ownership of banks *(continued)*

A high degree of government ownership and strategic control implies a direct and significant influence over the allocation of financial resources. Although state-owned banks can be a helpful vehicle in mitigating the economic impacts of severe shocks, the debate over their pros and cons continues.[b] For example, conflicts about incentives can arise from the multiple (and often opposing) roles of the state as the owner, promoter, and regulator, impairing efforts by authorities to regulate and supervise the financial system.[c] Bank supervisors may face political pressures that prevent them from applying the full range of supervisory tools—such as the replacement of management and board—thereby impairing their ability to enforce rules and standards. The enduring presence of the state may also create issues for privately owned banks, such as reinforcing perceptions of implicit guarantees, discouraging thorough credit risk analysis at loan origination, weakening financial discipline, and distorting resource allocation. These issues are particularly acute when the government routinely backstops weak enterprises, financial institutions, and asset markets.

Many state-owned banks were asked to extend credit and provide guarantees to ease the burden of COVID-19 on companies and households and to help cushion the immediate economic impacts.[d] The long-term effect, however, depends crucially on the quality of underwriting standards and the income-generating capacity of investment projects. Weaknesses in these areas increase the risk that guarantees will be called on and the credit stimulus will resurface in the form of pressures on asset quality. This risk also highlights the importance of corporate governance and risk management arrangements in state-owned banks, as well as supervisory independence and effective enforcement of sound regulatory standards.

a. Panizza (2021).
b. For an overview of the literature, see Cull, Martínez Pería, and Verrier (2018); Panizza (2021); and World Bank (2012).
c. Barth et al. (2003).
d. Medas and Ture (2020).

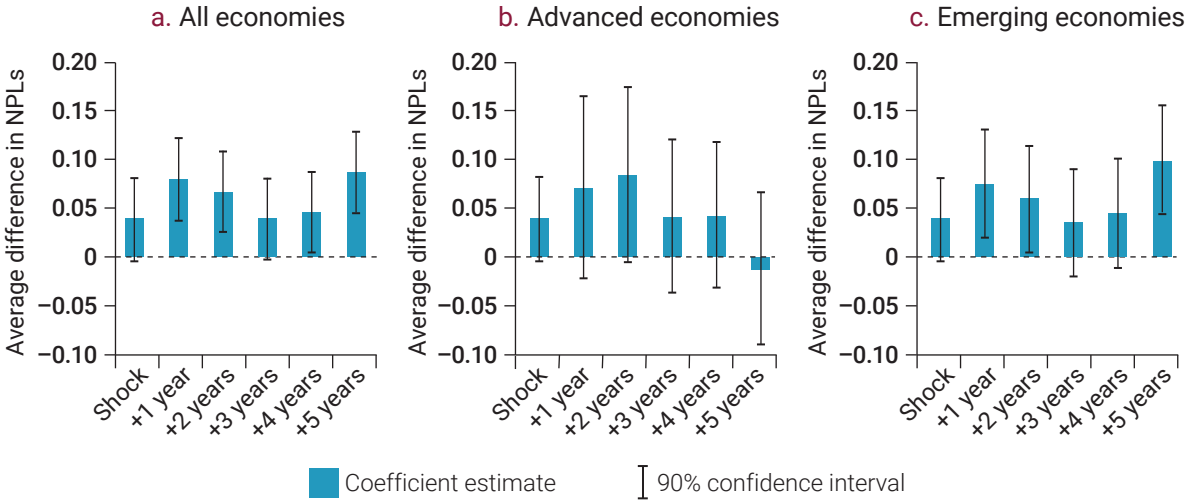
economic impact of the pandemic (figure 2.3)[47] because in these circumstances asset quality deterioration could be underestimated for some time. State ownership of banks underscores the importance of the legal and operational independence of the supervisory agency and a mandate to focus solely on the safety and soundness of the financial sector, robust legal protection for supervisors, and sufficient powers to address emerging banking vulnerabilities, among other things. Recent FSAP assessments indicate a relatively widespread need to further strengthen these supervisory foundations.[48]

Ensuring a robust regulatory and supervisory framework

Although it is widely recognized that strong regulatory and supervisory frameworks are critical for timely identification of NPLs, many emerging economies continue to face serious challenges in this area. These challenges often stem from a combination of factors, including deep-rooted institutional constraints such as lack of enforcement powers, skill shortages, and weaknesses in the financial sector that predate the pandemic.[49] Under these circumstances, implementing the full range of regulatory and supervisory policies outlined in this chapter can be a tall order. Putting the essential building blocks in place offers a practical way forward.[50]

The logical starting point is to establish a sound institutional base for banking supervision. This base is a legal framework that protects banking supervisors from political and industry pressures and

Figure 2.3 Comparison of accumulation of nonperforming loans at public banks and private banks after adverse shock



Source: WDR 2022 team, based on Panizza (2021).

Note: The graphs plot for three groups of economies the differential response of state-owned and private banks to a given GDP growth shock over the five years following the shock. A positive coefficient indicates that state-owned banks accumulate higher nonperforming loans after such a shock. GDP = gross domestic product; NPLs = nonperforming loans.

when they undertake acts in good faith, endows the agency responsible for banking supervision with a clear mandate, provides supervisors with an appropriate set of powers, and grants the agency the resources needed to attract and maintain a critical mass of qualified staff. Although these attributes are foundational to the effectiveness of banking supervision, they are often lacking, and efforts to put them in place are forcefully resisted by vested interests. Countries where political elites own or control important parts of the banking sector, or where the state's role as owner and promoter of the banking sector outweighs its role as prudential regulator, may be particularly challenged in laying a sound institutional base.

The second step is to introduce NPL regulatory definitions aligned with international standards. Many emerging economies entered the pandemic with weakly defined NPLs and generous allowances that enabled banks to avoid rigorous loan classifications through questionable restructuring practices.[51] In some countries, these allowances were further weakened in response to the pandemic. It is important to revert to prepandemic standards as soon as possible, while mapping out a transition to definitions aligned with international standards. In addition to the hard backstop of 90 days past due, standards should include the qualitative unlikely-to-pay (UTP) criterion and forbearance definitions aimed at preventing low-quality loan restructuring that aims to delay recognition of inevitable credit losses. Although application of the UTP criterion will require an element of judgment by banks, supervisors should ensure that banks proactively apply consistent approaches to making that assessment and classify loans and provision accordingly on this basis.

Sound regulatory definitions will have to be enforced by banking supervisors. Enforcement will often require developing the capacity of supervisors to support an upgrade from compliance-driven supervisory approaches to approaches that tailor attention and responses to assessed risks. Supervisors must

also have the skills needed to challenge common practices that banks often use to underrepresent NPLs, such as overvalued collateral, "extend and pretend" loan restructuring, and transfers of losses to unconsolidated but de facto affiliated entities. Moreover, supervisors will need to understand the broader business interests of the bank's owners. Rigorous application of high-quality corporate governance standards and constraints on lending to related parties are essential steps.

In the most challenged countries, reforms along these lines will take time and must be sustained over several years. Although the task can seem daunting, the rewards will be plentiful. Indeed, in recent years some countries have made remarkable progress in a comparatively short period of time. For example, with extensive World Bank support Uzbekistan introduced a new banking law in 2019 to prepare authorities for the transition to a banking sector with a more prominent role for private capital. The law established a "gatekeeper function" aimed at giving the central bank expanded powers to ensure that private investors seeking to enter the banking sector met common fit and proper standards, de facto ownership structures are well understood and monitored continually, and related party lending would be contained. Another priority was to allow the central bank to legally exercise supervisory judgment in fulfilling its mandate in the face of dynamically evolving banking risks. This change was a drastic and sometimes controversial one because the former legal framework prioritized compliance checks with administrative requirements over the mitigation of risks. The new banking law has had a galvanizing effect on financial sector reform in Uzbekistan. Building on the momentum for financial sector reform, the World Bank has continued to support the central bank in overhauling the corpus of prudential regulations and undertaking extensive capacity building to upgrade supervisory practices.[52]

Building capacity to manage rising volumes of bad debts

In normal times, banks routinely manage NPLs. They know their clients and their capacity to repay and thus are in the best position to restructure, collect, and sell NPLs. Bank capacity to manage NPLs may be insufficient when the volume of NPLs increases significantly across the board, which is very likely in response to the pandemic. Strengthening the capacity of banks to deal with NPLs is critical because of the urgency of addressing bad debts. The recovery prospects for bad loans diminish quickly, and delays in the initial policy response will allow the underlying problems to build, with the risk of overwhelming banks once pressures on asset quality begin to increase.

Methods to manage, recover, and resolve NPLs

Banks can reduce NPLs through a combination of loan restructuring, legal action, write-off, and sale to third parties (see table 2.2).[53] Bank decisions about how they manage NPLs and when to escalate from one method to another should be guided by the expected asset recovery for each method using net present value (NPV) calculations.[54] These calculations should be based on conservative estimates for recovery, discount rates, and carrying costs. Poorly functioning insolvency regimes, for example, translate into lower recovery rates that banks must reflect in their calculations.

