European Stability Mechanism

Completing NPL reduction in Europe

This discussion paper analyses the relevance of the non-performing loan (NPL) problem for European banks. We provide an overview of the measures implemented by select euro area member states following the financial crisis. The paper also aims to highlight European solutions to the problem, which require additional measures introduced at supranational level. As such, we summarise the different workstreams that have recently started in the European Union. We also suggest a few policy responses for further consideration, which could provide some alternative or additional incentives for banks to reduce or keep their NPLs at a sustainably low level.

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Executive summary

Despite immense efforts and some recent progress, Europe is still suffering from high NPLs. Ten years after the great recession and roughly five years after the sovereign debt crisis, the European banking sector still holds over €800 billion of impaired loans on its balance sheet. This implies that almost 5% of the sector's total assets are partially or fully unable to generate cash inflows. NPL problems remain uneven across banking sectors in different countries, with some banking sectors and individual banks highly exposed. In certain cases, banks' profit and loss statements are inflated due to the practice of accruing interest on NPLs without commensurate provisioning. In the current low interest rate environment where banks' profitability is already under pressure, urgent steps seem necessary to restore investor confidence as well as the European banking sector's competitiveness.

The NPL level in Europe is still high, with banking sectors in certain countries and individual banks being particularly exposed.

The reasons for the NPL build-up throughout the crisis are manifold. In most cases, the combination of a deteriorating macro-economic environment, bank-related factors (such as weak governance, poor selection processes, and/or lack of NPL workout expertise), inefficient debt recovery frameworks, and moral hazard have driven NPLs to their highs. This suggests that policy measures should deal with all these dimensions simultaneously to effectively tackle the problem, even if some of the solutions do not have retroactive power and thus are only efficient in reducing NPL inflows.

Many different factors contribute to the high level of NPLs, thus a broad set of policy measures is needed to tackle the problem.

The multiple causes of high NPLs highlight the need for comprehensive NPL management strategies, but in practice, implementation has mostly materialised in ESM programme countries with mixed results. The ESM programme design included comprehensive NPL strategies aimed at enhancing supervisory, legislative, and bank level inefficiencies. In certain programme countries, such as Ireland and Spain, the implementation of the NPL strategy was more efficient, but in others, such as Cyprus, Greece, and Portugal, full NPL strategy implementation was delayed considerably.

Comprehensive NPL management strategies were included in the design of ESM programmes, but the actual implementation fell short of expectations.

The creation of the banking union allows the problem to be addressed at broader European Union (EU) level. Spill-over effects from Member States with high NPLs to the rest of the EU economy could be material, both in terms of growth and financial stability. Addressing risk-sharing has already begun with the implementation of the banking union, and the set-up of the Single Resolution Fund (SRF). As all euro area banks contribute to the fund, however, it is also important that externalities are adequately internalised to minimise potential moral hazard issues related to increased risk-taking.

Thanks to the creation of banking union, the NPL problem can be addressed at broader EU level; the Single Resolution Fund should minimise potential moral hazard issues related to increased risk-taking.

Several EU institutions have recently initiated further steps. The Council adopted a comprehensive Action Plan[1] that outlines a mix of policy actions and the ECB published its supervisory expectations on coping with NPLs. Policy responses include strengthened supervisory toolkits, enhancement of secondary markets for NPLs (by eliminating impediments) as well as harmonisation of insolvency and foreclosure laws, which echoes the ESM's experience from its programme work.

Several EU institutions have taken steps to address the NPL problem.

[1] Report of the FSC Subgroup on Non-Performing Loans, Council of the European Union, May 2017. http://data.consilium.europa.eu/doc/document/ST-9854-2017-INIT/en/pdf

Progress in NPL reduction can only be achieved with Member States complementing EU policies.

Progress made at European level will not suffice without a follow-up at national level. In most areas, the European policies provide a minimum set of principles that are necessary, but not sufficient, to quickly reduce NPLs. The success of the EU institutions' harmonised policy actions depends substantially on the Member States implementing the necessary reforms nationally. For example, the lack of harmonisation of insolvency frameworks is a good example of an area that the EU can assist in, but which requires local authorities to implement vigorously, as efficient collateral enforcement and effective court and out-of-court procedures are crucial elements to reduce the outstanding stock and build-up of NPLs.

Progress in the area of risk reduction and risk sharing is a prerequisite for the completion of banking union.

A number of elements can be put forward to complete banking union, which requires a balanced process of risk reduction and risk sharing. Progressing along these two lines may have to be done in different stages to create the preconditions for further steps of mutualisation and the full integration and harmonisation of the banking market. Key elements of this process are specific objectives of NPL reduction, proper incentive schemes for banks, and the creation of the right financial structures, such as an asset management company, to work out NPLs.

Country-specific and realistic NPL reduction targets should be established and progress on NPLs could be pursued in parallel with the introduction of a European Deposit Insurance Scheme.

