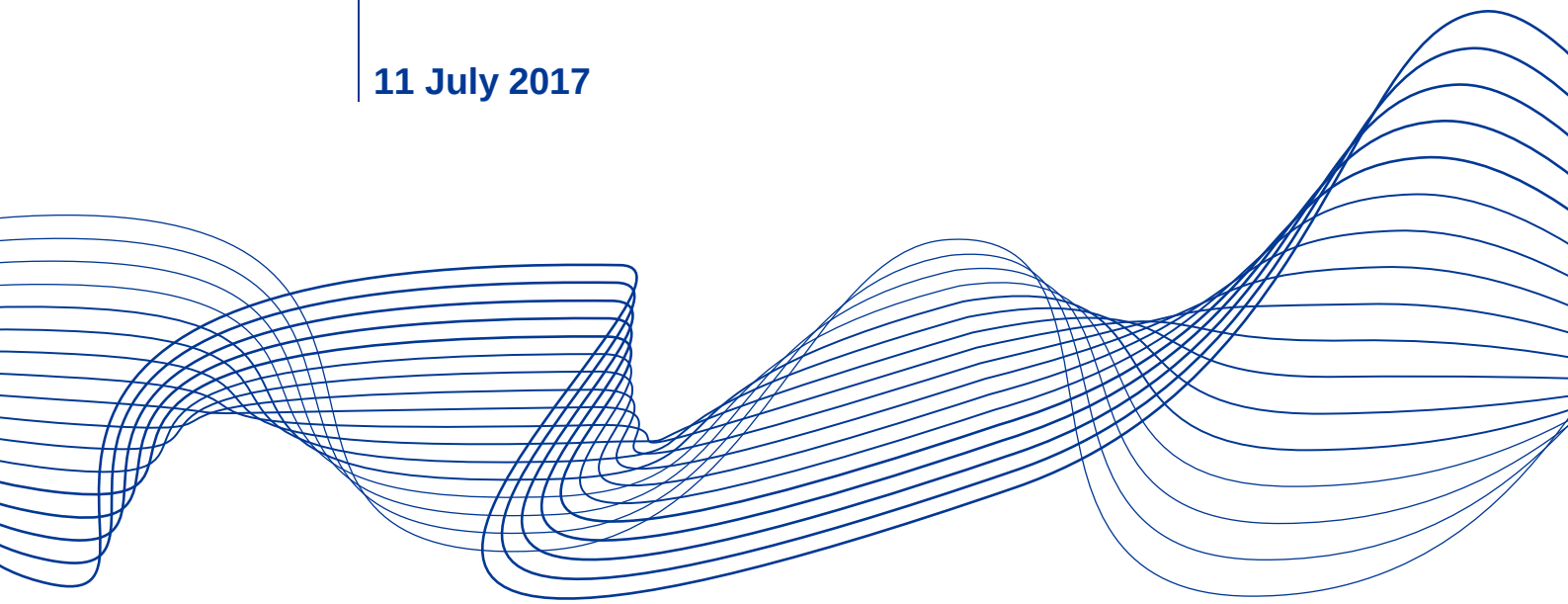
RESOLVING NON-PERFORMING LOANS IN EUROPE

11 July 2017



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EXECUTIVE SUMMARY

This report was prepared by the ESRB Expert Group on non-performing loans, a substructure under the Advisory Technical Committee, which was mandated to identify macroprudential policy-oriented issues related to non-performing loans (NPLs) and to develop ideas on possible macroprudential responses to the current high levels of NPLs in the European Union (EU). Specific areas of interest to the Expert Group included incentives for and potential impediments to the resolution of NPLs, policy experiences regarding asset management companies (AMCs), and the conditions of secondary markets for distressed assets in the EU. The report provides an overview of the NPL situation in the EU, followed by practical guidance on the process leading to NPL resolution, including a synopsis of the available options. It concludes that more effort is urgently needed to reduce NPLs and further recommends several policy actions. Whilst numerous impediments to NPL resolution have been identified, they should not be used to justify any further delay; rather, measures should be taken to address these impediments in parallel with actual NPL resolution.

The stock of NPLs in the EU banking sectors was around €1.0 trillion at end-2016, which amounted to 5.1% of total loans (Section 2.1). The banking systems in ten EU countries have average NPL ratios of over 10% and a large number of banks have even higher ratios. Although the inflow of new NPLs has significantly slowed down since the peak of the financial crisis, European banks have presented a sluggish reduction in the NPLs' stock that materialised in its balance sheet during the crisis.

The elevated NPL stock creates macroprudential and financial stability issues (Section 2.2). NPLs consume scarce financial resources and management attention, thus potentially reducing new loan supply. With increased uncertainty about banks' asset values, market perception is influenced and the costs of funding and capital are unnecessarily increased for the sector as a whole, which could adversely affect the cost of credit to borrowers. The presence of an elevated NPL stock is a symptom of broader solvency problems in the real economy, especially in the corporate sector, and depressed demand for credit. All these factors adversely affect potential economic growth.

The report finds that there are three main types of impediments to the resolution of NPLs (Section 2.3) **relating to the supply side (banks), demand side (prospective investors) and to structural issues (all stakeholders).** Supply-side issues are related to weak incentives to dispose of NPLs owing to low opportunity cost, partly induced by accounting rules, tax issues, and to a coordination issue giving rise to a first-mover disadvantage and to current capital constraints. Demand for NPLs is inhibited, inter alia, by asymmetric information and licensing requirements. Structural rigidities, such as inefficient, lengthy and costly debt recovery processes affect both sides of the market, creating a deadweight cost.

The policy response to the NPL overhang should aim for a least-cost NPL resolution, minimising costs across stakeholders and over time. The current speed of NPL resolution is too slow and a "wait-and-see" approach should be strongly discouraged, as it may cast even more doubts over financial stability, thereby further impairing investor confidence in banks and damaging the real economy. Addressing the structural impediments to NPL resolution should take place in parallel with NPL resolution, thus avoiding any further delay in this respect. While no such danger seems to exist currently, in general, NPLs should be reduced at a pace and in a way in which the triggering of fire sales is avoided, which could lead to unnecessary damage to the banking system as a whole.

Chapter 3 provides general practical guidance for policymakers with respect to the steps that need to be taken to design the overall response to the NPL issue. The response to high NPL stocks should conform to five high-level principles:

1) Swift recognition and action is needed to resolve NPLs, while avoiding fire sales.

2) Losses must be borne primarily by banks' shareholders and other investors to avoid moral hazard.

3) All solutions should fully comply with the EU legal framework.

4) NPL resolution must include a long-term viability assessment of the affected banks.

5) High stocks of NPLs and NPL market failures should be addressed in a comprehensive package.

The general outline of a policy response consists of three steps. In the first step, a clear upfront diagnosis of the size and scope of the NPL problem should be made, followed by an operational separation of NPLs from other, performing assets of the bank. In the second step, the NPLs of the concerned banks should be subject to valuation and triage, in order to identify the viable exposures – to be restructured – and the non-viable exposures, which would be liquidated. On that basis, it should be decided which part of the NPL stock should remain in the banking system to be gradually resolved by the banks, whilst being separated from the going-concern operations, and which part should be removed from the banking system through a range of measures: direct sales to investors, transfers to AMCs, and securitisation. Additionally, an assessment of the viability of each individual bank following the resolution of their NPLs needs to be made. Finally, in the third step, the relevant NPLs should be removed from the banking system, whereby banks may need to be restructured, merged or sold to facilitate their return to sustainable profitability. If necessary, the bank concerned would be resolved or liquidated. When taking such action, policymakers must take into account the fact that this could involve the pay-out of guaranteed deposits from the deposit guarantee schemes or the use of resolution funds in the respective countries.

A comprehensive policy response should be developed further, addressing all the main aspects of the NPL issue. Chapter 4 of the report outlines the practical aspects of NPL resolution. The authorities should aim to improve banks' capacity to manage or dispose of their NPLs, whilst continuing to apply supervisory pressure to manage recoveries, thereby mitigating impediments, and where appropriate, fostering the separation of NPLs from bank balance sheets to other, more focused and specialised investors.

While substantial progress, including in the euro area countries, has been made regarding microprudential policy issues,[1] **greater effort is needed. Further attention should also be given to impediments to the development of distressed debt markets,** whereby changes may require more time to take effect. Addressing the inefficiencies of collateral enforcement and debt collection frameworks, as well as facilitating the growth of third-party NPL servicing and tackling asymmetric information would facilitate all of the solutions discussed in this report. Several solutions may be implemented to address the lack of demand for NPLs: securitisation (Section 4.2.1), AMCs (Section 4.2.2) and trading platforms for direct NPL sales (Section 4.2.3).

The report concludes by making specific policy proposals for a range of measures (Chapter 5). In the short term, microprudential authorities should strengthen their efforts to improve banks' NPL management, by enforcing compliance with the EU NPL definition and prudent measurement of NPLs (including also prudent valuation of collateral), requesting regular updates of NPL reduction strategies and setting targets for NPL reduction, as well as by extending the adoption of good practices to all banks. Supervisors should request banks with high NPL levels to report data necessary to assess their viability in a scenario whereby NPLs are to be resolved. European authorities should develop a blueprint for national AMCs, both with and without involving State aid, based on international best practice. To support this, common templates for NPL data should be developed by European authorities, building on existing information. These templates should be used by AMCs and possible future NPL trading platforms, where investors would be able to acquire NPLs from multiple banks.

[1] For further details, see the *Guidance to banks on non-performing loans*, ECB Banking Supervision, March 2017 and the following citation "The ratio of non-performing exposures in total loans has been decreasing throughout 2016 in the euro area countries", *Supervisory Banking Statistics*, ECB Banking Supervision, fourth quarter 2016, pp. 68-70).

In the medium term, the work should concentrate on structural issues which would improve recoveries from NPLs. National authorities, in coordination with the European Commission, should address structural impediments to NPL resolution, related in particular to insolvency regimes, debt enforcement, and tax issues and licensing of secondary market participants. European and national authorities should also review the legal requirements for NPL servicing.

To avoid a future build-up in NPLs, incentives should be improved, in particular in relation to accounting. It should be considered how the accounting treatment of NPLs as well as their related impairment charges, accrued interest, and collateral can be adjusted to better incentivise early disposal.

While only some of these measures may be expected to have positive effects in the short term, they are all essential to ensure tangible progress and should be initiated urgently. In many countries, action has been slow for several years and further delays may only worsen the NPL problem. Hence, the ongoing work to resolve NPLs must be intensified without further delay, while in parallel action be taken to reduce the structural impediments and gaps in the infrastructure.

1. INTRODUCTION

An ongoing intense debate among European policymakers is currently focused on reducing the high stock of NPLs. The work carried out by the ESRB is one in a series of works undertaken by European authorities to address this issue. The Financial Services Committee, under the EU Council, has been working intensively on this topic since July 2016. The EBA (2016) published a report on recent trends in the stock of NPLs in the EU, as part of which it identified several impediments to a quick and efficient resolution of the stock of NPLs. In March 2017, ECB Banking Supervision published its guidance to banks on NPLs (ECB Banking Supervision, 2017). The ECB is also working on identifying the optimal design of NPL resolution frameworks, including drafting guiding principles on balance sheet clean-up, policy options for NPL resolution and the optimal sequencing of those measures. Results of this work were published in the ECB November 2016 and May 2017 Financial Stability Reports (Fell et al., 2016 and 2017).

The NPL problem has microprudential, macroprudential, financial stability and legal implications, which should be addressed by means of a comprehensive policy response at the national and EU levels. The areas that should be covered in such a response are: i) supervisory issues; ii) structural and legal issues; and iii) secondary markets as a way of disposing of NPLs. On the supervisory side, the EU adopted a common definition of NPLs which was a crucial first step towards improving the information available to authorities and to the public in general (EBA, 2014). In the euro area countries, the competent authorities are currently dealing with the supervisory issues in a thorough and comprehensive manner.[2] In parallel, work at the European and national levels on the structural, legal and fiscal issues continues.

This report contributes to the NPL debate by providing some general and practical guidance from a macroprudential perspective. Chapter 2 begins with a stocktaking of NPLs in the EU, and further outlines the macroprudential and financial stability aspects of NPL resolution. It is essential in this context that reductions in the NPL exposures of the banking sector are achieved promptly without undue damage to its solvency and ability to extend credit, and in particular without causing fire sales. Chapter 2 further elaborates on impediments to NPL resolution with a focus on secondary market solutions. In Chapter 3, general guidance is provided on how the NPL problem should be tackled, with some key principles and practical steps that the policymakers should adhere to when designing their responses. Chapter 4 outlines a combination of solutions to be implemented to facilitate a fast reduction in NPLs. The report concludes with specific policy proposals addressed to European and national authorities.[3]

[2] Here the macroprudential function of the ECB could help to define priorities and to examine the broader implications.

[3] The current low levels of interest rates increase loan affordability of borrowers, avoiding an increase in the flow of NPLs. Should interest rates return to higher levels, the problem of the stock of NPLs could be aggravated by a new flow of NPLs resulting from the increased servicing costs for borrowers. Hence, the current low interest rates environment should be used to achieve a sound clean-up of banks' balance sheets in the EU.

2. NON-PERFORMING LOANS IN EUROPE – OVERVIEW

2.1. Current situation in the European Union

Non-performing exposures (NPEs) in the European Union were defined by the EBA in 2014. This report uses the term "non-performing loans" (NPLs) since loans form the major part of total NPEs. The common definition of NPEs aims to strengthen the measurement of NPEs and provide comparability across banks and jurisdictions. Any exposure that is at least 90 days past due, or unlikely to be repaid without recourse to collateral, is considered to be non-performing.[4] Additionally, exposures which have been restructured, or forborne, may be classified as non-performing subject to the common criteria laid down by the EBA. Forborne NPEs remain classified as NPEs for a cure period of at least one year, even if the debtor complies with the new schedule of payments and all the criteria for being classified as performing.

The application of the NPL concept is currently not fully harmonised across countries and banks. The NPL definition encompasses some qualitative elements, which can be rather subjective and therefore subject to differing interpretations, namely in terms of the assessment of the "unlikely to pay" criterion, which is a part of the definition of default. There is currently a recognised difference in how the concept is applied in practice across the various different countries and even across the various institutions within the same country.[5] The coordinated work currently being undertaken by national and European supervisory teams and the entry into force in 2021 of the EBA's further guidelines on the application of the concept of default should gradually help to improve harmonisation.

NPLs may be measured in gross or net terms. The gross carrying amount of NPLs corresponds to the total amount owed by the borrower which has not been written off. The book value of NPLs, or the net carrying amount, is calculated by adjusting the gross carrying amount by: i) accumulated impairments, for loans measured at amortised costs; or ii) accumulated changes in fair value due to credit risk, for loans measured at fair value. The net NPL amount excludes losses already recognised by the bank and, therefore, represents the potential additional loss for the bank. At the same time, it is important to remember that impairment (or provisioning) is not always estimated in accordance with the same accounting standards (in several European countries some banks are allowed to choose not to use IFRS as their accounting standards). Moreover, where banks do apply IFRS, it should be mentioned that these accounting standards are based on principles, which can be interpreted by management in various different ways, offering ample room for discretion in the determination of impairment charges. Similarly, impairment also depends to a large extent on the valuation of collateral. The comparability of net NPLs across banks and countries may therefore be somewhat compromised and, on these grounds, the use of net NPLs in the following paragraphs is limited, in order to avoid distorting cross-country comparisons.

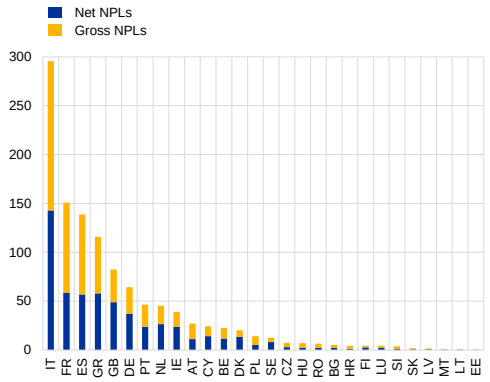
The gross carrying amount of NPLs in the EU at the end of 2016 amounted to around €1.0 trillion, with a net carrying amount of €560 billion (see Chart 1). The largest stock of NPLs is held by Italian banks, circa over €300 billion in gross terms. They are followed by French, Spanish and Greek banks.

Gross NPLs amounted to 5.1% of gross loans in the EU at the end of 2016. The aggregate NPL ratio in the EU remains high by historical standards, and is still much higher in the EU than in other jurisdictions: in 2016 the NPL ratio amounted to 1.5% for the United States and Japan. Much of the increase in the NPL ratios in the EU countries took place between 2010 and 2014, but the NPL ratios have begun to decrease since 2014.

[4] Impaired exposures and exposures in default (in accordance with Article 178 of Regulation (EU) No 575/2013) are always considered to be non-performing exposures. EBA definition of "exposure" includes all debt instruments (loans and advances and debt securities) and off-balance sheet exposures (financial guarantees, loan, other commitments given), except held for trading exposures.

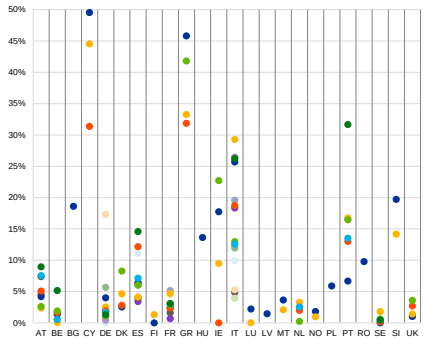
[5] "Results from the data collection exercise on the proposed regulatory changes for a common EU approach to the definition of default", EBA, 28 September 2016.

Chart 1 Gross and net NPLs (EUR billions)



Sources: ECB Consolidated Banking Data and ESRB Secretariat calculations.
Note: Reference date for gross and net NPLs columns is Q4-the second quarter of 2016. Data includes domestic banks, stand-alone banks, except Slovenia (Q1 2016) and foreign controlled subsidiaries and branches.