Challenges in addressing NPLs in practice

The ease with which banks can work out, collect, write off, or sell bad loans depends on the strength of the enabling environment, particularly the strength of creditor rights, enforcement mechanisms, and

Table 2.2 Nonperforming loan (NPL) reduction measures

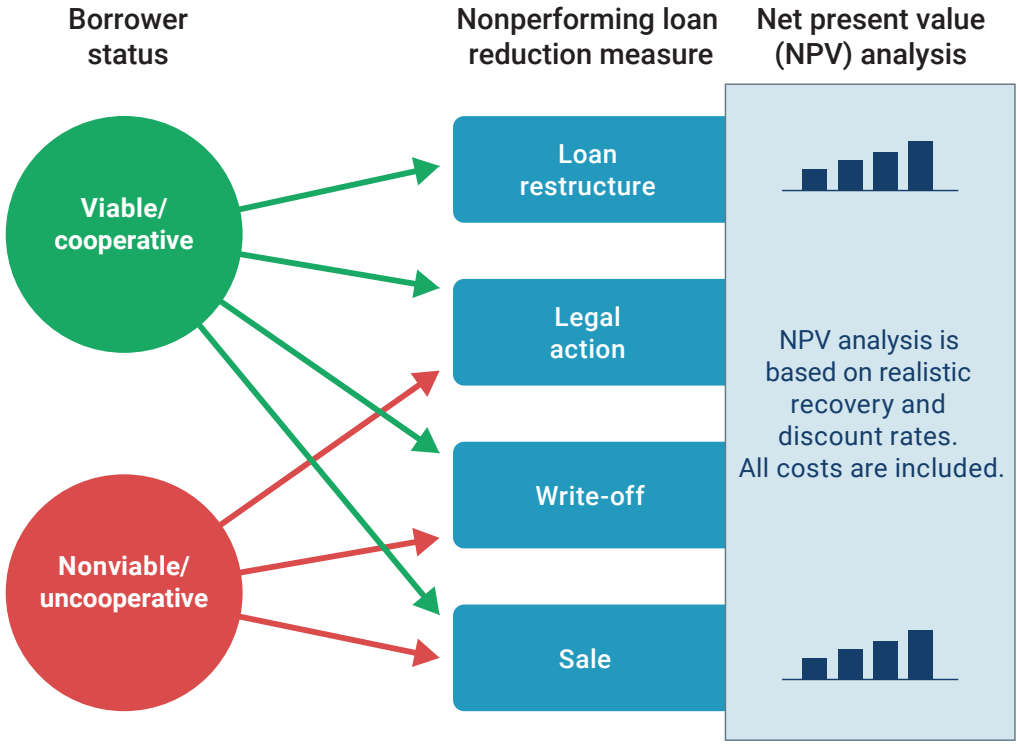
Instrument	Subcategory	Typology	Prerequisite	Description
Loan restructuring	Short-term restructuring	Rescheduling	Borrower is experiencing short-term liquidity difficulties. Borrower is cooperative.	Deferment of borrower's debt service obligations to a future date, usually in a net present value (NPV)–neutral manner.
	Concessional restructuring	Workout	Borrower is distressed, but viability can be restored with restructuring that entails debt relief. Borrower is cooperative.	Loan restructuring that entails a NPV reduction.
Legal action	Collateral enforcement	Collection	Debtor receives notice of default from bank, which complies with the prescribed notice periods.	Enforcement of the collateral or guarantee pledged against the loan by taking in-court or out-of-court action to repossess and then sell collateral.
	Insolvency process		Debtor is unable to pay debt as it matures or has liabilities in excess of assets.	Initiation of an insolvency petition to the borrower to reorganize or move toward liquidation. Or the debtor may voluntarily file for insolvency, forcing the bank to prove its claim.
Write-off		Disposal	No realistic prospect of recovery. Loan is fully provisioned. Bank must demonstrate that all other measures have been exhausted.	Transfer of fully provisioned NPL to off–balance sheet records. A write-off does not imply that a bank is forfeiting its claim on the borrower, nor does it involve debt forgiveness. A write-off is instead a formal acknowledgment of uncollectability.
Sale	To a commercial distressed asset investor	Disposal	Bank and distressed debt investor agree on pricing and terms of sale for the bank's NPLs. Ownership rights are transferred to the investor.	Sale of NPL on commercial terms to an investor. Investor continues collection effort, which may require establishment of a servicing platform. A sale can be structured in various ways, the most common of which is a "true" sale, but profit sharing and securitization are practiced as well.
	To a public asset management company		Used in systemic crises to complement the efforts of individual banks.	Transfer of NPL to a centralized agency that manages recovery efforts.

Source: Adapted from Baudino and Yun (2017).

insolvency and debt restructuring frameworks (figure 2.4). This is an area in which many emerging economies stumble, resulting in low and unpredictable recovery prospects for lenders and restricting the range of methods for reducing NPLs. Borrowers may also be less inclined to repay according to their full financial capacity if they are able to delay enforcement proceedings. The result can be elevated, persistent NPLs.[55] The financial crises in Asia—and globally a decade later—brought home the need for comprehensive reforms to address weaknesses in debt resolution, insolvency, and creditor rights, with separate tracks for corporate and retail bankruptcies. Because of their complexity and breadth, these reforms tend to be time-consuming and are therefore best initiated early on, before banks' balance sheets become severely burdened with increasing NPLs.[56]

Poorly functioning enforcement and insolvency frameworks can also discourage banks from dealing forcefully with nonviable or uncooperative borrowers. Absent reliable mechanisms, banks may not be able to steer such borrowers toward an orderly exit through legal action. Political pressure, too, may stand in the way of decisive handling of nonviable state-owned enterprises or national champions. Banks may be pressured to keep such borrowers afloat through frequent rounds of loan restructuring, or they may be restricted in their ability to encourage distressed firms to undertake the operational measures needed to restore financial sustainability and commercial viability. The result can be questionable loan restructuring practices (such as long grace periods, bullet payments,[57] or frequent rescheduling) that exacerbate allocative inefficiencies by locking up the credit stock in highly indebted, underperforming economic sectors at the expense of more promising ones.[58] Although unviable and uncooperative borrowers need to be dealt with resolutely, the depth of the recession puts a high premium on efforts

Figure 2.4 Nonperforming loan reduction flowchart



Source: WDR 2022 team.

to ensure that distressed but viable borrowers are given an opportunity to rehabilitate. Support from banks, underpinned by infrastructure that facilitates the efficient restructuring and workout of claims (as highlighted in chapter 3), is important.

The quality of legal and institutional systems for recovering debt is also an important factor in determining the feasibility of developing for distressed assets secondary markets that can play an important role in reducing NPL ratios.[59] Efforts to develop secondary markets have been most effective for unsecured problem loans such as retail loans and credit card debt. Because no collateral is needed, they are easier to price. Successful loan sales require a legal framework that enables a "true sale" of distressed assets so that (1) investors in those assets can acquire the same legal enforcement rights as the originating bank; (2) these legal rights can be transferred to the investor without the debtor's consent; and (3) investors can enforce and collect on these loans. Bank secrecy and data protection laws must not hinder due diligence by prospective investors.

Although market development for distressed assets has largely been limited in most emerging economies, some in the ECA Region made important strides following the global financial crisis. Between 2015 and 2019, total NPL sales in countries that are part of the Vienna Initiative[60] amounted to €14.5 billion. Although in the region the more developed member countries of the European Union (EU) such as Bulgaria, Croatia, Hungary, Romania, and Slovenia account for the bulk of the transactions, smaller deals have also taken place in less developed frontier markets in the Western Balkans. The latter is noteworthy because prospective investors in distressed assets must make sizable up-front investments in servicing platforms and market due diligence, and the opportunities to recoup these up-front costs are limited by the small size of domestic markets in the Western Balkans. The World Bank has supported efforts by client countries to develop secondary markets for distressed assets, including by bolstering in selected countries in Latin America and the Philippines a strong loan servicing ecosystem (specialized companies that for a fee make the collection effort on behalf of the investor in distressed assets).

Faced with a challenging environment for legal enforcement and fledgling markets for NPLs, banks in emerging economies have typically relied heavily on write-offs to dispose of fully provisioned older vintages of NPLs (so-called legacy NPLs) for which there is no realistic prospect of recovery. Banks are often able to write off loans only after demonstrating that all other measures have been exhausted. Full tax deductibility may be granted only after obtaining a court ruling, which can be difficult and time-consuming. It is not unusual for banks to keep significant stocks of full-loss legacy NPLs on their balance sheets. Write-offs tend to be particularly problematic for state-owned banks, as bank managers risk accusations of mishandling state property.

Accelerating write-offs can help bank management turn its attention to fresh lending. Onerous requirements can be streamlined, which many countries in the EU and ECA Region did in the aftermath of the global financial crisis.[61] Going a step further, Ireland, Portugal, Slovenia, and Spain introduced regulatory requirements mandating the write-off of legacy NPLs. Some emerging economies have taken similar steps. For example, in 2017 Malawi required banks to write off NPLs from their balance sheets, which helped to lower NPLs from 15.7 percent at the end of 2017 to 3.6 percent in September 2019.[62]

Organizational needs to manage rising volumes of NPLs

To manage rising volumes of bad debt, banks will have to step up efforts to reclaim past loans—efforts that will have important repercussions for business models, organizational structure, strategy, and internal resources. By starting preemptively to strengthen the internal capacity to work out rising volumes of

Box 2.4 Addressing problematic loans to micro-, small, and medium enterprises in Slovenia

In 2017, the World Bank helped the Bank of Slovenia develop a handbook for the management and workout of problematic loans to micro-, small, and medium enterprises (MSMEs).[a] After resolving the nonperforming loans (NPLs) of large firms through establishment of a national asset management company (AMC), the Bank of Slovenia gradually moved to working out the problem loans of the MSMEs that are the backbone of Slovenia's economy.

According to the Bank of Slovenia, in mid-2016 MSME loans accounted for more than 70 percent of banks' remaining NPL stock, totaling €1.5 billion, or around 4 percent of the gross domestic product (GDP). MSME NPLs were often small (36.5 percent were for less than €10,000) and frequently heavily in arrears. The handbook, developed as part of a European Union–funded technical assistance project completed in 2016, aimed to give banks guidance in working out MSME NPLs.

The exercise highlighted how ill-equipped banks were to work out such NPLs. In view of the small size of the country and its banking system, the scope for substantially expanding its workout units was deemed limited. The problem was exacerbated by skill shortages. At the same time, access to NPL servicing and collection companies had improved and NPL markets had begun to develop, attracting interest from professional NPL investors.