Specific supervisory objectives would help to monitor and conclude the NPL reduction workflow. Without exact objectives, the risks of delaying the completion of the banking union would be high. To complete the construction of the banking union legal and institutional frameworks, progress on NPLs and a European Deposit Insurance Scheme (EDIS) could be pursued in parallel; i.e. the timeframe of the NPL reduction can be linked to that of EDIS in a way that the re-insurance phase may only start if the NPL targets defined upfront are achieved. Given the strong heterogeneity across jurisdictions, targets should be country-specific and realistic instead of setting up a uniform NPL target for all euro area countries. Moreover, goals could possibly be defined as the minimum required pace of decrease in the NPL stock for the systemically important institutions, instead of focusing on the actual level. In either case, the aggregation of NPL goals to country levels of Single Supervisory Mechanism (SSM)-supervised banks' NPL Strategies seems to be the best starting point, as this would ensure consistency in the requirements and avoid giving wrong incentives for better-performing countries that have lower-than-average NPLs.

Additional incentives to reduce NPLs could be introduced.

Additional incentives to reduce NPLs could help speed up the cleaning process and ensure that the acceptable level of NPLs is maintained in the longer term. The contributions to the SRF and the national deposit guarantee schemes could more explicitly depend on the progress on NPL reduction. Banks that do not reduce sufficiently their NPLs (i.e. in line with the targets derived from the NPL Strategies), could be required to pay an add-on to their standard SRF and, at some stage, EDIS contributions. This could provide a direct incentive for banks to clean up their NPLs or maintain the NPLs at a low level. It would also ensure that there are sufficient funds to cover potential losses stemming from the externality related to high NPLs.

The implementation of NPL reduction measures should take place in times when they are not urgently needed, along with growth-enhancing fiscal and structural measures.

Policy makers could preserve the progress made over past years and prepare for the consequences of the ongoing economic slowdown. Although the high NPL problem is part of a wider picture of the lack of profitability in the banking system, the implementation of the proposed measures should take place during times when there is no burning need for them. At the same time, it is also important to implement adequate measures on the fiscal and structural sides to pave the way for sustainable economic growth or reduce the potential impact of future recessions.

1. What determines the level of NPLs? – Related literature

Literature shows evidence that the NPL level[2] is closely dependent on macroeconomic conditions. The relevance of macroeconomic variables in determining NPL ratios has been supported at euro area level, while sector-specific analysis also supports the link between macro fundamentals and problem loans. Apart from macroeconomic fundamentals, studies also show a relationship between NPLs and bank-specific variables. Recent research adds to the previous literature by investigating the feedback effects of NPLs from the banking sector to the macro-economy.

Literature shows evidence that macroeconomic conditions matter for the level of NPLs. Fernández de Lis et al. (2000) show empirical evidence for the close relationship between problem loans and the economic cycle in Spain. They found strong correlation between the NPL ratio and gross domestic product (GDP) growth for the period 1983-1999. According to Louzis et al. (2010) NPLs in the Greek banking system can be mainly explained by macroeconomic fundamentals, such as GDP growth, unemployment, and interest rates. Messai and Jouini (2013) identified the same macro variables as relevant to determining the level of NPLs in Italy, Greece, and Spain. Furthermore, share prices, the exchange rate, and lending interest rates are also found to significantly affect NPL ratios. Beck et al. (2013) presented an econometric analysis based on a sample covering 75 countries, which suggests that while real GDP was the main driver of non-performing ratios during the past decade, additional factors, such as exchange rate depreciation, stock prices, and lending interest rates also affected the asset quality.

The relevance of macroeconomic variables in determining NPL ratios has also been supported at euro area level. Makri et al. (2014) applied an econometric model to identify factors that influence the NPL ratio in the euro area focused on the pre-crisis period. Using aggregate data on a panel of 14 countries for the period 2000-2008, they found strong correlations between the NPL ratio and various macroeconomic factors. The results are largely consistent with the existing literature. From a macroeconomic perspective, public debt, GDP, and unemployment seem to be the three main macro fundamental factors that affect NPLs, which suggests that the state of the euro area economy is linked to the portfolio quality of the banks.

Sector-specific analysis also supports the link between macro fundamentals and problem loans. Rinaldi and Sanchis-Arellano (2006) showed that in the long run, an increase in the ratio of household indebtedness to income is associated with higher levels of arrears. However, they also highlight that the negative effect is more than offset if the rise in the debt ratio is accompanied by a rise in disposable income.

Apart from macroeconomic fundamentals, studies also show a relationship between NPLs and bank-specific variables. Some of the studies mentioned earlier also included individual bank characteristics in their analysis. Louzis et al. (2010) used performance and efficiency indicators in their models and found that bank management quality also played an important role in the evolution of NPLs in Greece. Fernández de Lis et al. (2000) show a strong, significant and positive impact of banks' credit growth on problem loans with a lag of around three years. This is in line with Keeton's (1999) findings, which point out that an increase in loan growth is likely to lead to higher loan losses, but only if the source of the faster loan growth is a shift in the supply of bank credit. The most recent studies also found evidence that banks' capital position and profitability play an important role in the evolution of the NPL ratio. Makri et al. (2014) and Messai and Jouini (2013) conclude that the capital adequacy ratio and the return on equity/assets negatively affect NPLs, whereas provisions and the lagged NPL ratios correlate positively with

[2] The terms "NPL" and "NPE" are used interchangeably in the discussion paper given the definitions evolved during drafting.

NPLs. Climent-Serrano and Pavia (2014) show that an increase in property investment by banks also increases NPLs in the future.