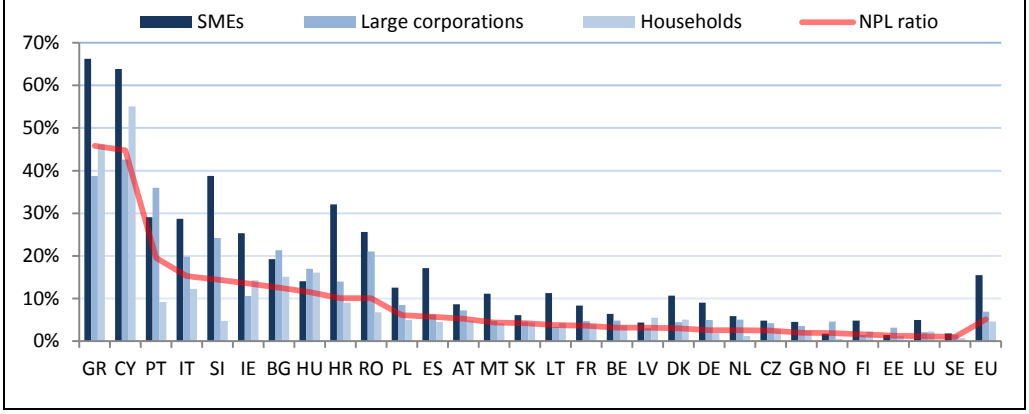
Chart 2 Distribution of NPL ratios within EU countries (% of gross debt instruments)



Source: EBA Transparency Exercise.

Note: NPL ratios disclosed by individual banks (illustrated by colour dots) participating in the 2016 EBA Transparency Exercise.

Chart 3 Non-performing loan ratios by sector *(% of gross loans)*



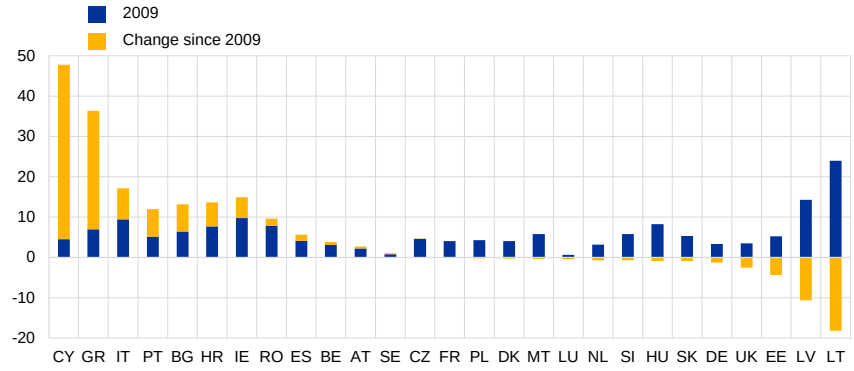
Source: EBA.
Note: Data refer to end-2016.

The NPL ratio is highly dispersed across EU countries and ranges from 1% to almost 50% (see Chart 3).[6] At the same time, in over one-third of EU countries the ratio exceeds 10% (in order of descending NPL ratio: Greece, Cyprus, Portugal, Italy, Slovenia, Ireland, Bulgaria, Hungary, Romania and Croatia). The highest NPL ratios are observed in countries which were most affected by the economic crisis from 2008 onwards.

Within EU countries, NPL ratios differ significantly across banks (Chart 2). Using the data from the latest EBA Transparency Exercise, it is possible to see that there are substantial differences across banks in those countries with the highest NPL ratio. This is a fundamental finding which policymakers must consider when designing policies towards the resolution of NPLs.

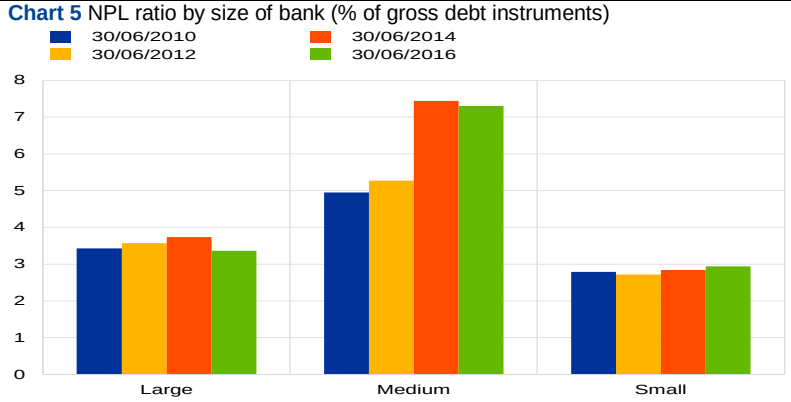
[6] NPLs are calculated for a sample of 159 banks, which cover 83% of total EU bank assets.

Chart 4 NPL ratio and changes since 2009 (% of gross loans)



Sources: IMF Financial Soundness Indicators and ESRB Secretariat calculations.
Note: Data refers to Q4-2016, except for Cyprus, Portugal, Ireland, Belgium, Denmark, Germany, United Kingdom and Lithuania (all Q4-2015), and Luxembourg (Q4-2014). Data for Denmark starts in 2010. No data is available for Finland. Countries are ordered according to the change in the NPL rate since 2009.

Chart 5 NPL ratio by size of bank (% of gross debt instruments)



Source: ECB Consolidated Banking Data and ESRB Secretariat calculations.
Notes: Large banks are those for which total assets represent more than 0.5% of the total consolidated assets of EU banks. Medium banks are those for which total assets are between 0.5% and 0.005% of the total consolidated assets of EU banks. Small banks are those for which total assets represent less than 0.005% of the total consolidated assets of EU banks.

When examining asset classes in the EU, on average, the NPL ratio of exposures in SMEs is higher (15.5%) than that of large corporates (7.0%) and households (4.6%) (see Chart 3). This is observed in almost all EU/EEA countries, except for Portugal,[7] Bulgaria, Hungary, Norway and Estonia. Indeed, more than half of EU countries have NPL ratios in SMEs of over 10%. This points to an EU-wide problem as regards the health of the non-financial corporations across Europe, especially in the SME segment, which may be less resilient to shocks and more dependent on bank financing than large corporates. Considering the development in property prices over the past few years (albeit with some notable exceptions Ireland or Spain), the majority of NPLs on the balance sheets of EU banks are associated with developments in the non-financial corporate rather than the residential real estate sector.[8]

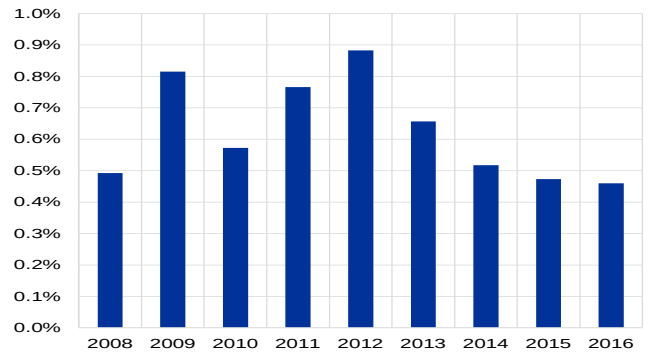
[7] Pending further scrutiny, the breakdown of NPLs between SME and large corporates reported under FINREP by Portugal is subject to a revision. According to data from the Central Credit Register, NPLs in Portugal are mainly concentrated in the SME sector.

[8] See, among others, Charts 3.12 and 3.13 in the ESRB Risk Dashboard (link).

The pace of reduction in NPLs in the EU has been slow. As shown in **Chart 4**, NPL ratios are now higher than in 2009, and in most cases, they have not returned to pre-crisis levels. A large majority of EU countries reports NPL ratios to be above those of the United States or Japan.[9] Although the recent improvement in macroeconomic conditions and the subsequent decrease in flows of new NPLs have helped some countries to start to reduce their NPL stock from the peak levels seen in 2012-13, EU banks have generally not shown satisfactory progress in resolving their stocks of NPLs, which have been piling up on their balance sheets for a number of years.

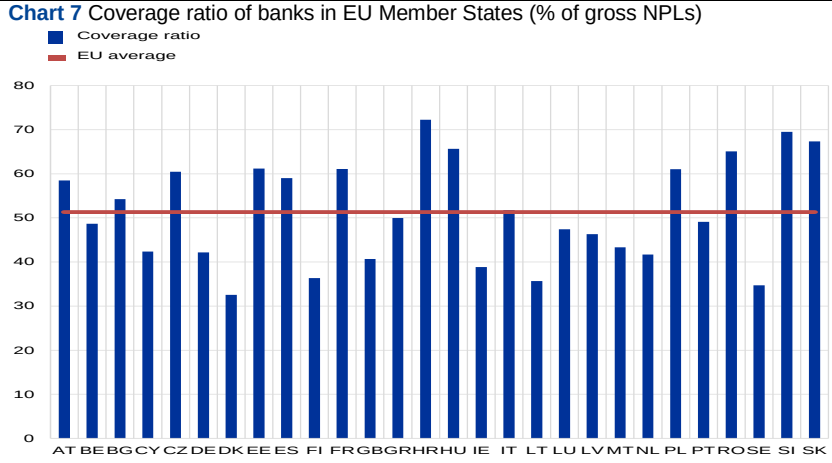
When correlating NPL levels with the size of the bank, it can be observed that NPL ratios are the highest in medium-sized banks (Chart 5). Indeed, larger and smaller institutions seem to have been able to contain the growth of NPLs since 2010, keeping their NPL ratio at around 3%. Medium-sized banks, on the contrary, were those with the highest NPL ratios as early as 2010 and, since then, their NPL ratios have been steadily growing to over 7%, on average. However, it should be contrasted with the fact that there are actually very few large banks in the countries which were most affected by the financial crisis, and that these patterns do not hold true in all of the high-NPL jurisdictions.

Chart 6 Evolution of impairment losses on financial assets *(% of total loans and advances)*



Sources: ECB Consolidated Banking Data and ESRB Secretariat calculations.

Chart 7 Coverage ratio of banks in EU Member States (% of gross NPLs)



Sources: ECB Consolidated Banking Data and ESRB Secretariat calculations.
Note: Data refer to Q4-the second/fourth quarter of 2016 and covers domestic banks, stand-alone banks and foreign controlled subsidiaries and branches. Coverage, except for the United Kingdom (Q1 2016). The coverage ratio is defined as the accumulated impairment to the gross carrying amount of NPLs.

[9] According to IMF data, the NPL ratios in both the United States and Japan stood at around 1.5% in 2016. The NPL ratio in the United States at the peak of the crisis stood at 4.96%, according to the IMF Financial Soundness Indicators.

Since 2008, EU banks have charged a total amount of 1.05 trillion of impairment losses on financial assets. The flow of new impairments has been slowing down since 2012 as the economic recovery gained speed, reaching the lowest levels since the onset of the financial crisis (0.46% of total assets, **see Chart 6**) by 2016.[10]

Dispersion of the provision coverage ratio across countries and banks is significant, with the EU average slightly above 50% and values in the range of 32% to 72% (**see Chart 7**)**.** There is no clear pattern in the developments of the coverage ratio in specific countries, though it seems that for countries with relatively high NPL ratios it has increased in the past two years. However, with the exception of Slovenia, the coverage ratio of those countries with higher NPL rates is still below the EU average (Cyprus, Greece, Portugal, Italy and Ireland). It should be noted that the coverage ratio is not an absolute measure as it is influenced by the composition of the NPLs (e.g. the weight of the unlikely to pay (UTP) loans, or the weight of the secured loans), the collateral policy of each bank and the expected recovery rate from the exposure.

2.2. Macroprudential and financial stability implications of NPLs

Large stocks of NPLs on the balance sheet of banks are not only a microprudential supervisory problem, but an issue with broader macroprudential and financial stability implications. A high stock of NPLs throughout the system negatively affects the resilience of the banking sector to shocks and hence increases systemic risk. Higher NPLs are usually associated with higher funding costs and a lower supply of bank credit to the real economy. At the bank level, a high NPL ratio could cast doubt over the viability of a bank's business model and its resilience to future downturns, thus being associated with an increased uncertainty about future profitability and asset values. In the real economy, the elevated level of NPLs indicates that a significant part of the corporate and household sector may be excessively leveraged and that debt overhang may weigh on economic growth. This section discusses the main macroprudential and financial stability issues related to high NPL stocks and to the resolution of the NPL problem.

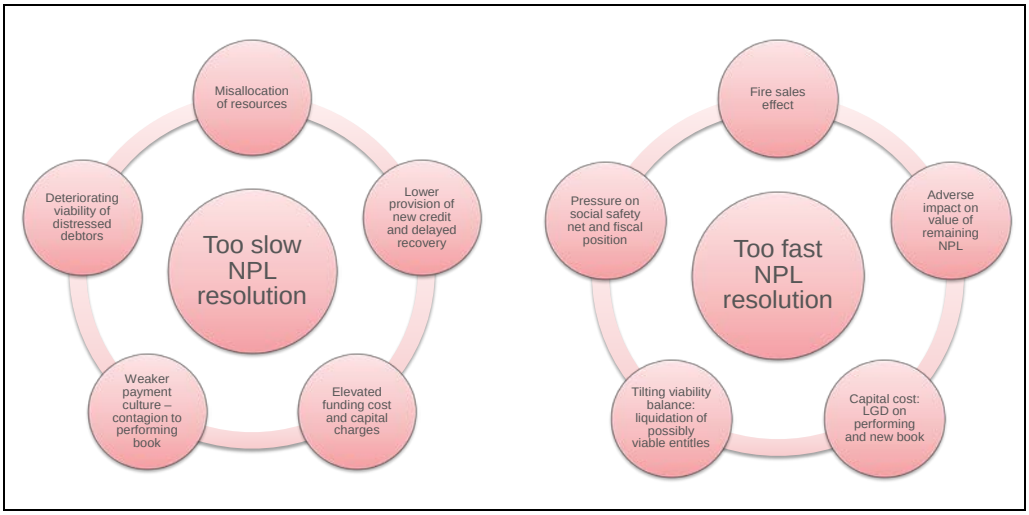
From a systemic perspective, any policy response to high NPL levels involves decisions about the distribution of the incurred losses and costs across stakeholders and over time. While the full cost of resolving NPLs has not yet been determined, it is clear that NPL resolution strategies would affect, to a different extent, lenders, borrowers, bank shareholders and creditors, the government, deposit guarantee/resolution schemes, and other agents in the economy. The resulting impact would also vary over time.

At the current juncture, the pace of NPL resolution in the EU is too slow (see Section 2.1)**.** While there seem to be currently no indications of dangers due to overly hasty NPL resolution, the pace and the methods for resolving NPLs must always be carefully adapted to address/overcome any impediments to NPL resolution as well as to the asset type of the NPLs to be resolved. On the one hand, too fast NPL disposals may negatively affect the economy if the bank's capital base is weakened to the extent that a credit crunch is triggered, on the other hand, NPL investors would benefit from being able to acquire assets cheaply. There are also industry-specific risks to rapid NPL resolution. Furthermore, there is a risk that a sudden increase in the supply of specific assets (such as CREs) may trigger a vicious feedback cycle between negatively impacted asset prices, which would in turn have a knock-on effect on (until then) performing asset balance sheets and financing conditions (the "financial accelerator"). At the other extreme, a slow NPL resolution process could cast doubt over financial stability, thereby weakening investor confidence in banks and damaging the real economy (see **Figure 1**). The remainder of this section discusses the consequences of too slow a reduction in the stock of NPLs in further detail.

[10] Some impairments might result from actions by microprudential supervisors and should not be fully associated with value changes in that specific year.

One of the many reasons for accelerating the NPL resolution process is the opportunity cost of tying down resources. Bank capital, funding, and staff resources are locked in by the management of NPLs, which is a distraction from financing productive investment.[11] Freeing up these resources could significantly increase lending over the medium term. At the same time, bank profitability could be improved, not only by the replacement of NPLs with less risky and higher-yielding assets, but also by lowering operational expenses and bank funding costs.

Figure 1 Adverse consequences of suboptimal pace of NPL resolution



Source: ECB.

At the system-wide level, high stocks of NPLs can affect the lending terms faced by the real economy.[12] High levels of NPLs imply higher default risk premia and higher capital requirements associated with lending (at least where IRB models are concerned). Low profitability levels at banks may mean that they are unable to use retained earnings to meet additional capital requirements arising from new lending, thus negatively affecting the provision of lending to the real economy where banks are unable to raise capital on the financial markets. Indeed, in order to compensate for the costs derived from the stock of NPLs, banks may charge higher interest rates and tighten credit standards (see **Chart 8** and **Chart 9**).[13] This can create a vicious circle, whereby an increased cost of debt for the non-financial sector translates into a higher incidence of financial distress, thus propelling further increases in costs and reductions in the volume of credit.[14]

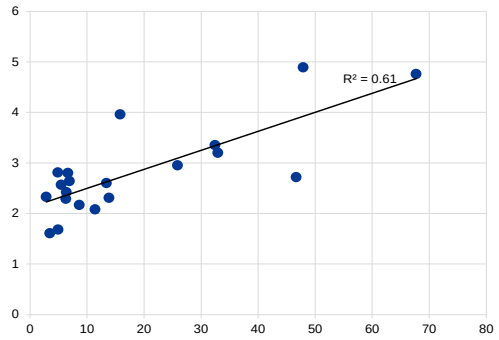
[11] This happened also on the US mortgage market following the global financial crisis. According to the BIS (2012), aggregate deleveraging following the crisis in the United States "did not come about through write-downs of unsustainable debt. Rather, it was driven by […] a reduction in new mortgage borrowing".

[12] For a similar discussion about the impact of a persistent stock of NPLs in the real economy, see Balgova et al. (2016) and the extensive literature review therein. On the other hand, for Italian banks, Accornero et al. (2017) conclude that while an increase in NPLs affects lending, heterogeneity in the level of NPLs ratios per se does not determine different bank lending behaviour.

[13] When considering the correlation between NPLs and credit supply, it is also important to consider that economic conditions deteriorate in parallel with an increase in NPLs, thereby reducing the demand for credit. The subsequent reduction in credit growth cannot be fully attributable to either the supply or to the demand side.

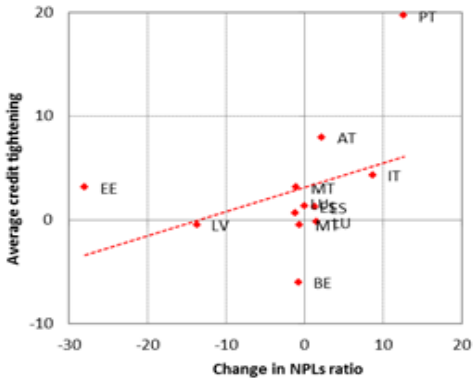
[14] See Hou and Dickinson (2007).

Chart 8 NPL ratios for non-financial corporations *(x-axis)* and interest rates on new loans to non-financial corporations *(y-axis) (as a percentage)*



Source: ECB.
Notes: The x-axis shows the NPL ratios of a sample of euro area banks and the y-axis shows the interest rate these banks charged for new loans to non-financial corporations. The line represents the estimated cross-sectional regression. Data refer to the third quarter of 2015 (NPLs) and January 2016 (interest rates). Euro area countries are covered in the data.