The handbook recommended that banks place MSME NPLs below €10,000 (so-called microexposures) in a separate portfolio during the initial NPL segmentation process. The threshold at €10,000 was based on careful analysis of the MSME NPL portfolio in Slovenia. Because of the vintage of the NPL stock and low number of recoveries expected, a streamlined approach was adopted to enable banks to focus scarce internal workout capacity on larger, more complex cases. This approach entailed a prompt write-off after full provisioning or sale of a portfolio to a third party. Taken together, these measures accelerated the reduction of MSME NPLs.

a. The handbook is available online. See World Bank and BoS (2017).

NPLs, banks can avoid becoming overwhelmed once moratoria are phased out and asset quality issues emerge on their balance sheets. The urgency to do so stems from the fact that building up internal workout capacity takes time, and the pandemic has disproportionately affected households and MSMEs, creating large volumes of small retail loans that are labor-intensive to resolve (see box 2.4).

Banks may not have the skills or incentives to build their internal NPL workout capacity. Some advanced countries have adopted a hands-on approach and require banks with asset quality difficulties to articulate NPL reduction strategies—that is, comprehensive action plans to achieve quantitative NPL reduction targets, which their supervisor must approve. The ECB has required banks to embed their NPL reduction strategies in their risk and capital strategies, review them annually, and ensure that a bank's management body endorses them.[63] The ECB guidelines are based on a sophisticated risk-based supervisory framework and may be difficult to replicate in full in less developed jurisdictions.

Nonetheless, emerging economies may benefit from a more proactive supervisory engagement in banks' NPL reduction efforts and could consider introducing parts of the ECB framework. A good starting point is to require banks with problematic NPL exposures to move problem loans away from the original relationship managers (who, with their focus on new loans, generally lack the knowledge and incentives to work out problematic exposures) to a dedicated workout unit. Creating an independent unit to deal with NPLs will help to eliminate potential conflicts of interest between the originating

officer and the troubled borrower and build up expertise.[64] In workout units, separate teams are typically responsible for different loan vintages and groups and for selecting the appropriate management method. Banks have often established a 90-day past due trigger for mandatory transfer to the workout unit (in practice the transfer may take place before reaching this point). In fact, some emerging economies relied on this approach before the pandemic. The Bank of Tanzania, for example, required the country's commercial banks to set up separate workout units as part of a broader strategy introduced in 2018 to lower NPLs.[65]

Banks will need to take the following steps to make their workout units fully functional:

- Allocate the human and financial resources that workout units need for full functionality.[66] The skills needed to deal with NPLs are often in short supply, particularly when demand for those skills surges in the face of systemwide stress on asset quality. Skill gaps can be filled by retraining loan origination staff, using external experts on a contractual basis, or, for subsidiaries from foreign-owned banking groups, using staff from elsewhere within the group.
- Supply workout units with suitable information systems, which can be a challenge in banks with low levels of loan file digitalization.
- Develop internal policies for the management and resolution of NPLs, including assessment of borrower viability, which determines whether a borrower should be considered for loan restructuring.

Assessing borrower viability is particularly challenging under the current circumstances because the viability prospects for many borrowers depend to a large extent on the duration of the pandemic. But it is critical that, despite the uncertainty, banks pursue such assessments, starting with the identification of borrowers that are manifestly nonviable and so should be steered toward an orderly exit.[67] Although banks usually develop their own approaches, regulators could guide the design of these internal methodologies to disseminate best practices and weed out perfunctory analyses by banks.

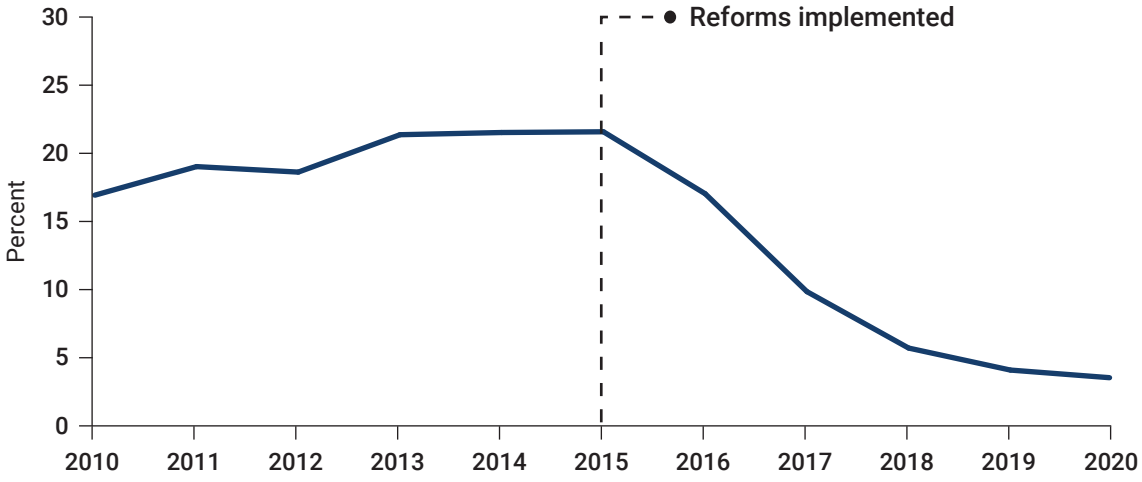
If a bank decides to put a distressed borrower forward for concessional loan restructuring, it will have to conduct an affordability assessment to determine the debt level consistent with the borrower's ability to pay based on the borrower's liabilities, including debts owed to other creditors. To gather this information, banks can consult private credit bureaus, public registries, or other external sources, where available. Increasing the coverage of borrowers and of credit exposures can help to manage credit risk and problem exposures, as experienced recently in India.[68] Banks also must compile a conservative assessment of the expected income of corporate borrowers, based on an analysis of financial statements and cash flows and adjusted for expenses and taxes. The bank can then determine a debt level consistent with the borrower's debt-shouldering capacity and reduce the debt accordingly. Banks should seek to match rearranged repayment schedules with the borrower's expected future income flows to avoid recurring repayment difficulties. Where struggling borrowers have exposures to multiple banks, efficient procedures for ensuring creditor coordination are important, as described in chapter 3.

Systemwide NPL resolution

Under normal circumstances, banks have primary responsibility for managing distressed loans. In the wake of a crisis, however, countries may resort to public policy interventions to complement banks' NPL reduction efforts, especially if banks' exposure to problem loans jeopardizes their capacity to finance the real economy or threatens the stability of the financial system.

One intervention is to set up national NPL resolution strategies that establish policy priorities and coordination mechanisms based on a comprehensive diagnosis of obstacles to NPL resolution. Experience

Figure 2.5 Ratio of nonperforming loans to total loans, Serbia, 2010–20



Source: WDR 2022 team, based on data from National Bank of Serbia, https://www.nbs.rs/export/sites/NBS_site/documents-eng/finansijska-stabilnost/pregled_grafikona_e.pdf.

has shown that banks, left to their own devices, are slow to reduce elevated NPLs.[69] Reducing high NPLs requires the participation of a broad range of stakeholders to align policies: representatives of private sector entities (banks, institutional investors, and third-party service providers), national authorities (central banks and banking supervisory agencies, finance and justice ministries), civil society groups (consumer organizations), and occasionally international financial institutions.

Experiences in several ECA countries after the global financial crisis confirmed the importance of policy coordination. For example, Serbia established a national NPL working group in May 2015 that included as core members representatives of the Ministries of Economy, Finance, and Justice and the National Bank of Serbia, and as members representatives of the Chamber of Commerce and the Deposit Insurance Agency. In addition, the World Bank, IMF, International Finance Corporation (IFC), and European Bank for Reconstruction and Development were invited to play an active role in the working group and in the design of the strategy. The working group identified four strategic priorities: (1) improving bank capacity to deal with NPLs; (2) enabling conditions for development of the NPL market; (3) improving and promoting out-of-court restructuring; and (4) improving an in-court debt and mortgage resolution framework. Progress was reviewed and discussed on a quarterly basis. The strategy contributed to a rapid decrease in the NPL ratio, which reached a historic low of 3.7 percent in December 2020 (figure 2.5).[70]

Public asset management companies

In addition to establishing systemwide policies, some regions and countries, including the European Union and Ukraine, have considered establishing public asset management companies (AMCs) to complement bank NPL reduction efforts.[71] Public AMCs allow removal of NPLs from the financial system, while still maximizing the recovery value of these assets.[72] Indonesia, the Republic of Korea, Malaysia, and Thailand, among other countries, used public AMCs in the Asian financial crisis in the late 1990s to clean bank balance sheets and to restructure distressed banks.[73] Advanced economies such as Ireland, Slovenia, and Spain also used public AMCs in the aftermath of the global financial crisis. And more

recently, some countries, such as Vietnam (in 2013), Angola (in 2016), and India (in 2021),[74] set up public AMCs to help address NPL problems.[75]

Public AMCs offer important benefits to banks and regulators seeking to resolve high NPL levels.[76] Besides removing problem loans from bank balance sheets, public AMCs give regulators additional leverage to force banks to recognize credit losses—an important step toward restoring public confidence in the banking sector and a critical one in countries where the integrity of reported indicators of asset quality is little trusted. Meanwhile, because of their size and specialization in certain kinds of loans and in recognizing the value of and selling these types of distressed assets, public AMCs can provide economies of scale in the management of distressed assets and greater cost efficiency. This is particularly true if public AMCs can focus on a set of large, complex loans, such as those for real estate development. In addition, by gathering a large volume of homogeneous, distressed assets, public AMCs can help to overcome complex, multicreditor collective action problems and package the assets for sale to outside specialist investors. Public AMCs benefit from enhanced bargaining power with both buyers and sellers, and from having time to realize the value of these assets, thereby avoiding the unnecessary losses associated with fire sales. Setting up a public AMC requires the availability of fiscal resources because finance ministries typically provide (part of) the initial capital and often a partial guarantee on the bonds that banks receive in exchange for the transferred assets.