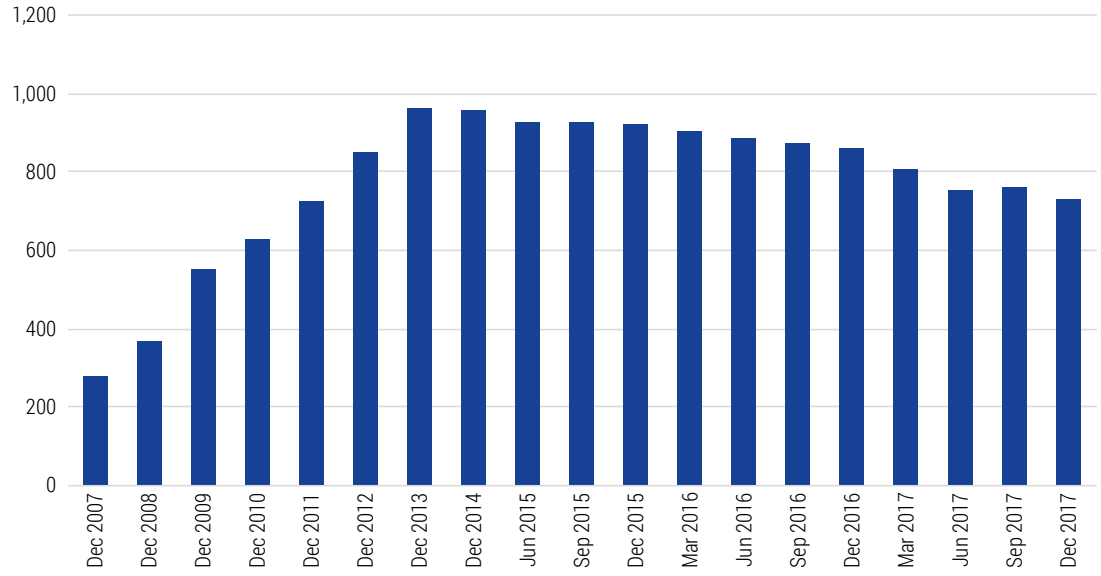
Recent research adds to the previous literature by investigating the feedback effects of NPLs from the banking sector to the macro-economy. Espinoza and Prasad (2010) conducted an analysis of 80 banks in the Gulf Cooperative Council countries for the period 1995-2008 and found that the NPL ratio worsens as economic growth becomes lower and interest rates increase. Their model implies that the cumulative effect of macroeconomic shocks over a three-year horizon is large. With respect to the feedback effect, the paper suggests that NPLs have a strong albeit short-lived effect on growth. In the analysis conducted on 26 advanced economies for the period 1998-2009, Nkusu (2011), however, finds that a sharp increase in NPLs trigger long-lived tailwinds that cripple macroeconomic performance on several fronts. The confluence of macroeconomic key indicator shocks leads to a downward spiral in which banking system distress and the deterioration in activity reinforce each other. Research by De Bock and Demyanets (2012) confirms that the previous findings also apply to emerging markets. They show that economic activity in these countries slows when NPLs increase or credit contracts, while the exchange rate tends to depreciate.

2. Stylised facts on NPLs in Europe – How big is the problem?

The euro area NPL ratio tripled in the five years after the onset of the global financial crisis. Despite the recent economic recovery, the NPL ratio is unlikely to return to its pre-crisis levels in the short term, given the breadth of economic variables that have to align. The policy response to require increased coverage ratios has partially mitigated NPL growth, but the disparity between member states still varies vastly, in particular regarding the most fragile quarter of euro area countries who seem to be trapped in economic stagnation. Recovery to pre-crisis levels for these countries seems unlikely in the short-to-medium-term horizon.

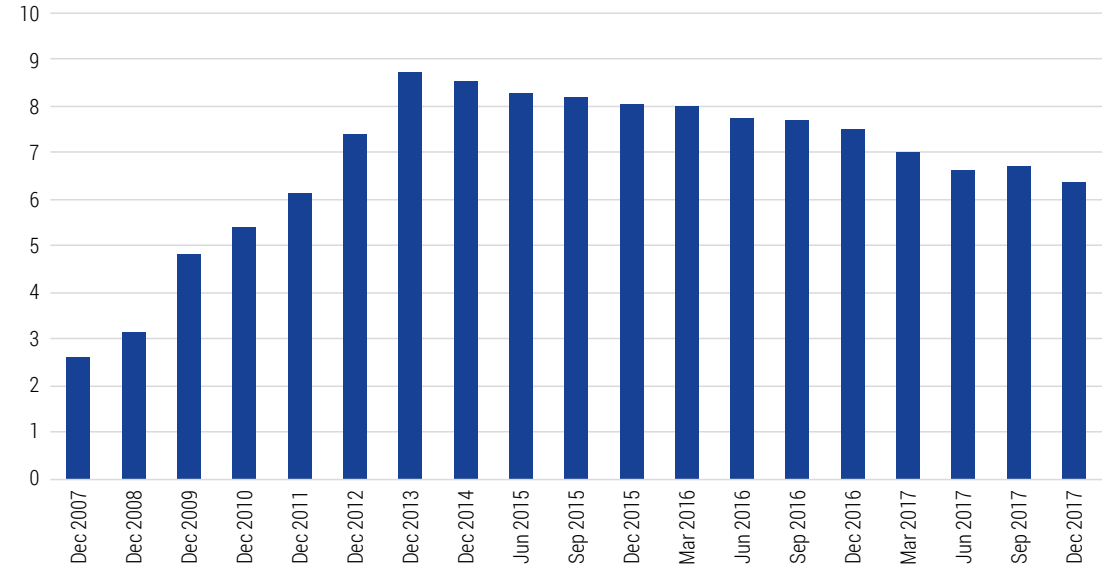
The euro area NPL ratio tripled in the five years after the onset of the global financial crisis (Figure 1). The increase in the ratio was mostly due to the increasing stock of NPLs that reached almost €1 trillion in 2013, while the impact of deleveraging was minor until the end of 2016. The prolonged crisis and subdued economic growth kept the NPL ratio at a high level (Figure 2). Further delays in resolving the NPL problem could put Europe at risk of repeating what happened in Japan in the 1990s. The procrastination of the NPL problem resulted in the "lost decade", when the performance of the Japanese economy was persistently poor.