Chart 9 Change in NPL ratios and credit standards on loans to non-financial corporations *(as a percentage)*



Sources: ECB Bank Lending Survey and, Consolidated Banking Data, and EIB calculations.
Notes: The x-axis shows the change in the NPL ratio of a sample of European banks between the second quarter of 2010 and the second quarter of 2016 and the y-axis shows the tightening in credit standards on corporate loans over the same period. The line represents the estimated cross-sectional regression.

A sizable stock of NPLs on the balance sheet of a bank can also affect its funding, primarily via wholesale markets. Given that a high amount of NPLs, in particular if insufficiently covered by provisions, can cast doubt over the bank's future profitability, solvency and thus its long-term viability, investors and depositors would usually apply an increased risk premium, which translates into higher funding costs, or they may altogether stop providing funds to the bank concerned. To a lesser extent, this channel could also affect large deposits. This increase in funding costs trickles down to the cost of credit in the real economy, and loss of funding sources may force banks to reduce the volume of credit. These effects may also become contagious, affecting even sound banks operating in jurisdictions with high stocks of NPLs.

From a system-wide perspective, the persistence of a sizeable stock of NPLs hinders the recovery of the real economy and, taking it to an extreme, may lead to a "zombification" of the economy.[15] If NPL stocks remain unaddressed and remain on the balance sheets of banks for too long, even if provisioned to a high degree, the expected subsequent recovery of the real economy, after several years of crisis, will be negatively affected. Taking the example of the Japanese lost decade, research has shown how economies with large amounts of corporate NPLs exhibit depressed job creation and lower productivity growth, as non-viable companies cannot afford to expand, invest, or even maintain capacity. The presence of non-viable companies further undermines the business models of viable companies through unhealthy competition, and through increasing intra-corporate sector arrears. The longer the duration of financial distress, the more severe the resulting solvency issues in the corporate sector.

Historical evidence corroborates the argument that a "wait-and-see" approach is detrimental in the longer run. Although, given the predominant role of banks in the provision of credit to the real economy, the resolution of NPLs will make some hidden costs explicit, past

[15] The "zombification" of the economy may take place on the side of both banks and non-financial corporations. Banks may have a large stock of NPLs which prevents them from providing new credit and which remains locked on their balance sheet. Non-financial corporations are permitted to continue operating even if they are not viable as a result of banks not enforcing loan repayment.

experience does suggest that ignoring banking problems in the interests of sustaining credit will, on average, lead to a more severe contraction of credit at a later stage.[16] Whilst recovery in the real economy has already been followed by a reduction in NPL levels and ratios, this has been rather slow and the recovery, particularly in some of the high-NPL countries, remains fragile. As the linkages between growth and NPLs work in both directions, it is unclear whether growth would be able to overcome the adverse effects on the real economy caused by the large stock of NPLs. Reduction in NPLs would also shore up the resilience of the affected economies to potential future exogenous negative shocks to growth.

High NPL levels, despite being present in a subset of EU countries, are an issue for the entire EU owing to a range of important cross-border spillovers. The spillover effects arise both within the banking sector and between the banking and non-banking sectors. Banking spillovers relate to banks' cross-border lending activities and cross-border ownership links. Furthermore, indirect channels relate to the overall deterioration of the macroeconomic environment in high-NPL countries, which affects other countries through lower import demand (trade channel) and a loss of value of equity and debt claims on residents of the affected countries (financial channel). Finally, with the differences in supply and demand of credit as well as the stigma attached to some EU countries with high NPL ratios, the transmission channels of monetary policy may not work optimally.

A large stock of non-traded NPLs implies that there is a loss of price information on various asset markets. Since banks are not realising the sales of foreclosed collateral or are not selling the proceeds from bankrupt companies, several asset markets are likely to be illiquid and no information on the prices of various assets is being provided. This likely leads to the prolongation of asset market depression, recession and delayed recovery.

The volume of NPL stocks in the EU calls for some of the resolution process to take place outside the banking sector. If left solely to internal workout units, the restructuring and liquidation of NPLs would take a very long time, even if structural impediments are largely improved. It is therefore desirable that banks have at their disposal alternative tools which, at the system level, allow for a quicker reduction in NPL stocks and for banks to return to their usual role in the financing of the economy.[17]

2.3. Impediments to NPL resolution in the EU

NPL impediments in the EU can be grouped into three main areas: supply side, demand side, and structural issues. These impediments apply to NPL resolution generally, regardless of the specific solution, as they are all considered to weaken banks' incentive to deal with the NPL stock. Whilst relevant to all solutions, the impediments have a major influence on the operation of the secondary markets for NPLs. That said, some European banks have, for some time now, already implemented programmes to resolve their NPLs, thus proving that some of the impediments can be tackled or circumvented.

Many European secondary markets for NPLs are still prone to significant information asymmetries and uncertainty about true NPL values, causing their NPL market to be seen as a "market for lemons". 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. This pricing gap is partly related to the presence of structural impediments to NPL resolution, and to the lack of transparency regarding the inherent NPL values. While it is unlikely that information asymmetries may be fully overcome — particularly because an important recurring factor which affects the bid-ask spread is the fact that accounting standards do not allow banks to recognise the operating costs of holding/servicing NPLs in their NPL book values — the bid-ask spread

[16] See ESRB (2012) and World Bank (1996).

[17] However, there is a middle road between internal workout strategies and national tools, namely single bank AMCs where the bad bank is separated from the originating bank by way of an equity spin-off. For a further discussion see Section 4.3.2.

can be reduced with appropriate policies, thus enabling suitable NPL strategies to be identified.[18] These policies should address both the supply and the demand side. In parallel, the pricing gap should be reduced for the part attributable to structural impediments.

2.3.1. Supply-side impediments

In addition to banks' unwillingness to realise an immediate loss related to the pricing gap, a potential reason for the persistence of high levels of NPLs in EU banks may be found in the opportunity costs of holding NPLs. Accounting standards (IAS 39) permit banks to recognise interest income on NPLs, normally using the original effective interest rate charged on the net NPL balance.[19] In the current low interest rate environment, the interest income stream on NPLs is likely to be higher than the income on sound new loans, while the cost of funding NPLs remains low. From a short-term bank perspective, the case for accelerating NPL disposal may therefore be weak.

The treatment of some operating expenses related to NPLs adds to the disincentive for disposal. In the event of a disposal, the buyer would include future expenses in the price, and these expenses would be immediately recognised. When NPLs are resolved by the bank, some of these expenses would only be booked once incurred, overall smoothing the losses for the bank over time.

Further tax disincentives[20] may arise from the treatment of provisions and write-offs. If provisions and write-offs are not tax deductible, the incentive to recognise losses in a timely manner and resolve NPLs is weakened and the cost of NPL resolution goes up.

There may be a first-mover disadvantage on the current EU secondary markets for NPLs. As long as NPL markets remain illiquid, a bank selling NPLs would be faced with a large spread and may only achieve a low sale price. Prices may rise again once a more diverse investor base is established and the oligopoly structure is overcome. However, banks may not have a strong incentive to move first, as the benefits of clearing the way towards a more efficient market would accrue to their competitors.[21]

The sale of NPLs is also hampered by the often-lacking expertise in asset management and asset value maximisation. 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. This requires expertise in private equity and/or asset management, while the strength of bankers more often lies in the areas of borrower relations and customer service.

2.3.2. Demand-side impediments

The EU secondary market of NPLs is currently showing a significant concentration of buyers, with barriers to entry for investors and servicers. In some jurisdictions, the concentration is reinforced by licensing and other compliance requirements imposed on prospective NPL investors, including in some cases an establishment requirement. The bias towards the largest most specialised investor is accentuated by the lack of an efficient third

[18] According to discussions with market participants, a price difference between NPL sellers and buyers of below 10% is normally considered as an opportunity for a sale for the selling side. A price difference between 10% and 20% might, in contrast, indicate that other solutions (e.g. a joint venture together with the potential buyer to set up an SPV) could be more attractive. Finally, in the case of a price difference of more than 20%, an internal workout unit might be a better solution, according to market participants.

[19] Specifically, under IAS 39, banks are required to estimate the future cash flows related to an NPL, and discount them to the net present value (NPV) using the original interest rate of the loan. The NPV discount is unwound as time passes, leading to the increase in the book value of the NPL that is recorded as interest income. This mechanism would not change significantly under IFRS 9.

[20] See Haley et al. (2016) for a discussion of tax impediments to NPL resolution.

[21] Some recent large-scale NPL transactions could call this statement into question.

party servicer market in many EU countries. This creates a type of oligopoly situation, with significant buyer power in the face of limited competition.[22] For servicers, accessing a new market takes time and requires upfront investment, which may become a sunk cost[23] if a successful deal is never concluded. The absence of a widespread efficient third party service industry means that the demand for NPLs is limited to large investors who have their own servicing capacity and to asset classes which do not require servicing, thus preventing smaller investors without servicing capacity to invest in NPLs.

The availability of sufficient servicing capacity is also crucial in facilitating securitisation. From the perspective of the buyers of securitised NPL tranches, there are at least three reasons for separating the originator of a loan from the servicer. First, moral hazard arises when the originator is also the servicer, but no longer has a direct interest in obtaining the highest recovery rate and possibly holds similar assets which it may prioritise over serviced assets. Second, where the servicer is the originating bank or a captive firm, the separation ring-fences the loans from the failure of the originator, which otherwise would have a negative impact on the operations of the servicer.[24] Finally, if the assets are not ring-fenced legally, it may be difficult to isolate cash flows arising from the servicing activity (which must be remitted to the pool backing the securitisation tranches) from those belonging to the defaulting bank. The drawback of the separation for the originator of the loan is that the latter no longer benefits from a possible upside in recoveries once the asset is taken off of the balance sheet.[25]

Unavailability of sufficiently detailed, comparable and reliable data on NPLs is often a major obstacle to transactions. Data on NPL are often not standardised and costly to access (e.g. involving non-digitalised public registries). Quality and timeliness of data is usually lacking. In such an environment, proper due diligence and pricing becomes expensive and can only be performed by experienced investors. As mentioned in Fell et al. (2016), the absence of detailed data on NPLs can compromise the results of valuation methods that investors use in their due diligence, resulting in heightened uncertainty about asset values (i.e. higher discount rates) and additional costs associated with collecting sufficient data to facilitate workouts. Investors would also be concerned about the possible adverse selection of NPL portfolios by sellers due to information asymmetries. The final result would be lower bid prices.

There are a number of other key challenges regarding the information available to potential secondary NPL investors: (i) NPL documentation is often poor. Data contained in the documents may be incomplete, outdated or erroneous; (ii) the quality of legal contracts is often poor, which includes thin covenants, and; (iii) the quality of public information (e.g. related to property registers, company registers or corporate financial statements) is often poor and access to such data may be difficult for both banks and potential NPL investors.

Furthermore, there are further legal restrictions and uncertainty associated with NPL servicing in Europe in the areas of consumer protection and data privacy. These restrictions are related to: (i) data privacy rules for the transfer of files to NPL servicers; (ii) obligations and constraints of servicers, as many countries define them as suppliers for the purposes of the application of consumer protection laws; and (iii) special care to be taken of socially sensitive groups (see, among others, HFSF, 2016). These restrictions are difficult to deal with, as they are mostly defined in the area of consumer protection.

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[22] Whilst some institutional investors such as pension funds and insurance companies are likely restricted from investing directly in NPLs, a much wider pool of investors is possible with easier access to consistent information and possibly a more diverse selection of investments available in one place.

[23] NPL market participants argue that it takes about six to 18 months to enter a market for a servicer. Related costs fall in the range of around €5 to €15 million, depending on the size and complexity of the market, and depending on which asset class a servicer wants to use. Usually, servicers focus on countries which provide for a minimum volume of NPLs.

[24] The first two purposes also apply to outright sales.

[25] Securitisation is also an important factor for the supply side, as this is increasingly regarded as an option to offload NPLs onto the market. However, banks may also need access to external loan servicing to ensure deconsolidation of the NPLs from their BS. There are ways of structuring securitisations, whereby the asset is deconsolidated but the originator receives a part of the upside.

Finally, tax rules on the transfer of NPLs may also inhibit investor demand. Possible tax impediments on the demand side relate to several factors. Withholding taxes on interest payments are usually a key consideration for foreign investors. Transfer taxes, such as real estate taxes and stamp duties, increase the cost of buying NPLs for investors. VAT may additionally reduce the value of NPLs for non-bank investors, which do not benefit from the exemptions available to banks. For example, VAT charged on loan servicing automatically increases the costs borne by servicers for the administration and collection of NPLs, thus making them less competitive than banks.

2.3.3. Structural impediments

Weak debt enforcement increases 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. Foreclosure and debt enforcement practices vary considerably across EU countries in terms of their effectiveness and duration. Complex, overburdened legal systems and judiciary proceedings discourage investors from investing in distressed assets, because the enforcement of the collateral and the outcome of insolvency proceedings could be significantly delayed, costly and/or unpredictable. In the majority of EU countries, the average foreclosure period ranges from three to five years, whereas in some countries they take between 10 and 20 years (Cyprus and Greece).[26] From a debtor's perspective, the lengthy proceedings can also increase moral hazard, as debtors might be well aware that the collateral will not be easily and quickly enforced and that they may be less incentivised to pay their loans in a timely manner.

Legal requirements (rules for the transfer of credit contracts or restrictions on purchasers of NPLs) may also prevent or significantly restrict the development of a secondary market for NPLs. In some countries, a loan may only be transferred with the explicit prior consent of the debtor. Rights to collateral may be affected in a similar way. Likewise, the accessible information concerning the loan (and the borrower) may be restricted due to data protection.[27]

[26] See KPMG (2016).

[27] It should be noted that whenever a legal provision is referred to as an impediment in view of reaching a specific objective – the creation of an NPL market in this case – it may, at the same time, fulfil other societal and economic objectives (e.g. privacy, data protection).

3. RESOLVING NON-PERFORMING LOANS – STEP-BY-STEP PRACTICAL GUIDANCE

This section provides guidance on the necessary steps and decisions to be taken when resolving large NPL stocks. The content of this section is considered to be relevant not only to the current circumstances in the EU banking system, but, in general, to any future crisis leading to an accumulation of NPLs on the balance sheet of banks. Therefore, it can be considered as a benchmark against which policymakers can compare their actions.

The section is structured as follows. First, some preliminary considerations are outlined. Second, the overarching principles for resolving NPLs are described, with a particular focus on a decision tree which should guide actions by policymakers. Thereafter, each of the three main steps of this decision tree is described in further detail. The section concludes with a brief reference to the consequences of the actions in Step 3 of the decision tree.

3.1. Macroprudential considerations

When policymakers decide on the need to resolve a large stock of NPLs on the balance sheet of the banking system, they need to set out clearly the objectives of their actions. If policymakers reach the conclusion that the stock of NPLs is hampering the provision of credit to the real economy, which is at the core of the function of banks in the financial system, or if the NPL situation is a threat to financial stability, they should launch a process along the lines described in this section, with the aim of resolving the NPL stock in a reasonably fast and sustainable manner.[28]

Ideally, policymakers should act pre-emptively so as to avoid the future build-up of NPL stocks. The flows of NPLs should be addressed by imposing sound practices of credit approval and monitoring/provisioning of new loans as well as the timely resolution of NPLs, thus avoiding their accumulation on balance sheets over time. This perspective is incorporated within the current micro- and macroprudential policy, which is mostly pre-emptive and is designed with the a view to avoiding the build-up of risks.

Policymakers should ensure that moral hazard is adequately addressed in their strategy for the resolution of NPLs. If banks expect their losses arising from NPLs to be covered by the public sector, for example, they are not given any incentive to appropriately manage their own stock of NPLs. When there is insufficient supervisory pressure on banks, they could accordingly take a passive ("wait-and-see") approach. This approach would also affect future lending, which could be granted under suboptimal lending standards if the stock of NPLs does not imply significant costs for the bank when loans are non-performing (e.g. due to public intervention or due to a soft supervisory approach). The same cycle could thus constantly be repeated over time and the public sector would always be called upon to support the banks when they are in difficulties. Similarly, moral hazard on the side of borrowers must be adequately addressed by removing obstacles and impediments to enforcement by banks of loan repayments.

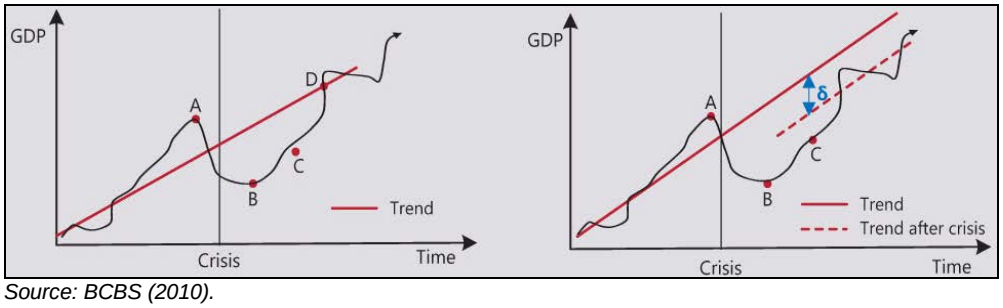
Addressing moral hazard is at the core of the macroprudential approach to the resolution of NPLs. Indeed, one of the intermediate objectives of macroprudential policies, as set out in ESRB Recommendation 2013/1 (ESRB, 2013) proposes to "limit the systemic impact of misaligned incentives with a view to reducing moral hazard". In other words, policymakers should design policies which provide the right incentives to banks and borrowers to handle and manage NPLs, and to limit the risk of a future repeat of the surge in NPLs.

[28] Ensuring financial stability and the provision of credit to the real economy is implicit in the mission of the ESRB. Article 3, of ESRB Regulation 1092/2010 on its mission, objectives and tasks, of the ESRB Regulation 1092/2010 reads "[…] It shall contribute to the smooth functioning of the internal market and thereby ensure a sustainable contribution of the financial sector to economic growth".