Achieving these benefits requires a well-designed public AMC, and this is an area in which emerging economies have experienced serious challenges. Without an appropriate design, public AMCs can be vulnerable to political interference in the form of pressure to support well-connected borrowers, strategic sectors, or state-owned enterprises; pressure to include political appointees rather than seasoned workout experts; and rules that allow the public AMC to buy distressed assets at a premium over market prices, which gives banks a subsidy and discourages them from adhering to strong underwriting practices when they originate loans. The outcome could be a buildup of significant contingent liabilities for taxpayers. Emerging economies have also struggled to make public AMCs time-bound. Sunset clauses help to encourage banks to quickly transfer bad loans to a public AMC and incentivize public AMCs to work out these assets within a reasonable time frame, mitigating the risk that they become warehouses for bad assets.

In summary, although a public AMC is an option for NPL resolution, it is not a silver bullet. Public AMCs are most effective when they focus on a relatively homogeneous pool of large corporate loans; include a sunset clause; embrace robust governance, transparency, and disclosure arrangements; and are embedded in a comprehensive NPL resolution strategy, as advocated throughout this chapter.

Dealing with problem banks

Despite the best efforts of banks and governments to prepare for rising NPLs, some banks—especially if they were weak or failing before the pandemic—may be unable to absorb the additional pressure. Dealing expeditiously with these banks is essential to support a strong, sustainable recovery. A powerful lesson from previous episodes of severe banking stress is that delay is costly for two interrelated reasons. First, delay typically increases the scale of the problem.[77] Weak banks generally become weaker absent remedial action: they face both higher funding costs and the risk of losing higher-quality clients and depositors due to a loss in confidence. In the worst case, the result will be bank runs and failure, contagion across the system, and financial crisis. Second, weak banks tend to both misallocate and restrict the supply of credit, which hold back the recovery and dampen future growth.[78] Preserving financial system health by quickly addressing any bank distress that arises is critical to ensure the efficient and prompt

provision of the credit needed to spur investment and to foster employment and growth as economies recover from the pandemic.

Building capital strength to absorb losses and finance recovery

Banks were encouraged during the pandemic to utilize buffers above the minimum regulatory standards—notably, countercyclical capital buffers designed to be released in a downturn. Use of such buffers enables banks to continue to extend credit to viable firms facing temporary stress and to finance new, productive investment, while also absorbing the pressures from weakening asset quality.[79] Yet the amount of capital available varies across banks and countries, creating differences in the ability of banks to play this supportive role.[80]

In the years following the global financial crisis, many banks strengthened their balance sheets and built up capital and liquidity buffers, buttressed by the toughening of global regulatory standards.[81] As highlighted earlier, however, reported capital adequacy figures must be interpreted with some caution because of the possibility of underreported credit risk, which inflates measured capital. In addition, in some countries the improvement in reported capital adequacy ratios may have been driven by a shift in bank lending toward assets that carry a low risk weight.[82] Nonetheless, the consensus is that regulatory reforms have, on the whole, contributed to stronger buffers that have helped banks weather the crisis and continue to provide credit.

In countries with banking systems suffering from preexisting vulnerabilities, however, pressures from a sharp increase in problem loans may be increasingly difficult to absorb. Although reported NPLs and capital measures currently seem reassuring, credit losses may increase rather quickly once moratoria are discontinued, affecting capital. The phasing out of public credit guarantee schemes could exacerbate these pressures because banks would face increasing risk.[83] Over time, some banks may struggle to meet capital adequacy requirements, creating the need for viable capital restoration and recovery plans to retain market confidence. And indeed, some banks will be at risk of failing, potentially jeopardizing financial stability if authorities do not quickly and carefully resolve them.

Taking early action to bolster the capital strength of the banking system helps to guard against undercapitalization and potential distress. In this vein, some countries have used favorable global financing conditions as a window of opportunity to raise capital. Furthermore, utilizing this window to raise longer-term finance would also strengthen the funding position of banks that draw on external wholesale markets as a source of finance. In countries such as India, market conditions were sufficiently favorable to support raising bank capital during the pandemic. Moreover, at the outset of the pandemic many authorities took action to encourage the preservation of capital by temporarily limiting and restricting bank dividend payments.[84] Although the restriction temporarily reduces shareholder cash flow and may increase the cost of raising new equity, it sustains reserves within the bank to absorb potential losses.[85] Some authorities subsequently lifted these restrictions for demonstrably strong banks, but retaining the restrictions during the continuing high uncertainty would provide helpful additional capital buffers.

Recent evidence suggests that a failure to respond speedily and effectively to an undercapitalization of the banking system can be very costly to an economy.[86] In addition to causing broader financial instability, weak banks with little chance of recovery tend to take excessive risks. With little to lose, they "gamble for resurrection" in the hope that an unlikely bet will pay off and thus allow the bank's survival.[87] But the costs and downsides of such risk-taking are borne by depositors and other creditors, not by bank management and shareholders. Moreover, such behavior affects the sustainable pricing of risk and thus could spill over and distort decisions by healthy banks. Finally, as noted earlier, weak banks are more

likely than strong banks to misallocate credit by continuing to support insolvent borrowers (zombie lending) in the faint hope they will eventually recover and by restricting credit to new, productive uses to preserve dwindling capital.[88]

To guard against the risk of a lackluster recovery due to weak and distorted credit availability, bank supervisors should intensify their monitoring and analysis of individual banks, in addition to the overall banking system's financial position and outlook. Beyond the usual wide range of tools for monitoring and evaluation, including financial analysis, scenario analysis, and stress tests, supervisors can draw on the tools needed to measure longer-term financial risks (such as climate-related and environmental) to align with emerging international good practices.[89] Upon detecting an impending breach of the regulatory capital standard, supervisors should urgently conduct an in-depth assessment rather than rely mechanically on the automatic supervisory triggers embedded in some regulatory systems. An in-depth assessment will reveal whether the breach is temporary and resolvable with a viable plan to restore capital strength over the medium term under strict supervisory oversight.

The credibility and feasibility of medium-term recapitalization and restoration plans to facilitate recovery from the pandemic will vary according to characteristics such as ownership structure, financial position and business model of the bank, financial market conditions, and economic outlook. For domestic, privately owned banks, recapitalization prospects are likely to depend heavily on market conditions and the risk appetite of investors, which, in turn, will depend on the bank's business plan and the outlook for the banking system. Although the same variables will influence the recapitalization prospects for subsidiaries of foreign-owned banks, the financial position and business strategy of the parent bank may be a stronger driver.[90] In financial sectors dominated by a state bank, the ability to transfer losses to private creditors, shareholders, or uninsured depositors is limited. Governments are thus directly exposed to financial sector losses, underscoring the critical role played by effective supervisory and financial stability frameworks, as well as a proper separation of ownership and supervisory functions to minimize conflicting objectives. Decisions on recapitalizing state-owned banks may figure in the overall government policy response, depending on the perceived role of such banks in the financial system, as well as on available fiscal resources and government debt sustainability.

Strengthening frameworks to address bank failures

The 2007–09 global financial crisis vividly demonstrated the inadequacies of the banking regulatory and supervisory frameworks at the time for dealing with bank failures. The standard corporate insolvency framework had limited options for addressing the specific issues raised by banking sector problems and proved ill-suited to address significant failures because of the tight financial and reputational connections within the financial sector and associated risks of contagion. How to maintain confidence in the banking sector and how to sustain access to funds and ensure continuity of key financial services are two questions that must be answered to manage failing banks.

Moreover, deposit-taking banks fundamentally differ from nonfinancial companies and thus require different approaches to insolvency.[91] Unlike failures of nonfinancial companies, bank failures can generate significant wealth losses across the economy (such as by uninsured depositors) and can be associated with a disruption in the provision of critical financial services. In addition, a failed bank may cause knock-on effects that may destabilize the rest of the financial system by, for example, producing loss of depositor confidence and runs on multiple banks, lack of access to key banking services, and impacts on financial counterparties and markets. It is therefore problematic in the context of financial institutions that corporate insolvency measures can generally only be initiated at the point of insolvency. This timing would inhibit an early and decisive preemptive intervention designed to forestall banking sector

problems that may quickly become systemic. Another limitation of the corporate insolvency framework when applied to financial institutions is that it does not recognize the particular position of bank depositors, who, unlike creditors of nonfinancial companies, are numerous and not professional market participants, and who have claims on banks that play a major role in the wider functioning of the economy. Application of the corporate insolvency law could thus aggravate systemwide losses and jeopardize financial stability.[92]

The expectation that public authorities will step in to prevent bank failure and preserve financial stability creates moral hazard, whereby banks increase leverage and take excessive risks, assuming they will benefit from the potential upside, while taxpayers underwrite potential major losses on the downside.[93] Thus for regulators, the introduction of effective crisis management frameworks has been an important priority in recent years, complementing the multiple initiatives to strengthen the resilience of financial institutions and the system as a whole. The overarching objective has been to resolve financial institutions without severe systemic disruption and with minimal exposure of taxpayers to losses, while sustaining vital economic functions and preserving financial stability.