Figure 1:
Gross NPL stock in the euro area
(in € billion)



Sources: SNL Financial, FitchConnect, ESM calculations

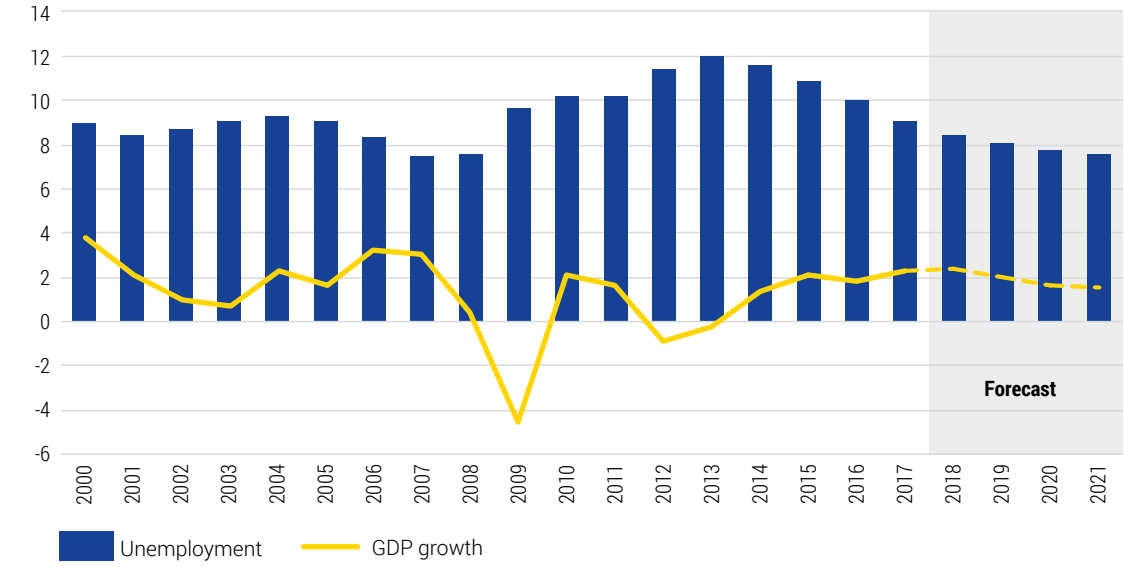
Figure 2:
Gross NPL ratio in the euro area
(in %)



Sources: SNL Financial, FitchConnect, ESM calculations

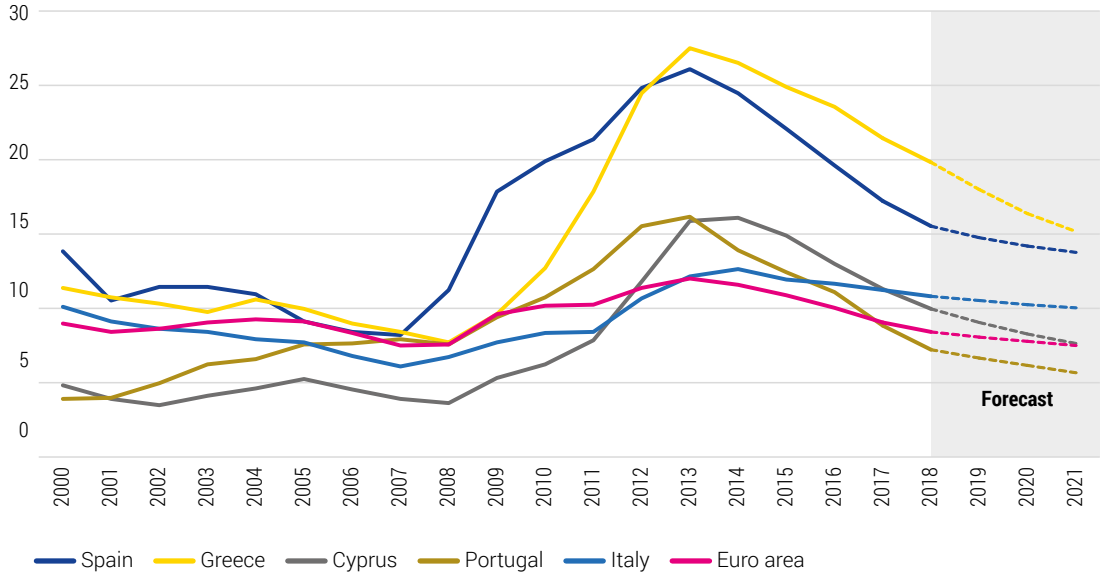
Despite the economic recovery, the NPL ratio is unlikely to return to its pre-crisis levels in the short term. As mentioned earlier, macroeconomic factors, such as GDP growth and unemployment affect NPLs. Improvement in these two variables only started after 2012 (Figure 3). Official forecasts show a decline in unemployment, however, it is unlikely to decline to such an extent that would translate into a marked reversal in NPLs. Persistently high unemployment aggravates NPL recovery in two ways. First, it causes a contraction in the repayment capacity of households and corporates due to diminished disposable income. Second, it also results in a material drop in demand for new lending. Moreover, in some countries, despite the gradual economic recovery, unemployment is still stagnating or decreasing, but from a very high level (e.g. Spain and Greece) (Figure 4). This suggests a more sustained period for NPL resolution in these countries.