A key objective of any policy related to the stock of NPLs should be to minimise overall economic losses in the long run, even if that entails incurring significant losses in the short term. Every banking crisis has a cost for the real economy, for example in terms of output (GDP) and of the number of years it takes to return to the pre-crisis levels. The cumulative economic cost of banking crises is of the utmost relevance when designing a welfare-maximising strategy for NPL resolution. Recent research suggests that, even if the growth rate returns to its pre-crisis mean, the output pattern is likely to remain permanently below its pre-crisis trend level (**see Figure 2**).[29]

Pursuing policies aimed at minimising overall economic losses implies that policymakers should strive to maximise the NPV of NPLs. The main objective for policymakers should be the minimisation of losses arising from NPLs to society, be it via a subdued supply of credit from banks, the use of public support to failing institutions, or the possible recourse to resolution funds. An NPL is a latent loss in the balance sheet of the bank, which sooner or later must be realised. The actions of policymakers should therefore be driven by the minimisation of losses to society, while bearing in mind that inaction has a larger price to pay over the long term. In the design of the strategy to achieve this objective, it is important that policymakers also focus on the maximisation of the NPV of NPLs, that is, on extracting the maximum possible recoveries from the existing NPLs. In order to achieve this, the actions of policymakers must be guided by five overarching principles, which are briefly described in the following paragraphs.

Figure 2 Output loss following a financial crisis *(as a percentage of GDP)*



Source: BCBS (2010).
Note: Point A: pre-crisis peak. Point B: post-crisis trough. Point C: GDP growth equals trend GDP growth for the first time following the crisis. Point D: the level of GDP returns to the pre-crisis level.

3.2. Overarching principles and the sequencing order

Principle 1: Swift recognition and action is needed to resolve NPLs, while avoiding fire sales

This principle stipulates that policymakers as well as bank shareholders and management should not "extend and pretend" when resolving large NPL stocks, waiting, for example, for a period of higher economic growth and a recovery of asset prices. This strategy has often been adopted by some countries in the past[30], with a negative outcome: widespread forbearance extended to non-viable borrowers, and low lending. Ultimately, this leads to prolonged periods of low growth (stagnation), creates solvency and liquidity problems for banks and diminishes the resilience of the financial system. Protracted deliberations on the strategy should also be avoided, as they create uncertainty and disincentivise banks from taking action. On the other hand, utmost care should be taken to avoid triggering asset fire sales that could set in motion a self-propelling downward spiral of asset prices, which exacerbates banks' capital needs.

[29] See, among others, BCBS (2010) or Reinhart and Rogoff (2009).

[30] See Section 4 and Annex 1 for further details.

Principle 2: Losses must be borne primarily by banks' shareholders and other investors to avoid moral hazard.

This principle supports the first, meaning that corporate finance principles should be used when resolving NPL stocks: losses on NPLs should be borne primarily by the owners and other investors of the banks concerned. They should not be transferred to authorities (bail-out), other stakeholders (such as other, otherwise healthy, banks). In other words, ex ante there should not be any expectation of State or other support, even if banks are systemic or have a special status in the financial system (e.g. market-makers).

Principle 3: All solutions should fully comply with the EU legal framework

The European Commission has established rules under which State aid can be provided to the financial sector, as well as a regulatory framework for the recovery and resolution of banks. This legal framework should be taken as a given by policymakers, which should also make use of the many mechanisms available under this framework when designing their strategy for the resolution of NPLs. Expectations that it would be possible to deviate from the framework would only slow down the NPL resolution process and increase the final cost to society.

Principle 4: NPL resolution needs to include a long-term viability assessment of the affected banks

This principle advocates that in countries with high NPL ratios of a systemic nature, and where high NPL levels may have impaired the viability of individual banks or the banking system, banking sector restructuring may be a necessary part of the solution. Dealing with NPLs in a swift and comprehensive manner may actually create a window of opportunity for the restructuring of the banking sector. The restructuring may involve operational restructuring of individual banks, as well as mergers or orderly wind-downs of non-viable banks. While bank restructuring may impose substantial costs over the short term, the outcome of that process in the long term would be a sound and viable banking system, better positioned to contribute to economic growth.

Principle 5: High stocks of NPLs and NPL market failures should be addressed in a comprehensive package

There is no single policy measure that would contribute decisively to the resolution of a large and heterogeneous stock of NPLs, but, rather on the contrary, a comprehensive set of policies is required, covering different fields of relevance to the NPLs (accounting, tax, legal, financial supervision etc.) and tackling the identified market failures. In this respect, an overarching framework at the EU level can be beneficial for laying the foundations for further policies to be implemented.

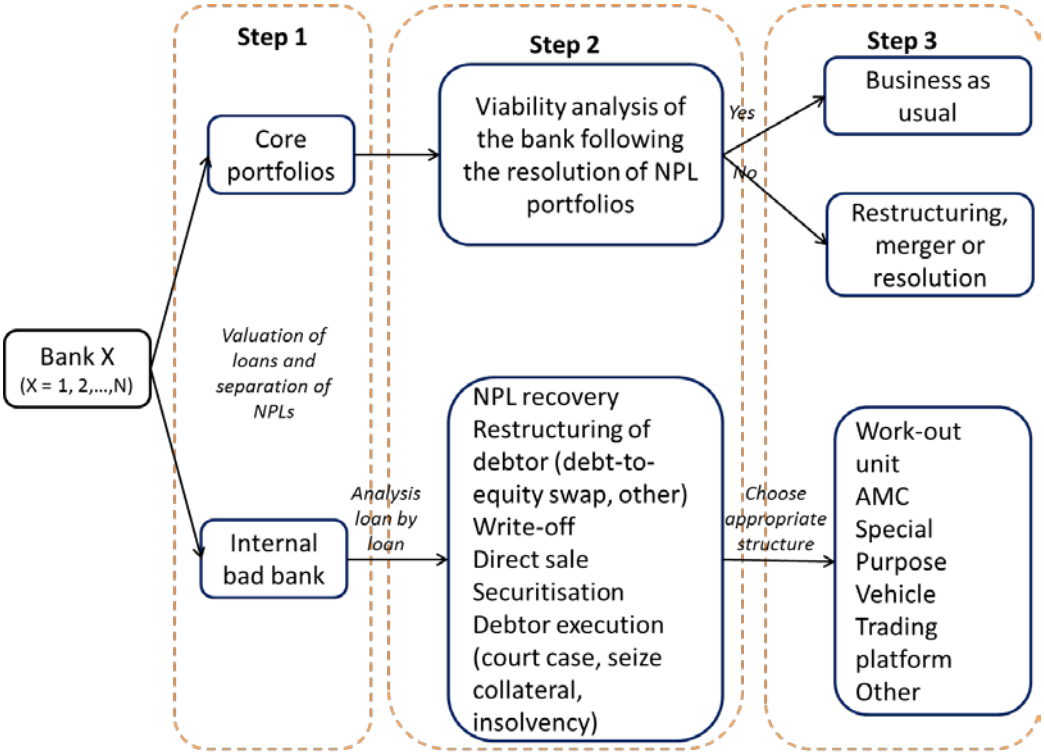
Within such an overarching framework, which should be further detailed by the relevant authorities, the sequencing of the individual measures that form part of this strategy is the key to success. More specifically, the sequencing requires three steps to be taken, as follows:

- Step 1: Due diligence of the bank's books. Due diligence shall estimate the value of the NPL and/or of the collateral. Based on this due diligence, most NPLs should be operationally separated from the viable part of the banks, either internally (via dedicated workout and rundown units) or externally (via securitisation, sales and AMCs).
- Step 2: (a) Viability analysis of the bank "following the resolution of its NPLs" to assess whether it still has the financial and structural capacity to remain seen as a going concern; (b) deciding, on a borrower-by-borrower basis, which approach allows greater value from the resolution of the NPLs and the attached collateral to be gained.
- Step 3: (a) The analysis under 2(a) may lead to continued operations of the bank, possibly with some operational restructuring to improve its viability, or to other solutions, such as a

merger or an orderly wind-down; (b) the NPLs and their attached collateral may be handled using different internal or external organisational structures, depending on the category of NPL/collateral and the local circumstances.

The three steps are depicted in **Figure 3** and discussed in more detail in the remaining part of this section. Annex 1 provides examples of how individual countries have used similar decision trees in previous crisis.

Figure 3. Decision tree for the resolution of high stocks of NPLs



Source: ESRB.
Note: An NPL trading platform, referred to under Step 3, is not a stand-alone solution, as it facilitates direct sales.

3.3. Step 1: Valuation of loan portfolios and separation of NPLs

The objective of Step 1 is to conduct thorough stocktaking to define the economic value of NPLs and to gather up-to-date information: collateral valuations, impairments, expected cash flows, PDs, LGDs, sectoral classification and other necessary information regarding the asset and the debtor. The first step of the decision tree entails a comprehensive valuation of the loan portfolio of each specific bank. It is vital that the valuation of the NPLs and attached collateral is performed correctly. Proper valuation is necessary to ascertain the fair distribution of costs between stakeholders. Correct valuation will also provide the appropriate incentives to act on the NPLs, by the originating bank, by the AMC (if any), or by the final buyer. At this stage, the valuation is not performed to derive any market or transfer value of loans or to amend information presented in past financial statements.[31]

[31] Valuations of NPLs may be carried out following different purposes, such as: (i) updating the amount recognised on the balance sheet (which, according to accounting standards, should be done using expected loss models, discounting the expected cash flows by the original effective interest rate); (ii) transferring the NPLs to the AMC for a "real economic value"; or (iii) transferring the NPLs to an independent third party without any additional credit risk enhancements ("market value").

The valuation of an NPL or of the underlying collateral should aim to identify its real economic value, after deducting for carrying costs, other costs (including taxes and stamp duties) and time decay (e.g. of an asset waiting to be foreclosed). The value should refer to the higher of the loan value on a going concern basis, or the sales value of the collateral. When the bank has made sufficient provisions for the loss, the additional cost to the bank when transferring and selling the NPL/collateral is lower (but this additional cost will never fully disappear, as there are other factors affecting it, for example: information asymmetry, use of different discount rates). There would be at least some demand for assets priced at this level, so the sales may begin as soon as the NPL has been "crunched" into a saleable asset. Unless banks have already made provisions to this level, there will be a hit on the banks' capital funds. The decrease in banks' capital positions should be compensated, for instance by the infusion of new equity capital, by cutting dividends using the surplus to increase capital, or by merging or liquidating the bank.

Valuations contained in the audited financial statements of banks usually deviate from the valuation proposed in Step 1, as they follow different valuation principles. The valuation called upon Step 1 would otherwise be a duplication of work already done by the bank itself and by auditors. However, the recent financial crisis showed how hard it can be for auditors to correctly assess problematic parts of banks' balance sheets. In addition, information on the loans is very poor and of dubious quality, in particular for loans of smaller size. Finally, the assumptions taken by banks' management for valuation of loans and collateral were sometimes based on excessively optimistic outlooks, concerning for example the development of the economy, ability of the borrower to repay the outstanding exposure, time to realise underlying collateral, or proceeds from such realisation.

Troubled asset reviews (TARs, also referred to as due diligence) are a valuable input for these valuations and due diligence processes. The valuation of NPLs may take place in a variety of forms, with an important role to be played by on-site microprudential supervisors and granular databases. At the same time, TARs may be useful under certain circumstances, where policymakers decide that they are necessary to provide an updated (and, to the extent possible, validated) valuation of the loan portfolio of a bank. In this vein, European authorities have engaged in various TARs over the past few years: be it in those EU countries under financial assistance programmes or in the context of the broader asset quality review undertaken by ECB Banking Supervision in 2014. However, owing to the high cost of such exercises, they should only be performed when necessary.

Several conclusions can be drawn from the experiences gained in recent TARs as to how to conduct valuations of banks' loan portfolios:

- TARs should be conducted using the bottom-up approach, i.e. on a loan-by-loan basis, except where there are uniform portfolios such as for mortgages, where sampling methods can be used.
- Loss projections should be based on detailed information from banks' books as well as external reviews from independent auditors and real estate appraisers in order to enable loss drivers not directly captured in the banking books and/or past default experience to be adequately factored into the estimates of entities' loss forecasts.
- TARs should be conducted on an expected and not only incurred loss basis. The entry into force of IFRS 9 in 2018 would definitively contribute to this area of work by establishing the concept of lifetime expected loss in the accounting realm for loans that have not been recognised as impaired yet.
- Ideally, the scenario for TARs should be provided to the chosen financial adviser beforehand.
- Additional sources of information should be used, such as credit registers maintained by central bank databases, historical information from loan registers, information from the financial statements of the bank or auditing data to refine individual bank parameters on loan classification and restructuring.

- To avoid conflicts of interest, TARs should not be carried out by the regular auditors of the bank.
- Foreclosed assets and underlying collateral data should be revalued by an independent (and, where relevant, appointed by the public authorities) valuation board composed of specialists. Their revaluation (of a sample) shall assess, and if necessary correct the valuation, if the bank's own valuation methods lead to unsatisfactory outcomes or to a bias towards overvaluation.
- Experience of the bank in the sale of collateral should be analysed as well.

Once the loan portfolio of the bank is valued, NPLs are operationally separated from the other assets of the bank, following different paths across the process. By the end of the valuation of the loan portfolio of a bank, policymakers should get a clear picture of the NPLs within that bank. While both types of assets will still remain within the scope of consolidation of the bank at this stage, it is important to establish a clear separation between performing and non-performing assets, since they will be subject to different actions in Steps 2 and 3. This may involve a transfer to a dedicated internal unit or even to a separate legal entity within the banking group.

3.4. Step 2: Viability analysis and loan-by-loan analysis of NPLs

In Step 2, a long-term viability analysis is performed for the bank following the resolution of its NPL portfolios (that is, the bank that retains the "core portfolios" as its main assets as well as the full liabilities even after the resolution of the NPL portfolios) to determine whether it is able to function as an independent entity in the future. The "core portfolios" of the bank should be able to generate enough profit to ensure the viability of the bank over a long-term horizon (that is, to remain solvent and cover the cost of equity), given the macroeconomic environment in which the bank operates. Importantly, substantial fixed costs (arising from, among others, a large number of employees or a very dense branch network) can call into question the viability of the bank following the resolution of the NPL portfolios. Such an analysis should be performed by professionals with sufficiently robust experience (relating to specific markets, asset classes, industries, etc.) in order to be able to adequately evaluate strategies for the loans/collaterals, realistic and sustainable restructuring and potential recovery. Recourse to external services may be required if no independent (i.e. no link to origination) resources are already within the organisation. In many countries, such external resources will be required considering the lack of sufficient local experience.

For the non-performing portfolios, a detailed analysis should be conducted for each NPL to determine the best strategy. Based on the characteristics of the NPL, the independent reviewer should, in a transparent manner, determine what kind of action is appropriate to maximize the NPV of the NPL, whereby the reviewer should also make use of hard and soft information already available at the bank. Such exercises are resource-intensive, costly and require a considerable amount of time. Therefore, the assessment should strive to be as efficient as possible. Usually, all the relevant information is made available in a virtual data room.[32] The NPLs should be stratified into viable and non-viable exposures. For viable debtors, they should be further separated into collaborative versus non-collaborative debtors. For non-collaborative debtors, special measures should be rapidly taken to avoid detrimental strategic action (e.g. value erosion of collateral, cash leakage, etc.)

Where the underlying borrower is found to be viable, NPLs should be restructured. For borrowers with viable business models but cyclical difficulties, possible solutions involve debt restructuring or debt-to-equity swaps. Debt restructuring (or forbearance) involves a modification of terms that allows the borrower to service the debt on a sustainable basis. Caution is needed so that forbearance is not extended on unsustainable terms to "evergreen"

[32] If loans are reviewed by third parties, strict non-disclosure agreements are needed, as data contains sensitive information on the underlying borrowers.

the portfolio; to this end, policymakers may provide guidance.[33] In debt-to-equity swaps, which for practical reasons would be more appropriate for larger firms, creditors become shareholders, taking some of the responsibility for operational restructuring of the borrower, reducing the debt repayment needs, and taking a claim on the potential upside from restructuring.

Where the underlying borrower is considered to be non-viable, NPLs should be liquidated in an orderly process using one of the following available tools:

- **Seizure and sale of the collateral.** This approach may be used when the borrower is in default and has no prospect of returning to viability (for example, when the borrower is already bankrupt). In the case of real estate loans, this solution may entail the finalisation of the project and its subsequent sale. A decisive factor when considering this alternative is the time and cost required to seize the collateral. If, in the current legal environment, it takes too long or it is too costly to seize the collateral, banks may consider other alternatives. In practical terms, this solution may not be so easy or straightforward to implement.
- **Bankruptcy and sale of proceeds.** This solution is adequate when the borrower has no option of returning to viability (i.e. if a non-financial company is already in default), as otherwise a piecemeal sale of the assets of the company would result in the loss of goodwill that accompanies a viable business model. It depends heavily on the insolvency regime in a specific country: insolvency frameworks are key for the efficient resolution of NPLs, as they have a major impact on the pricing of distressed assets and on the incentive structure of the various stakeholders.

The resolution of NPLs, using these main options, may take place on or off the balance sheet of the bank, and by each bank individually or in a coordinated manner. Banks can sell their NPL to other parties, either via outright sales or securitisations, to transfer the risk associated with the workout process or to tap the expertise that may not be available internally. The choice between internal workout and disposal applies both to viable and non-viable NPLs. However, the option of selling NPLs may only be an attractive proposition on a large scale in the current EU context if further policy action is taken, as discussed in Chapters 4 and 5 of this report.

3.5. Step 3: Bank restructuring and resolution

Depending on the result of the viability analysis in Step 2, the bank may, after the resolution of the NPL portfolios, need to be restructured, merged, sold or wound down in an orderly manner. If the viability analysis in Step 2 considers the bank to be viable over the long term, even after the resolution of the NPLs, then that part of the bank may return to its normal activities. Otherwise, where the long-term viability is under question, it may be necessary to restructure, merge, sell or resolve the bank.

As regards the NPL portfolios, resolution and disposal strategies should be put into practice based on the results of the loan-by-loan analysis in Step 2. Depending on the alternative which minimises the losses for society, these disposal strategies may entail the following actions: (i) the shift of NPLs to special workout units; (ii) the creation of special-purpose vehicles (if NPLs are going to be securitised); (iii) the creation of bank-specific or multibank asset management companies (if NPLs are to be transferred to such a vehicle), or; (iv) the transfer of NPLs to a holding company (which is the option most commonly used if the bank decides to go for a direct sale of NPLs). In all cases, the common prerequisite is that the new structure put in place has adequate equity and funding to undertake its mission. The external options will greatly depend on the investor demand, but also on the possibility of attracting third party loan servicing.

[33] ECB Banking Supervision (2017) contains an example of guidance provided on how banks should manage forbearance.

