

Resolution strategies for non-performing loans in the post-COVID-19 landscape

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Foreword

In the aftermath of the Global Financial Crisis (GFC), non-performing loans (NPLs) have been a major concern for supervisors, policy makers and market participants in many jurisdictions. A number of factors have helped to reduce NPL ratios in some jurisdictions, including: policies to support an economic recovery; banks' efforts to improve NPL management capabilities; and initiatives aimed at developing secondary markets for NPLs.

The economic consequences of the COVID-19 crisis and related challenges for financial resilience have raised concerns about banks' accumulation of higher levels of non-performing loans (NPLs) on their balance sheets that could undermine their ability to intermediate credit and support economic recovery. These concerns give a renewed relevance to NPL resolution strategies in at least some OECD jurisdictions to restore banks' financial soundness and strengthen their resilience.

This report evaluates a range of possible responses to address large-scale NPL stocks, considering complementary internal recovery and market-based disposal solutions. In this sense, the study proposes a framework to encourage a non-performing loan stock reduction strategy that would effectively balance the incentives, costs and risks of key stakeholders including national authorities (and taxpayers), banking institutions, investors and other market participants.

Policy makers have a role in ensuring that banks can continue to intermediate credit and support economic recovery by considering additional policy steps to actively address the current NPL overhang and prevent NPL accumulation in the future. Given the complexity associated with these strategies and the unique challenges that national authorities confront, this calls for a comprehensive approach, involving relevant authorities and taking into consideration varying measures in different areas of the market.

Strengthening bank resilience now is vital, both to support the recovery and promote durable and sustainable global economic growth. The prudential regulation and supervision of banks at the global level require international cooperation to limit regulatory arbitrage and harmonise regulatory standards for a more stable and sustainable worldwide financial industry. A goal the OECD will continue to pursue through its financial policy communities, and its wider work supporting an international policy environment to provide relevant policy recommendations for banking institutions and markets.

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This report contributes to the work of the OECD Committee on Financial Markets which seeks to promote the contribution of financial institutions, including institutional investors, and capital markets to facilitate savings and investment, and finance sustainable and inclusive economic growth. It contributes to the enhancement of policy approaches in the financial sector; such as to promote efficient and transparent public debt markets. For more information, visit www.oecd.org/finance/financial-markets/.

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Executive Summary

In the aftermath of the Global Financial Crisis (GFC), non-performing loans (NPLs) have been a major concern for supervisors, policy makers and market participants in many jurisdictions. Notably, the Euro Area NPL ratio tripled in the five years after the onset of the GFC while more moderate increases have been recorded in other major advanced economies. Nevertheless, a number of factors have helped to reduce NPL ratios in some jurisdictions, including: policies to support an economic recovery; banks' efforts to improve NPL management capabilities; and initiatives aimed at developing secondary markets for NPLs. Substantial reductions in NPL ratios occurred notably in Europe where about EUR 700 billion of NPLs have been sold over the period 2014-2019. These developments reflect enhanced investors' appetite for yields in a very low interest rate environment that provided tailwinds for transaction activity in the jurisdictions that had high volumes of legacy assets.

The COVID-19 crisis has posed unprecedented challenges for economic and financial resilience. Unprecedented monetary and fiscal support measures combined with moratoria and forbearance measures have contributed to mitigate the increase in defaults of both corporates and households. Nevertheless, some of these measures are expiring in many jurisdictions and some fiscal policy support is being withdrawn as momentum strengthens. However, the emergence of new variants combined with the uneven recovery across countries and sectors could have detrimental implications for the asset quality of bank loan portfolios in the absence of targeted income support for households and firms until economies can fully reopen. At the same time, banks have a crucial role to play in mitigating the effects of the COVID-19 crisis by maintaining the financing of the economy and by supporting the recovery. Therefore, these developments give a renewed relevance to NPL resolution strategies and elevate considerations on how to encourage banks and other stakeholders to actively address the current NPL overhang and prevent NPL accumulation in the future.

While major banking systems entered into the COVID-19 crisis with stronger capitalisation and liquidity than in prior crises, banks should closely monitor asset quality deterioration, especially in riskier segments, and continue to actively manage the NPLs on their balance sheets. In particular, on-balance sheet NPL resolution approaches may be efficient to decrease bank NPL ratios as banks already have the loan files and institutional knowledge of the borrower. However, on-balance sheet solutions may have negative implications for capital and profitability that may deteriorate bank financial soundness, and possibly place banks in a weaker overall position with respect to risk taking and the ability to lend.

The development of a secondary market for NPLs and a range of market-based solutions allow banks to sell NPLs to third-party investors or asset management companies (AMCs) to permanently remove them from balance sheets, thus avoiding any further cost and capital impact, which can improve their ability to take on new risks thereby supporting future credit intermediation. Nevertheless, the presence of market failures and several structural and legal impediments hamper the development of NPL secondary markets

leading to a very high premia for illiquidity, which can undermine the benefit of market-based solutions. Banks and investors have different approaches to value NPL transactions: banks are discounting future cash flows with the asset's original effective interest rate while private investors consider the expected return on their investment as the relevant reference rate, which is likely to incorporate a significant risk premium. In addition, such market-based solutions often benefit, and may rely on, some form of government support to facilitate the transfer. For this reason, the cost of government-backed vehicles may be balanced against the benefits of improved banking sector resilience to ensure that solutions are not merely intertemporal shifts in losses to other stakeholders in the system.

Achieving meaningful NPL resolution strategies would be vital in some banking systems to ensure that banks can continue to intermediate credit and support an economic recovery. Effective NPL resolutions would therefore need new, innovative and collaborative approaches that increase transparency in resolution procedures, create partnership structures, and leverage the benefits of digitalisation and platform businesses. The main purpose of these approaches should be to facilitate NPL solutions at a much faster rate than has been the case since the GFC, to support the creation of NPL "ecosystems". This would fundamentally change not only NPL resolution strategies but also how future accumulations of NPLs would be managed and, ideally, prevented.

In order to improve the efficiency of existing tools and expand the array of possible solutions, this report puts forward high-level considerations to i) strengthen the frameworks governing debt collection, insolvency and debt restructuring, ii) facilitate the development of secondary NPL markets, iii) support cooperation initiatives for bank NPL resolution strategies, and iv) address specific difficulties that may emerge in the banking sector following the COVID-19 crisis.

Combining strategies at the bank-level with market-based solutions could accelerate the rate of NPL reduction. Nevertheless, given the complexity associated with these strategies and the unique challenges that national authorities confront, this calls for a comprehensive approach that effectively balances the incentives, costs and risks of key stakeholders, including banks, investors and distressed debt funds, and national authorities, and also includes a range of legal acts aimed at facilitating insolvency and enforcement frameworks. The success of the various solutions to dispose of NPLs would ultimately rely on developing strategies that include varying measures in different areas of the market, enhanced transparency and comparability of NPL data, all while consumer and debtor protections are upheld.

1. Introduction

Past episodes of financial crises and ensuing recessions, coupled with structural factors and inadequate loan origination practices, have left a number of banks struggling with NPLs on their balance sheets. For the past decade, NPLs have been a major concern for many OECD member countries' banks, supervisors and market participants, as their negative effects pose risks to the overall economy and financial system. In addition, high stocks of NPLs affect banks' performance through two main channels. First, NPLs erode bank's profitability as they generate less income for a bank than performing loans, and may cause losses that reduce its capital. In the most severe cases, these effects could jeopardise the viability of the bank. Second, NPLs consume significant amounts of a bank's productive resources, both human and financial. This often contributes to tightening lending standards and risk aversion, which limits banks' capacities and willingness to lend to the real economy, including to small and medium-sized enterprises (SMEs). SMEs are particularly affected by the reduced credit supply, as they rely on bank lending to a much greater extent than larger companies, thereby affecting the development and growth of SMEs as well as economic growth and job creation.

While experiences vary across jurisdictions, high levels of NPLs in some banking sectors and rising NPLs following the COVID-19 crisis draws attention to the need for substantial reparation of balance sheets in parts of the global banking system. One of the main objectives of NPL resolution strategies is to enhance banks' capacity to lend to businesses and households, including through strengthening their ability to recover value from the collateral provided to secure loans. While there is a range of possible responses to address bank NPL stocks, high levels of NPLs must be addressed using a comprehensive approach that focuses on a mix of complementary policy actions.

It will be important to consider complementary internal recovery and market-based solutions to reduce bank NPLs. In some cases, high NPL levels are preceded by a decline in credit quality, at which point it may be appropriate to decide which part of the NPL stock should remain in the banking system to be gradually resolved by the banks (i.e. including options at the bank-level for loan restructuring, write-downs or internal recovery workout), and which part should be removed from the banking system through a range of market-based measures (such as direct sales to investors, transfers to AMCs, and securitisation). Nevertheless both types of NPL resolution strategies may have negative implications for bank profitability and bank resilience. While on-balance sheet solutions may, for instance, entail resource allocation towards non-core bank activities and further increases in impairments, and possibly place banks in a weaker overall position with respect to risk taking and the ability to lend, the presence of market failures and the evident impediments to the development of NPL secondary markets may lead to wider bid-ask spreads. Overall, some measures could be adopted to improve banks' risk assessment at loan origination, others could foster swift recognition and better management of NPLs, while others may enhance the market value of such NPLs. These measures mutually reinforce each other and would not be sufficiently effective if implemented in isolation.

The COVID-19 crisis has posed unprecedented challenges for economic and financial resilience. However, extensive monetary and fiscal support measures have contributed to mitigate the increase in defaults of both corporates and households. Nevertheless, an early withdrawals of fiscal policy support given the

uneven recovery across countries and sectors (OECD, 2021b) could trigger additional debt delinquencies or defaults with detrimental implications for the asset quality of bank loan portfolios. In the meantime, banks have a crucial role to play in mitigating the effects of the COVID-19 crisis by maintaining financing in the economy to support the recovery. Therefore, these developments lend renewed relevance to NPL resolution strategies and elevate considerations on how to encourage banks and other stakeholders to actively address the current NPL overhang and prevent NPL accumulation in the future.

This report seeks to evaluate a range of possible responses to address large-scale NPL stocks, distinguishing between internal recovery options and market-based solutions. In this sense, the study proposes a framework to encourage a NPL stock reduction strategy mix that would effectively balance the incentives, costs and risks of key stakeholders including national authorities (and taxpayers), banking institutions, investors and other market participant.

The second section explores the potential size of the NPL market and discusses the impact of the COVID-19 crisis for bank NPLs that would lead financial authorities in many countries to implement or revive NPL resolution schemes.

The third section assesses the various impediments that apply to NPL resolution, and reviews the main elements and challenges associated with the several internal recovery options (including loan write-offs, decentralised AMCs (also known as “bad banks”) and asset protection schemes (APSs) versus market-based solutions (such as direct sales, centralised AMCs, securitisation and debt-equity swaps).

The fourth section discusses key considerations for policy-makers with respect to the various benefits, costs and risks, as well as the implications of the COVID-19 crisis for direct stakeholders, and more broadly across the financial system.

Section five includes key conclusions and high-level policy considerations.

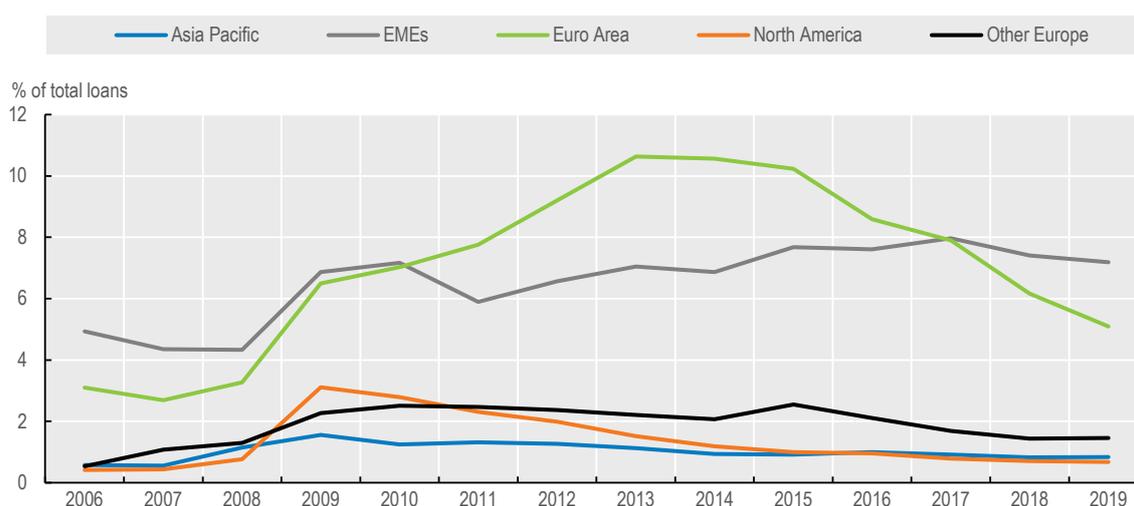
2. Bank non-performing loans: a global overview

This section explores the potential size of the NPL market and discusses the impact of the COVID-19 crisis for bank NPLs that could lead financial authorities in many countries to implement or revive NPL resolution schemes.

2.1. General trends in non-performing loans

The euro area NPL ratio tripled in the five years after the onset of the GFC while more moderate increases have been recorded in other major advanced economies (Figure 1). Nevertheless, economic recovery, banks' efforts to improve NPL management capabilities and initiatives to assist the clean-up of legacy assets implemented in a number of jurisdictions helped to reduce NPL ratios.¹ In contrast, the situation has continuously deteriorated in emerging market economies as reflected by the upward trend in NPL ratios since 2008 and elevated NPL ratios in 2019 compared to other markets.

Figure 1. Non-performing loan ratios by markets, 2006-2019



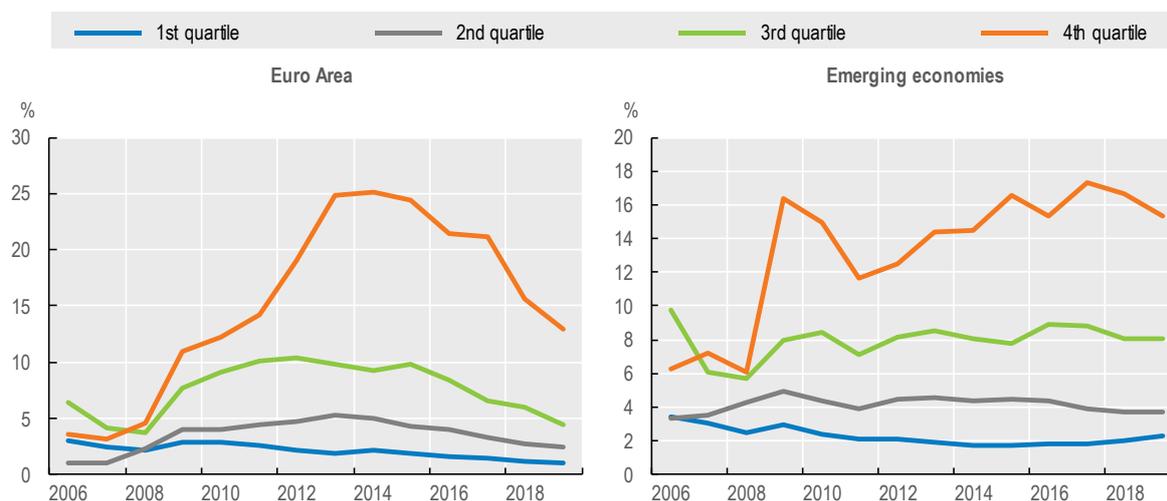
Note: This figure shows simple average of the non-performing loan ratio by region using country aggregate data.

Source: IMF Financial Soundness Indicators database, OECD calculations.

¹ Country specific actions include centralised AMCs, guarantee schemes and coordination platforms. Section 3 further explores these various disposal strategies.

Average ratios hide strong divergences across countries within regions, particularly in Europe and emerging economies (Figure 2). Notably, the NPL problem is persistent in the fourth quartile of countries with high NPL ratios. This suggests that the problem of persistently high NPLs is concentrated in a small group of countries. Nevertheless, there has been clear improvements in the third and fourth quartiles of European economies since 2013. Therefore, initiatives aimed at addressing legacy assets implemented in several European jurisdictions following the GFC has helped to reduce NPL ratios, notably in Cyprus², Greece, Italy, Ireland, Portugal, Slovenia and Spain. This is further reflected by the fact that while these economies have not necessarily recorded the highest GDP growth rates, they have experienced the highest reductions in NPL ratios over the period 2015-2019 (Figure 3).³ Also, bank NPLs are likely to be affected inter alia by the evolution of the number of corporate insolvency proceedings and the number of unemployed workers. All these variables exhibit a strongly cyclical pattern (i.e. they tend to correlate with GDP movements, with a number of lags depending on idiosyncratic aspects for each jurisdiction). Indeed, this was verified in the case of Spain by comparing evidence during the Global Financial Crisis (GFC) versus the COVID-19 crisis (Box 1).