Figure 3:
Unemployment rate and GDP growth in the euro area
(in %)



Source: International Monetary Fund (IMF) World Economic Outlook (WEO) database

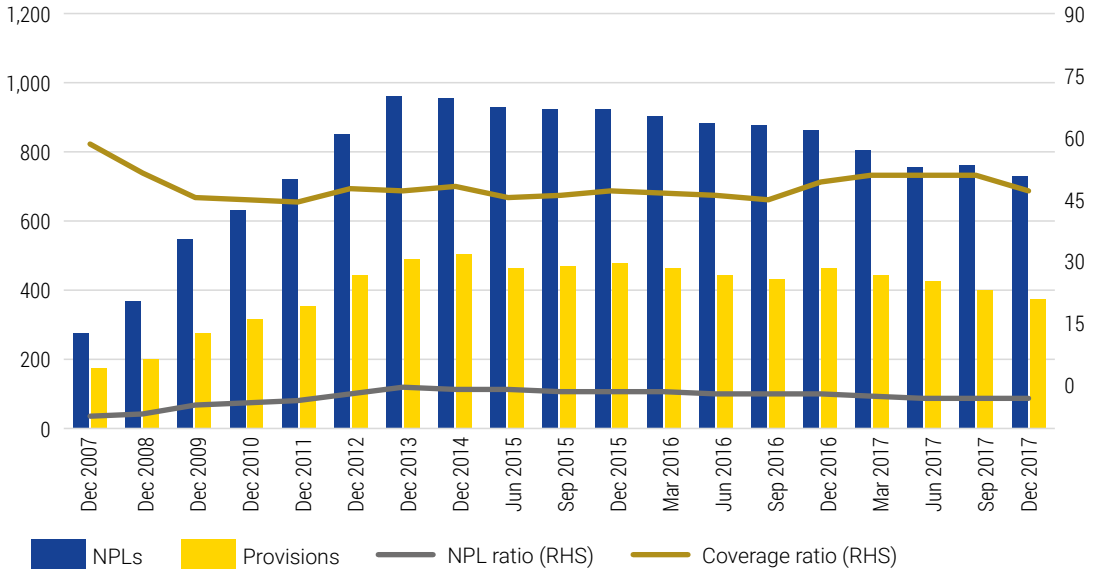
Figure 4:
Unemployment rate in select euro area countries
(in %)



Source: IMF WEO database

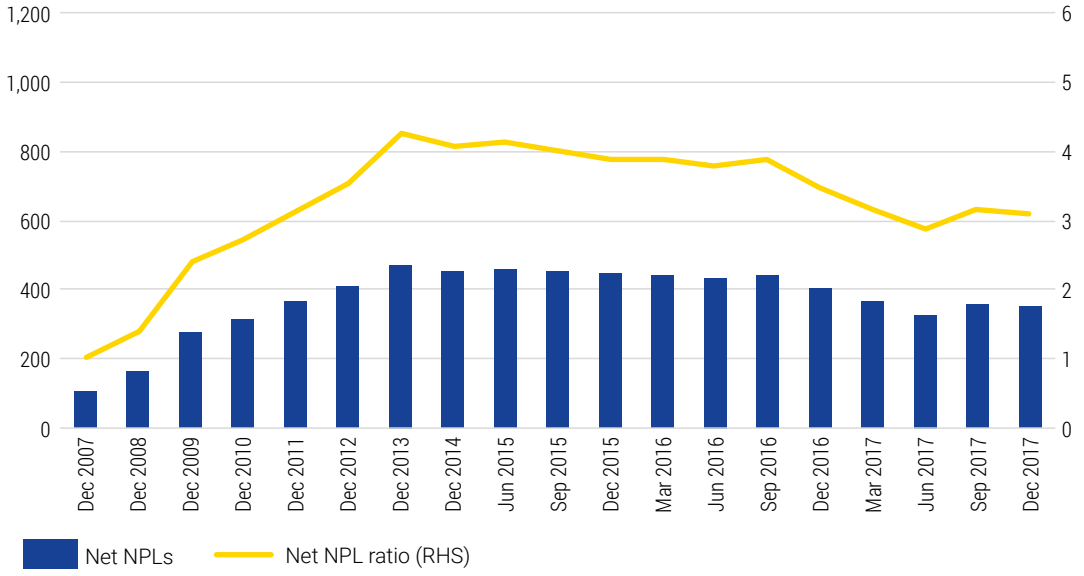
The increase in coverage ratios has partially mitigated NPL growth. While NPLs rose substantially until the end of 2013, the coverage ratio has stabilised at about 50% since 2009 (Figure 5). In some jurisdictions, NPL coverage lagged behind NPL formation. The 2014 comprehensive assessment organised by the SSM/European Central Bank (ECB) identified a large stock of under-provisioned NPLs and led to banks reasonably increasing their loan loss provisions (ECB 2016) across the euro area. As a result, net NPLs show a less dramatic increase. The recent decline in the coverage ratio was mainly due to the increasing activity in secondary NPL markets. Banks typically sell the higher provisioned loans, which leads to a reduction in both the outstanding NPL amount and the provisions (Figure 6).