International guidelines are useful in developing and implementing national frameworks. In 2014, the Financial Stability Board issued "Key Attributes of Effective Resolution Regimes for Financial Institutions," together with guidance on information sharing and sector-specific implementation.[94] The FSB framework defines the powers and associated legal safeguards, funding arrangements, and requirements for planning and cross-border cooperation needed to facilitate effective bank resolution. In parallel with international efforts to strengthen bank resolution schemes, the International Association of Deposit Insurers (IADI) developed core principles for deposit insurance schemes.[95]

Institutional and legal arrangements that vest in a national agency the responsibility, intervention powers, and tools required to undertake an orderly resolution of failing banks are pivotal. The designated resolution authority (either an existing agency or a new one) should be given the legal authority to pursue financial stability by initiating resolution when it judges that a bank is, or is likely to be, no longer viable and has no reasonable prospect of becoming so.[96] The resolution authority should have policy options and tools at its disposal, including stabilization options that support the continuity of key financial functions and liquidation options that enable the orderly winding down of parts or all of a firm's business. As also described in table 2.3, the main tools would be the following:

- *Partial asset and liability transfer (also known as purchase and assumption).* The resolution authority transfers the insured deposit book to a healthy bank, typically alongside a corresponding volume of performing assets. The remaining "bad" book of the failing bank can then be wound down over time.
- *Bridge bank*. The resolution authority transfers performing assets and a proportion of liabilities to a government-owned bridge bank, while the remaining book is liquidated. The bridge bank can subsequently be sold or privatized.
- *Bail-in.* The resolution authority has the power to write down and convert loss-absorbing liabilities of the bank in resolution into equity.
- *Liquidation*. The resolution authority has the power to liquidate part or all of a bank's book, enabling the separation and management of good assets and the continuity of key financial services, as well as supporting market discipline.

Strong safeguards are integral to resolution frameworks because the use of intervention tools overrides shareholders' and managers' normal decision-making powers and affects creditors' interests. Key safeguards are that the hierarchy of claims in liquidation must be respected, and no creditor will be worse off from undertaking the resolution than under the fallback option of liquidation. Otherwise,

Table 2.3 Principal bank resolution tools

Tool	Description	Objective	Prerequisites
Partial asset and liability transfer (also known as purchase and assumption, P&A)[a]	Transfer the insured deposit book to a healthy bank, with a corresponding volume of performing assets.[b] The remaining "bad" book is wound down.[c]	Avoid the costs of and risks to financial stability of liquidation and depositor payout, as well as lower the risk of a fire sale of assets.	Enabling legal powers for the resolution authority. Willing healthy bank prepared to take over the insured deposit book and performing assets.
Bridge bank[d]	Transfer performing assets and a proportion of liabilities (at a minimum, insured deposits) to a government-owned bridge bank, while the remaining book is liquidated. The bridge bank can thereafter be sold or privatized.	Avoid the costs and risks to financial stability of liquidation and depositor payout, as well as lower the risk of a fire sale of assets.	Enabling legal powers. Used to buy time when there is insufficient notice or time to find a healthy bank to undertake an immediate P&A.
Bail-in[e]	Write down and convert the loss-absorbing liabilities of the bank in resolution into equity.	Restore the balance sheet and maintain bank continuity. For large and complex banks, avoid the costs and execution risk of P&A and bridge banks.	Enabling legal powers. Bank has sufficient loss-absorbing capacity for confidence to be sustained.[f]
Liquidation[g]	Liquidate part or all of a bank's book. Pay out insured depositors if not previously transferred to another bank under P&A.	Support market discipline. May be used alongside other tools.	Enabling legal powers. Sufficient protections to avoid runs and instability.[h]

Source: WDR 2022 team.

a. Examples: Bradford and Bingley (UK, 2008); Washington Mutual, WaMu (US, 2008).

b. With, if necessary and feasible, the deposit insurance fund to cover any gap in value (judged on the basis of least cost to the fund).

c. The "bad" book is wound down over time either through transfer to a public or private asset management company, for example, or through the standard liquidation process.

d. Examples: Independent National Mortgage Corporation, IndyMac (US, 2008); Consolidated Bank (Ghana, 2018).

e. Examples: Bank of Cyprus (Cyprus, 2013); Banco Espirito Santo (Portugal, 2014); Banco Popular (Spain, 2017).

f. The experience in Cyprus in 2013 highlights how this approach can damage confidence when loss-absorbing capacity is inadequate. Regulatory initiatives to increase loss-absorbing capacity for globally systemic banks and for major domestic banks in some jurisdictions help to address this problem by implementing the international standard for total loss-absorbing capacity set out by the Financial Stability Board in 2015 (FSB 2015).

g. Liquidation is used to wind down residual books that have not been transferred after P&A or use of a bridge bank, or for very small banks.

h. Penn Square Bank (US, 1982) is an example of where this failed to apply.

compensation would be due. Taxpayer interests should also be protected if, in the event of a systemic banking crisis, public funds are needed to preserve financial stability and to support orderly resolution.[97]

The FSB's "Key Attributes" set out the international standard for bank resolution[98] and form part of the IMF and World Bank's Standards and Codes Initiative and Financial Sector Assessment Program. Although many of the "Key Attributes" are broadly applicable to any bank resolution regime in any jurisdiction, some of the elements focus on the challenges in resolving complex, globally systemic banks with extensive cross-border operations. A recent World Bank paper provides advice and guidance on how the "Key Attributes" may be applied proportionately in light of the structure and complexity of banking systems and the capacity of authorities to achieve the desired objective—financial stability without loss of public funds—without imposing undue or unjustified operational burdens on authorities and financial institutions or creating market distortions.[99] Thus some tailoring is needed.[100] The following attributes appear to be appropriate to all jurisdictions and all types of banks: the power to remove management, appoint an administrator, operate and resolve a firm, override shareholder rights, transfer assets and liabilities, suspend creditor payment, impose a temporary stay on early termination rights, and liquidate an institution. However, the following attributes address issues found more commonly in large, complex banks: the power to ensure continuity of essential services that support critical functions, to establish a bridge bank, and to bail in shareholders and creditors.

Planning for dealing with failing banks

Planning is essential to ensure that the resolution authority has the information and tools to support orderly implementation**.** The "Key Attributes" require jurisdictions to establish an ongoing process for recovery and resolution planning, covering, at a minimum, domestically incorporated firms that could have systemic impacts if they fail. Requiring major firms to produce robust recovery and resolution plans under authorities' oversight is a must for effective contingency planning.

Over the last decade, authorities worldwide have made significant progress in developing and implementing resolution frameworks. They have also taken steps to strengthen other key aspects of the financial safety net, such as deposit insurance schemes, which help to support depositor confidence in the banking system.[101] Stronger frameworks have supported authorities in addressing failing banks and in restructuring and strengthening the banking system, which has helped improve resilience to meet the financial pressures from the pandemic (see box 2.5).

Further progress, nonetheless, remains critical. Surveys by IADI suggest that, notwithstanding expansion of the available tools over time, significant gaps remain in the ability of some authorities to deal with problem banks (see figure 2.6). For example, only about half of the reporting sample of low-income countries had instruments other than liquidation available in their toolkit.[102]

Moreover, there may also be some practical challenges in applying the policy instruments, particularly in a context of widespread asset quality weakness and systemwide distress. Open bank bail-in strategies, for example, may prove difficult to execute because of the general lack of loss-absorbing financial instruments that can be bailed in, coupled with the difficulty of issuing eligible liabilities at times of high market volatility. Uninsured deposits are then the only feasible liability class that can be bailed in, which is politically unpopular and can jeopardize depositor and market confidence. Purchase and assumption (P&A) strategies that seek to transfer assets to stronger banks may be difficult to arrange if the entire sector is financially stressed and the appetite for takeovers is limited. And, if set up, bridge banks may be hard to unwind if no ready buyers emerge. Care should be taken that they do not become the "bridge to nowhere." As experienced in the aftermath of the Penn Square Bank case in 1982,[103] liquidation of a bank may prompt depositor runs and financial instability.

Box 2.5 Restructuring the financial system in Ghana

In recent years, Ghanaian authorities have overseen a major restructuring of Ghana's financial system to address weaknesses.[a] This restructuring delivered a smaller but stronger and better capitalized banking system, as well as a stronger microfinance and nonbank sector.

A detailed asset quality review (AQR) in 2015–16 revealed Ghanaian banks' significant underprovisioning and capital shortfalls. In response, authorities implemented a series of reforms to strengthen the regulatory framework, as well as resolution powers and tools, supported by assistance from the International Monetary Fund (IMF) and World Bank.[b] Authorities also introduced Basel II/III,[c] strengthened corporate governance, and took steps to reinforce the regulatory framework for write-offs, large exposures, and related party lending; improve the effectiveness of reporting to credit bureau(s); and facilitate loan and collateral recovery by bolstering the legal infrastructure for insolvency and debt enforcement. In addition, authorities raised the minimum capital adequacy level from 10 percent to 13 percent, with the new level serving as a benchmark for bank viability. Some banks raised capital to meet the new benchmark, while others merged and some closed. Capital was also injected into some state-owned banks. Meanwhile, authorities used a range of tools to support the system restructuring, including purchase and assumption, a bridge bank, and liquidation. Fiscal assistance was provided to sustain depositor confidence (a formal deposit insurance scheme was only introduced in 2019), including by funding shortfalls on asset transfers, funding the bridge bank, and providing some capital injections.

The reforms strengthened overall banking system capital in Ghana, which rose from 18 percent in 2014 to almost 22 percent in 2018 before dipping slightly to close to 21 percent in 2019. At the same time, the number of banks fell from 36 at the start of 2017 to 24 in 2019 (nine closed while others merged). The reforms also helped to reduce nonperforming loans (NPLs)—and actions are ongoing to address legacy problems, as well as to strengthen the underlying framework for NPL resolution. The reforms also addressed weaknesses elsewhere in the financial system. A comprehensive restructuring of special deposit institutions led to the revocation of licenses of almost 400 microfinance and microcredit institutions, as well as intervention in 23 savings and loan firms and finance houses.

The reforms and cleanup have helped the Ghanaian financial sector to weather the impact of the pandemic.[d] Although NPLs had edged up to 17 percent of gross loans by the end of June 2021 and remain at a high level, the regulatory capital ratio stood at 20.8 percent, well above the regulatory minimum and comparing favorably with ratios of other emerging economies.

a. IMF (2019).