Figure 2. Quartile distribution of non-performing loan ratios in the Euro Area and emerging economies, 2006-2019



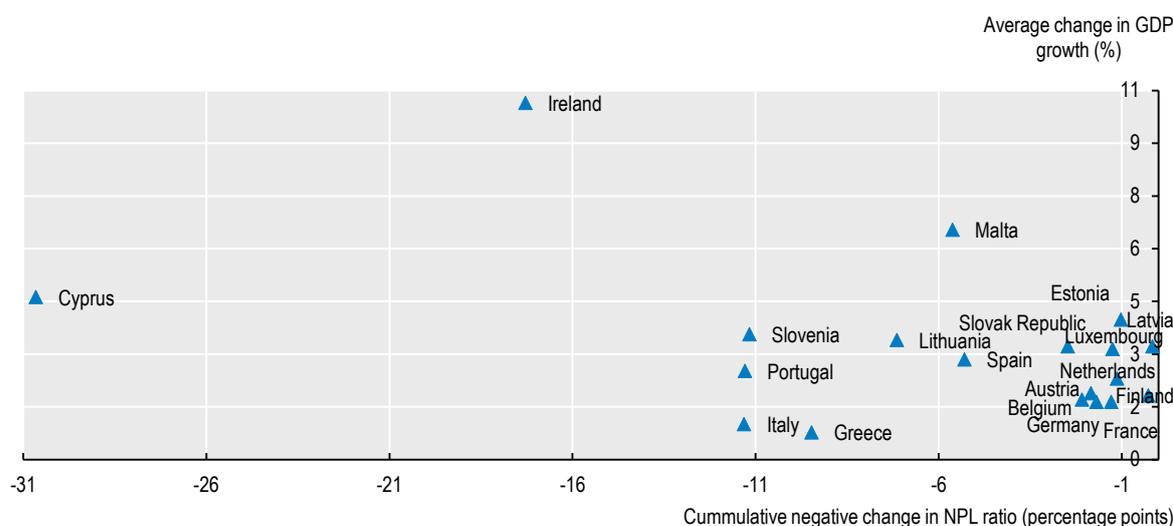
Note: This figure shows simple average of the non-performing loan ratio by quartile groups of countries using country aggregate data.
Source: IMF Financial Soundness Indicators database, OECD calculations.

² Footnote by Turkey: The information in this document with reference to “Cyprus” relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the “Cyprus issue”.

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³ The causality between NPL ratios and GDP growth works in both directions as economic recovery helps restore repayment capacity and declining NPLs release capital for new lending. It is therefore difficult to disentangle the pure impact of NPLs on economic growth.

Figure 3. Reduction in NPL ratios not necessarily linked with strong GDP growth



Note: This chart shows the cumulative negative percentage change of NPL ratios versus the average percentage change in GDP over the period 2015-2019 for Euro Area economies.

Source: IMF Financial Soundness Indicators database, Eurostat, OECD calculations

Box 1. Main drivers of bank NPLs during the Global Financial Crisis and the COVID-19 crisis: an illustration from developments in the Spanish banking sector

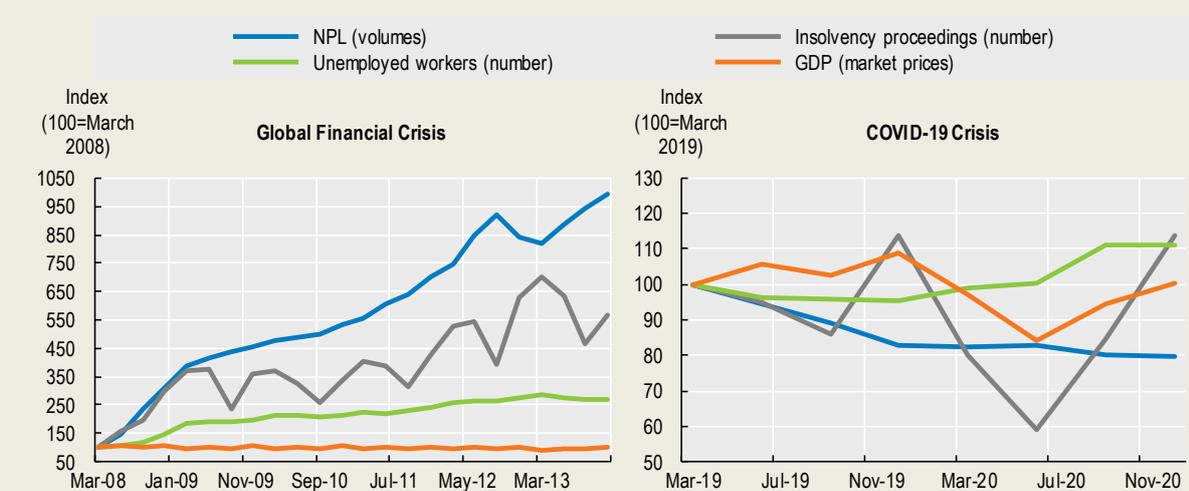
Bank NPLs are likely to be affected by economic conditions, notably inter alia by the evolution of the number of corporate insolvency proceedings and the number of unemployed workers, as well as subsequent monetary and fiscal policies implemented to mitigate the impact of a shock. Using quarterly data for NPL volumes and GDP at market prices, the correlation between March 2008 and December 2013 was negative at 0.59; while during the period from March 2019 to December 2020, it became positive at 0.30. This exception to theoretical predictions also prevails for the correlation between NPL volumes and unemployment (0.96 versus -0.49) and the correlation between NPL volumes and insolvency proceedings (0.85 versus 0.10). Even though an increase in NPLs typically occurs with some delay with respect to movements in its drivers, these results are intrinsically striking. A number of reasons should be highlighted:

- First, policies to support funding implemented following the COVID-19 crisis have helped to alleviate pressures on default rates. Specifically, two lines of Spanish public guarantee schemes have provided EUR 94 billion of guarantees (mainly for SMEs), resulting in credit amounting EUR 124 billion as of 31 March 2021. These guaranteed loans usually incorporate a 2-year grace period. In addition, credit moratoria (both legal and voluntary or sectoral) outstanding amount totalled almost EUR 60 billion.
- Second, Spanish banks' efforts to improve NPL management capabilities and initiatives aimed at developing secondary markets for NPLs have helped to reduce NPLs in recent years. Notably, the NPL ratio peaked at 10.6% in February 2014 (Figure 4). Nevertheless, between September 2014 and September 2020, the year-on-year monthly average decline in NPLs has been of more than 17% and has driven the NPL ratio to 3% in January 2021.
- Third, policy support aimed at mitigating the negative impacts of the COVID-19 crisis on employment and insolvency proceedings weakened or delayed spillovers to bank NPLs.

Notably, partial job schemes have been implemented for some sectors as of May 2021, and insolvency moratoria (i.e. debtors' duty to file for insolvency has been suspended, and applications by creditors on failure by the debtor are to be rejected by the court) will last until December 2021. A state-dependent approach is being followed by Spanish authorities in order to efficiently face intertemporal trade-offs when designing the response to the pandemic.

Despite the substantial decline in nominal GDP in 2020 (i.e. annual decline in GDP was of 10.8% at the end of 2020), the volatility of key economic and financial indicators has remained quite low. The fact that policies implemented in Spain to mitigate the negative consequences of the COVID-19 crisis on the real sector and also banks is a substantive achievement. However, vulnerabilities remain and authorities are continuing to closely monitor performance.

Figure 4. Bank NPL drivers during the Global Financial Crisis versus the COVID-19 crisis

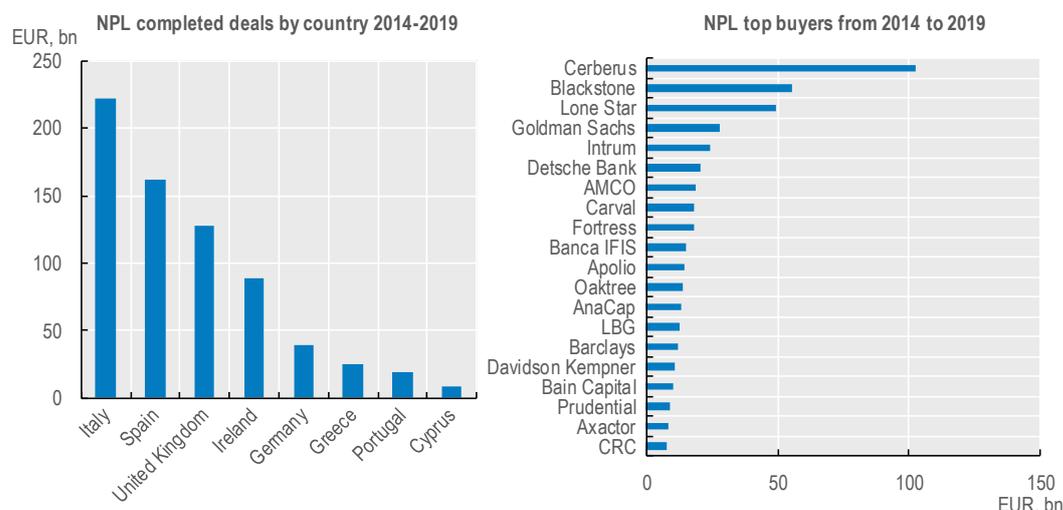


Source: Eurostat, Bank of Spain, Spanish National Institute of Statistics.

Nevertheless, actual bank NPL data provide only a partial estimate of the magnitude of distressed assets that still need to be resolved as these data do not reflect the amount of loans that have been sold to investors. In fact, substantial reductions in NPL ratios occurred in a very low interest rate environment that enhanced investors' appetite for yields and provided tailwinds for transaction activity in the jurisdictions that had high volumes of legacy assets. In Europe, EUR 700 billion of NPLs have been sold over the period 2014-2019 (i.e. mostly in Italy, Spain and the United Kingdom) to a host of major distressed asset managers and investment banks (Figure 5). Also, many of these loans may have been liquidated with the associated collateral still remaining on banks' balance sheets. Such non-productive assets are typically not well captured in NPL data (Oliver Wyman, 2018).

Therefore, achieving meaningful NPL resolution strategies would be imperative in some banking systems to ensure that banks can continue to intermediate credit and support economic recovery (Campos et al., 2020). Effective NPL resolutions would need new, innovative and collaborative approaches to help increase transparency in resolution procedures, create partnership structures, and leverage digitalisation and digital platform businesses. As argued by Oliver Wyman (2018), the main purpose of these approaches should be to facilitate NPL solutions at a much faster rate than has been the case since the GFC, to support the creation of NPL "ecosystems". This would fundamentally change not only NPLs resolution strategies but also how future accumulations of NPLs would be managed and, ideally, prevented.

Figure 5. Non-performing loan sale activity by countries and top buyers, 2014-2019



Source: Deloitte (2020).

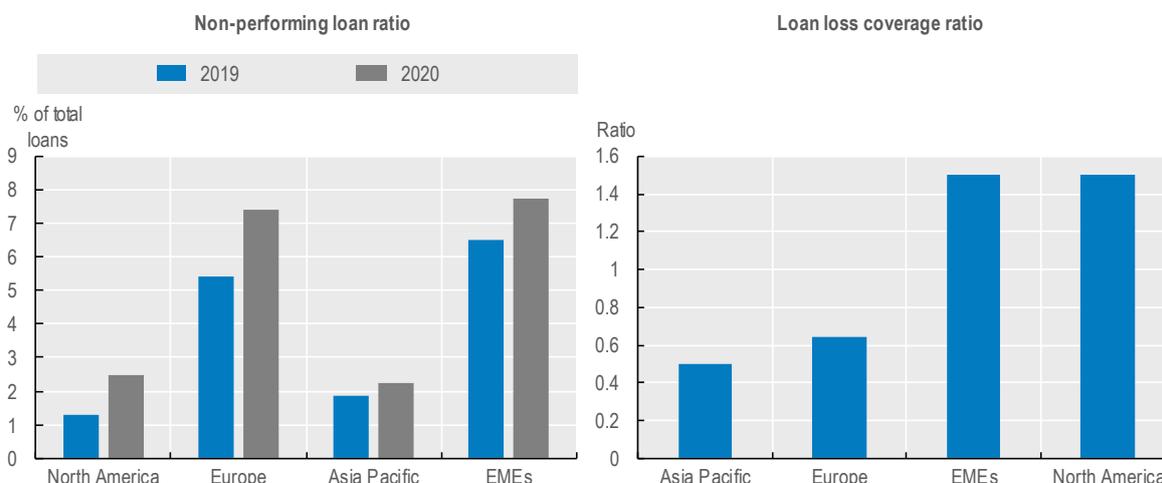
2.2. The impact of the COVID-19 crisis on bank non-performing loans and the need for resolution strategies

The COVID-19 crisis has posed unprecedented challenges for economic and financial resilience. However, extensive monetary and fiscal support measures have contributed to mitigate the increase in defaults of both corporates and households (OECD, 2020). Nevertheless, an early withdrawals of fiscal policy support given the uneven recovery across countries and sectors (OECD, 2021b) could trigger additional debt delinquencies or defaults with detrimental effects on bank NPLs. NPLs have already risen in 2020 compared to 2019, particularly in Europe⁴, North America and emerging economies (Figure 6). Nevertheless, banks in North America and emerging economies benefit from loan loss reserve safety buffers that surpass their NPLs to strengthen resilience. In contrast, banks in Europe and the Asia-Pacific record weaker safety buffers with loan loss reserves that account for on average about half of their NPLs.

The increase in LLPs following higher credit losses would strengthen banks' ability to absorb rising loan losses and moderate the erosion of the capital stock. The Federal Reserve, the European Banking Authority, the European Central Bank and the IMF (Federal Reserve, 2020a, 2020b, 2021; EBA, 2020, 2021; ECB, 2020b, 2020c; IMF, 2020) have performed stress tests, including credit losses, provisions, pre-tax net income, to assess the sensitivity of bank capital ratios under adverse conditions. Findings from stress test analyses suggest that the banks that are the most at risk include those that entered the crisis with existing idiosyncratic problems or those heavily exposed to the sectors most affected by the COVID-19 crisis, and whose capital ratios might not suffice to weather forthcoming challenges. The deterioration in asset quality and rising loan losses following the COVID-19 pandemic is therefore likely to further weaken banks' capabilities to absorb higher loan losses and possibly impact their lending supply.

⁴ As noted by ECB (2020c), there is a high heterogeneity across countries as reflected by the average NPL ratio in 2020 that ranged from 0.7% in Luxembourg to 30.3% in Greece.

Figure 6. Non-performing loan and loan loss coverage ratios by region, 2019-2020



Note: This figure shows simple averages of NPL and coverage ratios by region using a sample of 798 publicly listed banks in 46 major advanced and emerging economies for which financial statement data are available in Refinitiv. Coverage ratio is calculated as the ratio of loan loss reserves to NPLs. Source: Refinitiv, OECD calculations.

A recent OECD study (OECD, 2021a) suggests that policies adopted by governments and central banks have helped ease banks' asset quality challenges amid the COVID-19 crisis and mitigate the increase in bank NPLs in both advanced and emerging economies. Box 2 further documents implemented fiscal support measures and their benefits to alleviate solvency pressures for households and corporates in the case of Spain. Nevertheless, the uneven recovery across economies and sectors combined with a premature end or insufficient monetary and fiscal support measures to mitigate the long-term damages to business and job prospects (OECD, 2021b) along with growing vulnerabilities in the non-financial private sector may entail higher bank NPLs.

Therefore, financial authorities in many countries should consider addressing NPL problems in the banking sector and implementation or revival of NPL resolution schemes. In the aftermath of the GFC many measures to address the high stock of NPL were implemented in Europe. In particular, both the European Central Bank (ECB, 2018, 2019) and the European Union legislators (European Parliament, 2019) have implemented a new prudential backstop for NPLs. The aim is to ensure that banks set aside sufficient resources for when loans become and remain non-performing and to create appropriate incentives to avoid the accumulation of NPLs on the balance sheet.⁵ Nevertheless, additional decisive policy action would still be crucial to address issues in national insolvency frameworks so that banks are able to manage the upcoming flow of new NPLs (European Commission, 2020). This would allow NPLs to be addressed in the most decisive manner possible, in turn preventing a renewed build-up of NPLs on banks' balance sheets and thus helping to mitigate damaging hangover effects in the future. For that purpose, banks should identify debtor distress early and engage proactively with their debtors to undergo timely and appropriate

⁵ The prudential backstop consists of two main elements. First, banks are required to cover up to common minimum levels the incurred and expected losses on newly originated loans once such loans become non-performing. Second, where the minimum coverage requirement is not met, a deduction have to performed that corresponds to the difference between the level of the actual coverage and the minimum coverage from CET1 items. The minimum coverage requirement increases gradually depending on how long an exposure has been classified as non-performing. Also, the annual increase of the minimum coverage requirement is lower during the first years after the classification of an exposure as non-performing. The gradual increase is motivated by the assumption that the longer an exposure has been non-performing, the lower is the probability to recover the amounts due. To facilitate a smooth transition towards the new prudential backstop, the new rules should not be applied to exposures originated before April 26th, 2019 and is effective since January 2021.

restructurings when needed. When it comes to companies in particular, banks should be expected to develop capacity to promptly assess changes in their debt servicing abilities and to differentiate between liquidity and solvency needs. Ultimately, efficient solutions for dealing with NPLs would help originating banks focus on supporting the future productive output of the real economy.

Box 2. Diversification of bank lending and policy support measures alleviated pressures on Spanish banks' NPLs during the COVID-19 crisis

Substantial corporate sector deleveraging over the last decade⁶ has strengthened corporate solvency and also weakened the nominal amount of NPLs for banks following the negative impact of the COVID-19 crisis on the corporate sector (Figure 7).⁷ This illustrates the effectiveness of Spanish banks' efforts to improve NPL management and reduce their exposure to the corporate sector; that combined with a suitable development of secondary markets for NPLs has facilitated the clean-up legacy NPLs on banks' balance sheets from the GFC.

Also, banks have increased their diversification of lending to corporates across economic sectors. Major shifts since the GFC consist of the reduction of loans granted to construction and real estate services sectors. These improvements limit the negative impact for bank NPLs in the event of a shock affecting a particular sector (i.e. for example the sharp rise in defaults in real estate services and construction during the GFC).