4. POSSIBLE OPTIONS FOR DISPOSAL AND RESOLUTION OF NON-PERFOMRING LOANS

Following on from the general practical guidance described in Chapter 3, this chapter provides an overview of the available options for dealing with NPLs and suggests certain policy actions required to make these options work. More specifically, the focus here is on secondary market options which can be used to address NPLs.

The chapter is structured as follows: first, a taxonomy of NPL resolution options is presented. Following this, the three secondary market options listed in the taxonomy - that is securitisation, AMCs (public and private) and direct NPL sales - are discussed and recent case studies presented**.** The chapter also proposes some solutions to the supply and structural issues which need to be addressed in parallel with the development of secondary NPL markets.

4.1. A taxonomy of NPL resolution options

Figure 4 provides a range of possible responses to address large-scale NPL stocks, distinguishing between approaches with NPLs remaining on bank balance sheets, off-balance sheet approaches and approaches that fall between these two extremes.[34] In practice, these options should not necessarily be regarded as competing with one another but rather complementary, providing policymakers with a range of tools that are necessary to tackle large-scale, heterogeneous NPL problems. A single approach is unlikely to be universally successful. Each of these options has different requirements, costs and benefits, and may be suitable to specific asset classes only.

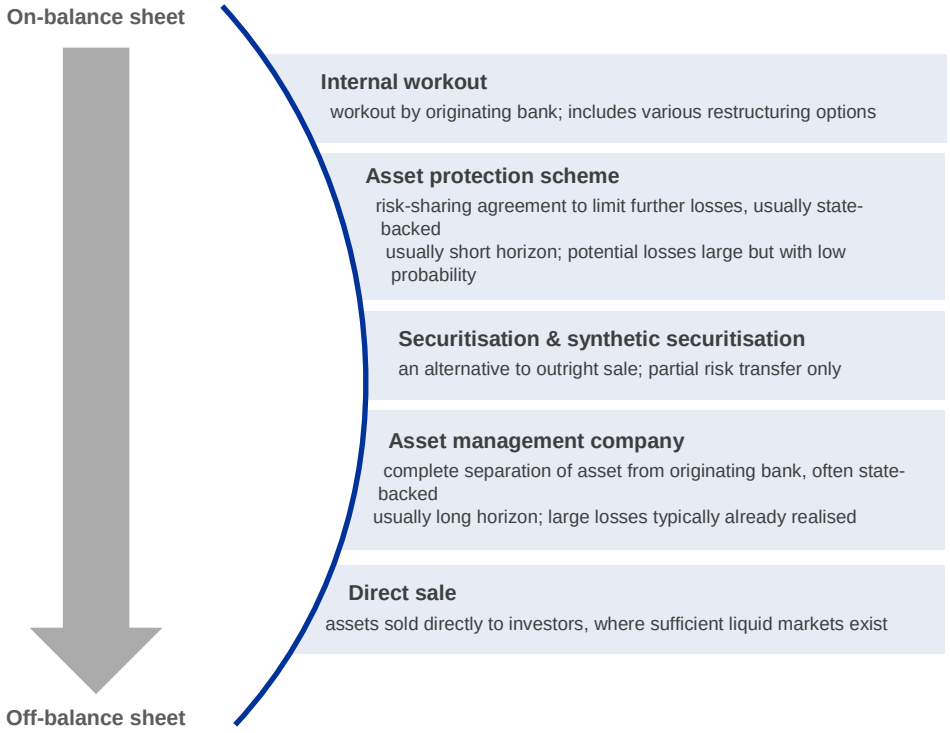
Internal workout by the bank holding the impaired asset marks one end of the spectrum of options and should always feature highly in any broader NPL resolution scheme. Issues relating to the internal workout of NPLs within the originating banks are discussed in detail in the guidance on NPLs issued by ECB Banking Supervision in March 2017 and are not discussed in detail in this report.[35] This option is likely to become a default option if none of the other options to remove assets from bank balance sheets are suitable. Banks often require specialist third-party support to be effective in this regard, since experience in dealing with NPLs is frequently lacking in-house.

Direct sales of impaired assets to an outside investor marks the opposite end of the spectrum of options. While this option has the capacity to deliver results quickly from a bank's perspective to reduce NPL stock, its practical feasibility depends, inter alia, on the bank's provisioning level relative to market prices, the capitalisation of the bank concerned and the presence of liquid NPL markets.

[34] Based on Fell et al. (2016).

[35] See ECB Banking Supervision (2017).

Figure 4: Taxonomy of options for addressing NPLs



Source: Fell et al. (2016).

In between, there is a range of options such as asset protection schemes (APSs), securitisation and synthetic securitisation[36] **and the creation of asset management companies (AMCs)**. AMCs have been proven to be useful for dealing with property-related assets and some corporate exposures. Securitisation and NPL portfolio sales via an organised information and coordination platform may additionally be an appropriate tool to remove more granular SME loans, unsecured loans (credit cards, consumer loans), but also NFC loans from bank balance sheets. AMCs can be set up at the level of the entire banking system, often with the sponsorship and financial involvement of the government, or privately, by individual banks. While this report will not focus further on APSs, they have proven to be useful in situations where potential losses from declining asset valuation are large but the likelihood of the losses actually occurring is low.[37]

The advantages, disadvantages and case studies of each of the three secondary market NPL resolution options will be discussed further in Chapter 4.2 below, followed by a discussion of necessary solutions to supply and structural impediments.

4.2. Solutions for demand-side impediments

In this section, different secondary market solutions are presented in detail: securitisation, the establishment of an AMC and the direct sale of NPLs. All of these solutions can be facilitated by reducing information asymmetry through provision of harmonised NPL data in a common data template.

[36] Pursuant to Article 242(11) of the Capital Requirements Regulation, synthetic securitisation is defined as a securitisation where the transfer of risk is achieved by the use of credit derivatives or guarantees, and the exposures being securitised remain exposures of the originator institution.

[37] The ECB published a set of guiding principles for asset support schemes in which the most important operational challenges of setting up an APS are discussed, see ECB, “Guiding principles for bank asset support schemes”, February 2009.

4.2.1. Securitisation

Securitisation can be characterised as a significant transfer of risk associated with impaired assets without a complete separation of the assets concerned. The securitisation approach and the set-up of internal special-purpose vehicles (SPVs) can either involve the creation of bank-specific SPVs, or the extraction of performing assets into a good bank, leaving the bad assets securitised and possibly in liquidation. Securitisation differs from outright sales of NPLs along various categories: the risk transfer is not complete, the funding is tranched, servicing tends to be outsourced, and there is often private funding involved. In terms of a basic structure, NPL securitisations consist of five elements:

- The bank that originated the NPLs securitises them or sells them to an unaffiliated SPV for an agreed purchase price, which is typically less than the face value of the NPLs;
- The SPV funds the purchase of the NPLs and the initial costs of the structure, until sufficient cash flows are generated by the NPLs, through the issuance of debt instruments to investors in different tranches;
- The cash flow generated by the NPLs is collected and applied on behalf of the SPV, resulting in the payment of interest on and the repayment of principal of the notes, as well as the payment of the costs of the securitisation structure;
- The task of collecting the cash flow is undertaken by a third party (the servicer)[38] appointed by the SPV; and
- To mitigate the risk that the NPLs are unable to generate sufficient cash flow for scheduled debt service payments to be made in respect of the notes, various structural features (such as liquidity, credit enhancement and hedging) are put in place.

NPL securitisations depend for their ultimate success on two determinants:

- The quality of the NPLs, distinguishing between various types of NPL (secured versus unsecured, mortgages versus consumer loans and NFC loans). Examining the quality of NPL portfolios to be securitised requires appropriate due diligence as well as warranties given by the originator to the issuer. The costs of this process will depend greatly on the quality of the available data;
- The quality, experience and track record of the servicer. Usually it is left to an individual servicer to interpret the nature of this duty in any particular context and to determine the necessary steps to be taken. This gives the servicer a considerable amount of discretion in terms of its operations.

Securitisation of NPLs can have some clear advantages for the banks concerned as well as for possible external investors. Arguably the main advantage for the bank is that the NPLs may be quickly 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 could also help attract different profiles of investors by tranching the underlying risk. Contrary to AMCs, securitisation may be suitable also for granular portfolios.

A disadvantage, particularly in comparison to many AMCs, is the average scale of such schemes. SPVs tend to be significantly smaller than AMCs, implying that a larger number of SPVs would be needed, economies of scale are lost and coordination of asset disposals may be more difficult. Moreover, from an investor perspective, monitoring of the assets may be challenging in comparison to direct investment in NPLs.

There have historically been regulatory hurdles in the EU to resolving NPLs using securitisation. Current regulation in this area imposes high capital charges relative to other funding instruments of similar credit risk. This might deter banks from investing, as the regulatory cost of securitisation of NPLs is high relative to the cost of holding the NPLs on the

[38] The originating bank may also act as the servicer.

balance sheet. Moreover, further complexity is created by the requirement for EU credit institutions to ensure that an eligible entity has "skin in the game" for the life of the transaction, under the CRR's risk retention requirements, before investing in an NPL securitisation. Although NPL securitisations would not qualify as simple and transparent securitisations, since, in the context of the EU framework the prospective investor base may be restricted, consistent data may well help address the issue of information asymmetry and thus increase investor appetite.[39]

At the current juncture, the securitisation market is very subdued in Europe, particularly for distressed assets. It is difficult to find solutions whereby the securitised NPLs can be fully derecognised, since demand for mezzanine and junior tranches can be lacking. As such, significant parts of the risks would remain with the seller in such transactions. Credit enhancements, such as guarantees, may be needed in this case, also as a way to dispose of the riskier tranches of the transaction.[40] In addition, regardless of the type of investment (direct sales or securitisation), the number of investors is very small and they look for benchmark deals, which disadvantages smaller banks.

4.2.2. Asset management companies

AMCs, which acquire NPLs from banks and resolve them over a longer horizon, can take several forms, depending on the ownership, participation perimeter, and mandate. Government-sponsored system-wide AMCs are companies that acquire NPLs from multiple banks and resolve them over a longer horizon, using government capital or funding support, but remaining independent from the government. Historically, many AMCs were sponsored by governments, and have often played an important role in resolving acute, systemic banking crises.[41,42] A few banks established private AMCs, which did not make use of State support.

AMCs can offer substantial benefits to participating banks at times of stress, by reducing asset quality uncertainty and relieving funding pressures, leading possibly to greater ease in raising necessary capital. While these benefits may not be so relevant in the current EU context, AMCs may also help precipitate secondary NPL markets. Many of the impediments to the creation of secondary NPL markets outlined in the previous chapter can in fact be alleviated by the establishment of a well-designed AMC.

An AMC may achieve better recoveries than individual banks by using economies of scale. By pooling entire classes of NPLs, AMCs can exploit synergies and improve coordination among creditors in handling individual troubled exposures. Its internal organisation may be more flexible to deal with NPLs of different natures, and it may be more compatible with external expertise, for example in legal matters, in the property markets, or in extracting values from corporate borrowers. An AMC, being subject to less pressure from creditors and shareholders than the going-concern banks, is also able to take more time to resolve NPLs. By doing so, the AMC prevents fire-sale pressures on banks, allows time for structural reforms to take effect, and benefits from selling assets in a recovery rather than at the trough of the cycle.

It is possible to set up a government-sponsored AMC involving capital or funding support from the public sector under the EU legal framework. Public capital and funding

[39] Proposal for a Regulation of the European Parliament and of the Council laying down common rules on securitisation and creating a European framework for simple, transparent and standardised securitisation and amending Directives 2009/65/EC, 2009/138/EC, 2011/61/EU and Regulations (EC) No 1060/2009 and (EU) No 648/2012.

[40] See Fell, Moldovan and O'Brien (2017) for a discussion of co-investment schemes which may facilitate the risk transfer through securitisation.

[41] 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), SAREB in Spain (2012) and BAMC in Slovenia (2013). However, these AMCs typically addressed the fallout from crises that stemmed from rapid credit expansions or real estate booms, rather than prolonged macroeconomic underperformance. Such AMCs should not be confused with entities in the asset management industry, which manage capital market investments on behalf of their customers.

[42] Fung et al. (2004).

support to the banking sector in the EU is constrained by State aid rules and the BRRD. In the context of asset transfers to an AMC, State aid may be permitted by the State aid rules up to the difference between current market prices and real economic value. Burden-sharing with shareholders and junior bondholders is one of the conditions set for such aid. While incurred and expected losses cannot be covered by State aid under the EU framework, the BRRD allows for precautionary recapitalisation of banks, which would cover the capital shortfall incurred under an adverse scenario of a stress-test exercise carried out by a competent supervisory authority.

AMCs need robust valuation methodologies and good governance.[43] The right asset mix, appropriate valuation methods as well as adequate governance are essential for the effective functioning of AMCs to overcome market failures in the secondary market for NPLs. Governance and incentive issues include, in particular, independence of the AMC from political interference. Furthermore, a supervisory board composed of recognised, international independent professionals would be needed to attract external investors to the structure. The AMC should receive a clear mandate to maximise the value recovered from NPLs in the given lifetime. Compensation and incentive structures of the management need to enable the AMCs to pursue the objective of maximising the value of the NPLs sold/worked out. The funding model of an AMC should allow it to conduct stable operations, while providing sufficient discipline to work out assets; for example, this can involve State-guaranteed senior debt with predetermined redemption targets and a large enough share of subordinated debt and common equity, which help to contain risks of AMC losses spilling over to the public sector. Other operational issues, particularly surrounding the launch of the AMC, may also be of critical importance (e.g. loan servicing platforms or other IT systems) and should be carefully planned.

Research on the determinants of the success of AMCs shows that the types of assets acquired are among the most important determinant for successful asset disposals.[44] Historically, AMCs have been most successful when tasked with resolving real estate assets, typically commercial real estate, land and related exposures such as development loans. Such assets have an intrinsic value which is relatively straightforward to assess, and their future values are largely tied to the economic and market recovery.[45]

It is more challenging for AMCs to be effective in resolving corporate loans, which in some countries currently represent the bulk of NPL stocks. There are examples of bank-specific AMCs dealing with corporate loan workouts in Sweden in the 1990s, and system-wide AMCs doing so in the aftermath of the Asian crisis. More recently, corporate loans have been resolved by bank-specific AMCs in Germany (several banks) and Austria (HETA). The recent example of a system-wide government-backed AMC in the EU, where property as well as NFC loans, in particular MBO/LBO loans have been transferred, is Slovenia (BAMC). Generally speaking, such loans are more heterogeneous and therefore more private equity expertise in corporate turnaround is needed. The extent to which value can be recovered from corporate exposures tends to be more uncertain compared to CRE loans, often domestically, third-party expertise is likely to be less readily available and an AMC workout of such assets could, in some cases, be subject to greater political pressures. Therefore, additional determining factors for the success of these NFC-related AMCs are the quality of the asset documentation, a solid valuation process, efficient asset servicing, a strong legal framework, effective insulation through corporate governance of the AMCs from political pressures and skilled staff.[46]

The "costs" of establishing an AMC may be sufficiently high to render them unattractive to authorities and banks that may be expected to participate. The funding of an AMC may

[43] See e.g. ECB (2009), O'Brien and Wezel (2013), Fell et al. (2016), Medina Cas and Peresa (2016).

[44] Woo (2002).

[45] A further categorisation is in the single asset class vs AMC versus the multi- asset class AMCs. Both of these create challenges: the key challenge of having numerous asset classes is the exponential operational complexity. However, single asset class may not allow the necessary volume to be economically viable (e.g. in smaller countries, if only one/a few banks participate).

[46] Medina Cas and Peresa (2016).

become costly if State liabilities become large and minimum requirements for private participation in the equity of the AMC prevent the classification of the AMC's liabilities outside the public debt perimeter. Burden-sharing arrangements, particularly where households may be affected, for example in cases where subordinated bonds were held by retail investors, may discourage authorities from setting up an AMC. In general, uncertainty surrounding the applicable framework of rules and participation conditions may discourage banks from joining the AMC scheme, while simultaneously reducing incentives to find market solutions: a clear blueprint for systemic AMCs and simple, ex-ante criteria for restructuring participating banks are necessary to shorten the start-up time and clarify the benefits and costs arising from such participation.

That said, if the necessary conditions are met, establishing an AMC to tackle NPLs offers several advantages. Most importantly, the approach can bring economies of scale and professional recovery management. Banks often lack specific skills required for large scale asset recovery and it is often challenging for them to fill such knowledge gaps quickly. AMCs can also help to solve creditor coordination problems and misaligned incentives as regards MBO/LBO loans, which are a common issue in corporate and CRE lending in a number of EU countries.

Establishing AMCs may not require government assistance. AMCs set up privately by individual banks have proven to provide positive results in some crises, including in the Swedish crisis.[47] Such AMCs share some advantages of the system-wide government-sponsored AMCs. A bank-owned AMC might be a subsidiary of the originating bank. It need not be licensed as a bank since it does not provide loans, nor receives deposits. Hence, costs could be reduced compared to an internal workout. It is far less complicated to create a single-bank AMC than a system-wide one. For example, no special legislation is required, and level playing field issues across participating banks are entirely avoided.

The main drawback of a single-bank AMC subsidiary is that it does not fully remove the risk related to NPLs from the bank balance sheet. The subsidiary is likely to remain consolidated with the bank. Even if the NPLs are transferred to the AMC at conservatively assessed market prices, the market value may decline further and the originating bank would have to compensate by investing more funds in the subsidiary AMC. Hence, the risk to the bank will remain on its books as long as the bad assets are not sold or written off. Consequently, there is not complete clarity about the bank's future financial position.

However, this drawback may be addressed by spinning off an AMC from the going-concern bank. The bank and/or investors contribute the necessary initial capital to establish the AMC and may also be willing to provide loans on market terms to cover operating costs. The shareholders of the bank receive shares in the AMC, pro-rated to their shareholding in the bank. The shares in the AMC may be sold to other investors if the original shareholders want to divest. The result of the split is that the remaining risk to the bank is only its loan exposure and guarantees to the AMC, if any, and the capital requirements of the bank decrease. The share values of the bank are then likely to increase since the risks from the NPLs have been transferred to the AMC. The main challenge of this option is the need for the bank to recognise the losses on the loans at transfer depending on the estimated market price. The worst that could happen is that the AMC cannot sell its bad assets at reasonable prices and will exhaust its capital. The AMC's shareholders must then raise new capital or liquidate the AMC. However, this will likely not affect the good bank or the value of its stock, except for a possible reduction in the value of its credit exposure to the AMC.