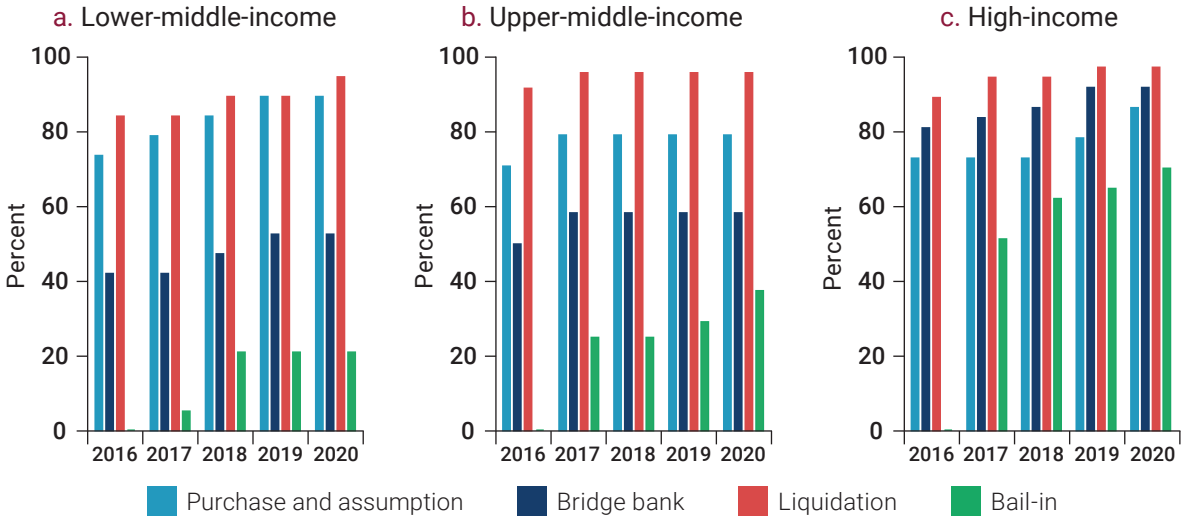
b. Cleaning up the banking system was one of the three elements of the IMF Extended Credit Facility Program for Ghana agreed on in 2015. IMF and the World Bank have also provided technical assistance on bank resolution and ongoing advice on bank supervision and the regulation and supervision of special-deposit institutions.

c. Sets of international banking regulations issued by the Basel Committee on Banking Supervision.

d. IMF (2021).

Authorities responsible for handling troubled banks should prioritize private sector–funded solutions, building as much as possible on the financial buffers of troubled financial entities and the scope for extending them. Such an approach preserves market incentives and discipline and avoids the risks and costs to taxpayers associated with fiscal support. Completing the development of resolution frameworks to provide additional policy options is thus an important priority. To facilitate this work, the World Bank and IMF can help develop the capacity to identify and address weak banks and to strengthen resolution and crisis management frameworks proportionately.

Figure 2.6 Financial safety net and bank resolution powers, by country income group, 2016–20



Source: WDR 2022 team, based on data from International Association of Deposit Insurers (IADI), Deposit Insurance Surveys (dashboard), Bank for International Settlements, Basel, Switzerland, https://www.iadi.org/en/research/data-warehouse/deposit-insurance-surveys/.

Note: Percentages are computed for the total number of countries in each IADI survey year. Because of the scarcity of data for low-income countries, low- and lower-middle-income countries are reported together.

The use of public money should be a last resort—deployed after private sector solutions have been fully exhausted, and only to remedy an acute, demonstrable threat to financial stability and critical financial services that cannot be taken over easily by other providers. In these circumstances, authorities need to consider the case for additional fiscal support, notwithstanding the additional pressures on fiscal resources, as well as the risks of moral hazard and of a further tightening of the government–financial sector nexus (see chapter 1). In cases of severe systemic stress, where private sector resources are insufficient on their own or the policy tools and options currently available to authorities within the resolution framework are limited, government funds, such as temporary capital injections and resolution funding, may be needed to preserve confidence and financial stability and to drive an orderly and speedy restructuring process, thereby facilitating the rebuilding of financial system health.[104]

A clear assessment of the extent of the asset quality problems and the potential capital shortfall in individual troubled banks and across the system as a whole is an important input into decisions on whether temporary public sector support is warranted. Banks should be adequately recapitalized to support productive new lending and avoid the risk that they engage in evergreening to stay afloat.[105] If time permits, an independent asset quality review, as well as stress tests, may be helpful in supporting policy decisions on bank capital recovery plans and in sizing any temporary public support. Strong safeguards are essential to protect taxpayers' interests.

An important first step is to ensure that all losses are recognized (and equity capital written down) before any government capital injection to avoid bailing out shareholders. Governance and management of the troubled bank should be enhanced and reinforced under strict supervisory oversight, and agreement should be reached on a comprehensive restructuring plan and timetable to restore the viability of the bank. The public sector ownership stake, which at times could extend to temporary nationalization, may be best managed by the finance ministry or a separate body rather than by the supervisor or central bank, both of which may have conflicts of interest. The public sector's stake should be remunerated to

limit moral hazard and to maintain a level playing field, and it should be managed at arm's length to avoid the risk of politicization of day-to-day management decisions. To ensure strong accountability, there should be transparency on the extent and cost of the public support (and of recovery), as well as a clear plan for exit.[106] The arrangements should also be buttressed by ensuring that resolution regimes, funding arrangements, and contingency planning build in sufficient flexibility to enable scope for later recovery of resources from the banking industry in the event of a deficit. Improving frameworks to address troubled banks will pay dividends because greater flexibility in the crisis management policy toolkit, combined with strong contingency planning and the development of robust recovery and resolution plans for major firms, will reduce the need for additional support and minimize the costs.

Conclusion

Dealing promptly and comprehensively with distressed assets and problem banks is essential for a well-functioning banking system and healthy, sustainable growth. History has shown that a strong initial response prevents problems from festering, maintains the capacity of the banking sector to finance the real economy, fosters market and public confidence, and reduces the risk that countries become trapped in an equilibrium of low growth and lackluster financial sector performance.

Avoiding such a scenario should be a top priority. Replicating the full range of policies discussed in this chapter may be particularly demanding for countries that face a combination of institutional constraints and serious preexisting financial sector vulnerabilities. Under these circumstances, some sequencing of measures is likely to be necessary, while some of the more complex reforms may need to be simplified.

Whatever the situation, effective resolution of the banking sector must begin with an accurate understanding of the scale of the problem. The starting point is full transparency about bank exposures to troubled assets, supported by a robust regulatory and supervisory framework so that banks properly identify NPLs and provision for credit losses. Supervisors must ensure that banks have sufficient capital buffers to support lending growth and economic recovery, while absorbing credit losses to minimize the risk that insolvency problems materialize and become a threat to financial stability. Encouraging banks to use favorable global financing conditions to strengthen capital and balance sheet resilience can support this process.

Some countries, however, entered the pandemic with lax regulatory definitions and ineffectual supervision. In these countries, it is critical that regulators and supervisors do not succumb to pressures to further dilute regulatory standards and soften supervisory enforcement. Instead, they should consider reversing any recent dilution of asset classification definitions and developing and implementing a plan for gradually introducing internationally agreed-on definitions for NPLs and forborne exposures to ensure rigorous monitoring of banks' asset quality. That effort should be buttressed by ongoing efforts to strengthen the effectiveness of supervision.

Supervisors should require banks with excessive NPL exposures to adopt NPL resolution strategies and reinforce their operational readiness to resolve rising volumes of bad loans. The creation of dedicated workout units tasked with handling problematic exposures is a good starting point. Banks will also need to implement internal policies to manage and resolve NPLs and to assess the viability of distressed borrowers. The latter is vital to avoid questionable loan restructuring that delays the recognition of inevitable credit losses.

At the national level, the government should coordinate the participation of public and private sector stakeholders and civil society representatives in resolving banking sector problems. Such institutional coordination would be particularly useful in jurisdictions where efforts to accelerate NPL resolution face

major legal impediments and taxation obstacles. In countries with a long history of unresolved asset quality problems, the establishment of a coordination body could signal authorities' newfound determination to clean up bank balance sheets and gain public and financial industry support for critical legal and regulatory reforms. Such a body could also help to prioritize policy actions, sustain momentum over a likely multiyear process, and ensure that reforms remain on track.

Where helpful, IMF and the World Bank could provide assistance and advice on strengthening financial supervision, including on NPL identification and strategies to resolve them. Strong crisis management frameworks that include a resolution toolkit for handling bank failures, as well as contingency planning for dealing with potential problems, will help to protect taxpayers while ensuring continuity in financial services. Reforms to develop such frameworks and strengthen crisis management planning have been a policy priority in recent years. Building on this progress to ensure that authorities have a broad range of policy tools remains important to ensure that banking systems are able to support a strong, sustainable, equitable recovery.