Negative consequences of the COVID-19 crisis materialised particularly in retail and tourism-related sectors as a result of lockdowns and migration restrictions. Evidence suggests that while the amount of loans granted to hotels and restaurants, transportation, and commerce has slightly increased as a consequence of the pandemic (EUR 131 billion at end-December 2019 versus EUR 153 billion at end-December 2020), the share of loans granted to these sectors in total bank loans (26% versus 28%) and the share of NPLs related to these sectors in total bank NPLs have remained stable. This suggests that fiscal support provided to these sectors has been highly effective in alleviating solvency pressures and therefore to mitigate a sudden rise in defaults. In fact, the following three funds were established by Royal Decree (Law 5/2021)⁸ that provides an overall amount of EUR 11 billion:

- A EUR 7 billion fund provides non-refundable direct aid to non-financial firms and self-employed workers in a number of targeted economic sectors to help with repayments of debt (i.e. non-financial and financial) contracted during the COVID-19 crisis. Only viable firms are eligible to this program. Support will be provided through regional governments, while incentive mechanisms will help ensuring an efficient allocation of funds.
- A EUR 3 billion fund provides subsidies to companies to help them repay part of their state-guaranteed loans. The banks will have to apply a proportional write-off for the part covered by the guarantee (similar mechanisms are also foreseen for the unguaranteed part of the loan). These grants and write-offs can be implemented only after having considered the alternative extension of the maturity of state-guaranteed loans or the conversion of ordinary loans into participating loans while maintaining the public guarantee. One hundred banks (including all

⁶ Corporate total credit totalled EUR 817 billion as of March 2008 compared to EUR 416 billion at end-December 2019.

⁷ It is worth noting that base effects may contribute to boost NPL ratios.

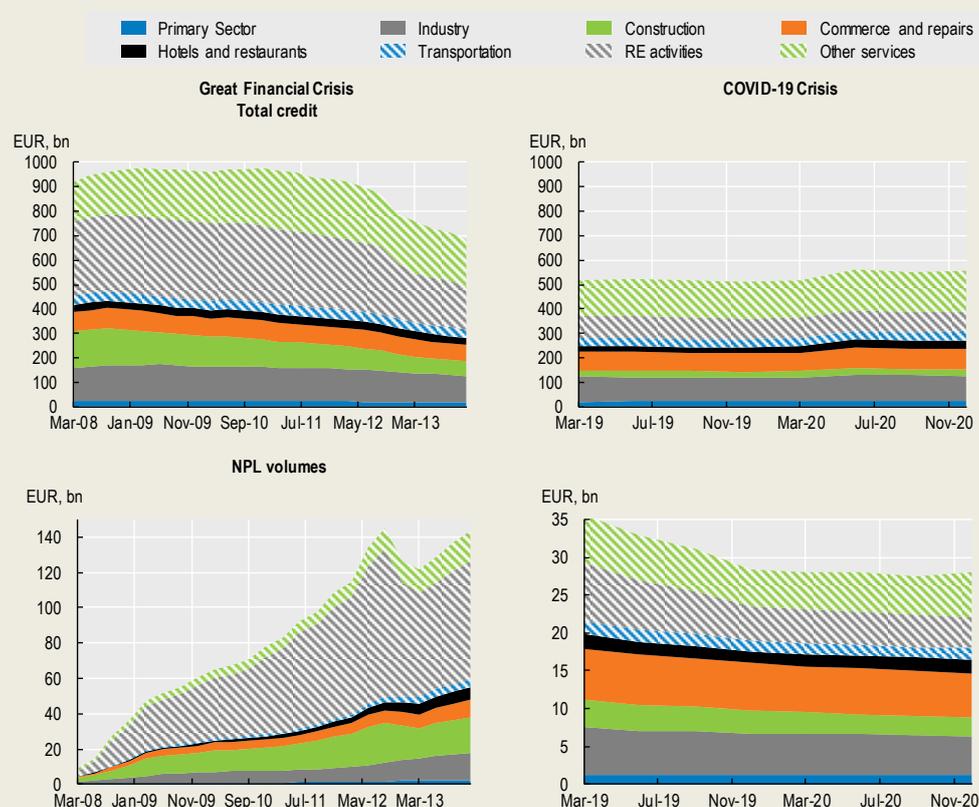
⁸ Ministerio de la Presidencia, Relaciones con las Cortes y Memoria Democrática (2021), "Real Decreto-ley 5/2021, de 12 de marzo, de medidas extraordinarias de apoyo a la solvencia empresarial en respuesta a la pandemia de la COVID-19", Boletín Oficial del Estado, Gobierno de España, March.

significant institutions) have adhered to the voluntary Code of Best Practices, that establishes eligibility criteria and metrics for the implementation of these measures.⁹

- A EUR 1 billion fund provides temporary capital support (i.e. through equity loans, subordinated debt or participation in equity or other capital instruments) to medium-sized enterprises. This fund is managed by the state-owned company COFIDES.

While lending volumes of Spanish banks to households or corporates are comparable, sensitiveness of NPLs to economic shocks are not.¹⁰ In fact, household NPL ratios increased by 547 basis points from March 2008 to December 2013 (from 1,27% to 6,74% respectively) while surging by 1990 basis points for corporates during the same period (0,98% and 20,97% respectively). As previously argued in Box 1, partial job schemes have been implemented following the COVID-19, to strengthen households' ability to meet their credit commitments, that have been efficient to mitigate a rise in default rates so far.¹¹

Figure 7. Sectoral breakdown of total credit to corporates and NPL volumes during the Global Financial Crisis versus the COVID-19 crisis



Source: Bank of Spain.

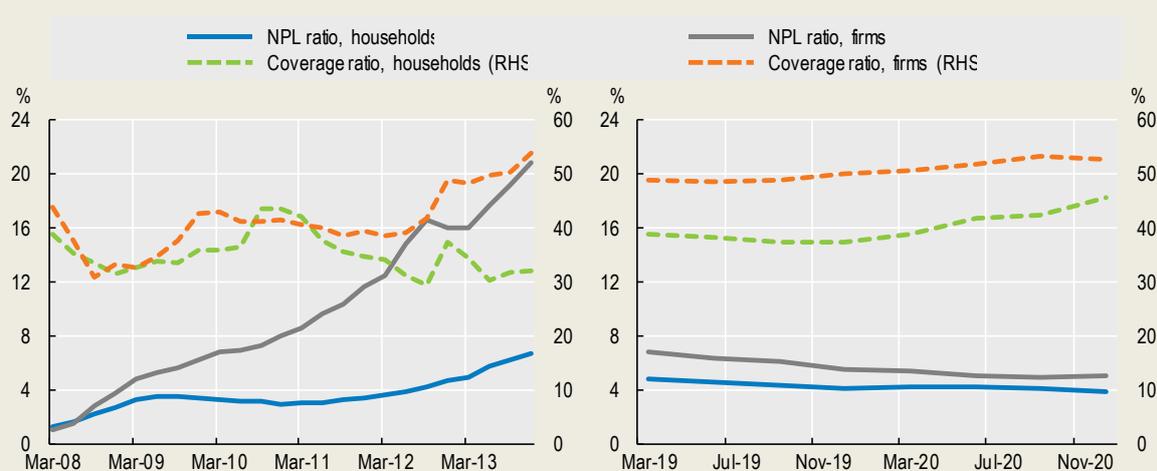
⁹ The list of banks that have accepted to comply with the Code of Best Practices has been published by the Ministerio de Asuntos Economicos y Transformacion Digital and will be up-dated if needed. See https://www.tesoropublico.gob.es/sites/default/files/2_resolucion_entidades_adheridas_al_cdp_csv.pdf.

¹⁰ Households total credit totalled EUR 777 billion as of March 2008 (i.e. 45% of Spanish banks' total credit) compared to EUR 612 billion at end-December 2019 (i.e. 54%).

¹¹ Also, observed rise in bank deposits in 2020 suggests that households have some excess financing capacities. Nevertheless, these numbers have to be interpreted with caution given the elevated heterogeneity among individuals depending on their purchasing power.

Coverage ratios are well reflecting the differences in credit risk between corporate and household sectors. In fact, coverage ratios of both corporates and households have risen with a delay following the GFC mainly due to the “incurred loss” approach for bank loan loss provisioning (Figure 8). However, banking reforms since 2009 have introduced an “expected loss” approach that has resulted in an increase in loan loss provisions and subsequently coverage ratios over time. The Bank of Spain is closely monitoring loan loss provisions to ensure that banks are holding safety buffers to absorb a potential rise in loan losses following an unexpected shock.

Figure 8. Households and corporates NPL and coverage ratios during the Global Financial Crisis versus the COVID-19 crisis



Source: Bank of Spain.

Overall, policy mitigation has limited solvency strains for Spanish corporates and households so far, but solvency pressures may resurface in the near future, especially in riskier segments of credit markets and sectors hit hard by the pandemic. Therefore, policy support to viable firms in targeted impacted sectors should continue until a sustainable recovery.

3. Consideration of NPL disposal and resolution solutions

This section starts with an assessment of the various impediments that apply to NPL resolution in general, regardless of the specific solution, as they are all considered to weaken banks' incentives to manage elevated NPL stocks. The section also reviews the main NPL resolution options, and categorises them into internal recovery options and market-based solutions. Internal recovery is an “on-balance sheet” approach for NPL resolution that includes loan write-offs, decentralised AMCs (known as “bad banks”) and APSs. This section will then explore various market-based disposal strategies including direct sales, centralised AMCs, securitisation and debt-equity swaps.

3.1. Impediments to NPL resolutions

There are a number of reasons why banks should dispose of, and not continue to hold NPLs, once stocks reach a critical mass. Notably, NPLs can tie-up scarce bank resources, including capital, funding and human resources, diverting them from more profitable activities or opportunities, with overall negative consequences for banks. Large NPL stocks may also impact bank funding costs, as a result of uncertainty surrounding the future prospects of the institution (ESRB, 2017).

Nevertheless, banks often choose to hold non-performing assets, whether such assets remain on the balance sheet or are transferred to a ring-fenced “bad bank” entity within the holding company structure. Notably, banks may benefit from their strong relationship with the borrower that strengthens their confidence in releasing value in the collateral and from their expectations for economic conditions to resolve NPLs internally.¹² Alternatively, the sale of NPLs may be hampered by the often-lacking expertise in private equity and/or asset management as NPL resolution often requires operational and/or financial restructuring of viable borrowers and the maximisation of collateral value collection in the case of defaulted borrowers (KPMG, 2018). Also, illiquid secondary markets for NPLs may create a first-mover disadvantage as a bank selling NPLs would be faced with a large spread and may only achieve a low sale price. Subsequent losses from loans sold at discounted value would reduce a bank's capital position dramatically

¹² However, conflict of interest between the bank and the borrower may be harmful because the bank does not act in an objective way so as to preserve the relationship. In fact, the borrower has more incentive to meet his commitments in order to safeguard his ability to get bank credit in the future. Nevertheless, the bank has incentive to keep the NPL on balance sheet so as not to damage the relationship with the client.

and in some cases lead to insolvency. Such capital erosion could have detrimental effects on investor confidence, thereby increasing the cost of equity and debt financing.

Impediments to NPL resolution apply also to the developments of NPL secondary markets (ECB, 2017a). Competition issues, characterised by the concentration of buyers with barriers to entry for investors and servicers, and the lack of sufficiently detailed, comparable and reliable data on NPLs have a major influence on the operation of the secondary market for NPLs. As a result, there is a wide gap between the prices that investors are willing to pay for NPLs and the net book values on banks' balance sheets. In addition, structural impediments, such as weak debt enforcement and legal requirements for the transfer of credit contracts or restrictions on purchasers of NPLs, would also increase the cost of collection and prevents banks or investors from seizing the collateral in a timely manner, ultimately leading to a wider bid-ask spread.

3.2. On-balance sheet approaches for internal NPL resolution

Write-offs

Write-offs are one of the simplest ways to dispose of NPLs (World Bank, 2019). Through this process, the bank derecognizes non-performing assets from its financial statements due to uncollectibility.¹³ Nevertheless, a write-off does not entail bank forgiveness of the debt. The borrower still owes money to the bank, and the bank is responsible for the debt enforcement, loan sale or transfer to another entity. In case the borrower resumes the servicing of its debt, or the exposure is sold, a recovered amount would be directly recorded in the profit and loss account. During a crisis, NPL write-offs may be used as an emergency measure, with authorities mandating minimum write-offs on NPLs, recognising that the expected recovery value will be minimal, and that the economic value of attempting some form of resolution for these loans will be low at best (IMF, 2015b).

NPL write-offs provide several benefits for banks and the financial system (ECB, 2017b). Notably, NPL resolution helps the bank to focus on core business and credit intermediation by allocating its productive resources to new lending. Also, NPL write-off is a particularly efficient resolution procedure to decrease bank NPL ratios that should improve a rating agency assessment of credit risks in the bank or in the financial system.

In practice, banks hesitate to write-off NPLs from their balance sheets as they prefer waiting for improvements in the macroeconomic conditions due to the implications of a write-off for losses and capital (BIS, 2017). In fact, a resolution strategy based on write-offs would require substantial capital buffers and provisions being sufficiently high to enhance bank loss absorption capacities. Low provisioning for problem loans can lead banks to write off these assets only in small amounts. Also, write-offs generate losses that erode capital buffers to an extent that may hinder a bank's ability to absorb future credit losses (Ingves, 2011). Therefore, stringent provisioning practices and substantial capital buffers are prerequisites for sizeable write-offs (Jassaud and Kang, 2015).¹⁴

¹³ A write-off is an accounting term for the formal recognition in the financial statements that a borrower's asset no longer has value. Usually, loans are written off when they are 100 percent provisioned and there are no realistic prospects of recovery. These loans are transferred to the off-balance sheet records. IFRS 9 requires a whole or partial write-off if "an entity has no reasonable expectations of recovering the contractual cash flows on a financial asset" (IFRS 9. Article 5.4.4).

¹⁴ It is worth noting that stringent provisioning practices and substantial capital buffers may be also critical for other alternative resolution strategies. For instance, given potentially large bid-ask spreads applied in the secondary market for NPLs, the effort made by banks to increase the level of coverage of NPL (i.e. by impairments) is also important for the sale of these assets.

Decentralised asset management companies

Decentralized AMCs, commonly named “bad banks”, are “in-house” structures to which a bank offloads NPLs (Martini et al., 2009). The main purpose is to separate NPL management activities from the core banking business, while retaining any upside from recoveries and control over workouts in full. NPL management is undertaken by the bank itself and the AMC also tends to be private. Banks have a comparative advantage to resolve NPLs as they already have the loan files and institutional knowledge of the borrower (Klingebiel, 2002). Also, leaving the distressed assets in the bank may increase incentives for banks to maximise the recovery value of bad debt.

The segregation of impaired assets into a ring-fenced entity may provide several benefits for the bank and the real economy (Medina and Peresa, 2016). Notably, segregation of impaired assets should reduce uncertainty about the good bank asset values and the associated obstacles to funding. It should improve credit ratings of the good bank and enhance the confidence of markets, investors, shareholders and depositors (Morrison and Foerster, 2009). The disposal and sale of impaired assets is also expected to relieve the pressure on the good bank’s capital constraints, restoring its earnings together with its capacity and willingness to lend. By separating viable and profitable businesses from distressed and non-performing assets, the good bank will be able to focus on its core business and generate new lending (Landier and Ueda, 2009). Finally, the removal of bad quality assets from banks’ balance sheets can lead to an improvement in bank profitability (Woo, 2002).

However, there are several challenges related to the creation of a decentralised AMC (Brenna et al., 2009). The need to establish separate organizational structures and IT systems increase operational costs. Also, the bank would need to strengthen its expertise with respect to NPL collection, liquidation and workout that may translate into high information and staff costs in assessing each loan.

Asset protection schemes

An option that partially achieves separation of legacy assets from the core balance sheet might be the APS (BIS, 2017). An APS consists of an insurance scheme aimed at supporting banks with high NPL levels, where a state agency offers to cover a certain amount of the losses on their legacy loans, against a fee.¹⁵

The key benefit of APS is that no upfront disbursement may be required from the official sector, while banks can start benefiting from the guarantee from the start of the programme. Nevertheless, in return for participation in the scheme, the bank will have to pay a compensation for this (politically implicit) guarantee in the form of fee payments.

APS is a typical crisis-related measure aimed at supporting credit provision by banks and manage the risk of a credit crunch as NPLs can crowd out new credit. After a major negative shock to the economy, the market for bank lending may experience an increase in asymmetric information and face undesirable consequences. Notably, banks with lower quality loan portfolios would have to strengthen their capital base

¹⁵ The APS seller (i.e. the state agency) provides the bank with protection against credit losses incurred on a given loan portfolio when the losses exceed a specified “first loss” threshold α_1 . The covered assets remain on the balance sheet of the bank who economically and legally still owns the assets. The first loss threshold α_1 serves as a deductible, which is a common feature of insurance contracts. If the first loss level is passed, the protection seller covers $(1 - \alpha_2)$ of the following portfolio loss while the bank still bears the residual loss, α_2 . In fact, the bank protection still covers a fraction α_2 of the further losses and thus retains an appropriate structure of incentives to continue the diligent management of the loan portfolio.

Examples include a GBP 300 billion APS scheme for RBS in the United Kingdom in 2009-2012, and a EUR 7 billion public second-loss guarantee for the German HSH Nordbank, extended to EUR 10 billion in 2013. In Spain, state-backed APSs were also used to facilitate sales of distressed banks as a whole: for example, the sale of CAM to Sabadell in 2011, and of Banco de Valencia to Caixabank in 2012.

and issue equity. Nevertheless, prices for new equity issuance may become prohibitively high compared to banks with higher quality loan portfolios (Grosena, 2014). Consequently, the market for bank equity capital may experience large price discounts – or even a market collapse – when increases in banks' capital buffer and access to money market funding are most needed. In such a context, APS may help maintaining liquidity in the secondary markets by substantially reducing the tail risk of losses of the bank, hereby allowing it to stabilize its capital base and in an orderly manner decrease leverage over time. In order to address the most acute problems, APS tend to target a few large domestic banks rather than the sector as a whole.

Effectiveness of APSs depend on the sovereign credit rating that in turn affects the official sector's capacity to withstand the contingent liabilities from the guarantee, and strengthen the confidence of market participants (Lehman, 2017). More broadly, this solution brings in social and political considerations that may complicate the resolution.