[47] Näckebro was an independent AMC established by Handelsbanken, a major Swedish bank which remained in private ownership during the Swedish banking crisis in the 1990s. Näckebro was later disposed by means of a spin-off to shareholders of Handelsbanken in 1996.

4.2.3. Direct sale of NPLs enabled through an NPL platform

To overcome some of the challenges holding back the development of secondary NPL markets in the EU, the establishment of an NPL platform is deemed useful. A network of national AMCs, using consistent data templates, could form the basis for such a platform.

Collecting NPL data and storing it in a central data warehouse would allow much easier access to this information by (potential) investors, traders, structurers, rating agencies, consultants and/or competent authorities. A centralised solution(s) would also enhance the usability of the underlying data and relevant documentation in specifically developed relational databases. Existing credit registers may serve as a springboard for the development of an NPL platform, if compliance with national data privacy laws can be achieved (see Annex 2).

There are several other advantages of such a platform. First, it can act as consolidator of data, for example by requesting participating banks to use standard data templates for NPLs, making the due diligence process less cumbersome and more affordable. Second, it can be a single point of contact for potential investors, enabling them to package assets originated from multiple banks without having to approach them individually. In other words, such a platform can fulfil a "clearing house" function. Although improved transparency and reduced shoe-leather costs for investors cannot be expected to increase distressed asset prices significantly, it could still help to narrow bid-ask spreads, thus facilitating sales. In addition, the platform can have a positive impact by reducing the impact of long-term client considerations that the originating bank may have.

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 the platform as such. In fact, the costs of such a platform need not be high and could realistically be covered by participating banks, as long as the costs could be offset by the gains resulting from improved coordination and increased investor interest.

When establishing such an NPL platform(s), it will be important that they are based on robust governance standards. This would include clearly defined responsibilities, internal control mechanisms and sound internal procedures for accounting, data protection and administration. Ideally, platforms should not be dependent on debtors' consent to process NPL data.

Box: Case study - the European platform for ABSs

The European Data Warehouse (ED) is the first central data warehouse in Europe for collecting, validating and making available for download detailed, standardised and asset class-specific loan level data (LLD) for asset-backed securities (ABS) transactions. Developed, owned and operated by the market, the ED helps to facilitate risk assessment and to improve transparency standards for European ABS deals. Although other factors were at play in the ABS market which contributed to the low transaction activity, the launch of the ED and associated increased transparency has been broadly welcome by the industry.

Purpose: The ED provides loan and bond-level data as well as documentation repository services for the fixed-income market. It currently hosts data for over 1,000 ABS transactions and private portfolios belonging to several different originators across Europe.

Buy-in from private banks: More than 430 data owners, data providers and data users are registered with the ED. Originators, issuers, sponsors and servicers upload ABS data to the ED, while data users, including investors, data vendors, rating agencies and public institutions, use ED data for monitoring and risk assessment purposes**.**

How does the platform work: There are data owners, data providers and data users. Data owners: issuers or originators who register their deals in Edwin. While registering the deal, the data owner appoints a specific data provider for the deal and receives a unique global transaction identifier called the ED Code. **Data providers:** servicers, trustees or other designated entities that upload loan-level data files on a periodic basis for the deals for which they are nominated as data providers by the data owners. **Data users:** institutional investors, investment banks, commercial banks and brokers, rating agencies, central banks, data vendors, accounting firms and consultants.

4.2.4. Addressing information asymmetry using common data templates

The data requirements by and for private sector investors are often daunting, in particular if there is no central contact point for private investors, notably if the latter are unfamiliar with the local economic and legal environment.

The provision of detailed, common and consistent EU-level data templates, as a first necessary step to establish the minimum information needed for NPL evaluation, would confer the following advantages[48]:

- **Enhance data comparability.** In order to be able to compare data submitted by the originator, a high degree of standardisation in the way data is collected, processed and made available to (potential) investors and competent authorities would be needed. The platform(s) would thus in all likelihood utilise standardised data templates to capture information from all issuers in a comparable manner, offering greater transparency of information to potential investors;
- **Increase data quality.** Through the centralisation of NPL data, the platform could be in a better position to impose consistent and rigorous data quality standards compared to a decentralised approach. Data completeness, timeliness and consistency are, in turn, key for a proper assessment of NPL values.

4.3. Solutions for supply and structural impediments

This section focuses on a number of key issues that can facilitate the different secondary market options. Whilst most of these issues cannot be tackled in the short term, action should be initiated as soon as possible to take effect over the medium term. These issues should, however, not be used as a reason to delay the necessary measures related to the development of secondary NPL markets.

Companies providing NPL services need to have or need to develop specialised skills, including knowledge of local judiciary frameworks. In addition to these business considerations, the national requirements relating to NPL service providers should address barriers which tend to inhibit the development of this industry. The policy initiatives in this area should go in the direction of:

- simplifying the licensing process for NPL servicers and reducing barriers to entry;
- reviewing and relaxing specific trade secrecy provisions which may impede access to data by servicers;
- paving the way for a single, harmonised, simple EU licensing framework applicable in all EU countries, possibly including passporting of NPL servicers; and
- reviewing the VAT treatment of servicing activity to address the tax disadvantage of external NPL servicers with respect to internal servicing by the originating bank.[49]

In recent years, a number of EU countries reformed their insolvency laws. In addition, work on an EU-wide framework is ongoing. Implementation of the recent reforms, which in several cases have not yet been tested, should be further strengthened. Further reforms should be initiated to simplify and create a cost effective framework or to provide individual insolvency regimes, where needed. The aim of these reforms is to increase access to collateral of debtors

[48] It is worth noting that in 2016 the Banca d'Italia initiated in 2016 a new supervisory data collection process for bad loans, gathering very granular information on a loan-by-loan basis on NPLs, including guarantees.

[49] Owing to a general VAT exemption for banking services, banks enjoy a tax advantage when servicing assets internally, in comparison to the external servicer, whose fees are subject to VAT, in principle at the general VAT rate.

and to enforce it more quickly, thereby increasing recoveries and enhancing incentives to cooperate with the creditor.

Reforms should be supplemented with an adequate increase in capacity of the legal system. The resources available to the judicial systems should be increased to reduce court delays. The number of insolvency practitioners should also be increased, including for out-of-court settlements, to ensure that the newly created processes are operational and do not become bottlenecks.

5. POLICY CONCLUSIONS

The resolution of European NPLs should be urgently addressed by means of a comprehensive approach, involving all relevant authorities and considering various measures in different areas. This report has discussed different areas in need of improvement, and several actions which should be taken in order to reduce the stock of NPLs on the balance sheet of EU banks, focusing on macroprudential issues, and in particular secondary market issues. These actions fall within the mandate of different authorities, at both the national and the EU levels. For a successful outcome of the process, coordination among involved stakeholders is necessary. For some years, action has been slow in several countries, and further delays may only worsen the NPL problem.

The actions to be taken are briefly described in the table below, together with their importance and the time frame over which results can be expected. The importance allocated to each policy action is linked to the main objective of this report, namely, to clean up the balance sheets of banks and to provide incentives to banks and other stakeholders to actively address the current NPL overhang and, second, to provide proper incentives so the high NPL overhang does not accumulate in the future. Some of the measures may show clear results in the short term (around one or two years). Other measures, though, require more time to be implemented and to be effective in the resolution of NPLs (for example, amendments to insolvency law). All of these measures, and particularly those which would produce results only in the longer term, should be undertaken as soon as possible.

Progress has been made as regards the three-step approach outlined in Chapter 3. The policy measures below are intended to complement and strengthen the process. Past troubled asset reviews, and recent work by ECB Banking Supervision has helped microprudential supervisors to establish a clearer picture of the balance sheets of EU banks, and to design a microprudential policy response, particularly within European banking supervision. However, further policy measures listed in the table below, some of which refer to ongoing work, are needed to complement current efforts by European and national authorities.

In the short term, the proposed actions are expected to improve banks' management of NPLs. This relates to compliance with the harmonised NPL definition (action ST1), and to improving banks' policies and practices (ST2). Supervisors should require banks that are facing a high stock of NPLs to submit NPL reduction plans, and follow up on the execution of these plans (ST3). Good practices implemented by some supervisors should be adopted by others throughout the EU to reach a level playing field (ST4). Supervisors should also require banks to deliver data necessary for the viability assessment (ST7). Some of these actions have already been initiated by microprudential supervisors and the EBA.

Some short-term actions would also facilitate the development of secondary NPL markets. These actions involve the creation of a European blueprint for asset management companies by EU authorities (ST5) and of a common NPL data template (ST6, which is ongoing at the EBA).

Further actions are needed in the area of structural impediments and developing NPL markets, although their effects can materialise only over the medium to long term. It is of top importance that national authorities, coordinating at the EU level, act swiftly to address structural impediments to the resolution and disposal of NPLs in the EU (MT1). Requirements for NPL servicers should also be reviewed and amended (MT2). Over the longer term, NPL trading platforms may be set up (LT1) and incentives, particularly in the accounting area, should be improved to help prevent the recurrence of high NPLs (LT2).

Time for results		Policy action	Authority	Importance
Short-term	**ST1**	Relevant supervisors should check individual banks' adherence to the agreed definition of NPLs. Supervisors should continue to check that banks have taken the necessary policy decisions and whether these are adequately implemented in each bank.	Microprudential supervisors	Medium (ongoing work by EBA)
	ST2	Relevant supervisors should intensify their efforts to review individual banks' policies and practices for impaired lending and other exposures. The aim is to ensure that banks do not "evergreen loans", that loans are adequately classified and provisioned for, and that loan collateral and other credit enhancements include reasonably conservative valuations, which are regularly updated.[50] In particular, supervisors should concentrate on the valuation of collateral to ensure that over-valuation or outdated valuations are avoided.	Microprudential supervisors	High (ongoing for Significant Institutions in the SSM)
Short-term	**ST3**	Relevant supervisors should request that all banks with NPLs in excess of the current EU average present a plan for their reduction to an appropriate level. The overall impact (i.e. the effect of summing up all of the plans) should be evaluated in coordination with the macroprudential authorities. Supervisors should then monitor the implementation of the plan during their on-site inspections, and/or through periodic reporting with at least an annual frequency. The fulfilment of the plan shall be the responsibility of the bank's Supervisory Board (or corresponding body in unicameral banks). The plan shall include explicit time limits for reducing NPLs to gradually lower levels. Supervisors may also consider in their SREP process the conservatism of the provisioning in those cases where NPLs have remained on the balance sheet of banks for a sufficiently long period of time. (Step 1 of the process in Section 3.3). For those banks which fail to reduce their stock of NPLs sufficiently after a prudent period of time, microprudential supervisors may require a full revaluation of all remaining NPLs and other measures within the SREP, including requiring additional capital.	Microprudential supervisors	Very high (ongoing for Significant Institutions in the SSM)
	ST4	The guidance on NPLs issued by ECB Banking Supervision should be an inspiration for best practices to be considered at an EU level, thus allowing its application across banks (including small and medium-sized banks) and across countries (including non-euro area countries). This would ensure an even supervisory-level landscape across the EU.	EBA	High
	ST5	European authorities are asked to prepare a blueprint for AMCs, both with and without State aid, drawing on recent	European	High

[50] Existing supervisory material, such as Annex IX (link) in Spain, can be adopted as best practices.

		experiences in EU countries, but also experiences in other jurisdictions (see Section 4.2.2).	Commission, ECB, EBA, ESMA	
	ST6	A data template should be developed, building on, as far as possible, existing requirements, which banks are required to fulfil for each individual NPL, to allow easier due diligence processes if the NPL is to be disposed of and to facilitate the work of the AMC.	EBA	High (ongoing)
	ST7	Relevant supervisors should request banks with NPLs in excess of the current EU average to present their financial and organisational, and operational situation, with NPLs and without NPLs, with a view to assessing the viability of the bank (see also Step 2 of the process in Section 3.4).	Microprudential supervisors	High
Medium-term	**MT1**	National competent authorities should address structural impediments (insolvency regimes and debt enforcement – see Section 4.2, licensing of secondary market actors, tax rules, etc.) to the resolution and disposal of NPLs in the EU. The European Commission could offer coordination at the EU level, wherever appropriate.	European Commission, national authorities	High (ongoing)
	MT2	European and national authorities should review the legal requirements for NPL servicing with a view to addressing impediments to the development of the servicing industry, including cross-border servicers (see Section 4.2).	European Commission, national authorities	Medium
Long-term	**LT1**	The process of setting up a possible trading platform (see Section 4.2.3) that banks can use to reach investors when they wish to dispose of portfolios of NPLs should be further specified. This trading platform should be given a strong governance structure and should rely on a standardised data template (ST6).	European Commission, ECB, EBA	High
	LT2	Methods to ensure that accounting and auditing standards provide appropriate incentives for timely resolution of NPLs, as well as their related impairment charges, collateral and treatment of accrued interest, should be investigated.	Microprudential supervisors, European Commission, ESMA	Medium

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STATISTICAL APPENDIX

Table A1: Summary information on NPLs by country

	Gross NPL (EUR billions)	Net NPL (EUR billions)	Loans and advances to NFC and HH (EUR billions)	CET 1 capital (EUR billions)	Profit for the year (EUR billions)
AT	26.96	11.19	378.59	65.82	5.48
BE	22.72	11.66	499.51	58.13	6.41
BG	5.22	2.39	25.16	5.29	0.71
CY	24.34	14.02	33.36	6.31	-0.24
CZ	7.38	2.92	115.22	16.28	2.68
DE	64.33	37.19	1286.32	403.74	8.56
DK	20.30	13.69	521.60	45.22	5.28
EE	0.28	0.11	11.89	2.68	0.38
ES	138.68	56.84	1879.16	209.84	14.01
FI	4.33	2.76	214.35	26.21	2.78
FR	150.84	58.72	2876.71	336.84	29.31
UK	82.38	48.86	2887.86	542.27	15.28
GR	115.83	57.96	167.90	32.10	-2.68
HR	4.39	1.22	27.87	7.07	0.71
HU	6.97	2.39	36.56	7.87	1.43
IE	38.98	23.83	217.21	50.08	3.75
IT	295.63	142.68	1366.24	141.50	-14.73
LT	0.91	0.59	16.67	1.85	0.25
LU	4.23	2.22	155.08	49.47	4.80
LV	1.45	0.78	13.93	2.47	0.45
MT	1.01	0.57	13.78	2.42	0.40
NL	45.26	26.40	1383.57	118.06	10.70
PL	14.08	5.49	187.79	35.74	3.17
PT	46.36	23.59	220.76	24.58	-1.25
RO[51]	6.55	2.29	40.91	7.50	0.98
SE	12.39	8.09	881.46	70.08	11.16
SI	3.62	1.10	18.80	4.19	0.39
SK	1.95	0.64	36.05	5.07	0.65

Source: ECB Consolidated Banking Data.

Reference date for all columns is the fourth quarter of 2016 and they refer to domestic banks, stand-alone banks and foreign-controlled subsidiaries and branches. CET 1 capital and profit for the year cover all the banks irrespective of their accounting framework, while the other three columns only cover banks which use IFRS.

[51] According to national calculations, the relevant (December 2015) data was as follows: €8.9 billion (gross NPLs); €3.1 billion (net NPLs), €39.6 billion (loans and advances to NFC and HH); €6.8 billion (CET 1 capital); €1 billion (profit for the year).

ANNEX 1: SELECTED COUNTRY EXPERIENCES IN DEALING WITH NPLS

When considering the macroprudential impact of a high stock of NPLs, previous crises in other parts of the world provide useful insight to assess: (i) whether the current EU situation is particularly different from previous experiences; and (ii) what can be learnt from these experiences in terms of how the problems were solved, whether asset management companies were used, and if secondary markets played a significant role in resolution. The experiences of five crises are discussed in brief below, followed by a short description of experiences in three EU countries.

JAPAN'S "LOST DECADE"

This persistence of high levels of NPLs on the balance sheet of EU banks has often been compared with the Japanese banking crisis during the 1990s. Japan's experience provides a couple of relevant lessons from the European perspective.[52]

First, although Japan's lost decade began in 1990, it was not until 1995 that large impairment losses were recognised. In 1998 a new definition of NPLs was introduced under legislation, which banks began to apply. However, in 1999 a new accounting standard came into force, according to which banks could reveal deferred tax assets on their balance sheets. Banks, with the implicit approval of authorities, abused the situation to show fake assets and provide a false sense of security. Later on, in 2001-02, the government outlined a strategy for addressing the NPL problem in the banking system, which called for major banks to accelerate the disposal of NPLs from their books within three years of their recognition. Banks were expected to remove these loans either by selling them directly to the market, pursuing bankruptcy proceedings, or by rehabilitating borrowers through out-of-court workout procedures. Any remaining loans were to be sold to the Resolution and Collection Corporation, which, under the Financial Reconstruction Law, had been given new powers to purchase distressed assets, at fair market value, and to restructure companies. The main lesson drawn from this experience is that it took more than ten years before swift action was taken to address the problems derived from the high stock of NPLs in Japan. Until that point, Japanese authorities and banks had spent a considerable time in denial with ensuing forbearance problems.

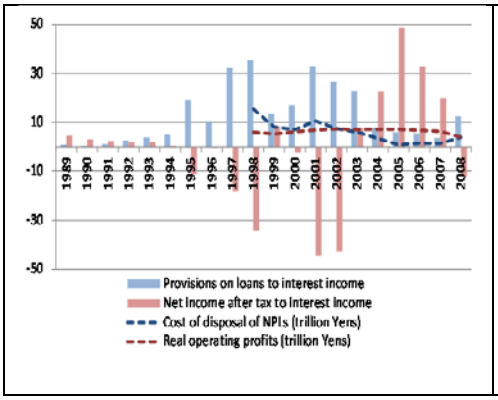
Second, in the process of cleaning their balance sheets, banks incurred huge losses over several years (between 1998 and 2003, see Chart A1). The number of systemically important banks in Japan was reduced from 20 in 1998 to 13 in 2003. In 1998, for the aggregated Japanese banking system, impairment charges represented more than 30% of interest income, what gives an idea of the severity of the effort required by banks. This process also had an impact on lending to the real economy, despite GDP remaining rather stable (see Chart A2).In fact, the level of lending to the real economy has never reached the levels prior to the crisis.

Third, massive disposals of NPLs continued until 2005, 15 years after the start of the crisis and seven years after the first real action was taken to recognise NPLs. The measures taken in 2001-02 had positive effects on financial stability, and the stock of NPLs reduced by more than a half in less than five years, however, at a sizeable cost for the banks.[53] Japan's experience with NPLs over the last decade shows that the effective resolution of NPLs takes time, with the costs for banks and for society possibly also increasing at the same time.