Notes

1. However, early signs of distress are already visible in some countries. For example, in India bad loans as a share of gross loans surpassed 10 percent in the first half of 2021 (Sanglap 2021). In the Philippines, the nonperforming loan ratio is expected to double to 8.2 percent in 2022 (Villaneuva 2021).
2. The World Bank COVID-19 Crisis Response Survey (http://bit.do/WDR2022-Covid-19_survey) indicates that as of June 2021, 25 upper-middle-income, 14 lower-middle-income, and 6 low-income countries had in place credit forbearance policies for individuals. Also in response to the pandemic, 25 upper-middle-income, 20 lower-middle-income, and 6 low-income countries had in place credit forbearance policies for small businesses and firms.
3. The impact of the COVID-19 crisis on asset quality in the banking sector varies across countries and depends on a complex interplay of factors, including the severity of the pandemic, the duration and rigor of containment measures, the importance of hard-hit economic sectors, as well as the financial capacity of banks to absorb rising credit losses and their operational readiness to work out rising volumes of bad debt. Some countries will be hit harder than others.
4. Aiyar et al. (2015) document that NPLs in several European countries exceeded 10 percent between 2008 and the end of 2014. By reporting NPLs at their historical average, the authors estimate that banks could have provided new lending of up to 5.3 percent of the gross domestic product (GDP) of the countries in their sample at the end of 2014. The same authors also argue that persistent, excessive NPLs are associated with a private debt overhang, which entails weaker investment and slower economic recovery after a recession. In addition, the negative economic effects associated with high NPLs may be amplified by a previous large buildup of excessive credit, eventually leading to a severer economic recession and slower recovery (Jordà, Schularick, and Taylor 2013).
5. Cerra and Saxena (2008).
6. Analysis of the sectoral heterogeneity can reveal how COVID-19 is having a differential impact across and within loan portfolios. For example, Müller and Verner (2021) find that credit booms driven by household credit and credit to the nontradable sector are associated with lower growth in the medium term.
7. Countries enacting measures to support borrowers have stressed their extraordinary and temporary nature. Deciding when and how to unwind them is nonetheless challenging. Withdrawing measures before the pandemic and the macroeconomic outlook have stabilized can permanently reduce economic growth potential through unnecessary insolvencies and unemployment, increasing NPLs and credit losses and triggering disorderly adjustments of asset prices (Kongsamut, Monaghan, and Riedweg 2021). On the other hand, extending support measures risks distorting resource allocation and asset prices, weakening repayment discipline, postponing structural adjustment in the economy, and draining fiscal resources. Policy dilemmas about whether to extend, amend, or end support measures will likely become acuter as the pandemic persists. Further discussion of the timing and strategy for unwinding fiscal and monetary supports appears in chapter 6. See also FSB (2021).
8. A useful distinction is between high levels (*stock*) of NPLs and increases in NPL ratios (*flows*). High levels of NPLs may influence permanently the provision of credit through regulatory restrictions, funding costs stemming from market pressures, and risk-taking behavior such as the tendency to invest in riskier assets to "gamble for resurrection" (Rochet 1992). Increases in NPL ratios temporarily affect income statements and may modify lending policies while banks adjust provisioning (see Balgova, Nies, and Plekhanov 2016).
9. To keep bad loans in check and limit capital absorption due to higher regulatory requirements, banks may

try to limit lending to riskier borrowers such as MSMEs (as described by DeYoung et al. 2015). The most vulnerable borrowers may be also affected by, for example, not providing collateral (which lowers both risk weights and the proportion of a loan that needs to be provisioned) against requested financing. See Cucinelli (2015).

10. Diwan and Rodrik (1992).
11. As discussed in chapter 4, lower lending entails negative real effects. For example, Granja and Moreira (2021) document a decrease in product innovation in the consumer goods sectors following disruptions in the supply of credit.
12. Evidence from Japan indicates that following the bursting of the asset price bubble in the early 1990s, banks with lower capital buffers were more reluctant to write off loans and more likely to provide frequent rounds of loan restructuring—also known as evergreening (Giannetti and Simonov 2013; Peek and Rosengren 2005). European banks, in the aftermath of the global financial crisis, exhibited similar behavior (Acharya et al. 2018, 2019; Andrews and Petroulakis 2019; Blattner, Farinha, and Rebelo 2019; Bonfim et al. 2020; Schivardi, Sette, and Tabellini 2021). European banks with thin capital buffers have reduced their exposures to weak borrowers significantly less than to stronger ones (Dursun-de Neef and Schandlbauer 2021). Recent evidence points to similar patterns in some emerging economies, particularly for government-owned banks. See, for example, Chopra, Subramanian, and Tantri (2021) and Kulkarni et al. (2021) for the case of India and Tan, Huang, and Woo (2016) for the case of China.
13. Acharya et al. (2019); Adalet McGowan, Andrews, and Millot (2018); Banerjee and Hofmann (2018); Blattner, Farinha, and Rebelo (2019); Caballero, Hoshi, and Kashyap (2008).
14. According to Ari, Chen, and Ratnovski (2021), out of 92 banking crises in 82 countries since 1990, 30 percent of the crises saw NPLs exceed 7 percent of total loans. In these countries, output growth six years after a crisis was 5 percent lower than in countries with a relatively low NPL level (that is, below 7 percent of total loans). In earlier research, Reinhart and Rogoff (2009a, 2009b) found that the peak-to-trough output decline after a banking crisis is approximately 9 percent.
15. CESEE countries are Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Kosovo, Latvia, Lithuania, Moldova, Montenegro, North Macedonia, Poland, Romania, the Russian Federation, Serbia, the Slovak Republic, Slovenia, Turkey, and Ukraine.
16. Annex 2A can be found at http://bit.do/WDR2022-Annex2A.
17. World Bank (2020a).
18. That approach may include measures that promote identifying unrecognized NPLs, building banks' capacity to handle rising volumes of bad debt, adopting systemwide NPL resolution mechanisms such as "bad banks" and public asset management companies, and strengthening the enabling legal framework. See Ari, Chen, and Ratnovski (2021).
19. Dijkman and Salomao Garcia (2020).
20. Recapitalization may be unpalatable to shareholders because the new capital would be used primarily to stabilize bank liabilities. In addition, external discipline on bank risk-taking behavior could be also hindered by the presence of a formal financial safety net (such as a deposit guarantee system) and implicit guarantees of uninsured creditors (World Bank 2020b). Appropriate supervision is therefore key to prevent banks from delaying recognition of losses and engaging in zombie lending and evergreening—see Acharya (2020) and Chopra, Subramanian, and Tantri (2021) for the case of India.
21. These reasons include whether jurisdictions apply accounting or regulatory rules in determining provisioning requirements; the different methods for valuing collateral; and the differences in the regulatory treatment of the accrual of interest income on nonperforming loans and asset write-offs (Baudino, Orlandi, and Zamil 2018).
22. BCBS (2016). In its guidance, the Basel Committee on Banking Supervision has also advocated use of the term *nonperforming exposures* (NPEs), which covers a broader range of problem assets than the term *nonperforming loans*. NPEs comprise NPLs, as well as nonperforming debt securities, other amounts due (including interest and fees), and certain off–balance sheet items such as loan commitments and financial guarantees. In practice, however, most countries continue to use NPLs as the metric.
23. BCBS (2020); FSB (2020a).
24. BCBS (2020).
25. BCBS (2020).
26. In the majority of emerging economies, financial intermediation occurs primarily through banks, as opposed to through nonbank institutions such as credit unions, peer-to-peer lending solutions, asset-backed lenders, and microfinance institutions. Credit risk in the form of losses resulting from a borrower's failure to repay a loan is the main risk that banks in these economies encounter. Data as of year-end 2019 reveal that the country median value of the claims of deposit money banks on the domestic real sector is 63 percent of GDP, compared with 18 percent of GDP of the claims of nonbank financial institutions. See World Bank, GFDD (Global Financial Development Database), https://www.worldbank.org/en/publication/gfdr/data/global-financial-development-database.
27. BCBS (2016).
28. The 20 percent threshold of banking system assets is associated with systemic banking crises. See Feyen and Mare (2021) for details.
29. The analysis uses a so-called reverse stress test approach, assessing for the most fragile banks in the system how much NPLs would have to rise before capital ratios are depleted. See Feyen and Mare (2021) for details.

30. These may include measures to raise capital levels and restrictions on the payout of dividends and executive bonuses and on the launch of new products.
31. An asset quality review is a detailed forensic assessment of underlying loan quality (Gutierrez, Monaghan, and Piris 2019). This point-in-time assessment of the accuracy of the book value of a bank's assets can be a useful tool to bring much-needed transparency on the financial position of banks and to underpin strategies for the restructuring of weak or failing banking systems.
32. The AQR led to a significant increase in the stock of nonperforming loans. See ECB (2014).
33. NBS (2015).
34. RBI (2016).
35. BCBS (2012).
36. In particular, principle 18 specifies that "the supervisor determines that banks have adequate policies and processes for the early identification and management of problem assets, and the maintenance of adequate provisions and reserves" (BCBS 2012, 12). To guide this determination, the principle specifies 12 essential criteria for supervisors to fulfill, covering, among other things, the quality, timeliness, accuracy, and prudence of bank loan classification schemes and provisioning policies.
37. Caruso et al. (2021); D'Hulster, Salomao Garcia, and Letelier (2014); Gaston and Song (2014).
38. For example, significant weaknesses in asset classification and provisioning frameworks were noted in about 65 percent of the 29 detailed FSAP assessments of emerging economies conducted since 2012, and practices for valuing collateral, upgrading restructured loans, supervisory definitions, and supervisory oversight also fall short of best practices in some 25–40 percent of the same assessments (Dordevic et al. 2021).
39. The Hong Kong Monetary Authority and the Hong Kong Applied Science and Technology Research Institute have outlined a strategy and road map for the use of alternative credit data to support credit risk assessment for MSMEs (HKMA and ASTRI 2020). In a recent survey in the United States, 96 percent of the participating financial institutions agree that in times of economic stress alternative credit data allow them to more closely evaluate consumers' creditworthiness and therefore reduce their credit risk exposure (Experian 2020).
40. Kongsamut, Monaghan, and Riedweg (2021).
41. World Bank (2020a).
42. Bank Negara Malaysia (BNM 2021) notes that around 40 percent of additional provisions in 2020 were from application of management overlays by banks over and above the expected credit loss (ECL) model provisions. This development reflects the ongoing challenges faced by banks in incorporating forward-looking information into the measurement of ECL given the prevailing uncertainties about the economic recovery path and reduced visibility into the debt servicing capacity of borrowers under loan moratoria.
43. BNR (2021).
44. The Financial Stability Board (FSB) brings together and coordinates national financial authorities and international standard-setting bodies as they work toward developing strong regulatory, supervisory, and other financial sector policies.
45. Shortening or eliminating this period allowed banks to release provisions and thus present a superficially stronger financial position.
46. This is in line with recommendations and guidance in IMF and World Bank (2020).
47. Bertay, Demirgüç-Kunt, and Huizinga (2015); Levy Yeyati, Micco, and Panizza (2007).
48. Dordevic et al. (2021).
49. Dordevic et al. (2021).
50. The Basel Committee on Banking Supervision's "Core Principles for Effective Banking Supervision" set out a universally applicable framework for regulation and supervision (BCBS 2012).
51. Dordevic et al. (2021).
52. Dijkman and Gutierrez (2019).
53. World Bank (2020a). Following a sale of NPL portfolios, the buyers—often investors that specialize in collecting on bad debts—step up collection efforts by initiating legal action, and a write-off typically takes place only after a creditor has attempted to recover the debt through legal action.
54. To determine the net present value of an asset, the annual net cash flow (cash payments of principal, interest, and fees minus the bank's out-of-pocket costs for legal fees, consultants, and so forth) is calculated. Each of these amounts, or future values (FVs), is then discounted to the present by using an appropriate market-based discount rate. The sum of the FVs equals the NPV.
55. World Bank (2021).
56. On the demand side, it is often a challenge to encourage borrowers to reach out to banks once they anticipate repayment difficulties. A late start of negotiations between debtors and banks generally increases losses and reduces the chances of a successful rehabilitation.
57. A lump sum payment with repayment at maturity of the contract.
58. World Bank (2020a).
59. There are information asymmetries between buyers and sellers of distressed assets. Buyers would fear that the assets they are bidding for are of low quality and bid at a correspondingly low price. The sellers, being able to distinguish between low- and high-quality assets, trade only in the former—the lemons—whereas the market for the remaining assets fails (ECB 2016). One approach to lessen this problem is the development of standardized "data tapes," which provide full details of the terms and conditions governing the assets as well as the payment performance.
60. The Vienna Initiative monitors NPL transactions for Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Montenegro, North Macedonia, Poland, Romania, Serbia, the Slovak Republic, and Slovenia.