3.3. The increasing role of market-based solutions

Direct sales and coordination platforms

Direct sales: benefits and challenges

NPL direct sales to private investors allow banks to permanently remove NPLs from their balance sheets, avoiding any further cost and capital impacts. These transactions allow banks not only to deleverage their balance sheets but also to neutralise the costs associated with the staff and other resources used for NPL management.

The key benefit of this approach is that the bank is able to maintain control over the final sale prices and terms by holding international bids and discussions with various investors. Also, banks may identify the specific asset allocation policy of some investors that may be more interested in certain types of loans. Knowing these distinctive features, banks can adjust the portfolio to offer to each investor on the basis of its preferences. In some cases, direct sales cover packages of loans, rather than individual loans, with private investors' taking advantage of the diversification of risks via asset pooling. These customisations may prove profitable in terms of higher sale prices (Mazzu and Muriana, 2018).

Banks may choose direct sales of loans to non-bank investors when certain factors are prevalent. First, the loan would be below banks' established minimum recovery level but with sufficient remaining value to merit the costs of sale rather than write-off. In fact, a one-off loss is incurred at the moment of sale, when prices offered may not fully cover the net book value of NPLs held. Key factors include: a lack of experience and expertise with respect to NPL collection, liquidation and workouts; when there are many small loans, such that workouts would overwhelm staff and existing technology and generate high information costs in assessing each loan; when NPLs rise to a high level of total bank assets; and/or when NPLs put pressure on regulatory capital ratios (IFC, 2012).

However, there are three key challenges related to direct (i.e. bilateral) sales that raise questions about the feasibility of this strategy in all circumstances.

First, information asymmetries and divergent national legislations can create large bid-ask spreads that may hamper direct sales. For the bank, possible lack of expertise with respect to NPL collection and loan assessment hinders the accurate segmentation of portfolio and the definition of effective NPL reduction strategies. In addition, loans are particularly opaque credit assets, and the private information that the originating bank relied on when granting the loan is not easily transferrable to prospective buyers. Therefore, a lack of transparency about credit history, collateral features or legal position of the bank vis-a-vis the borrower prevents precise valuations from investors, increasing uncertainty and leading to higher risk premiums (Scannella, 2015; ECB, 2016; ESRB, 2017). Such lack of data transparency on comparable

NPLs tend to increase investors' risk premium in order to compensate for the uncertainty as to the extent to which the bank, as an informed player, is selling the worst performing assets. Also, as documented by the European Commission (2018a) in its proposal for a directive on credit servicers, credit purchasers and the recovery of collateral (2018),¹⁶ divergent national legislations lead credit purchasers and credit servicers to be subject to very different rules for how they may acquire credit agreements from credit institutions. These differences of regulatory requirements across jurisdictions have resulted in considerable obstacles to legally purchasing credit mainly by increasing the compliance costs faced when seeking to purchase credit portfolios. As a result, the limited participation of non-credit institutions contributed to low demand, weak competition and low bid prices for portfolios of credit agreements on secondary markets, which is a disincentive for banks to sell their NPLs.

Second, different accounting principles for banks and investors may increase bid-ask spread gaps (BIS, 2017). In fact, banks that are following the IFRS accounting principles discount future cash flows with the asset's original effective interest rate. In contrast, private investors consider the expected return on their investment as the relevant reference rate, which is likely to incorporate a significant risk premium. Besides, banks account for the administrative costs of managing NPLs on an accrual basis, while potential buyers would deduct them in full from their offer price.

Third, inter-temporal pricing problems and liquidation at fire sale prices following a shock could be additional obstacles. Since some NPL markets may be illiquid and shallow, inter-temporal pricing problem may create first mover disadvantage to sell into such markets (EBA, 2017). Also, during a crisis when large volumes of NPLs are eligible for sale, the dynamics of disposal can drive down asset prices. Although NPL market liquidity and NPL values are likely to deteriorate during a crisis, it is worth noting that such direct sales help to establish a floor for the NPL valuation, giving potential buyers and banks a benchmark for follow-on transactions (BIS, 2017). Furthermore, in some countries, the insolvency regimes for addressing bankruptcies can take a number of years, thereby lowering the present value of the loan recovery (IMF, 2016b; DNB, 2016). Similarly, behavioural factors may play a role in repayment morale, as borrowers may be less willing to repay to certain (foreign) counterparties. Lastly, substantial fees associated with the due diligence and specialised expertise needed for loan assessment and workout also factor into market prices.

Market failures in the secondary NPL market and coordination platforms

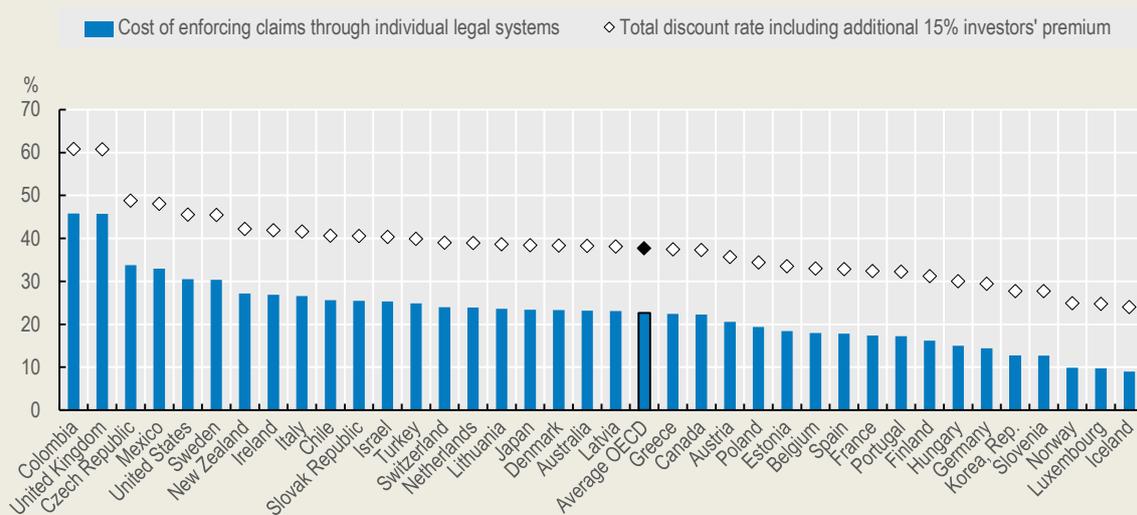
Akerlof's "market for lemons" was invoked by the ECB (2016) as a possible explanation for wide bid-ask spreads and an apparent market failure in the NPL market. In keeping with the "lemons" outcome, banks may therefore be incentivised to offer only their worst assets for sale, rather than selling better-quality assets at prices that would undervalue them. The result of this market failure may be a suboptimal demand-supply equilibrium, both in terms of price and quantity traded. This would partly explain the wide bid-ask spreads, as well as the low level of liquidity in the market (Box 3).

¹⁶ A provisional agreement has been reached in June 2021 between the EU Council presidency and the Parliament on a new directive harmonising rules for credit servicers and purchasers (Council of the European Union, 2021). The aim is to support the development of the secondary market for non-performing loans in the EU in order to allow banks to clean their balance sheets of NPLs, while ensuring that the sale does not affect the rights of borrowers.

Box 3. Discount rates resulting from the opacity of NPL value and the cost of recovery

Bid-ask spreads can be useful to indicate a discount rate that correspond to the difference between the price that an investor is willing to pay for acquiring an NPL and the price that a bank would accept to sell it for. Such a discount rate is by definition unobservable as it is private information for banks and market participants related to their preferences or constraint for risk pricing. Nonetheless, an ECB study (2017c) suggests that the total discount associated with an NPL sale may be proxied by considering two main components as illustrated in Figure 9. The blue bars represent the first component that is the reported average cost of enforcing claims through individual legal systems (i.e. in other words corresponding to the cost of debt recovery) assessed using the World Bank Doing Business database. The white markers represent the overall discount rate that includes an additional internal rate of return that is assumed to represent the premium required by investors for the risk of acquiring NPLs. Consistently with ECB (2017c), an internal rate of return of 15% is used in this paper. This is at the lower end of the 15-25% range which Ciavoliello et al. (2016)¹⁷ suggest investors seek to acquire bad loans. Using a minimum 15% internal rate of return assumption,¹⁸ the resulting average discount rate in OECD economies would reach 38%. Nevertheless, there is a high heterogeneity across economies as reflected by ranging discount rates between 24% and 61%.

Figure 9. Estimated discount rates on NPLs sold in OECD economies, on average 2016-2019



Note: The cost of enforcing claims through individual legal systems includes court fees and government levies, fees of insolvency administrators, auctioneers, assessors and lawyers, and all other fees and costs. However, it excludes operational costs covered by the creditor (i.e. wages and salaries of involved staff members, costs of IT infrastructure). Average data are shown in this figure for the cost of enforcing claims through individual legal systems and have been calculated over the period 2016-2019.

Source: World Bank Doing Business database, OECD calculations.

¹⁷ The authors argue that investors use higher discount rates for valuing NPLs than banks because they usually face higher costs of capital and different contractual positions.

An NPL coordination platform could help overcome sources of market failure and induce new investors to enter the market (ECB, 2017c). Such a platform consists of collecting NPL data and storing them in a central data warehouse. It allows much easier access to this information by investors, traders, structurers, rating agencies, consultants and/or competent authorities. Box 4 provides examples of national NPLs coordination platforms and detailed information about the project of creating a pan-European platform.

There are several other advantages of such a platform. It helps improve due diligence processes and makes them more affordable by requesting that participating banks use standard data templates for NPLs. In addition, such a platform can fulfil a “clearing house” function as it is a single point of contact for potential investors that enables them to package assets originated from multiple banks without having to approach them individually. The main purpose is to contribute to the growth in NPL trading by increasing transparency around NPLs and help remove moral hazard. These benefits should help facilitate the functioning of the secondary market for NPLs and boost liquidity. Transparency of outcomes will improve accountability and raise investor interest and, in particular, the NPL market being opened up to new investors. The latter point is crucial, as wider investor participation may result in lower bid-ask spreads due to increased price competition in the market and entrance to the market by investors with lower risk tolerance (European Commission, 2018b).

Ownership and risk transfer of assets contained in the NPL platform would only take place at the point of sale from banks to investors, thereby avoiding any state aid issues related to the set-up and operation of such a platform (ESRB, 2017). In fact, the cost of such a platform could realistically be covered by participating banks as long as the costs could be offset by the gains resulting from smooth market dynamics (i.e. facilitated by improved coordination and increased investor interest) that improve the NPL same price for banks. Nevertheless, given that the platform would be processing commercially sensitive and possibly personal data, it may face obstacles arising from data protection regulations in these areas.

The role of national authorities may consist of reviewing and amending regulations that impact the operations of the coordination platform. Notably authorities should ensure a right balance between confidentiality requirements in these fields and the operational requirements of the platform and its clients. To overcome the challenges that relate to non-transferability, regulations concerning licensing and ownership should also be reviewed to ensure an appropriate balance between stimulating markets and protecting debtors. Robust governance standards, including clearly defined responsibilities, internal control mechanisms and sound internal procedures for accounting, data protection and administration, would be important for platforms, for instance, in order for them not to be dependent on debtors’ consent to process NPL data.

¹⁸ Depending on their risk preferences for acquiring NPLs, discount rates required by investors could exceed 15%. However, granular data are unobservable as it is private information for banks and market participants. Therefore, the results detailed in the report provide an estimate of minimum bid-ask spreads banks may face when selling their NPLs.

Box 4. Examples of national NPLs coordination platforms and the project of a pan-European platform

National initiatives for NPL coordination platforms

Examples of national initiatives that aim to resolve NPLs are the coordination platforms established in Portugal, Greece and Spain (European Commission, 2018b; Ernst and Young, 2020).

- In Portugal**, a private coordination platform PNCP (Integrated Bank Credit Trading Platform) was launched in early 2018 by three major Portuguese lenders including Millennium BCP, Novo Banco and state-owned Caixa Geral de Depósitos. The objective of the platform consisted of achieving a closer cooperation in terms of restructuring non-performing claims that were common to at least two of the founding banks on behalf of the lenders. PNCP was an open entity to all other banks from the Portuguese banking system. The main purpose of this platform was to maximise the value of the NPLs and possibly restore the status of these exposures back into the performing category (the assets were not transferred nor sold). The platform was intended initially to function for a period of three years. However, the three aforementioned banks decided to close down the platform in the first half of 2020. The setting up of the platform coincided with a period during which other initiatives to decrease the level of NPLs became more effective (including, not only the secondary market for NPLs, but also cures and recoveries).
- In Greece**, two coordination platforms have been created in 2018 by a consortium of the four systemic banks including Alpha Bank AE, Eurobank Ergasias SA, National Bank of Greece SA and Piraeus Bank SA.

“*Project Solar*” is aimed at curing and maximizing recoveries from NPLs of SMEs that have exposures towards two or more banks. As per the functioning of this platform, the bank keeps holding NPLs on its balance sheet but exchange information with the servicer on a frequent basis to ensure its efficient functioning. Depending on the cooperativeness and the debt sustainability of each debtor, managing debtors may facilitate restructuring or proceed to liquidation.

“*NPL Forum*” is aimed at achieving a closer cooperation in terms of loan restructurings of NPLs of corporates and SMEs with significant exposures towards at least three out of the four systemic banks. Members of the NPL Forum meet on a regular basis to discuss the cases of troubled borrowers, and to figure out possible agreement and implementation of common approaches.

- In Spain**, the well-established AMC SAREB maintains several independent platforms on its website that market loan portfolios to institutional investors and real estate development companies, as well as individual properties to citizens. The aim is to provide more transparency to loan sales processes and expand the potential investor base. In practice, SAREB’s platform is targeting transactions and works in parallel with independent servicers that also sell NPLs via their own online platforms.

A Pan-European coordination platform for NPLs

The European Commission, the EBA and the ECB launched a joint project in November 2018 aimed at promoting secondary markets for the resolution of NPLs and establishing a European platform to facilitate NPL sales by banks (EBA, 2019). On the basis of a public consultation, that would be performed during the period from June 16th to September 8th 2021, the European

Commission would explore the several alternatives and determine the best way forward (European Commission, 2018b, 2020, 2021).

This initiative consists of establishing a central data hub that would offer a platform for cooperation and coordination with a pan-European scope underpinning the NPL market. The hub would operate a comprehensive electronic database, assess the information and provide access to market participants. Common data standard would be established with efficient data quality checks and automated validation processes that would assist sellers with their data preparation for reporting. The main purpose is to increase transparency on transactions to support price discovery and thereby improve market efficiency. Notably, banks, credit servicers, AMCs and potentially credit purchasers would share information with the data hub on transactions and on the post-trade performance of assets. In return, these data providers would gain access to the pool of anonymised data and to the analytical services offered by the data hub. This would allow market participants to compare transactions and gain insights into the actual pricing of assets and market liquidity on a systematic basis. Therefore, this would help narrow the often high bid-ask spread, which remains a material hurdle that prevents many transactions from happening. Also, NPL buyers providing post-trade information on workout cash flow for the assets that they have purchased would deliver crucial information on recovery and expense cash flows. Performance data would support the decision-making process of investors interested in similar assets and would help them in determining the prices they are willing to pay and helps diminish uncertainty.

Centralised asset management companies

Banks' NPL reduction strategies can be also based on the establishment of a centralised AMC that is a legally separated entity tasked with purchasing NPLs from banks, providing services in the workout of debt, and disposing of them in an orderly manner to investors. They differ from a large, independent investor in that they are often supported by the government, through either government capital, funding support or guarantee, to pursue public policy objectives.

AMCs offer potential solutions to address potential market failures of secondary NPL markets. Notably, AMCs are aimed at facilitating bank-wide NPL disposal by coordinating sales that minimise market disruptions and maximise value (Kliengebiel, 2000). In fact, the AMC structure could offer a number of potential benefits, including economies of scale (Woo, 2000; ESRB, 2017), expertise, data availability and transparency, bargaining power, order, and constructive engagement with judicial processes that would allow banks selling assets at economic rather than market values.¹⁹ Moreover, assets' disposals can be spread over a longer period of time, preventing the negative effects of fire sales on prices (Medina Cas and Peresa, 2016).

Nevertheless, several challenges are associated with the set-up and functioning of AMCs. Notably, asset type and funding structure are important for AMCs success to recover value from the NPLs it acquires (BIS, 2017). In fact, AMCs would be more likely to achieve economies of scale and accurate risk assessment when they purchase assets that have more standardised criteria and data availability. Another

¹⁹ An AMC improves data availability, through centralising data collection and organising existing data on loan performance, collateral valuations, and pricing of NPL sales, to make comparable and useful information more readily available for interested investors. Nevertheless, data centralisation requires a certain level of expertise and specialisation in key aspects of data collection, loan management, workout and liquidation, and IT and support services. Also, orderly sales process help to build demand while managing supply, and use collective bargaining power to facilitate positive dynamics for sale. Finally, corporate workouts are facilitated and contribute to enhance loan performance, for sales to possibly occur at the required return on investment.

important aspect is the implications of AMC equity and funding structure for its hurdle rate for investments and the distribution of risks and returns. In fact, government support may provide AMCs sizeable operational resources and facilitate AMCs access to private funding. Also, bank equity participation has to be encouraged to mitigate bank moral hazard and limit taxpayer risk on expected losses. In fact, rules aimed at mitigating moral hazard to arise in banks' behaviour may be of particular importance given the expected prolonged low interest rate environment for the coming years, that may probably incentivise banks to search-for-yield strategies if these entities were to be constituted. In addition, bank equity participation may influence transfer pricing and incentive problems. Under typical circumstances, banks would accept to sell NPLs to AMCs at net book value, preferably well above market value, to postpone capital charges. Nevertheless, AMCs receiving equity from the state or third party investors aim to minimise losses on investment and would prefer conservative pricing on NPLs bought from banks. Based on best practices, AMCs could accept transfer prices corresponding to the real economic value of the assets, typically defined as the expected discounted cash flows, that balances the risks and constraints of each stakeholder for a durable solution. Nevertheless, the fact that state aid rules may narrow the options by which banks transfer loans to AMCs and by which AMCs are funded (for example in the European Union) warrants increased attention as navigating these rules could potentially result in suboptimal outcomes both for banks and states (IMF, 2016b).