[52] For further insight into Japan's lost decade, please see, among others, Syed et al. (2009), Nakano (2001), Skinner (2008), Hoshi and Kashyap (1999), and Hoshi and Kashyap (2010).

[53] See the box on Japan's experience in Jassaud and Kang (2015).

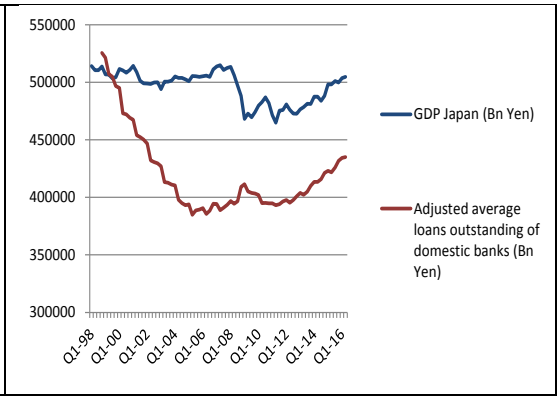
Chart A1. Developments in the stock of NPLs in Japan (as a percentage of interest income, JPY trillions)



Sources: OECD Banking Database, Financial Services Agency of Japan and ESRB Secretariat calculations.

Notes: OECD Banking Database (provisions on loans to interest income and net income after tax to interest income). Data on the cost of disposal of NPLs and of real operating profits are in JPY trillions.

Chart A2. Lending of Japanese domestic banks and GDP (JPY billions)



Sources: Bank of Japan, Cabinet Office of Japan and Haver Analytics.

Note: Average loans outstanding are adjusted for exchange rate changes, loan write-offs and related items, and securitisation of loans.

US SAVINGS AND LOANS ASSOCIATIONS

In the United States, the crisis with savings and loans associations (S&L) in the 1980s reflected a huge public policy failure, with ensuing widespread forbearance, slow recognition of the issues at stake and misguided policy action.[54] The S&Ls entered that decade with a severe mismatch of interest rates on their balance sheets, which made the subsequent crisis almost inevitable. From 1982 to 1985, thrift industry assets grew by 56%, more than double the 24% rate observed at banks. This increase was fuelled by an influx of deposits, as "zombie" thrifts began paying higher rates to attract funds. These zombies engaged in a "go-for-broke" strategy of investing ever more risky projects in the hope of yielding higher returns.

At that point, there was a clear lack of resources to address the losses stemming from S&Ls: against an estimated USD25 billion to be paid to depositors for their guaranteed deposits, the deposit guaranteed scheme only held USD 6 billion. The response from the authorities at that time was ineffective, as it mostly consisted of widespread forbearance and deregulation (loosening of capital standards, new accounting principles for goodwill, among others). Many US officials thought at the time that the level of interest rates would return to previous levels, thus with the crisis somehow being resolved of its own accord.[55]

It was not until 1989 that decisive action was taken with the passing of the FIRREA Act, which radically reformed the regulatory framework of S&Ls, thereby addressing the critical situation.

In response to the crisis, Congress created the Financing Corporation (FICO) in 1987 to provide funding to the Federal Savings and Loan Insurance Corporation (FSLIC) by issuing long-term bonds. By the time FIRREA was passed two years later, FICO had contributed USD 2 billion in financing to the FSLIC, an amount insufficient to deal with the industry's huge problems. FIRREA created a new thrift insurance fund (SAIF), which handled thrift failures, and the

[54] For a discussion of the savings and loans crisis in the United States, please see FDIC (1996), Curry and Shibut (2000), FDIC (1997), Robinson (2013) and National Commission on Financial Institution Reform, Recovery, and Enforcement (1993).

[55] National Commission on Financial Institution Reform, Recovery and Enforcement (1993).

Resolution Trust Corporation (RTC) to resolve all troubled thrifts placed into conservatorship or receivership during that specific time period. The RTC closed 747 S&Ls with assets of over USD 97 billion.

The thrift crisis came to an end when the RTC was eventually closed down on 31 December 1995. Ultimately, the final cost of resolving failed S&Ls is estimated to be approximately USD124 billion for US taxpayers, with a further USD29 billion incurred by the S&L industry. As at 31 December 1999, the RTC losses for resolving the 747 failed thrifts that had been taken over amounted to an estimated USD 2.7 billion. The largest component of the public sector loss was direct Treasury appropriations of USD 55.9 billion.

However, the public sector losses were reduced by USD 4.5 billion in equity held by the RTC as of year-end 1999. This accumulation of equity over the years was attributable to a number of factors. When an insured S&L institution was closed down and put into receivership, the RTC placed a loss adjustment factor against the book value of the assets (this value was based on appraisals or other market information available at the time). These loss reserves reduced the value of the assets compared to the expected market or recovery value. In its reserve procedures, the RTC took a conservative approach so as not to overstate the value of the assets acquired from failed institutions. In applying reserve procedures, the RTC considered a variety of factors, including the fair market value of assets when residential and commercial markets were collapsing and the costs associated with particular sales methods developed by the RTC. For example, claims from both representation and warranty guarantees on asset sales and securitisations of non-standard assets had to be anticipated and loss reserves established. During the 1990s, as the US economy improved and real estate markets recovered, the losses on asset sales and claims from representation and warranty and asset-securitisation guarantees were less than anticipated. Thus, a portion of previously set-aside/earmarked reserves were recaptured in the RTC equity account, which offset the overall costs of the clean-up.

The S&L crisis demonstrated severe policy failures, but it is a borderline case from the systemic perspective. The amount of NPLs in relation to loans in the whole US banking sector was only 2.5% or 4.1% at its peak in 1989-1990, depending on sources.[56] Even if 20% of the equity of S&L institutions was destroyed by failures both in February and in March 1989, in terms of equity in the banking sector as a whole, the effects were more limited and never reached 10% of equity on a monthly basis. At the height of the crisis, in March 1989, the failure of 176 banks and savings and loan associations represented USD 61.3 billion, or just 1.3% of total assets of the banking sector.

No other asset management companies other than the RTC was used in the S&L crisis. The failed S&L institutions were closed down, depositors compensated and taxpayers were called upon to provide a bailout. The S&L crisis is a prime example of how delaying resolution ultimately increases the final costs of the crisis.

THE CRISIS IN SWEDEN, 1991-93

Sweden suffered a major financial crisis (in conjunction with a fiscal and currency crisis) between 1991 and 1993. Due to a deep recession and to very high interest rates aimed at preserving the fixed currency rate, banks' NPLs rose to 13% relative to total outstanding loans. Six out of the seven largest banks had to be recapitalised. All major banks established AMCs (bank-specific or state-owned) to deal with their bad loans. After splitting the balance sheets, some banks had to be restructured. One bank was temporarily taken over by the State and then sold to the highest bidder. Another bank was voluntarily merged. The savings banks' group and the cooperative banks' group were transformed into listed equity companies. Later, these two companies merged with each other.

[56] See Chaudron and de Haan (2014). Also Curry and Shibut (2008) point at misinformation and data problems in assessing the cost of the S&L crisis.

The State forced all support-seeking banks to perform thorough due diligence of the loan books and to apply conservative values to their loans and other assets. However, the banks were then free to select their own options as to how to dispose of the bad loans/assets.

Since there was no private market interest, and the bank owners could not afford it, the State invested the equity capital in the two largest AMCs, ensuring the medium-term perspective of their activities (thus not having to force early sales of assets on the already weak markets), however, all senior and junior debt as well as all liquidity for funding the operations came from the private market. Each of the two State-owned AMCs received bad loans/assets from a single bank, Gotabanken and Nordbanken, respectively (the State had already assumed 100% ownership of those banks in the resolution process.)

All of the major banks started up their own “AMCs”, normally as subsidiaries within the banking group. This increased the transparency of the extent of the NPL problem and thus the risks to the group. It also allowed the management of the bank to focus on the bank’s normal activities rather than having to spend time on distressed assets. Furthermore, the workout process in the bank benefited from the, sometimes, long-term relationships between the bank’s staff and its borrowers.

Transfers of bad loans from the banks to the AMCs were executed at conservative estimates of market values (albeit somewhat higher than the market values at the extreme trough at the bottom of the crisis). The banks conducted the assessments but they were monitored by an independent “Valuation Board” of experts appointed by the authorities.

The mandate of the State AMCs was to “sell at the medium-term optimal value”, that is to say, when the net profit of the sale (after considering the carrying costs) was estimated to be the highest (or the net loss the lowest) in the medium term. The AMCs were organised both across categories of bad loans (real estate, large companies, private loans, etc.) and also across geographical divisions.

An important activity of the AMCs was to “improve the value” of the assumed assets before placing them on the market. For instance, real estate property was renovated and redeveloped to better meet the customer’s needs.

The use of AMCs turned out to be successful, assisted by an uptick in the macroeconomic environment from 1993 onwards. The AMCs eventually provided substantial profits, which contributed to paying back the State’s outlays during the financial crisis. The two state-owned AMCs were able to sell all assets and close down after four years, much earlier than expected.

Securitisation of bad loans did not take place during the Swedish crisis, nor were secondary markets, other than the existing ones, established.

The restructuring of the “good bank banking sector” was also successful. As a consequence of the crisis, the number of bank staff and branches were trimmed to levels below those of most other countries and bank profitability has been good ever since the crisis. The NPL ratio has remained low, normally below 1%.

SOUTH KOREA IN 1997

NPLs were also at the heart of the financial crisis of South Korea, as its non-financial corporations responded negatively to a shock in interest rates in 1997. The structural problems in the financial and corporate sectors became apparent in the second half of 1997, when the capital inflows were reversed, as foreign investors – reeling from losses in other South east Asian economies – decided to reduce their exposure to Korea. Intensified withdrawal of credit lines quickly developed into a currency crisis. That was coupled with a sharp economic contraction and a significant increase in the stock of NPLs, following several bankruptcies of large industrial conglomerates (“chaebol”). Even the largest conglomerates of the country had to turn to the government for emergency loans.

Under an IMF-supported program, the authorities developed a strategy of crisis management and financial sector restructuring, and a swift resolution of NPLs was a critical part of it. The

government announced a program of NPL acquisition as a mechanism for delivering official support for bank restructuring. A key component of the program was the establishment of a reorganised and expanded KAMCO (namely the Korea Asset Management Corporation), and the creation of the Non-Performing Asset Management Fund (NPA Fund).

On November 1997 KAMCO began purchasing NPLs with a face value of KRW 4.4 trillion from Seoul Bank and Korea First Bank, (the two insolvent and systemically important commercial banks) and by purchasing KRW 2.7 trillion worth of NPLs from 30 merchant banks. The total number of financial institutions (commercial banks, specialised banks and merchant banks) reduced from 63, as at December 1997, to 32, as at December 2000, and further down to 21, as at December 2004.[57]

As at end-March 1998, total NPLs of all financial institutions was estimated to be KRW 118 trillion (26.6% of GDP), of which KRW 50 trillion had been in arrears for three to six months and were classified as "precautionary," with the remaining KRW 68 trillion worth of loans having been in arrears for longer, as they were considered more prone to default risks. Of the total KRW 118 trillion NPLs, the government decided to target KRW 100 trillion worth of NPLs for immediate disposal, including the core NPLs of KRW 68 trillion, a portion of the "precautionary" loans, and some allowance for potential increases in NPLs stemming from the corporate restructuring process.

The government estimated that the total market value of these loans was about 50% of their book value, and planned to dispose of the loans through two channels: i) half of the loans would be disposed of by financial institutions themselves by either selling off collateral or calling in loans, and ii) KAMCO would purchase the remaining half.

The institutional arrangement, that is via KAMCO, was centralised with a broad mandate, thus giving it the right to purchase assets from going concerns with a view to expediting corporate restructuring. KAMCO purchased distressed assets from banks, which allowed lending to the real economy to continue at a time when liquidity was scarce. Subsequently, KAMCO disposed of many of these distressed assets using a number of methods, including by issuing asset-backed securities (ABSs). In fact, the development of a market for distressed assets is considered to have been of critical importance to Korea's success in resolving NPLs. KAMCO was able to purchase up to 50% of the NPLs of a bank, based on certain eligibility criteria, and with a market value calculated using different formulae (on average, it was 36% of the gross loan). Banks had to manage the other half of the NPLs by themselves by selling collateral or writing off the NPL.[58]

KAMCO's purchase of NPLs was selective and based on certain eligibility criteria. Eligible for purchase were saleable loans whose security rights and transfer were legally executable, from among loans classified as sub-standard and below. KAMCO also assigned priority to the purchase of NPLs whose removal was considered critical to the rehabilitation of the institution concerned from a public policy perspective, and NPLs with multiple creditors. Where a financial institution requested KAMCO to purchase its NPLs, KAMCO analysed whether the loans were eligible for purchase, requested relevant data from the selling institution, and conducted due diligence on the loans. On average, KAMCO paid 36% of the face value of the NPLs it purchased.

KAMCO's financial performance is regarded to have been mixed after the crisis[59]. In hindsight, its track record was overshadowed by its overly generous payment for one chaebol conglomerate. Profits earned from disposing of the NPLs were not sufficient to cover the high operating expenses. However, this does not negate KAMCO's overall contribution to the recovery of the Korean financial sector from the crisis. It only indicates that the pricing of NPLs during financial crises has been, and will remain the most difficult challenge for publicly- owned AMCs. After 1999, very swift macroeconomic recovery with record growth rates, low inflation,

[57] See Ito and Hashimoto (2007).

[58] See Jones and Karasulu (2006) and He (2004).

[59] See He (2004).

greatly improved unemployment and record inflows of foreign investment ensued. In December 2002, the stock of NPLs of all financial institutions stood at 5.3% of GDP (2.5 % for banks and 2.8 % for non-banks).

THE CRISIS IN TURKEY, 2001-02

In Turkey, small banks failed already in late 1990s before the crisis started in 2001. Thirteen banks have been taken over by the Saving Deposit Insurance Fund (SDIF). It continued to operate them without corrective actions despite of growing losses and distortions. The resolution of intervened banks was tricky, and it was difficult to liquidate good assets let alone problem ones. SDIF assessed, that three of those 13 failed banks could be sold, while the rest would have to be closed and liquidated. The Banking Regulation and Supervision agency (BRSA) was established in1999, but the start-up of the new agency was slow.

On February 2001, the financial crisis started in Turkey after the collapse of confidence of foreign investors. On the background were macroeconomic vulnerabilities, with high inflation, high fiscal deficits, large public debt, high current account deficit and a weak financial system The currency depreciated immediately by some 40% on February 19th 2001.Investors had already been on edge since November 2000, when increasing concerns about policy slippages had combined with fears for the creditworthiness of some banks to spark a run on the crawling-peg exchange rate regime.

The crisis in banking sector in the case of Turley concentrated mostly to the publicly owned state banking sector. Before the start of the crisis, the politicians had abused state banks, which had been allocated to different political parties to provide subsidized credits.[60] The state banks did not have to provide reserves for bad loans, did not have to comply with prudential regulations applicable to private banks, and were not subject to any serious supervision. State banks funded themselves increasingly short term in the interbank market. By the end of 2000, state banks' losses have grown to $19 bn, short term liabilities to $ 22 bn and their foreign exposures to $18 bn. In November 2001, NPLs constituted 13% of loans for the whole banking sector, but in the state banks they were 30% (in private banks 4.5%).[61]

In order to solve the banking crisis, a radical financial and operational restructuring of the state owned and also failed private banks was put into place with capital infusions from the private sector into weak private banks and a further tightening of bank supervision. In the state banking sector, a massive recapitalisation took place based on conservative valuation of the banks' assets. In total, the government injected $19 bn in floating rate notes (in lira and foreign currency), thus making it possible for the state banks to fully eliminate their exposures in foreign currency and to repay their overnight money market debt. The government injected additional government securities to raise the capital adequacy ratios of the two large state banks, which were also restructured and streamlined (in less than two years, one – third ie. over 800 branches were closed and the number of employees was reduced by one - half, ie. 30 000). The cost of restructuring amounted to over $50 bn or some 35% of 2001 GDP, including a relatively small amount of funds injected by the private sector.

A new organizational structure within the SDIF (a separate department of subsidiaries and Real Estate) to settle non-performing loans, subsidiaries and real estates was founded. It has been assessed that the sale of assets of liquidated banks was significantly delayed. However, SDIF organized 3 receivable sales biddings between 2003 and 2005. With the SDIF Receivable sale biddings, the formation of a secondary market composed of six asset management companies operating within the sector was provided and the usage of receivable sale method which accelerates the recovery of NPLs became widespread within the sector. In the recovery of non-performing individual and corporate loan receivables taken over and assigned from Fund banks, to protect the companies which can survive with legal proceedings and to raise the capability to

[60] See Bredenkamp et al. (2009).

[61] See pages 57 and 58 in IMF (2002).

collect the receivables, re-payment agreements (protocols) were signed on one hand and some special collection methods were used such as receivable sales and discount campaigns on the other.[62]

Total cost of restructuring of the banking sector exceeded 1/3 of national income and realized as USD 53.6 billion. The 2000/2001 crisis resulted in a substantial output loss: real GDP dropped by 5.7%. The strong recovery witnessed in 2002 and 2003, when real GDP grew again by 6.2% and 5.3% respectively, reflected also the natural rebound after a severe recession, but also the swift restructuring actions taken by Turkish authorities.

RECENT EXPERIENCES IN EU COUNTRIES: IRELAND, SPAIN AND SLOVENIA

The experiences of Ireland, Spain and Slovenia reveal that both on and off- balance sheet measures were required to resolve the systemic banking crisis. Non-performing assets were at their peak one year after the off-balance sheet measures were taken, after which they started to decline in Spain and Slovenia. In Ireland, the peak of NPLs was reached only after four years of the initial off-balance sheet measures.

IRELAND

The transfer of impaired assets to the National Asset Management Agency (NAMA) took place between 2009-11. The main aim was to cleanse Irish banks' balance sheets of problem commercial property loans, enabling banks to resume normal lending activities and to help support a recovery in the domestic economy.

The impaired assets of the banking system were treated as follows:

- The purchase price paid by NAMA was based on the long-term economic value of the loan, the value of which was calculated as a function of the prevailing market value of the security at the valuation date[63], adjusted for the long-term economic value of the underlying asset.
- Under this arrangement, over 15,000 loans with a nominal book value of €74 billion were transferred from the participating institutions at a reduced value of €31.8 billion. This transfer value represented around 28% of GDP of total banking assets.[64]
- 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.
- The remaining commercial property exposures (loans of less than €20 million) were provisioned at the weighted-average NAMA haircut, forcing banks to recognise these losses. The haircuts applied to the NAMA portfolios turned out to be much larger than originally expected. As a result of the realisation of losses on NAMA loans, the State committed to providing capital to the Irish banks, where required.