Figure 5:
Gross stock of NPLs and provisions at euro area level
(left-hand scale in € billions, right-hand scale (RHS) in %)



Sources: SNL Financial, FitchConnect, ESM calculations

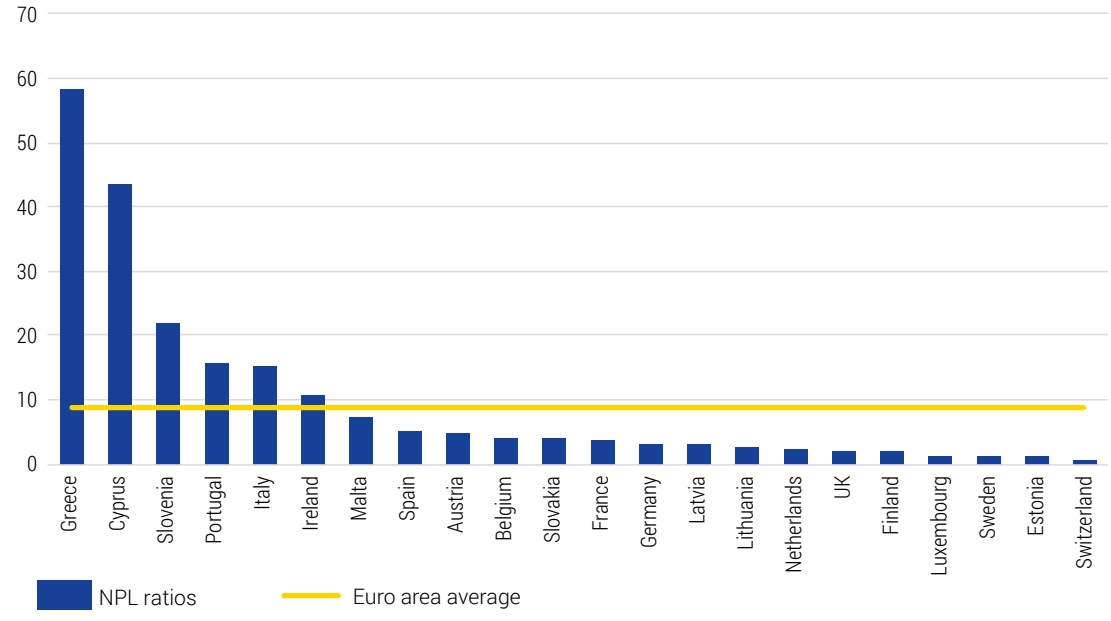
Figure 6:
Net stock of NPLs and net NPL ratio at euro area level
(left-hand scale in € billions, RHS in %)



Sources: SNL Financial, FitchConnect, ESM calculations

The European average hides strong divergence among countries. Southern countries still face very high NPL ratios (Figure 7), which is related to the increasing pre-crisis leverage of the private sector (Figure 8). On the one hand, the persistently high NPL ratios in these countries partly reflect the deep recessions their economies underwent, but on the other hand, they also show that there are still substantial impediments in their judicial and legislative systems that prevent banks from an efficient workout or disposal of their NPLs. Among programme/post-programme countries, only Spain achieved a slightly lower-than-euro-area-average NPL ratio by the end of 2017. This is mainly due to the intensive efforts to restructure their banks and the comprehensive reforms implemented during the ESM programme (including the set-up of Sareb[3], a national asset management company), which were supported by their strong economic recovery.