Given that AMCs are often capitalised by governments or other public sector institutions, they may be subject to political interference with respect to conflicting policy objectives that may consist of maximising value through loan workouts or liquidations while maintaining social benefits, such as employment or home ownership. This may result in implementation delays or suboptimal financial outcomes to the AMC. Lastly, government support may complicate divestment processes and AMC closure given other economic or political considerations. In some cases, AMCs could operate indefinitely, creating a perpetual moral hazard that increases the likelihood of loose underwriting standards during peaks in the credit cycle.

In practice, centralised AMCs have been set up in several countries to tackle NPL problems. Examples of system-wide AMCs include, inter alia, Securum and Retrieva in Sweden in the 1990s, Danaharta in Indonesia, KAMCO in South Korea, also in the 1990s, NAMA in Ireland (2009), REVERTA in Latvia (2010), SAREB in Spain (2012) and DUTB in Slovenia (2013). Box 5 summarises the main features of AMCs established in Europe following the GFC. These AMCs typically addressed the fallout from crises that stemmed from rapid credit expansions or real estate booms, rather than prolonged macroeconomic underperformance. Nevertheless, the establishment of a centralised AMCs may have negative implications for public finance. For example, the reclassification of the Spanish AMC, namely SAREB, in the general government sector as of the end of 2020 has affected the public deficit and the stock of general government debt under the excessive deficit procedure. According to the provisional information available, the increase in consolidated debt as a result of this reclassification was EUR 34.2 billion in December 2020, representing 3% of GDP at market prices (Banco de Espana, 2021).

A growing number of authors have proposed the setting up of a pan-European government backed AMC, consistent with legal framework, as the main way to mitigate market failures and solve European banks' problem with NPLs. Enria et al. (2017) first suggested the concept of either a coordinated blueprint for a government sponsored AMC or a European AMC. According to their views, state support could materialise only at the end of the NPL life cycle. This implies that the bank takes the loss that equals the difference between the net book value and the real economic value at the time of transfer but receives a guarantee from its sovereign if the sale price would be lower than the real economic value (i.e. the transfer price). If the guarantee is triggered, state aid and corresponding burden-sharing is involved.

An alternative solution has been suggested by Avgouleas and Goodhart (2017) that will combine a national and a European layer. Workout operations would be performed by the national AMCs and a pan-European holding company would preside over them. Member States would be the shareholders of the supranational AMC and the pan-European AMC would act as a private investor holding stakes in national AMCs. Participating banks would be the remaining shareholders in the country-level AMCs. An important feature

is that profits and losses would be cleared at national levels. This implies that losses would be first absorbed by the national AMC's shareholders (banks and the supranational AMCs), but they would be capped according to specific rules. The remaining losses, if any, would be covered by a European Stability Mechanism guarantee that a country could withdraw under the indirect recapitalisation tool. This would leave the bondholders of the national AMC with limited exposure to AMC losses, which could boost the chances to find private investors.

Nevertheless, the setting up of a national AMC with state involvement in the European Union is much more difficult than before the entry into force of the Bank Recovery and Resolution Directive (BRRD) in 2014 (European Parliament, 2014). In particular, as put forward in the European Commission's AMC Blueprint, published in March 2018 (European Commission, 2018c), there are two options for state involvement in an AMC outside resolution (i.e. a private solution would be very difficult to establish in a crisis period): (i) with no state aid involved (i.e. the AMC buys NPLs from banks at market value, acts as a market economy operator and does not provide any economic advantage to the ailing banks) or (ii) under a precautionary recapitalisation, provided the specific state aid conditions for impaired asset measures are also respected. Both options may have a negative impact to financial resilience in a systemic crisis period. Notably, the former option may not be feasible at all due to the impact it may have on banks' capital, whereas the alternative option, while conferring a smaller immediate loss (i.e. as it allows for a transfer price above the market price) has significant constraints, such as burden-sharing and the need to comply with BRRD rules. In particular, the condition according to which precautionary recapitalisation "shall not be used to offset losses that the institution has incurred or is likely to incur in the near future" (Article 32 of BRRD) is very difficult to envisage in a context of NPL treatment.

Box 5. The centralised AMCs established in Europe following the Global Financial Crisis

This box summarises the main features of AMCs established in Europe following the GFC.²⁰ The establishment of AMCs in Ireland (NAMA²¹), Latvia (REVERTA), Spain (SAREB²²) and Slovenia (DUTB²³) acted as catalysts for their banks to radically decrease their NPLs but also for the development of secondary NPL markets. However, as noted by the EBA (2019), this type of solution is now more difficult to implement as the EU regulatory context has changed (European Commission, 2018c).

- **NAMA (Ireland)** was set up in 2009 by the Irish government to clean Irish banks' balance sheets of problem commercial property loans and enable banks to resume normal lending activities and support a recovery in the domestic economy.

Given the nature of NPLs, additional capital would have been required to complete projects in order to maximise the potential value of such exposures. Therefore NAMA was created as a single well-resourced AMC that would enable the financing of such operations as well as benefit from economies of scale.

NAMA was set up as a special purpose vehicle (SPV) in order to prevent the debt it issues to purchase acquired loans to be treated as part of Ireland's general government debt under

²⁰ The information in this box draws mostly on BIS (2017), ESRB (2017), Tam (2019), IMF (2017) and REVERTA company information webpage and annual reports.

²¹ National Asset Management Agency.

²² Sociedad de Gestión de Activos procedentes de la Reestructuración Bancaria.

²³ Družba za Upravljanje Terjatev Bank.

European accounting rules. NAMA established an investment holding company which is majority-owned by private investors (51%), so that NAMA's ownership is a private/public hybrid. Senior bonds issued by NAMA are senior unsecured floating rate notes with a one year maturity that are guaranteed by the Minister for Finance of Ireland.

All Irish banks were eligible to transfer loans relating to commercial real estate and five banks (out of the six covered by the Irish State liability scheme) participated. The purchase price paid by NAMA was based on the long-term economic value of the loan, adjusted for the long-term economic value of the underlying property that was likely to be attained. The main purpose is to encourage banks' selling their NPLs to NAMA at a price equal or above prevailing market value at the time. In exchange, the banks received government bonds worth 95% of the transfer value as well as subordinated debt representing the remaining 5%. Payment on the latter was directly related to the performance of NAMA.

NAMA's total NPL portfolio has continuously declined from EUR 28 billion in 2010 to EUR 1.2 billion in 2019 (Figure 10). At end-2020, the total cumulative cash generated amounted to EUR 46.2 billion. In March 2020, NAMA redeemed the final outstanding EUR 1.06 billion in subordinated debt, completing the full repayment of all EUR 32 billion debt originally issued by NAMA to acquire loans. In May 2020, NAMA acquired the EUR 56 million private investor equity, eliminating the Agency's final outstanding external obligation and giving the Irish State 100% ownership of NAMA.

Figure 10. Evolution of NAMA loan portfolio and cumulative generated cash



Source: NAMA annual reports.

- **REVERTA (Latvia)** started in 2010 as the leading distressed assets management company in the Baltics with its main goal to recover the maximum of State Parex Banka's recovery investments.

Parex Banka, the largest Latvian bank with national capital and established in 1992, experienced severe solvency issues at the onset of the GFC. In November 2008, having assessed its potential influences on the Latvian banking sector and the national economy in general, the Cabinet of Ministers passed a resolution to purchase the controlling stake in Parex Banka. The State, as represented by the Privatisation Agency, became the largest shareholder

in Parex Banka. A portion of Parex Banka's shares were later bought by the European Bank for Reconstruction and Development (EBRD).

As a result of its August 2010 restructuring, Parex Banka began to work as a "resolution bank" with the aim of recovering state assets that have been deposited in its accounts. At that time, servicing accounts and deposits, granting loans, and other basic banking services were discontinued. From that point on, the only measure of Parex Banka's work became the volume of assets it recovers. The brand Reverta was created in 2011 as Parex Banka began to work as a professional distressed AMC. With assets under management amounting to almost EUR 1 billion, Reverta remains one of the largest distressed AMCs in the Baltic region.

At end-2016, audited financial statements show that between August 2010 and the end of 2016 Reverta had recovered EUR 740 million or 66% of all distressed assets left to Reverta after the takeover and split of Parex Banka. In August 2016, Reverta signed an agreement with KMPG Baltics for receiving expert's advice on the sales process of its loan portfolios. Reverta was liquidated in July 2017, i.e. after six years of operation. Reverta's loan portfolio has been sold to the international company Gelvora which is part of a Swedish financial holding Marginalen AB.

- **SAREB (Spain)** was established as a private for-profit company with a public mandate as part of the Memorandum of Understanding (MoU) that the Spanish government signed in July 2012 in order to receive financial aid for the banking sector. The majority of the shares are privately owned (55%), while 45% are owned by the public Fund for Orderly Bank Restructuring (FROB), which was established in 2009 to assist the restructuring and recapitalisation of credit institutions.

In terms of eligible banks, the MoU determined that any credit institution that obtained public financial assistance was obliged to transfer some of its real estate exposure to the SAREB. SAREB's main objective is to facilitate NPL resolution for the institutions that were experiencing difficulties as a result of excessive exposure to the real estate sector. Banks that were in financial difficulty could transfer their real estate assets to, with the aim of mitigating the risks associated to those assets and therefore carry out an orderly divestment of the distressed assets.

SAREB received almost 200,000 eligible assets including loan exposure in the development sector and foreclosed properties in two phases, together valued at EUR 50.8 billion. The first tranche was transferred on December 2012 for a total amount of EUR 36.6 billion including assets from five nationalised banks.²⁴ In February 2013, a second transfer has been performed for a total amount of EUR 14.1 billion including assets from four banks that received state funding.²⁵ Out of all of the assets transferred to SAREB, 80% were loans and 20% were properties. Transfer values were determined by the Banco de España based on the economic value of the asset transferred calculated using conventional valuation techniques and the valuation adjustments resulting from consideration of specific terms of the transfer operation to be conducted and the viability of the business plan of SAREB itself. In exchange, the banks received senior bonds guaranteed by the state.

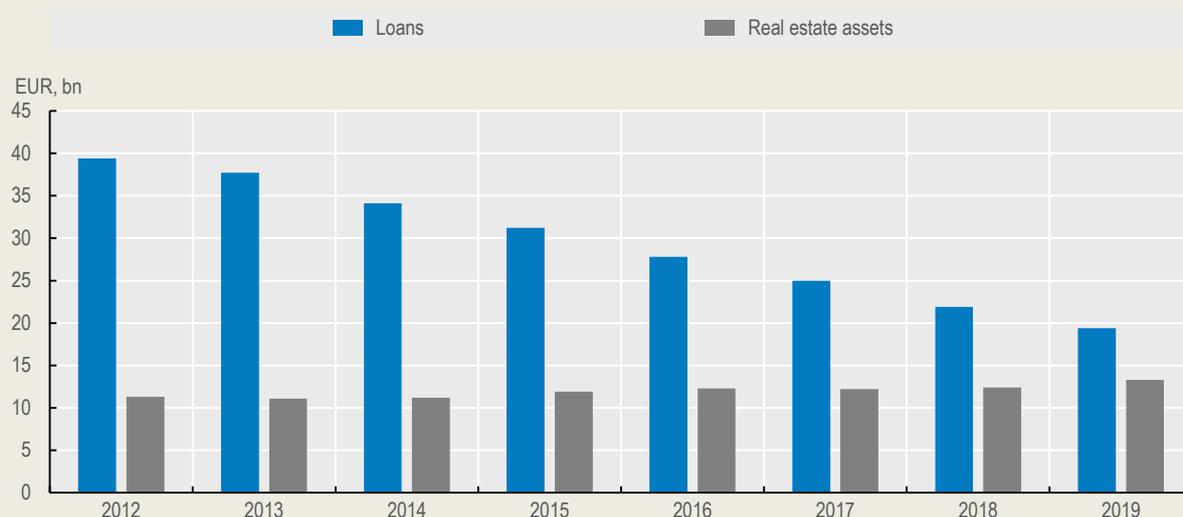
SAREB is envisaged to be operational for 15 years. In 2019, the assets received have been reduced by 55% (Figure 11) and more than 106,200 properties have been sold. Also, senior

²⁴ The following banks have been nationalised: Bankia, Catalunya Banc, NCG, Banco Valencia and Banco Gallego.

²⁵ The following banks received state funding: Banco CEISS, BMN, Liberbank and Caja3.

debt has declined from EUR 50.8 billion in 2012 to EUR 35.1 billion in 2019, equivalent to a debt redemption of 31%.

Figure 11. Evolution of SAREB asset portfolio



Source: SAREB annual reports.

- DUTB (Slovenia)** was established in March 2013 as a company fully owned by the Republic of Slovenia with the task of facilitating the restructuring of banks with systemic importance that were facing severe solvency and liquidity problems. In fact, DUTB has the following several core missions: stabilise the Slovenian financial sector by implementing the bank stability act (ZUKSB-A) through taking over non-performing assets from systemically important banks; promote confidence in the financial system and to operate in accordance with the highest international standards of governance; maximise the recovery value of assets acquired; and facilitate and encourage sustainable corporate restructuring in Slovenia.

DUTB issued debt instruments amounting to a nominal value of EUR 1.56 billion in December 2013, October 2014 and December 2014. The debt securities yields were 3.75%, 4.50% and [1.50% and 1.375%] in December 2014, with maturities of two and three years for debt securities issued in 2013 and 2014 respectively.

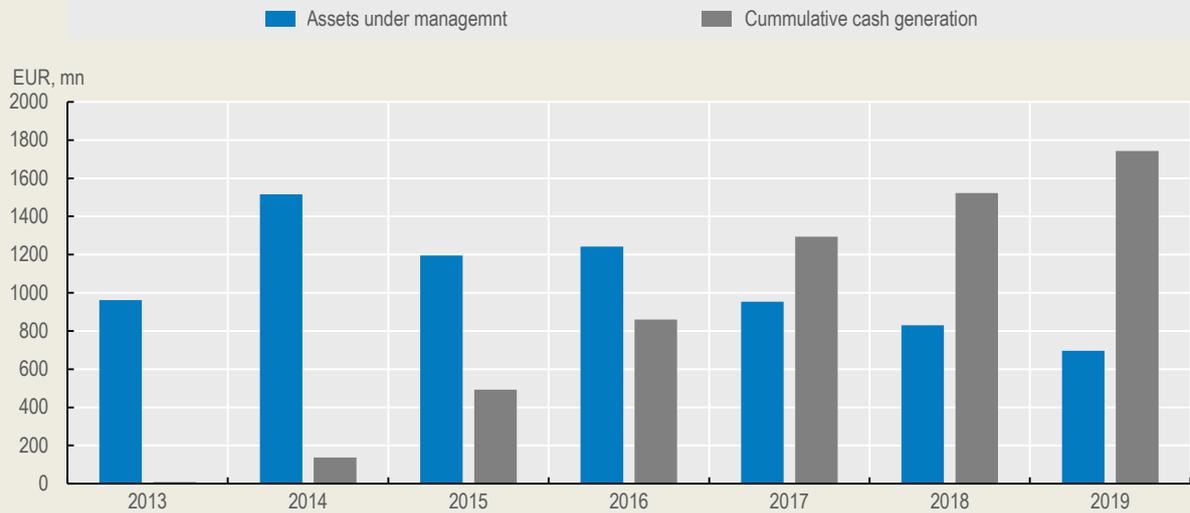
Banks which received state aid in the form of recapitalisation are obliged to transfer assets. Actual participants included the two largest banks in Slovenia in 2013, as part of a recapitalisation scheme. In 2014, two additional banks participated. In accordance with the terms of state aid eligibility, all of these banks are now fully state-owned. In addition, two of the banks were wound down in February 2016.

In terms of the actual transfer, all corporate loans are eligible. The valuation methodology was defined by the European Commission. This transfer value of the assets represents around 5% of Slovenian GDP and 4.7% of total banking assets. In exchange, the banks received bonds issued by DUTB.

DUTB is envisaged to be operational until end 2022. DUTB total assets under management have declined substantially since its inception from EUR 1.5 billion in 2014 to EUR 700 million

in 2019 (Figure 12). Since its inception and until the end of 2019, DUTB generated EUR 1.7 billion of cash from its asset management.

Figure 12. Evolution of DUTB assets under management and cumulative generated cash



Note: Total assets under management include claims, real estate and equity.

Source: DUTB annual reports.

NPL securitisation

NPL securitisation can be characterised as a significant transfer of risk associated with impaired assets without a complete separation of the assets concerned.²⁶ Through this process, the bank that originated the NPLs sells them to an unaffiliated SPV at a discount price compared to the face value of the NPLs. The SPV funds the purchase of the NPLs and the initial costs of the structure through the issuance of debt instruments to investors in different tranches (i.e. senior, mezzanine and subordinate). Underlying NPL portfolio servicing is performed by the originating bank or a third party appointed by the SPV.