In reviewing the options available to deal with the impaired loans, particular consideration was given to the negative performance of Irish government bonds following the introduction of the bank guarantee scheme and the budget deficit that existed at the time. It was felt that the potential benefits of an asset guarantee scheme would be outweighed by a further increase in the State's contingent liability. Also, it was found that where asset guarantee schemes had been

[62] See: " From Crisis to Financial Stability (Turkey Experience)" Banking regulation and supervision agency working paper (Revised Third Edition), 2010 (link) and the IMF publications.

[63] The reference valuation date for the valuation of all property assets was 30 November 2009.

[64] Calculations based on the year 2009.

used in other countries, they were better suited to more complex financial assets which had been acquired by banks rather than the more traditional loan portfolios originated by Irish banks.

Moreover, given the nature of the underlying asset, it was felt that additional capital would be required to complete projects in order to maximise the potential value of such exposures. A single well-resourced asset management company would be able to finance such operations as well as benefit from economies of scale.

NAMA is structured in such a way that the debt it issues to purchase acquired loans is not treated as part of Ireland's general government debt under European accounting rules. In order to do so, NAMA was set up as a special purpose vehicle (SPV). NAMA established an investment holding company – National Asset Management Agency Investment Ltd – which is majority-owned by private investors (51%). Senior bonds issued by NAMA are senior unsecured floating rate notes and are guaranteed by the Minister for Finance of Ireland. The debt has a maturity of one year. Interest is paid semi-annually and is equivalent to the six-month EURIBOR, if denominated in euro, and six-month LIBOR if issued in either sterling or US dollars. The aggregate of the principal of all senior debt issued amounted to €51.3 billion; NAMA subordinated securities – which represented 5% of the value of transferred assets – are callable perpetual subordinated fixed- rate bonds. The interest rate is the ten-year Irish government bond rate on the day of first issue, plus a margin of 0.75%.

All Irish banks were eligible to transfer loans relating to commercial real estate. 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, the value of which was calculated as a function of the prevailing market value of the security at the valuation date[65], adjusted for the long-term economic value of the underlying property that was likely to be attained. 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.

The original mandate for NAMA was to dispose of its property portfolio by 2020. The recovery of both the Irish economy and property markets has positively impacted the performance of NAMA. By the end of 2014, cumulative disposals had amounted to over €18 billion. Based on the latest available information, the expected surplus to the Irish State at that time is expected to be around €2 billion.

SPAIN

In November 2012, the Management Company for Assets Arising from the Banking Sector Reorganisation (SAREB[66]) was created. The creation of this company was set in the Memorandum of Understanding (MoU) that the Spanish government signed in July 2012, in order to receive financial aid for the banking sector. 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 clean up the Spanish financial sector by focussing on 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. The majority of SAREB's share capital is private, 55%, whilst 45% is owned by the Fund for Orderly Bank Restructuring (FROB), the public entity (executive resolution authority) created to manage the banking sector restructuring process.

Achieving this, levels of recovery and value preservation have been optimised, while negative impacts on the economy, real estate market and banking sector have been minimised.

[65] The reference valuation date for the valuation of all property assets was 30 November 2009.

[66] Sociedad de Gestión de Activos procedentes de la Reestructuración Bancaria.

Moreover, the purpose was to minimize costs and the burden on taxpayers, while participating banks are due to fully repay all liabilities and use banking capital efficiently.

The transfer of assets from banks to SAREB had the following characteristics:

- SAREB received almost 200,000 assets in two phases, together valued at €50.8 bn. The main tranche (€36.6 bn) – constituted by assets from five nationalised banks - was transferred on 31 December 2012. The second transfer (€14.1 bn) took place on February 2013, composed by assets from four banks that received state funding.
- The value of the assets was determined by Banco de España. The transfer values were determined based on two elements: 1) the economic value of the asset transferred calculated using conventional valuation techniques, and 2) 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.
- Out of all of the assets transferred to SAREB, 80% were loans and 20% were properties. Two asset categories were eligible for transfer: 1) loan exposure in the development sector and 2) foreclosed properties.

SAREB is envisaged to be operational for 15 years. In the first three years of performance of the company, the assets received have been reduced by 15% and it has sold more than 35,000 properties.

SLOVENIA

Družba za Upravljanje Terjatev Bank (DUTB) – an asset management company – was established in March 2013**.** It is tasked with facilitating the restructuring of banks with systemic importance facing severe solvency and liquidity problems.

Other options (such as SPVs in individual banks and the sale of NPL portfolios) were also considered, but the underdeveloped market for NPLs in Slovenia as well as in the EU led to the conclusion that the establishment of DUTB would be the most appropriate solution.

The company is fully owned by the Republic of Slovenia. DUTB issued debt instruments amounting to a nominal value of €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), respectively with maturities of two, three and three years, respectively.

Banks which received State aid in the shape of recapitalisation are obliged to transfer assets. There are also additional terms for receiving State aid, which include divestment and exit from particular industries, decreasing market shares and implementation of bail-in procedures. Actual participants in the off-balance sheet measures 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. DUBT has, to date, purchased close to 600 loans with a nominal value of € 5.5 billion from six Slovenian banks, at a price of around 30% of the nominal value. 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.[67] In exchange, the banks received bonds issued by DUTB.

DUTB is envisaged to be operational until end 2022. Its strategy encompasses the acquisition, management and restructuring of non-performing assets from four systemically important banks and other complementary asset acquisitions, at a total value of almost €1.6 billion. Following successful restructuring, the assets will be sold.

[67] Calculations based on the 2013 GDP and total assets.

ANNEX 2: ANACREDIT AND ITS POTENTIAL FOR PRICING NPLs

Description of AnaCredit

AnaCredit is a shared, multipurpose database that contains loan-by-loan information on credit to companies and other legal entities extended by credit institutions and their foreign branches on a monthly basis. On 18 May 2016, the Governing Council of the ECB adopted Regulation ECB/2016/13 on the collection of granular credit and credit risk data (AnaCredit) establishing a shared database for the European System of Central Banks (ESCB) as of September 2018.[68] Based on compelling requests from users in a large number of central banks' business areas, AnaCredit data collection has been designed with a view to obtaining a complete picture of: a) the total credit exposure of the reporting population; and b) the total indebtedness of borrowers across all lenders. The information collected consists of 88 different data attributes based on harmonised concepts and definitions and covers various aspects of the credit exposure. The dataset is organised in several tables based on three distinctive elements: (i) counterparties; (ii) instruments; and (iii) protection received to secure instruments.[69]

The AnaCredit Regulation applies to credit institutions and foreign branches of credit institutions resident in the euro area (the so-called reporting agents). Credit institutions in other EU Member States may participate in AnaCredit based on reciprocity arrangements, in particular that of the reporting requirements being appropriately transposed into their national law. Credit institutions in the euro area are to be the reporting agents and are to report credit and credit risk data vis-à-vis legal entities – notably non-financial corporations – including relevant counterparty reference information. Credit refers to any type of transaction which gives rise to a credit risk exposure to the reporting agent. Instruments to be collected in AnaCredit include outstanding financing under any of the following types of credit:

- deposits other than reverse repurchase agreements
- overdrafts
- credit card debt
- revolving credit other than overdrafts and credit card debt
- credit lines other than revolving credit
- reverse repurchase agreements
- trade receivables
- financial leases
- other loans.

With regard to non-performing loans, the AnaCredit shared dataset to be rolled out in late-2018 will cover substantial information. Given the need to overcome initial teething problems and to meet the challenges of the steep learning curve for managing data quality, data may only be available to users for analysis towards mid-2019.

How AnaCredit could contribute to a better understanding of non-performing exposures

AnaCredit includes a number of relevant data attributes with regard to the analysis of non-performing exposures stocks. AnaCredit will provide, among others: (i) regular data on performing and non-performing exposures, including forborne exposures; (ii)essential data for the analysis of impaired/defaulted/non-performing asset exposures against totals, broken down by various clusters, such as type of exposure, duration, residence and type of borrower (e.g. based on sector classification), residence of the creditor, etc.; (iii) data for the analysis of collateral values, impairment amounts and write-offs, also by various breakdowns; (iv) data for the analysis of recoveries by various breakdowns, such as LTV ratios, size of debtor, residence

[68] Regulation ECB/2016/13 is available on the ECB website.

[69] For more information on AnaCredit, please refer to the explanatory note on AnaCredit, available on the ECB website.

of debtor or creditor, etc.; and (v) data on the past due status, the past due date and the default date, amounts in arrears.

Second, thanks to its level of detail where numerous indicators are gathered in relation to individual loans, AnaCredit data allows non-performing exposures to be distinguished according to the main portfolios (e.g. small businesses, SME corporates, large corporates, commercial real estate) whereby troubled assets are measured using different metrics based on specific accounting, prudential or reporting definitions: (i) impaired assets; (ii) defaulted assets; and (iii) non-performing exposures, as well as based on relevant related indicators (LTVs, coverage ratios, cash collected from NPEs, provisions and collateral ratios). In this respect, AnaCredit data will also allow for the relevant reconciliation of the various defined asset items (impaired, defaulted and non-performing).

Third, AnaCredit captures any collateral (protection), and not only real estate collateral, that is pledged to secure a loan and provides information on the current collateral value as well as its value when the loan was originated (or when collateral was added). Also, thanks to the direct link between a loan and any collateral which secures the loan, analysis of the outstanding debt in relation to the collateral value is straightforward.

AnaCredit could perhaps also be suitable for assessing the efficiency of various loan enforcement regimes from a creditor perspective. Indeed, data on the actual outcome of loan enforcement procedures (e.g. cumulative recoveries since default, or accumulated write-offs) could be analysed against such indicators as the status of legal proceedings (no legal action taken, bankruptcy/insolvency, other legal measures), at the same time, taking into account the duration of recovery processes (e.g. the initiation date of the legal proceedings, or the default date). Thanks to the harmonisation of definitions and datasets, comparative analyses can be carried out across countries.

ANNEX 3: CASE STUDIES OF INSOLVENCY LAW AMENDMENTS IN RECENT YEARS

The purpose of this annex is to provide a short list of recent reforms in the area of insolvency law.[70]

EU-wide: In November 2016, the European Commission issued a Proposal for a Directive on "Preventive restructuring frameworks, second chance and measures to increase the efficiency of restructuring, insolvency and discharge procedures". This followed the set-up of an Expert Group to assist the preparation of a potential legislative proposal containing minimum standards for a harmonised restructuring and insolvency law in December 2015.

Spain: In 2014, Spain reformed its insolvency law to facilitate debt restructuring for businesses (e.g. write-offs, maturity extensions, debt-to-equity swaps, etc.). Prior to the reform, many companies that initiated insolvency proceedings used to end up in liquidation. Under the reform, companies need only reach agreement with 60% of their creditors to extend debt by five years or to convert debt into participative loans, a hybrid of equity and debt. Individual creditors can also agree to refinance the company during preliminary bankruptcy proceedings, and further amendments were introduced in 2015 to modify out-of-court refinancing.

Greece: In 2015, Greece implemented measures related to insolvency frameworks, in particular further amendments to the corporate and household insolvency laws. These were enacted in order to accelerate proceedings and address the excessive backlog of pending cases. In addition, Greek authorities approved the creation of the regulated profession of insolvency administrators, and the reactivation of the Governing Council of private debt to inform and advise indebted customers. At the end of 2015, Greece passed a law aiming to facilitate the sale of NPL portfolios to non-bank entities. The NPL law provides that NPL asset management companies will be allowed take over NPLs under minimum registration requirements, provided that borrowers have been duly notified.

Ireland: Three new debt resolution mechanisms were introduced under the Personal Insolvency Act 2012 for those who cannot afford to pay their personal and mortgage debts. In addition, new measures to support individuals in mortgage arrears were introduced, including a court review if a mortgage lender rejects the borrower's personal insolvency proposal. Furthermore, Ireland introduced legislation in 2015 to protect borrowers (individuals and SMEs only) whose loans are sold to unregulated entities, and a new regulated activity of "credit servicing" was also introduced to ensure that loans are administered in line with existing consumer protection codes. Furthermore, Irish bankruptcy law was amended in 2016 to reduce the normal duration of bankruptcy from approximately three to around one year to improve and streamline the process.

Other examples: Some European countries have overhauled their entire insolvency regime (Cyprus, Latvia, Poland and Romania); others have simplified the insolvency process (Greece, Italy, Latvia, Portugal, Slovenia and Spain) or introduced enhanced features, such as debt-to-equity swaps or other debt-restructuring mechanisms (Croatia, Germany, Latvia, Slovenia, and Spain). Other initiatives include fast-track insolvency procedures (Croatia, Greece, Italy, Latvia and Portugal) or the implementation of enhanced out-of-court frameworks (Italy, Portugal, Spain, Latvia, Romania, and Slovenia). Finally, personal insolvency regimes have also been implemented or improved in some countries (Cyprus and Ireland, as well as Estonia, Greece, Hungary, Italy, Latvia, Lithuania, Poland, Romania and Spain).

[70] For further information, please refer to the European Parliament (2016).

ANNEX 4: IMPAIRED ASSET RELIEF MEASURES, STATE AID RULES AND BRRD

Under the Treaty of the Functioning of the European Union (TFEU), State aid is prohibited as a matter of principle, notwithstanding the right of Member States to act in the market in the same way as private market investors. The main difference is that in the latter case, the State acts as a private market investor would do in the same circumstances. However, where the State acts as a public authority with public aims and goals in mind, such an intervention is likely to qualify as State aid.

State aid may be allowed in specific cases and circumstances subject to the scrutiny of the European Commission. Every case is assessed on its specific merits. In particular, State intervention can likely be made compatible with State aid rules under TFEU if that intervention addresses a market failure.

The specific rules applying to State aid in the financial sector are laid down in seven European Commission legal texts, most importantly the 2013 Banking Communication (2013 BC) and the 2009 Impaired Asset Communication (2009 IAC). Those rules have not changed formally since the 2013 BC but have been applied in that form since the Spanish Programme implementation in 2012.

From the very onset of the financial crisis, State aid rules introduced a new rule prohibiting the implementation of impaired asset relief measures which would shift existing or future likely losses on impaired assets (e.g. loans or structured credits) to taxpayers. Existing and future likely losses on loans and securities are to be borne by the bank. They cannot be "hidden" by transferring them to the State. The State-supported bad bank can only protect against future unlikely losses, i.e. protect against tail risk. In other words, the State-supported bad bank can buy the impaired assets at a price higher than the estimated market price only as far as the latter does not reflect the expected losses and a reasonable premium, and the price which is set by the market is temporarily depressed by excessive risk premia (e.g. because the investor has doubts about the real value of the assets and/or has temporary acute funding constraints).

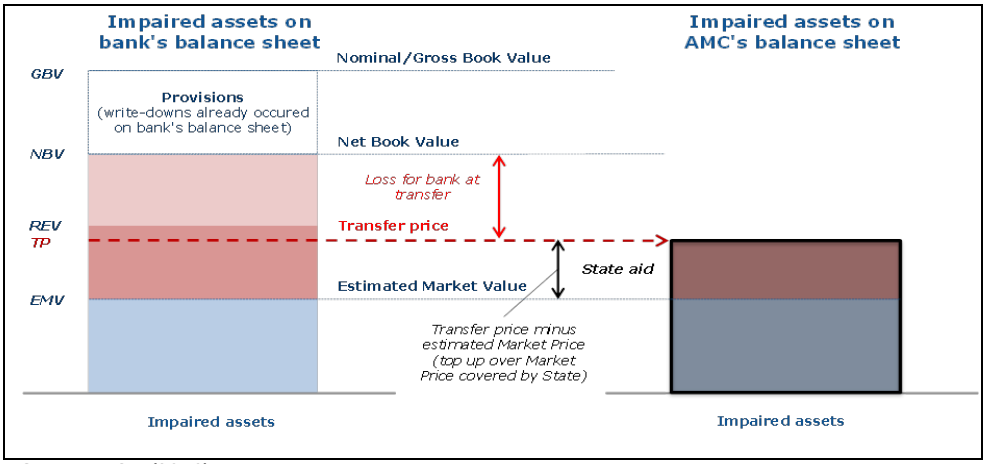
This general principle has been translated into the following requirement: the maximum price at which the assets can be bought by the State-supported AMC is the present value of the cash flows these assets will likely generate, discounted at a rate including a limited risk premium (so-called real economic value (REV)). In other words, the price at which the banks were allowed to sell impaired assets to State-supported bad banks was low.

At the point of the sale of the assets, the bank has to bear a loss amounting to the difference between the net book value of the assets and the transfer price. Since the transfer price was capped at REV and hence relatively low, the bank has to recognise a large amount of losses at the point of the sale of the assets.

As a consequence, until now, all approved impaired asset measures have systematically been accompanied by large amounts of recapitalisation aid, allowing the bank to bear the burden of having to recognise the losses on the impaired assets.

Consistent with its general practice, the European Commission has defined the amount of State aid provided through impaired asset measures as the difference between the price at which the State-supported AMC buys the assets and the (estimated) market value (EMV). Since this purchase price was capped at REV, the delta between the purchase price and the EMV was not very large. The amount of aid granted through impaired asset measures has therefore been a limited (although still material) proportion of the total aid granted to banks, with the majority of the aid being granted through State recapitalisation.

Chart A3. Non-performing loan ratios by sector ***(as a percentage of gross loans)***



Source: ECB (2016).

Official sector stress testing would be an entry requirement for identifying State aid in a precautionary recapitalisation based on the BRRD requirements. The stress test serves to identify the envelope for any State aid (required after any equity hit) via a theoretical shortfall in the adverse scenario. Such a stress test could take a number of forms, ranging from a full balance sheet assessment against complex adverse macro scenarios to more targeted assessments, such as the impact of increasing provisions to meet stressed market price targets. The stress test may also identify the need for the immediate resolution of some banks if they fail the baseline test and immediate recapitalisation (with conditions) of others.

The envelope calculated in the stress test would identify the theoretical amount of State aid that would be allowed for each bank's precautionary recapitalisation. In turn, this theoretical State aid envelope would determine how much State aid could be used to facilitate the transfer of NPLs at the "real economic value" over the "current market price" (i.e. the value of State aid).