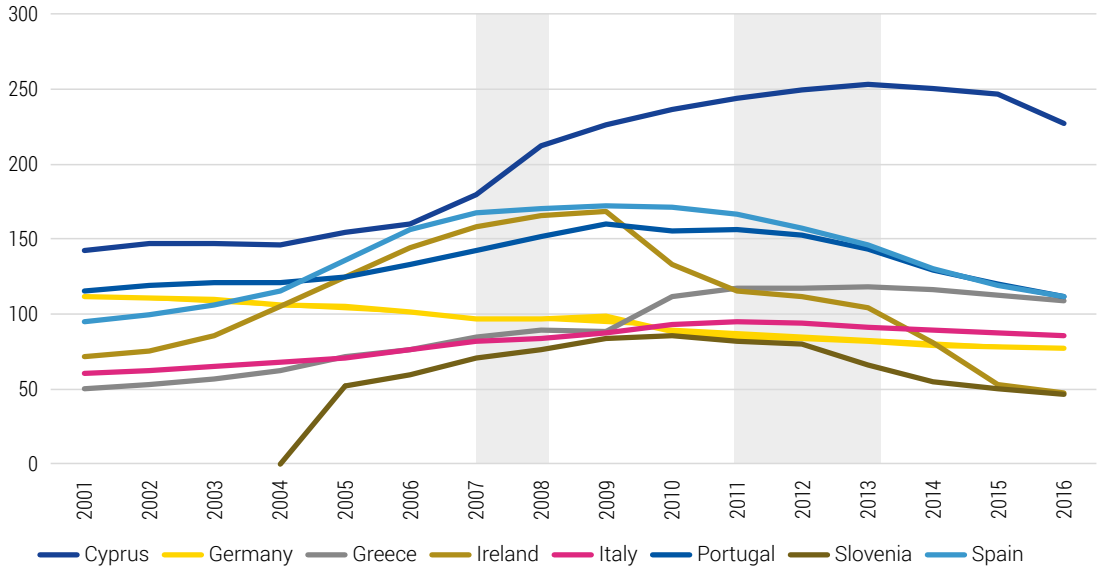
Figure 7:
NPL ratios in Europe at end 2017
(in %)



Sources: SNL Financial, FitchConnect, ESM calculations

[3] Sociedad de Gestión de Activos procedentes de la Restructuración Bancária – and in English - Company for the Management of Assets proceeding from Restructuring of the Banking System

Figure 8:
Domestic credit to private sector
(in % of GDP)



Note: Shaded areas indicate crisis periods.
Source: World Bank Development Indicators

A quarter of euro area countries represent a fragile minority. Viewing euro area countries based on their NPL ratios shows a very diverse picture. While the first three quartiles constitute a relatively homogenous group in terms of NPL ratios, countries in the fourth quartile are facing much higher NPL ratios (Table 1). Based on the statistical split, Ireland belongs to the third quartile, although its NPL ratio is still in the double-digit fourth quartile range. However, with respect to NPL dynamics, Ireland shows more similarities with the third quartile countries, especially to Spain, thanks to the progress in reducing its impaired assets in the last few years.

Table 1:
Group of countries, by NPL ratio

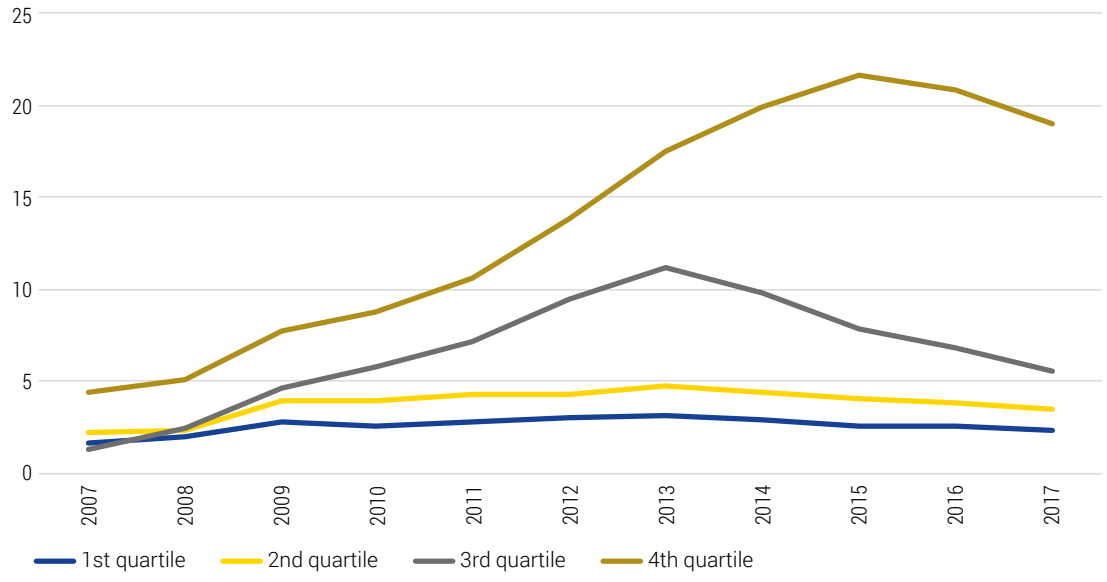
Quartile	Country	NPL ratio at end 2017 (%)
1st quartile	Estonia	1.16
	Finland	1.18
	Luxembourg	1.74
	Netherlands	2.37
	Germany	2.41
2nd quartile	Latvia	2.74
	Lithuania	3.22
	Belgium	3.25
	France	3.56
	Slovakia	3.92

Quartile	Country	NPL ratio at end 2017 (%)
3rd quartile	Austria	4.23
	Malta	5.39
	Spain	5.43
	Ireland	10.01
4th quartile	Italy	15.47
	Portugal	15.63
	Slovenia	15.71
	Cyprus	41.34
	Greece	42.69