Securitisation of NPLs offers advantages for both the banks involved and the external investors (BIS, 2017; ECB, 2017a). The main benefit for the bank is that the NPLs may be derecognised from the bank balance sheet, as the major part of risk is transferred to another party, in the case where the originating bank does not retain the junior or equity tranche. Securitisation helps to address potential market failures of secondary NPL markets and increase liquidity by converting NPLs to marketable securities. The diversification of risk away from a single credit name and the use of tranches that enables investors to choose the risk-reward combination that best reflects their preferences helps to attract different profiles of investors and lower the average cost of funding. Also, the greater liquidity of high rated senior tranches reduces the bid-ask spread and the ability to use them as repo and central bank collateral also contributes to broad-based demand. The tranche structure provides greater optionality for state intervention that may allow for efficient and value-maximizing entry points for the state to support. Therefore, securitisation may lead to higher NPL prices than direct sales and AMCs. It is worth noting that when dealing with small NPLs, to households or

²⁶ It may be difficult to find solutions whereby the securitised NPLs can be fully derecognised due to potential lack of demand for mezzanine and junior tranches. As such, significant parts of the risks would remain with the selling bank in such transactions.

SMEs, securitisation also implies some economies of scale versus the high transaction costs of selling such NPLs individually (Aiyar et al., 2015).

The securitisation approach may also give rise to challenges (ESRB, 2017). The quality assessment of NPL portfolios to be securitised may be costly as the due diligence involved in assessing granular portfolios suitable for securitisation is significant. In fact, the requirements for risk assessment of SME loan portfolios would be particularly costly given the large heterogeneity of such loans, their small size and large number (OECD, 2014). The costs of this process would also depend greatly on the quality of the available data to ensure sufficient quality of loans to complete the structure, as required ratings for senior tranches entail extensive data requirements. Notably, rating agencies have to consider specific criteria related to the non-performing status of the loan (Fitch Ratings, 2019), such as recovery amounts and timing²⁷ and cashflow timing mismatches²⁸, to assess new and monitoring existing rating of NPL transactions backed by real estate collateral and unsecured loans. Also, the existence of a market for securitised products is not a given. Underdeveloped local capital markets and the fact that institutional investors may be less accustomed to holding these assets can hinder the development of active securitisation markets to dispose of NPLs. The smaller scale of NPL securitisation activities compared to AMCs could be a substantial impediment mainly due to much smaller economies of scale. Also, the complexity involved in structural features, aimed at providing sufficient credit and liquidity support to obtain appropriate support for the various tranches in the SPV, renders public sector support necessary (IFC, 2019). Lastly, risk retention rules that are now in effect in the United States and Europe among other jurisdictions may undermine some of the benefits of risk transfer schemes for banks. However, risk retention rules may help to reduce moral hazard and bank exposure to loss may give confidence to investors that purchase more senior tranches.

The securitisation approach may be more beneficial in improving NPL market liquidity than direct sales and AMCs, yet it also raises some challenges that authorities and banks would need to overcome. Notably, depending on their mandate and risk tolerance, certain investors (i.e. institutional investors) would need to have a senior position in the capital structure to reduce downside risks. Therefore, as highlighted by the ESRB, banks would need outside parties that would also like to invest in equity and mezzanine tranches in order to derecognise the risks, thereby maximising the gains of this disposal strategy. Government co-investment in the equity and guarantees on tranches may help the securitisations appropriately support highly-rated senior tranches, and signal confidence to investors that the state has an incentive to facilitate improved judicial processes to work out loans. Recent examples are the implementation of state guarantee schemes in 2016 in Italy (the *Garanzia Cartolarizzazione Sofferenze* or GACS) and Greece (Hellenic Asset Protection Scheme) designed to assist banks in securitising and facilitating the removal of NPLs from banks' balance sheets. Box 6 provides detailed information on historical NPL securitisation and related governmental guarantee schemes in Europe.

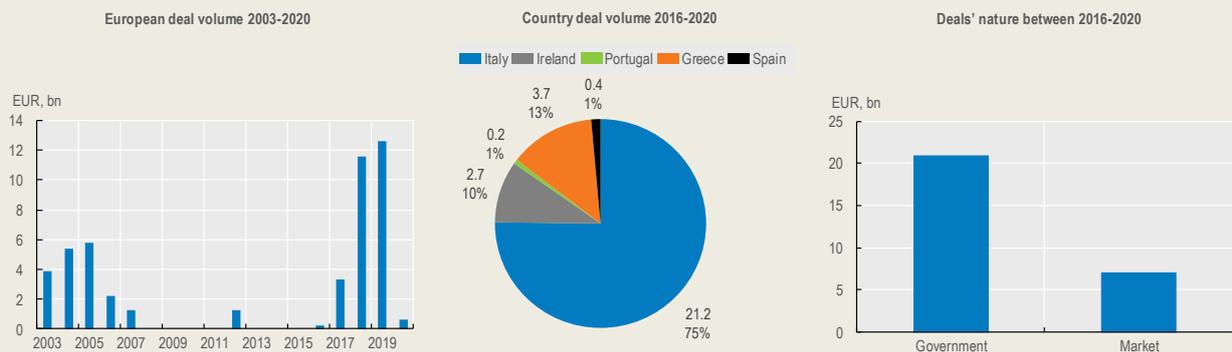
²⁷ Estimates of recovery levels and recovery timing are the primary basis for loan and property cash flows. A loan-by-loan analysis is used to derive the amount and timing of recoveries, taking into account the characteristics of the borrower, the loan and any underlying property securing the loan, as well as any jurisdiction-specific circumstances.

²⁸ Given the non-performing or defaulted nature of the loans, the cashflow timing profiles of NPL assets tend to be irregular. Therefore, resulting liquidity shortfalls need to be addressed with liquidity facilities or reserves.

Box 6. NPL securitisations and related governmental guarantee schemes in Europe

Origination activity in the NPL securitisation market in Europe shut down almost completely after the GFC. Nevertheless, largely facilitated by the implementation of state guarantee schemes in 2016 in Italy and Greece, the NPL securitisation market experienced a rebound in activities. Since 2016, there have been total transactions of EUR 28.2 billion by notional value (Figure 13), with over 75% of the deals based in Italy, followed by Greece, Ireland, Portugal, and Spain. Around 75% have included an element of government guarantee.

Figure 13. NPL deal volume by instrument notional, 2003-2019

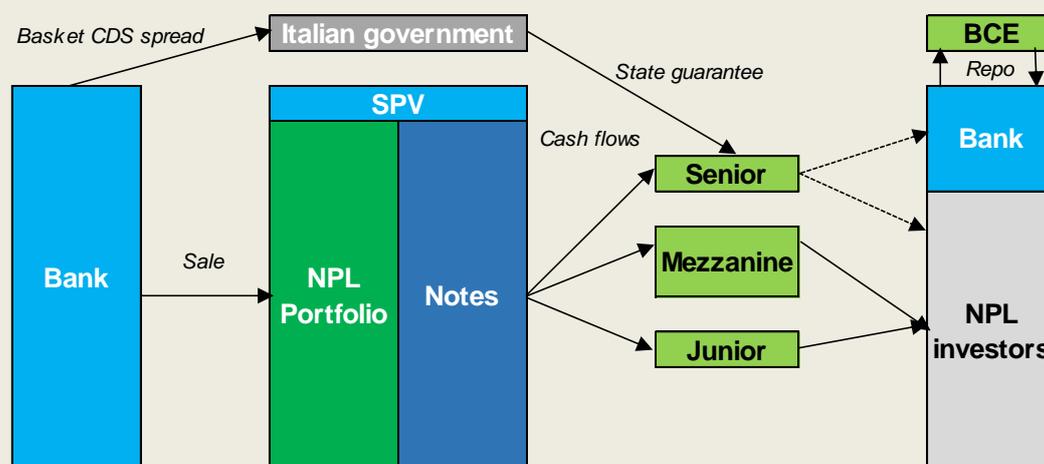


Source: Deloitte (2020).

Garanzia Cartolarizzazione Sofferenze (GACS)

In early 2016, the Italian authorities launched a state guarantee scheme as part of securitisation transactions having NPLs as underlying assets aimed at reducing the NPL stocks from the books of Italian commercial banks. As for the securitisation process, Italian banks sell their NPLs to SPVs established by a third-party service provider, which pools the NPLs into senior, mezzanine and junior tranches. State guarantees apply to the senior tranches only in order to secure investment grade ratings (Figure 14). The guarantee price is calculated on a basis of a basket of single name Italian corporate issuers CDSs with the same rating associated to the guaranteed securities and will be time varying to cover for increasing risk and provide incentives to recover the loans in the most efficient manner (Italian Ministry of Economy and Finance, 2016). These features are designed for GACS programme to comply with state aid rules. GACS cover NPLs only so that excluding unlikely-to-pay exposures. In March 2019, the Italian Government extended GACS for another 24 months where after it will be extendable by another 12 months.

Figure 14. Structure of NPL securitisation and Italian State guarantees of senior tranches



Source: Deloitte (2020).

The scheme had a slow start in 2016 but it consolidated strongly over the following years totalling 27 transactions at end-2020, financed by the issuance of EUR 17.7 billion of bonds, of which EUR 14.4 billion are senior and therefore covered by a public guarantee.²⁹ According to service providers and rating agencies, 16 out of 27 deals have delays in the repayment of NPLs. Such delayed repayments total approximately EUR 500 millions. In the vast majority, delays are due to the pandemic and the closure of courts in the second quarter of 2020. In any case, none of the three tranches (senior, mezzanine and junior) has recorded losses so far, despite the pandemic. In terms of pricing, the notional value of the notes is not an indication of the value of the portfolio as the senior notes are usually retained by the bank at face value but mezzanine and junior notes are sold to third party investors at discount. Therefore, the price of the transaction is the sum of the notional value of the senior notes and the sale values of the mezzanine and junior notes. Deloitte performed an analysis of sale prices of mezzanine and junior notes of 17 GACS transactions (Deloitte, 2020). For greater clarity, transactions have been split further into different asset mix degrees from secured to unsecured. Results show that GACS transactions have commanded higher prices than direct sales for mostly unsecured and mixed asset portfolios (Table 1). Nevertheless, in the secured and mostly secured asset mix, no significant difference in prices is observed between GACS and direct sales. These results suggests that market participants are improving their understanding of the products and prices are adjusting to more closely reflect the real value of the underlying assets.

Table 1. Price comparison between securitisation and direct sales for mezzanine and junior notes of GACS transactions

	Secured	Mostly secured	Mixed	Mostly unsecured	Not know
GACS	32%	29%	20%	19%	-
Direct sales	32%	28%	17%	12%	4%

Note: Data are expressed as a share of gross book value of transaction. Estimates have been performed using mezzanine and junior notes of 17 GACS transactions.

Source: Deloitte (2020).

²⁹ See Angelini (2021) and the box “The performance of operations backed by guarantee schemes for the securitization of bad loans” in Banca d’Italia (2021).

Hellenic Asset Protection Scheme (HAPS)

In 2019, the Greek government, with the agreement of the European Commission, has implemented the Hellenic Asset Protection Scheme (HAPS, also called “Hercules”) similar to the Italian GACS scheme. The scheme aims to accelerate Greek banks’ disposal of NPLs and reduce the stock of NPLs to 20% by the end of 2021.

The HAPS is a voluntary scheme that envisages state guarantees (up to the amount of EUR 12 billion in total) on senior notes and provides the possibility for Greek banks to transfer NPLs to SPVs that will finance the acquisition through the issuance of notes in different tranches. In line with the GACS framework, to ensure the state aid-free nature of the scheme, the cost of the guarantee is based on the Greek government’s CDS. Due to the current long-term sovereign rating of Greece, the minimum rating required for the senior notes is non-investment-grade, at least “BB-”. Only one credit rating is required, with the option of having a second. The guarantee provided by the Greek government is expected to last until April 2021, and any extension is subject to an agreement with the Single Supervisory Mechanism.

Large Greek banks including Alpha Bank, Eurobank, Piraeus Bank and National Bank of Greece are participating in HAPS with expected NPL securitisations of EUR 32.5 billion (S&P Global Ratings, 2020). Under HAPS, Alpha Bank intends to securitise about EUR 12 billion and reduce its NPL exposure to below 20%. Similarly, Eurobank will securitise about EUR 7.5 billion of a mixed portfolio of secured and unsecured loans and decrease its NPL exposure to below 20% in 2021. In addition, Piraeus Bank plans to use the HAPS to securitize EUR 7 billion of NPL and reduce its NPL exposure to below 30%. Lastly, National Bank of Greece would launch securitizations under the HAPS in excess of EUR 6 billion.

Differences between GACS and HAPS

Although GACS and HAPS are similar, they are not identical and the main differences are summarised in Table 2.

Table 2. Asset protection schemes GACS and HAPS compared

GACS	HAPS
Minimum rating required	
Investment grade, at least BBB.	Non-investment-grade, at least 'BB-'. Only one credit rating is required, with the option of having a second.
Guarantee pricing	
Linked to a basket of single name CDS of Italian corporates.	Based on the Greek government's CDS.
Servicer fee deferral	
Net proceeds need to be lower than 10%.	Net proceeds need to be lower than 20%.
Mezzanine interest deferral trigger	
Deferral of mezzanine interest compulsory if net cumulative collection ratio is below 90%.	Greek law requires the deferral of at least 20% of mezzanine interest if net cumulative collection ratio is below 80%.
Servicer replacement upon enforcement of the guarantee	
Servicer replacement must occur if net cumulative collections are below the business plan level for two consecutive payment dates.	Servicer may be replaced if net proceeds are lower than 30% for two consecutive payments.
Guarantee payout	
The Italian government has a maximum of 120 days to pay any interest and nine months after the senior notes' maturity to pay any principal outstanding under the provided guarantee to the noteholders.	In case there is interest or principal due on senior notes, the Greek government will have 80 days to pay the noteholders.

Source: Deloitte (2020), S&P (2020).

Estia in Cyprus

In 2019, the Cypriot government introduced the “Estia” government scheme to facilitate NPL deleveraging of Cypriot banks by delivering a socially acceptable and financially sustainable restructuring solution to vulnerable borrowers who have mortgaged their primary residence as collateral for loans they secured from the bank and who are experiencing financial difficulties in repaying their obligations (Cyprus Ministry of Finance, 2019). This is a one-off scheme open to all Cypriot banks and other financial institutions (including credit acquiring companies) that would choose to participate. Participating banks would have signed a Memorandum of Understanding with the Cypriot government that enquire them offering to all of their eligible borrowers the restructuring terms of the scheme in order for their borrowers to be entitled to the subsidy. According to the terms of the scheme, the state has committed to pay directly to banks a subsidy which is the equivalent of one third of the total monthly loan instalments for the restructured loans that are secured by primary residence. The subsidy would be granted under the precondition that two thirds of the monthly loan instalments are successfully paid by the borrowers to the banks. Banks should each assess the borrower’s repayment ability and would gather the supporting information and documents in order to assess the fulfilment of eligibility criteria.

“Estia” scheme alleviates borrowers’ debt burden as the government subsidises part of their interest and principal payments. Also, the repayment period is lengthened, depending on the borrowers age and in the event that certain conditions are met. Such government-sponsored scheme encourages banks to perform loan restructuring and ensures that banks will collect some cashflows on at least one third of the total monthly loan instalments for the restructured loans.

To be eligible for the scheme, borrowers must meet certain wealth, income and other criteria. In order to benefit from the scheme, borrowers must come to an arrangement with the bank regarding the restructuring of their loans.

Applications were officially accepted by the participating banks until end-2019.

Debt-equity swaps

Debt to equity swaps are yet another mechanism to address high levels of corporate NPLs in the banking sector. In these arrangements, debt is converted into equity by means of a bank cancelling debt in exchange for shares of the borrower company, which has defaulted on loan repayment. The borrower company commits to give the bank company shares equal to the full amount or a proportion of its debt, and the bank agrees to waive the right to claim such an amount of the receivable. Therefore, this mechanism helps to reduce bank NPLs and alleviate borrowers’ insolvency risk, as well as provide a means to restructure/resolve the indebted firm by changing ownership and incentives. These mechanisms have been used successfully in some countries, for example, by Sweden, the United States and China.

A report prepared by the IMF for China (IMF, 2016a) highlights the key benefits of debt-equity swaps despite significant moral hazard issues with respect to this type of restructuring and additional risks for banks. While debt-to-equity swaps can address insolvency risks, they may provide support to distressed (i.e. non-viable) firms as equity conversion reduces a firm’s debt and borrowing costs. Also, the bank may have weak incentives to pro-actively restructure the firm, especially if the bank is a minority shareholder and if both the bank and the firm are state owned. Also, debt-to-equity swaps facilitate corporate workouts as banks may have limited expertise to run or restructure a business and may need to find competent interim management. Nevertheless, such corporate governance structures may create moral hazard and conflicts of interest. Notably, the bank may keep lending to a related-party for which financial statement and situational information is directly available. However, additional lending can contribute to an increase in a firm’s indebtedness and may hamper efforts to dispose of equity due to rising risk of company’s default and losses for the bank. In contrast to a direct sale, debt-to-equity swaps offer banks financial upside.

Against this benefit, there is a risk that the conversion to equity would occur at unrealistically low valuations associated with the discounted NPL valuations, rather than fair value, especially if equities are thinly traded or not listed at all. Lastly, the use of debt-to-equity swaps to solve NPL problems may be limited for banks depending on the regulation for equity holding. Notably, a high capital charge may be imposed for equity holdings, particularly for entities to which banks lend.

In the IMF report, a number of features have been identified in order to ensure the success of a debt-for-equity conversion scheme. First, debt-to-equity arrangements needs to be performed in line with strict solvency and viability criteria for the targeted firm (IMF, 2015a). Notably, the bank should only convert debt to equity where there are clear advantages to do so and where there is an opportunity to exit the relevant position over the short to medium term. This would require assessing potential targets to ensure that the scheme is made available only to companies with a high chance of success and filter out distressed firms. Also, sound corporate governance practices may ensure that the converted creditors should have the ability to replace management, even when they hold a minority stake. The main purpose is to incentivise management to address existing problems and propose new strategies to attract fresh investors as well as enable former creditors to exit. In addition, bank ownership of equity should be limited in scope and time for the bank not to be distracted from its intermediation function and mitigate moral hazard and conflicts of interest issues. Also, having banks as shareholders of non-financial companies may represent a significant risk for financial resilience. This actually justifies the strict requirements that are imposed by prudential regulation (i.e. higher risk weights associated to these exposures) and which are expected to become more stringent under the Basel III regulatory framework. Lastly, converting debt at fair value and recognizing losses would ensure that the bank proactively identifies and manages impaired assets in an effort to reduce losses. However, the inherent incentive to over-value loans in an effort to minimise the impact of realising losses raises concerns that there will be a conflict of interest. Without any guidance on how debt should be valued, there is a risk that the advantages of the debt-equity conversion will be utilised for short term gains without addressing the true underlying problems which initially contributed to the growing debt problem. For that purpose, AMCs can help reducing the market risk that banks face from NPL restructuring by purchasing foreclosed collateral and converted equity from banks (i.e. after debt-equity swaps; BIS, 2002).