61. In absence of a full provision, the act of writing off a loan would lay bare an additional credit loss for the bank—the uncollateralized portion of the loan (Bauze 2019).
62. Eyraud et al. (2021). Although write-offs remove NPLs from bank balance sheets, they do not imply debt relief for the borrower. The social and economic benefits of allowing good faith debtors to make a fresh start must be balanced against the need to ensure that they are incentivized to repay to their full financial capacity. Ideally, these borrowers should undergo a formal liquidation process, with a court-ordered discharge at the end of the process for a natural person debtor. Automatic discharge could be considered for first-time debtors, followed by extinction of the debt. In some cases, a limitation period could be considered before the extinction to avoid the sudden discovery of assets after discharge of the borrower's debt.
63. See ECB (2017) and EBA (2018).
64. Banks can go a step further by transferring NPLs, together with all related support staff, into a legally separate entity, a so-called bad bank. NPLs are, however, likely to be transferred at prices below their book value, crystallizing losses that could necessitate raising new capital. The bad bank also needs its own funding and must expend resources to comply with regulatory requirements. Therefore, bad banks are typically only considered after exhausting measures to deal with NPLs in-house.
65. BoT (2018).
66. Officers of the workout units are often assigned an excessive number of cases, which risks undermining the effectiveness of collection efforts and can backfire in the form of lower recoveries and longer recovery terms (World Bank 2016; World Bank and BoS 2017).
67. Although the appropriate benchmarks depend on country-specific circumstances and industry features (such as the capital intensity of the sector), as a rule of thumb a debt to EBITDA (earnings before interest, taxes, depreciation, and amortization) ratio of more than 5, an interest rate coverage of less than 1 for a sustained period of time (such as greater than two years), and persistent negative operating income are common red flags.
68. The Reserve Bank of India set up a Central Repository of Information on Large Credits (CRILC) in 2014 to collect, store, and disseminate credit data to lenders. The CRILC addresses the problem of cross-bank information asymmetry and inconsistencies in asset classification.
69. EBCI (2012).
70. NBS (2021).
71. A public asset management company is a statutory body or corporation, fully or partially owned by the government, usually established in times of financial sector stress to assume the management of distressed assets.
72. Although this section is devoted to public AMCs, private AMCs can be found in some countries, such as Turkey, where local private AMCs are effectively the only category of buyers of distressed assets. The business model of private AMCs often focuses on rapid disposal and generation of returns through margins on resale rather than buy-and-hold strategies with workouts of troubled assets. Reliance on short-term funding can exacerbate pressure to generate quick returns and may preclude time-consuming workouts. See Cerruti and Neyens (2016).
73. Lindgren et al. (1999).
74. India's National Asset Reconstruction Company Ltd (NARCL), incorporated as a bank-sponsored asset reconstruction company (ARC), is one of several ARCs authorized by the Reserve Bank and in operation since 2002.
75. Some public AMCs, such as Danaharta (Malaysia) and SAREB (Spain), were created in conjunction with publicly funded bank recapitalization schemes to overcome capital space constraints that otherwise would have hindered efforts to recognize transparently the full extent of banks' exposure to problem loans. Banks weakened from the burden of NPLs were given a one-off opportunity to recapitalize with public support, so that prudential banking regulations would not be breached. In exchange, banks that benefited from the scheme underwent significant restructuring to secure their long-term viability.
76. Dobler, Moretti, and Piris (2020).
77. See, for example, Claessens et al. (2011) and Homar and van Wijnbergen (2017).
78. See, for example, the discussion in Schwert (2018) and references therein.
79. BCBS (2020); FSB (2020b); IMF and World Bank (2020).
80. Some banks have been unwilling to use their capital buffers as a response to real or perceived financial market pressure. Bondholders may require banks to maintain higher capital ratios to reduce default risk, while shareholders may lean on banks to continue dividend payments rather than use excess capital to lend or to absorb losses.
81. IMF (2020) notes that banks in Europe and in emerging markets significantly strengthened their capital position in the decade following the global financial crisis. Moreover, according to Hohl et al. (2018), the vast majority of countries have adopted or are considering adoption of stricter definitions of capital.
82. See Anginer et al. (2021) and World Bank (2020b) and references therein.
83. Ehrentraud and Zamil (2020).
84. Feyen et al. (2021).
85. Awad et al. (2020).
86. Acharya, Borchert, et al. 2020; Acharya, Crosignani, et al. 2020; Andrews and Petroulakis (2019); Blattner, Farinha, and Rebelo (2019); Giannetti and Simonov (2013).
87. Rochet (1992).
88. Acharya, Lenzu, and Wang (2021); Ben-David, Palvia, and Stulz (2019); Bonaccorsi di Patti and Kashyap (2017).
89. For example, see the Basel Committee on Banking Supervision for a discussion of the causal chains from climate risk drivers to financial risk (BCBS 2021) and the Network for Greening the Financial System on how to design scenarios to model the impact of climate

change and climate policy (Scenarios Portal, Paris, https://www.ngfs.net/ngfs-scenarios-portal/).

90. In addition to parent banks based in advanced countries, new players from World Bank client countries have accounted for much of the growth in cross-border banking in recent years. This has led in a few cases to establishment of holding companies (such as Ecobank in Togo and Colombian banks in Panama) in jurisdictions where the group has a limited footprint and the home authority limited incentives to financially support cross-border subsidiaries (World Bank 2018).
91. See box 1 of Brierley (2009) for a more detailed discussion of the reasons why corporate insolvency law is inappropriate for banks.
92. Limited use of the framework in the early phase of the 2007–09 global financial crisis (such as for Lehman Brothers) exacerbated systemwide stress and amplified the crisis. Authorities were forced to provide massive public sector support and assistance to backstop the financial system and prevent collapse. For example, UK authorities had to nationalize the bank Northern Rock in the absence of an effective resolution mechanism to preserve its financial stability. Similar approaches were taken by other countries in response to bank failures during the global financial crisis.
93. *Financial leverage* is the fraction of assets funded through debt. The higher the reliance on debt to finance bank activities, the higher is the risk of default (because a larger share of profits would be devoted to paying debt obligations) and the lower is the share of capital to absorb losses.
94. FSB (2014).
95. IADI (2014).
96. Various arrangements have been successfully applied—for example, assigning the resolution authority function to the central bank, supervision authority, or the deposit insurer. An important element in all arrangements is addressing potential conflicts of interest and balancing operational independence for the resolution function with approaches that facilitate the synergies with the supervision function (Baudino, Sánchez, and Walters 2021; Dobler, Moretti, and Piris 2020).
97. Dell'Ariccia, Detragiache, and Rajan (2008).
98. FSB (2014).
99. Nolte and Hoelscher (2020).
100. Tailoring may also be applied in other areas—for example, resolution funding and cross-border arrangements (Nolte and Hoelscher 2020).
101. As of April 1, 2021, 146 jurisdictions had deposit insurance in place. See International Association of Deposit Insurers, Deposit Insurance Systems Worldwide (dashboard), Bank for International Settlements, Basel, Switzerland, https://www.iadi.org/en/about-iadi/deposit-insurance-systems/dis-worldwide/.
102. Even among the larger emerging economies that are members of the FSB, progress has been mixed. According to the latest Resolution Report, no jurisdiction in emerging economies has yet applied all the elements (FSB 2020b).
103. Penn Square Bank was liquidated in 1982 following poor underwriting practices on energy loans. The failure prompted queues of uninsured depositors and contagion of other banks exposed to Penn Square, including Continental Illinois Bank, which failed in 1984 and was at that time the largest bank failure in US history. The failures prompted a tightening of US financial regulations.
104. Dobler, Moretti, and Piris (2020).
105. Brei, Gambacorta, and von Peter (2013); Giannetti and Simonov (2013); Homar (2016).
106. Dobler, Moretti, and Piris (2020).

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