4. Implications for stakeholders and financial system resilience

The success of the various solutions to dispose of NPLs relies heavily on developing strategies that effectively balance the incentives, costs and risks of key stakeholders including banks, investors and distressed debt funds, and national authorities (and taxpayers). In fact, country-specific disposal solutions may reflect differences in the macroeconomic context, the institutional set-up, the financial soundness of the broad financial system, the development of domestic capital markets, the degree of regulatory oversight and the ability or willingness of national authorities to provide support. Notably, market-based solutions are more feasible for countries with relatively developed capital markets and with comprehensive regulatory oversight that may help assessing the degree of contagion across the financial system in order to prevent NPL resolutions in a way which simply transfers risks to other parts of the financial system. Therefore, this section discusses the various benefits, costs and risks and the implications of the COVID-19 crisis for those stakeholders directly involved, and more broadly across the financial system.

4.1. Banks

As discussed in section 3, NPL reduction targets can be achieved through either an “on-balance sheet” approach for NPL resolution (i.e. internal recovery) and/or market-based disposal strategies. The main purpose is to remove significant levels of NPLs from the banking system, so that banks can play a key role in dealing with the effects of the COVID-19 crisis by maintaining the flow of credit to the economy. Nevertheless, the implementation of a sustainable mix of resolution strategies for banks would depend on several key bank-specific and macroeconomic factors (Porter, 1980).

NPL reduction targets should be defined considering the current state of bank financial soundness along with risk and capital management and provisioning projections to ensure the sustainability of NPL resolution strategies (Mazzu and Muriana, 2018). Following the COVID-19 crisis, challenges to the capital of certain banks are particularly concerning, even though they entered the crisis with higher capital ratios than before the GFC and despite the large monetary and fiscal policy interventions aimed at containing the economic fallout from the current crisis (IMF, 2020). In fact, on-balance sheet solutions may have some negative implications for capital (i.e. loan write-offs) and profitability (i.e. investments in staff and IT infrastructures) that may deteriorate bank financial soundness, and possibly place banks in a weaker overall position with respect to risk taking and the ability to lend. Therefore, banks should perform projections of capital needs related to possible future operating losses in order to assess the maximum sustainable capital reduction in light of targeted capital buffers and implement actions intended to avoid any capital shortage.

On-balance sheet NPL resolutions represent an opportunity for banks to improve their credit risk assessment and monitoring processes at all stages of the loan life cycle. In particular, banks should be concerned with preventing the deterioration of credit quality by improving the origination and monitoring

phases of the process. To mitigate the risk of losses due to the presence of market failures and NPL liquidation at discounted prices, banks should carefully consider adopting on-balance sheet strategies specifically for loans with a higher expected value or belonging to specific segments or asset classes (i.e., loans to large corporates, secured loans). Several banking authorities in Europe (including ECB, EBA, ESRB) are examining the evolution of NPLs following the COVID-19 crisis and would provide additional guidance on banks' loan origination and internal governance of NPLs, in particular where gaps may still be observed (European Parliament, 2021). A clear example of this is the SSM Dear CEO Letter on the "Identification and measurement of credit risk in the context of the coronavirus (COVID-19) pandemic".

Alternatively, market-based disposal strategies may impact bank income and ability to withstand potential future losses. Notably, depending on the magnitude of bid-ask spreads on NPLs sold, banks may face substantial losses that may erode their profitability. Therefore, banks should model dynamics of NPLs by considering the impact of expected inflows of NPLs to define the accurate pace for the decline in NPL ratios given the income prospects.

Macroeconomic conditions may have major implications for the definition of a sustainable mix for NPL resolution strategies. A positive macroeconomic outlook would help the repayment loan capabilities and the value of collateral that benefit from rising real estate prices (ECB, 2017b). This context is best suited for market-based disposal strategies. In fact, investors and centralised AMC's will require lower discounts on acquired NPLs in order to mitigate fire-sale pressures on banks. In the case of AMC's, they would have more time to resolve NPLs and could wait for structural reforms to take effect and postpone sales at the upswing phase of the cycle. In this context, banks would be encouraged to sell their NPLs and join initiatives aimed at pooling NPLs. However, if forecasts about the evolution of macroeconomic variables are mixed, banks should consider postponing the implementation of market-based disposal strategies in order to avoid substantial losses that may jeopardise their viability. Therefore, banks would rely on their comparative advantage as they already have the loan files and institutional knowledge of the borrower to resolve NPLs internally through loan write-offs or by creating ring-fenced decentralised AMC's.

Depending on bank-specific and macroeconomic conditions, banks' strategy mix should evolve over time in a coordinated manner. If current conditions do not allow the implementation of market-based disposal strategies, banks may focus on on-balance sheet strategies and strengthen their ability to perform a strategic move in the near future. During the working cycle of each loan, banks should perform adequate provisions in line with the evolution of recovery activities to increase loan recovery value and reduce the gap between book and market values. As a consequence, on-balance sheet strategies may lead on to sustainable market-based disposal strategies.

Given the importance of NPL reduction for economic recovery and the several impediments for banks to NPL resolutions, designing effective NPL resolution policies for the post-COVID-19 recovery is a key forward-looking financial policy issue. Compared with the GFC, public debt is substantially higher in many jurisdictions combined with weaker bank profitability and corporate sector conditions, all the factors that historically have complicated NPL resolution (ECB, 2020a). Nevertheless, unprecedented monetary actions by major central banks and extensive fiscal support in many advanced and emerging economies have helped temper defaults in the near term. These measures combined with the fact that major banking systems entered into the COVID-19 crisis with stronger capitalisation and liquidity than in prior crises may help support an economic recovery. In this context, the resolution of NPLs is more likely to require some actions on NPLs that can be repeated over time to support macroeconomic conditions until fully restored (BIS, 2017). For instance, on-balance sheet NPL resolutions such as debt restructuring would help to modify the loan's terms and conditions for restoring exposures to performing status. Nevertheless, NPL write-offs would be less of an option for certain banks due to the capital challenges posed by the COVID-19 crisis. While the segregation of impaired assets into a decentralised AMC would help to offload NPLs, the rise in operational costs could erode bank profitability that is already low for certain banks. Lastly, APS may be more suitable if a limited number of banks are impacted as APSs usually target a few large banks, which may have been particularly exposed to the drivers of an NPL crisis. Depending on the magnitude of

information asymmetries that may create large bid-ask spreads and the potential losses banks may incur from their NPLs sold, on-balance-sheet solutions may be combined with market-based disposal strategies, such as direct sales and securitisation of NPLs. In fact, market-based disposal strategies can generally be administered without the use of public funds and can be repeated until banks' balance sheets are cleaned of the NPL stock. While centralised AMCs would help remove NPLs from banks' balance sheets, a major challenge is that prolonged availability could generate moral hazard incentives for banks as originating risky loans may continue to be profitable for them. Boxes 7 and 8 document the effectiveness of the combination of on-balance sheet and market based solutions and the role of public support to reduce NPL stocks of Japanese and Italian banks.

Box 7. Complementary on-balance sheet and market-based solutions and the role of public support for NPL resolution in Japan

During the period following the burst of the bubble economy³⁰ in the early 1990s, Japan experienced a massive accumulation of NPLs which resulted in difficulties for financial institutions, and a prolonged recession (Mori et al., 2001). From 1990 to 2001, Japanese banks had disposed of more than JPY 90 trillion in NPLs, which corresponded to about 20% of the nation's nominal GDP at that time. Nevertheless, NPLs continued to be on an increasing trend until early 2000s and to be the most destabilising factor in Japan's financial system as pointed out by the Bank of Japan (2002).

Nakaso (2001) points out several factors behind the prolonged NPL problem, including the delay in the recognition of NPLs (i.e. internal resolution), the slow pace of transferring them off-balance sheet (i.e. market-based resolution) and their negative impact on the real economy.

- As for the internal NPL resolution, banks were generally under-provisioned due to the stringent rules on specific provisioning at that time. The rules consisted of extremely demanding criteria including a high probability of default and banks had little flexibility to recognise provisions in a forward-looking manner. The absence of sufficient disclosure requirements on NPLs at the early stage of the 90s also aggravated the challenging situation.
- As for the market-based NPL resolutions, it took a long time to develop the effective infrastructure such as centralised AMCs and/or a legal framework for the securitisation of bad loans using special purpose entity. These factors delayed the removal of NPLs from banks' balance sheets.
- Against this backdrop, it was virtually impossible for banks to access external equity financing. In addition, the use of public funds had become almost a political taboo due to the public resentment against the bail-out of the Jusen housing loan companies³¹ in the mid-90s. As a result, the deterioration in their capital positions constrained their capacity to extend new loans. The tightened credit conditions discouraged the corporate sector from investing that further

³⁰ Okina et al (2001) define the "bubble period" as the period from 1987 to 1990, from the viewpoint of the coexistence of three factors indicative of a bubble economy, that is, a marked increase in asset prices, an expansion in monetary aggregates and credit, and an overheating economy. The phenomena particular to this period were stable CPI inflation in parallel with the expansion of asset prices and a long adjustment period after the peaking of asset prices.

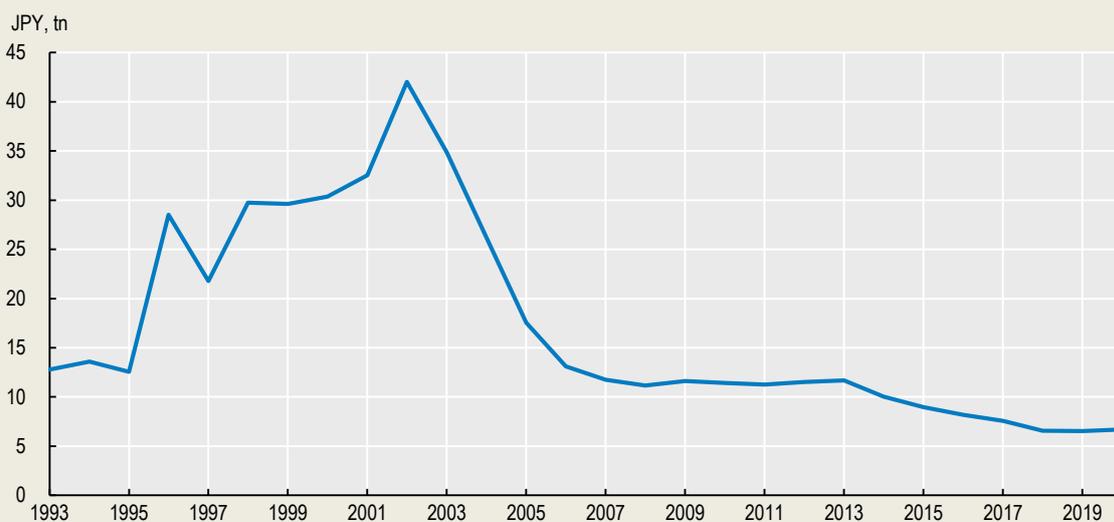
³¹ Jusen or housing loan corporations were non-bank financial institutions that were founded by banks and other financial institutions in the 1970s to complement the housing loans offered by banks. In the 1980s, the Jusen companies shifted their lending towards real estate developers but this strategy proved to be a spectacular blunder because they had little expertise in commercial lending (BIS, 2001).

undermined the real economy and the credit quality of banks' assets. These factors entrapped the financial system and the real economy in a vicious circle.

During the late 1990s and the early 2000s, the new safety net framework was put in place, together with the introduction of a more flexible provisioning approach based on the new inspection manual by the Financial Services Agency (FSA). The centralised AMC (i.e. the Resolution and Collection Corporation) was also created and a legal framework for the securitisation was introduced. These policy measures, as well as the capital injections of public funds, played a major role in overcoming the prolonged NPL problem following the burst of the bubble economy (Figure 15). The experience implies the importance of the appropriate evaluation and quick disposal of NPLs as pointed out by the Bank of Japan (2002).

Finally, it is worth noting that the situation of the current COVID-19 crisis is contrasting with the past experience mentioned above. Japanese banks have been implementing a more forward-looking provisioning induced by the recent repeal of the FSA's inspection manual (Bank of Japan, 2021). Also, they have been well-capitalised and have enough capacity to absorb future potential losses incurred by potential increases in NPLs. These efforts have also increased their capability to swiftly deal with future NPL issues.

Figure 15. Outstanding amount of risk management loans



Note: Data up to 1995 are the sum of NPLs of city banks, former long-term credit banks, and trust banks. Data from 1996 also include regional banks. Data in 1999 exclude the Long-term Credit Bank of Japan and the Nippon Credit Bank.

Source: Financial Services Agency.

Box 8. Complementary on-balance sheet and market-based solutions and the role of public support for NPL resolution in Italy

In Italy, new NPLs as a ratio of total loans slightly increased in the last quarter of 2020 but remain limited in historical terms.³² During the COVID-19 crisis, debt moratoria and state-guaranteed loan measures adopted since March 2020 have helped to contain a rise in NPLs. Such a moderate increase also reflects the typically delayed impact of a deterioration in economic activity on credit quality. In any case, estimates suggest that they will remain well below the peaks reached during the Euro-Area sovereign debt crisis.³³

Bank NPLs grew considerably following the GFC and reached a peak in 2015 at 9.8% of total loans. Such rapid growth can be attributed to the double-dip recession in the Italian economy (i.e. in 2008-09 and 2012-13) and other factors, including weaknesses in some banks' NPL management practices, the inefficiency of the civil justice system and the absence of a secondary market for NPLs. Since 2016, the stock of NPLs has declined steadily and markedly. At the end of 2020, the aggregate NPL ratio (net of loan loss provisions) of Italian banks has declined to 2.2%, i.e. a ratio that is lower than those prevailing before the GFC. In particular, the gap between the ratio of net NPLs to total loans for Italy's significant banking groups and that of European significant banks has nearly disappeared.³⁴

From the Italian experience in reducing bank NPLs, several lessons can be drawn.

- The main way to remove impaired loans from bank balance sheets is to sell them on the secondary market. Even during the COVID-19 crisis, the reduction in non-performing exposures was driven by disposals. In 2020, the loans sold and derecognised from Italian banks' balance sheets totalled around EUR 33 billion (additional EUR 5 billion are pending disposals). A valuable tool to promote the divestment of NPLs by banks is public guarantee schemes on loan securitisations. In Italy, about 70% of the value of impaired loans sold so far by banks through securitisations have been covered by the public guarantee on senior tranches offered under a state guarantee scheme for securitised impaired loans (the so-called GACS).³⁵
- While disposing of NPL loans is the main option, banks have at least three other on-balance sheet options to resolve NPLs internally before considering sale options: (1) the reclassification to performing status (i.e. non-performing loans are not condemned to remain so forever), (2) the recovery of loans, through foreclosures and bankruptcy proceedings; and (3) the write-off of non-recoverable loans. This means that banks can and should actively manage NPLs. In particular, premature or forced sales may backfire, destroying value on banks' balance sheets compared to other options. Moreover, from a public policy perspective, forced sales may push distressed but not yet failed companies to the brink of bankruptcy. The procedures used by banks to manage NPLs are of paramount importance. Banks should have internal NPL management functions, collect detailed and standardised NPL data, develop debt reduction plans and be able to pursue work-out strategies. In this sense, supervisors can really make a difference, to the extent that they encourage banks to improve their internal risk management processes. This highlights the importance of the guidance on non-performing loans that the ECB, Banca d'Italia and the EBA have given to banks in Europe in recent years. For banks, doing their homework is essential to open the books to external parties, such as rating agencies and distressed debt funds, and increase the transparency and market value of their exposures.
- Any progress in reducing the length and cost of recovery procedures would help to significantly reduce the time needed to restructure a company or to enforce a guarantee. It is important to note that, at least in Italy, a reduction in the length of civil proceedings does not necessarily require a change in the law. Data on the dispersion of enforcement times among national courts

suggest that by strengthening organisational, personnel and IT resources, especially in courts with above-average operating times, it would be possible to increase the speed of debt recovery in a relatively short time.

- Publicly supported AMCs have to be consistent with state aid rules. At the EU level, this issue has been discussed for some time. One thorny point is the relationship with state aid discipline, which comes into play whenever the prices of the assets sold differ from market prices. In this regard, market prices of NPLs can be a very poor measure of the quality of NPLs, because they are seriously affected by information problems and a less than perfect degree of market competitiveness. National asset management companies may be able to more easily arrive at a fair view of future cash flows and collateral valuations.
- Finally, tax incentives can also play a role, such as the one recently introduced in Italy that allows banks to convert part of their deferred tax assets into tax credits against NPL sales.

In conclusion, banks can manage NPLs, but they need to implement efficient and effective risk management procedures. The main option is to dispose of NPLs in the secondary market, but banks should also consider the several on-balance sheet approaches for internal NPL resolution if they may help to better preserve loan value. This illustrates the complementarity of internal and market-based resolution strategies to reduce bank NPLs. To promote a secondary market for banks' NPLs, public authorities have a number of instruments at their disposal, ranging from encouraging banks to enhance their NPL management frameworks, improving the efficiency of debt recovery procedures, providing public guarantees on the senior tranches of securitised loans, setting up AMCs and introducing tax incentives on loan sales. All these instruments can help banks close the gap between the fair values of their NPLs and market prices.

4.2. Investors and distressed debt funds

Solutions that rely on the ultimate sale of assets to investors should address information asymmetries on secondary markets for NPLs to expand further the potential investor base that would benefit from better price discovery and less uncertainty around the expected return on investment. Notably, investors would require a lower discount on NPLs sold that would help reduce the gap between the gross book value of bank NPLs to the value of the securitisation note portfolio (Figure 16). Also, increased transparency on NPLs sold would facilitate an assessment of underlying credit risk of NPLs that would help strengthen investors' confidence in the actual value of NPL asset-backed securities and encourage them to increase investment in NPL securitised products. Evidence shows that while NPL securitisation activities have increased in European markets since the GFC, the number of deals is limited.³⁶ Also, identifying the specific asset allocation policy and investment return profile of end-investors would support the assessment of potential market demand and different asset pricing points. Depending on their investment profile, NPL buyers are investing more in senior or alternately mezzanine and junior notes. According to Deloitte, Davidson Kempner and SPF Investment Management have been the most active buyers of GACS

³² Visco, I. (2021).

³³ Angelini P. (2021).

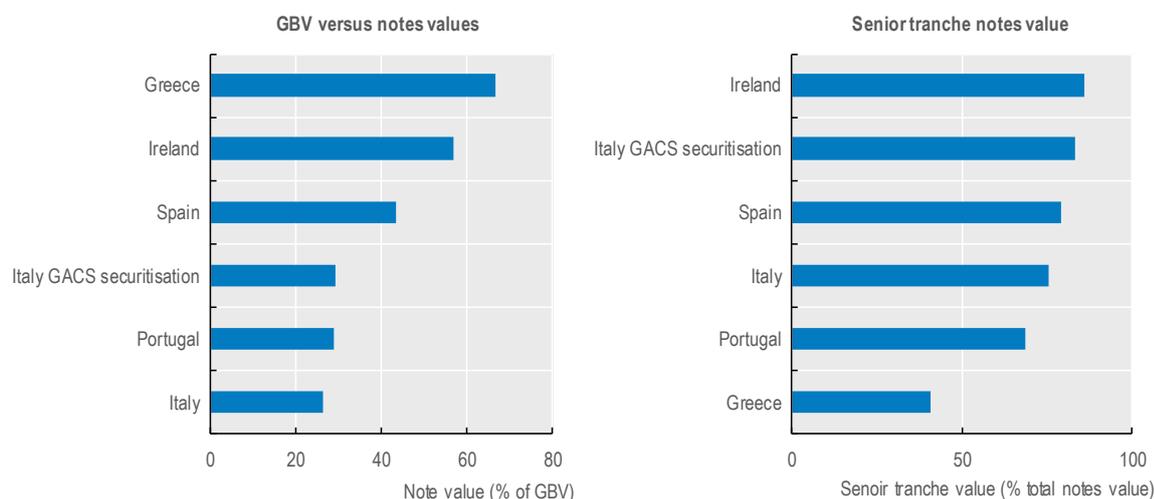
³⁴ Banca d'Italia (2021).

³⁵ Please see Box 6 for detailed information about the GACS program.

³⁶ According to Deloitte (2020), 49 deals have been completed in 5 European countries (i.e. Greece, Ireland, Italy, Portugal and Spain) over the period 2016-2020.

junior and mezzanine notes. In the other jurisdictions, major buyers include Guber, Pimco and Carval that are acquiring junior notes alongside with Generalli that has a more conservative investment strategy buying mainly senior notes.

Figure 16. Securitised NPL deal value and distribution of portfolio tranches



Note: These estimates have been performed using 49 NPL deals listed by Deloitte (2020) over the period 2016-2020. GBV stands for gross book value (i.e. the gross value of loans on a bank's balance sheet before adjustments and write-offs).

Source: Deloitte (2020), OECD calculations.

Also because of the persistent low level of market yields, NPL investments have become an attractive income-producing diversifying asset class for investors. Nevertheless, investors may find it especially challenging to determine the viability of, and thoroughly assess opportunities, due to the level of uncertainty surrounding the evolution of financial and economic conditions. To this end, the ongoing project of creating a pan-European transaction platform could help improve transparency and thus conditions on secondary markets for NPLs to facilitate further NPL resolution following the COVID-19 crisis through market-based disposal strategies (European Commission, 2020). Investors would be able to compare transactions and gain insights into the actual pricing of assets and market liquidity on a systematic basis that would help narrow bid-ask spreads. Also, NPL buyers providing post-trade information on workout cash flow for the assets that they have purchased would deliver crucial information on recovery and expense cash flows. Performance data would support the decision-making process of investors interested in similar assets and would help them in determining the prices they are willing to pay.

It is worth noting that the sale of distressed assets entails the transfer of risks to alternative asset managers and distressed debt funds that perform liquidity transformation and/or use leverage but are subject to relatively low regulatory scrutiny which could create further challenges (Patalano and Roulet, 2020). The very low interest environment that has prevailed since the GFC has fuelled investors' risk appetite and growing investments in distressed assets. Therefore, authorities that supervise market intermediaries will need to better understand the implications of this shift in asset mix to strengthen resilience. In alignment with the OECD's Policy Framework for Effective and Efficient Financial Regulations, authorities may consider closer surveillance of the levels of liquidity in key asset markets and communicate potential vulnerabilities. Market regulators may wish to engage in communication and discussions with the asset management industry over market conditions, and how their own liquidity risk management practices are developing in light of periods of elevated risk of market fragility. In March 2021, IOSCO and the Financial Stability Board have started a joint analysis (IOSCO, 2021) of the availability, use and impact of liquidity

risk management tools for open-ended funds (OEFs). The aim is to examine the experience of OEFs that faced redemption pressures during the COVID-19 induced market stresses of March and April 2020, the availability, use and impact on the broader market of liquidity risk management tools in mitigating redemption pressure and the potential spillovers associated with OEFs. In this respect, market regulators with economic analysis departments may be in a position to take an international leadership to ensure that OEFs have systems and tools in place to manage liquidity risk, protect investors and limit the effect of large-scale redemptions and subsequent asset sales on the value of fund assets, and mitigate first-mover advantage.³⁷

4.3. National authorities

Along the lines of BIS (2017), ESRB (2017) and European Commission (2020) guidance, national authorities – including finance ministries, central banks, regulatory authorities and other bodies – can employ effective supervisory and regulatory practices to incentivise and aid the NPL disposal process.

Authorities need to precisely estimate the size of the NPL problem and the availability of bank loss-absorbing capacities (i.e. capital and provisions) to prioritise solutions that make efficient use of fiscal resources.³⁸ In particular, transparency and consistency in NPL identification and provisioning is an important starting point from which to assess the dimension and scale of the challenge, and to set the groundwork for valuations. Inaccurate estimates may result in the growing use and misallocation of public funds that reduce the programme’s credibility. Also, identifying the various factors that may obscure a looming NPL problem, and be ready to respond early, would help avoid unmistakable country-wide problems and excessive resolution costs. Therefore, authorities can take actions to remove obstacles to the availability of certain resolution tools, and encourage usage of combined private and public sector resources to reduce the fiscal scope of NPL resolutions.

Authorities play a major role in ensuring adequate bank provisioning and capital levels as an NPL crisis can occur if banks postpone the recognition of loan losses. The main purpose is to allow for a prompt response when the problem starts to emerge (i.e. in order to prevent problems from becoming systemic) by stimulating banks to recapitalise at an early stage, which would provide more incentives and flexibility to actively address NPLs (i.e. for instance through direct sales or participating in centralised AMCs). Also, encouraging the build-up of adequate counter-cyclical banks’ loss-absorption buffers will improve the loss-absorption capacity of the private sector during crisis that would reduce the impact of NPL resolution on the public purse. In this perspective, the elevated coverage due to the NPL prudential backstop implemented by the European Central Bank (ECB, 2018, 2019) and the European Union legislators (European Parliament, 2019) should lower the bank’s net book value of NPLs which should make it easier to sell these exposures to investors or transfer to a bad bank vehicle where available (NPLMarkets, 2020a).

Authorities may help by addressing weaknesses in the legal and judicial frameworks that can undermine the feasibility of many resolution tools. Notably, legal and judicial constraints strongly affect debt restructuring options. In the case of AMCs, their effectiveness depends crucially on the finality of the NPLs transfer from the bank to the AMCs, and the impossibility of legal challenges by the underlying corporate or household debtor. Legal difficulties may also arise with direct sales and securitisation, in particular due to securitisation laws and the absence of legal challenges to the asset sale. Therefore, failures of legal frameworks in supporting these initiatives would impair authorities’ capacity to use them. In the extreme,

³⁷ For example, approaches could include liquidity risk management and application of liquidity management tools (i.e. swing pricing, redemption fees, anti-dilution levies, deferred redemptions, redemption in kind, changing the dealing frequency of the fund, and notice periods), including use of external funding.

³⁸ Authorities can assess the scale of an NPL problem through backward-looking assessments (via on-site inspections and asset quality reviews) and/or with forward-looking ones (such as stress testing).

this will limit the resolution toolkit to very few instruments in which legal issues related to asset transfer or market functioning do not apply (i.e. write-downs and APS).

Authorities may encourage better gathering and sharing of NPL and related collateral information to reduce information asymmetries, support asset disposal and play a major communication role. Notably, authorities can take actions to improve the standardisation of classification and evaluation practices. In this regard, data availability and quality is critical for all parties (i.e. authorities, banks, and investors) from which to gain assurance in the reliability of assessments.³⁹ Also, authorities may encourage the creation of common information platforms on sales of NPLs or their collateral and co-investment strategies for NPL-derived securities to facilitate initiatives aimed at pooling NPLs. Nevertheless, authorities would need to consider tailored solutions as some resolution tools may be harder to use for certain types of NPLs. For example, harder-to-assess, non-standardised assets could require resolution policies that include on-balance sheet resolutions (i.e. such as debt restructuring and write-offs) possibly combined with market-based disposal strategies (i.e. including direct sales and debt securitisation). More generally, authorities may benefit from the large amount of information gathered in the process of assessing the NPL problem and from their strong coordination role in the resolution strategy to be the best placed to explain to market participants how the NPL crisis is developing, and to propose and implement solutions. By communicating clearly, authorities can strengthen market confidence, comply with any accountability requirements and build public support. These several aspects are of particular importance given that public sector intervention will have fiscal and tax implications, as well as an impact on debtor companies and households.

Authorities play a key role in preserving competition and reducing moral hazard related to vehicle structure, selection of loans, duration of the support, and pricing. In particular, it is important that authorities aim to preserve a level playing field between banks benefiting from support during the NPL resolution and their competitors. Also, vehicles with vague criteria for wind-down risk may encourage a continuation of loose underwriting standards. Retention rules and clawback mechanisms may be used to ensure bank shareholders continue to have some exposure to unexpected losses of transferred assets in government-supported solutions. Also, requirements for originators or sponsors of securitisations to publish cash flow models, that have been implemented in the United Kingdom, Australia and the European Union, may help increase transparency of the pricing of NPL securitised products and subsequently securitisation markets' efficiency (NPLMarkets, 2020b).

During a crisis, NPL resolution policies can be combined with other policy areas to enhance effectiveness. Expansionary macroeconomic and macroprudential policies may facilitate NPL resolution as they support the economic recovery and help improve the quality of at least part of the existing NPL stock. Nevertheless, these policies should not encourage delays in resolving NPLs, as their effectiveness depends on bank balance sheets being cleared of excessive NPLs. Also, it is worth noting that these policies do not address the root causes of the NPL problem. Box 9 details how complementary micro and macroprudential policies implemented in Austria following the GFC have facilitated bank NPL resolution.

³⁹ Given the relatively limited academic literature that focuses on the assessment and consequences of the rise in bank NPLs following the GFC, greater availability of standardised and detailed data on NPLs would also enhance the ability of academic and non-academic researchers to investigate the determinants, implications, challenges and possible solutions to the NPL problem.

Box 9. Complementary micro and macroprudential policies for NPL resolution in Austria

Austria had in the aftermath of the Great Financial Crisis a relatively high NPL ratio but managed to bring it down to one of the lowest in the European Union. The NPL ratio fell from around 8% after the financial crisis to 2% in 2020 (before the COVID-19 crisis).

Why was the NPL ratio of Austrian banks so high?

Although a small country, Austria had in 2008 one of the largest banking systems within the European Union. Total assets of the banking system compared to GDP stood at around 350, clearly above the European average. In addition, a large part of total assets was not domestic, but consisted of foreign exposure, in particular to eastern and south eastern Europe.

When the crisis hit in 2008 not only domestic Austrian lending failed but Austrian banks also had to shoulder some part of the credit risk of countries outside Austria.

The decline in high NPL volumes achieved by implementing complementary micro and macroprudential policies

To help banks reducing their NPL volumes, Austrian authorities not only used internal and market-based NPL resolution strategies.

Austrian authorities also used macroprudential measures and introduced a systemic risk buffer targeting the large banking sector and in particular the foreign exposure and its geographical concentration risk. In order to avoid higher capital charges from this buffer requirement banks started to reorganize and restructure their domestic and foreign business. The selling of subsidiaries and shrinking of foreign exposure helped the Austrian banking sector to become smaller in size.

In addition, Austria introduced the European banking recovery and resolution directive one year in advance. So instead of 2016, Austria had a resolution legislation already in place in 2015. This allowed the national resolution authority to install very early a bridge bank for the most troubled bank.

Overall, the solution to the challenging NPL situation in Austria was a mix of microprudential, macroprudential and resolution measures which in combination incentivized banks to restructure and to resize the banking system to a level more compatible with a small economy.

Following the COVID-19 crisis, authorities should be able to intervene in order to avoid impediments to the economic recovery and support bank ability to intermediate credit. Market-based solutions, that combine private and public sector resources, would be efficient tools to exploit the full potential of available resources and reduce the fiscal scope of NPL resolutions (European Commission, 2020). Nevertheless, authorities may seek to ensure that downside risks at inception and during the life of the market-based entities (i.e. securitisation vehicles and centralised AMCs) are well-managed. This would mitigate risks for states to be exposed to unanticipated losses and/or increases in contingent claims.

5. Conclusion and high-level policy considerations

The impact of the COVID-19 pandemic has already brought major economic disruptions globally with unprecedented challenges for economic and financial resilience. While extensive monetary and fiscal support measures have contributed to mitigate the increase in defaults of both corporates and households, an early withdrawals of fiscal policy support given the uneven recovery across countries and sectors (OECD, 2021b) could trigger additional debt delinquencies or defaults with detrimental implications for the asset quality of bank loan portfolios. Nevertheless, banks have a crucial role to play in mitigating the effects of the COVID-19 crisis by maintaining the financing to the economy and to support the recovery.

The resolution of bank NPLs should provide incentives to banks and other stakeholders to actively address the current NPL overhang and prevent NPL accumulation in the future. Given the complexity associated with these strategies and the unique challenges that national authorities confront, this calls for a comprehensive approach, involving relevant authorities and taking into consideration varying measures in different areas of the market.

In order to improve the efficiency of existing tools and expand the array of possible solutions, further considerations would relate to the following four main areas:

- **Strengthen the frameworks governing debt collection, insolvency and debt restructuring:** increasing legal certainty on insolvency frameworks (such as insolvency proceeding triggers, the ranking of claims, avoidance actions, asset tracing, and asset valuation), while maintaining high standards for consumer protection, would facilitate the recovery of value for the benefit of both the creditor and the debtor. Besides, encouraging preventive restructuring frameworks could mitigate the risk of loans becoming non-performing in cyclical downturns, while on the other hand accelerating the liquidation of non-viable businesses with no positive projections.
- **Facilitate the development of secondary markets for NPLs:** easier market entry and participation may help improve the liquidity of secondary markets and make them more attractive for both banks and investors. Therefore, proposals aimed at strengthening debtor protection and targeted improvements to the securitisation framework while allowing for effective NPLs resolution merit further consideration. Also, improved data infrastructure and data quality, in particular comparability, are considered fundamental to market transparency. A possible strategy could consist of exploring the possible ways to further develop centralised electronic data platforms and encourage information sharing on post-trade transaction details and sale prices. In addition, considering the several aspects of legal frameworks that are likely to undermine the feasibility of some market-based NPL resolutions could help restore the effectiveness of all NPL resolution instruments.

- **Support cooperation initiatives for bank NPL resolution strategies:** Nationwide NPL reduction strategies, designed and implemented with the active participation of private and public sector stakeholders, can help to accelerate the rate of NPL reduction. A successful strategy must build on robust coordination and interaction among banks, private sector investors and a wide range of national authorities to ensure that timely actions are taken, measures are well-aligned and risks under control. Notably, centralised national AMCs may have a crucial coordinating role through purchasing NPLs from banks, providing services in the workout of debt, and disposing of them in an orderly manner to investors. Nonetheless, ensuring an adequate design for these institutions is crucial in order to prevent undesirable outcomes such as moral hazard in banks' behaviour and the use of public funds in these schemes. The support provided by AMCs may be combined with other alternative impaired asset measures such as securitisation-based approaches, guarantees or APSs to exploit the full potential of available resources. Also, such AMC networks could be underpinned by an electronic NPL data hub to enhance market efficiency, while upholding any relevant data protection rules for debtors.
- **The need to address specific difficulties that may emerge in the banking sector following the COVID-19 crisis:** while major banking systems entered into the COVID-19 crisis with stronger capitalisation and liquidity than in prior crises, authorities may continue with economic policy responses.

In sum, combining strategies at the bank-level with market-based solutions could accelerate the rate of NPL reduction but require enhanced transparency and comparability of NPL data, all while consumer and debtor protections are upheld. The success of these tools would, however, ultimately depend on a range of legal acts aimed at facilitating insolvency and enforcement frameworks.

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