Sources: SNL Financial, FitchConnect

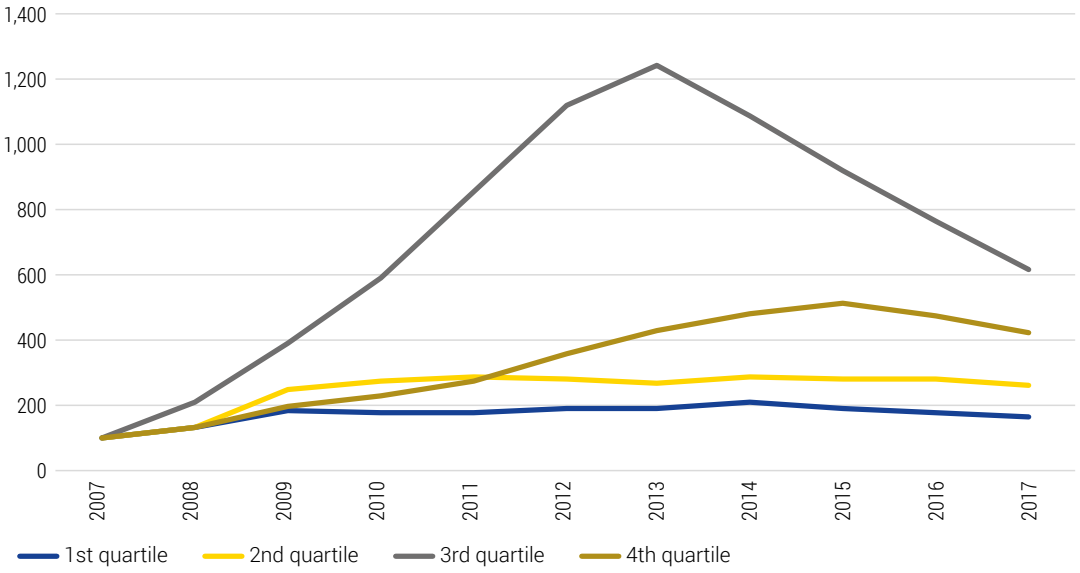
The NPL problem is persistent in the fourth quartile of countries with high NPL ratios. Both NPL ratios and the level of NPLs have remained high for countries in the fourth quartile, while there has been a clear improvement in the third quartile countries since 2013 (Figure 9 and Figure 10). This suggests that the problem of persistently high NPLs is concentrated in a small group of countries, notably in Cyprus, Greece, Italy, Portugal, and Slovenia. NPLs have almost returned to their pre-crisis level in the first group, stabilised at a relatively low level for the second quartile, and decreased considerably in the third quartile since 2013.

Figure 9:
NPL ratio
(in %)



Sources: SNL Financial, FitchConnect, ESM calculations

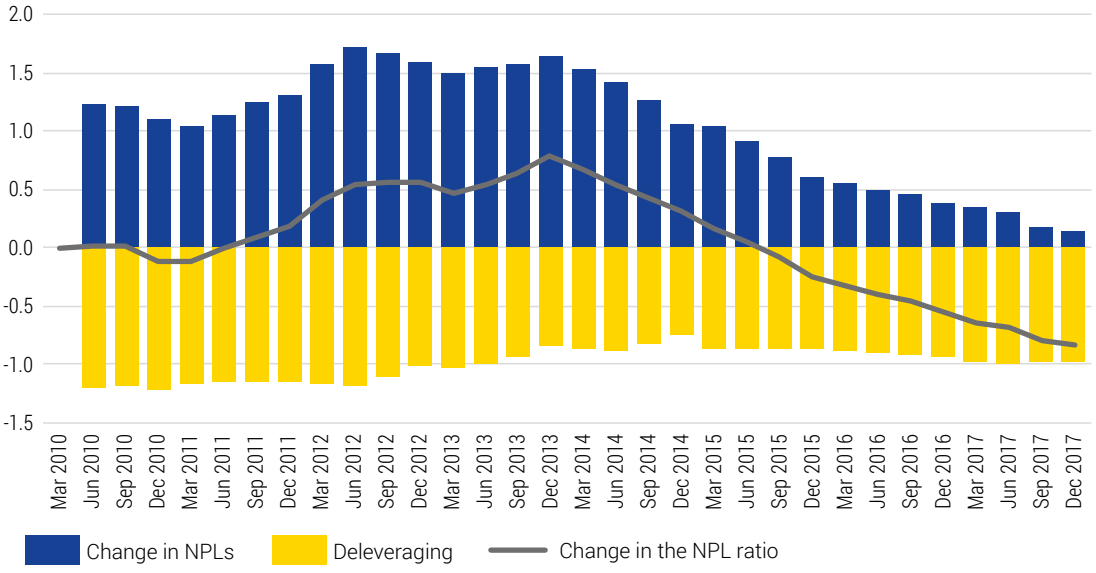
Figure 10:
Change in the stock of NPLs
(in %, 2008 = 100)



Sources: SNL Financial, FitchConnect, ESM calculations

The main drivers of the NPL ratios differ between core and periphery countries. In the first three quartiles, the NPL ratio has increased moderately since 2010. By contrast, the NPL ratio in the last quartile rose by more than 12 percentage points (Figure 11 and Figure 12) during the same period. In the first three quartiles, the expanding or slowly reducing loan book offset the moderate increase in the stock of NPLs, while in the last quartile group, the intensive deleveraging contributed to the total increase in the NPL ratio.

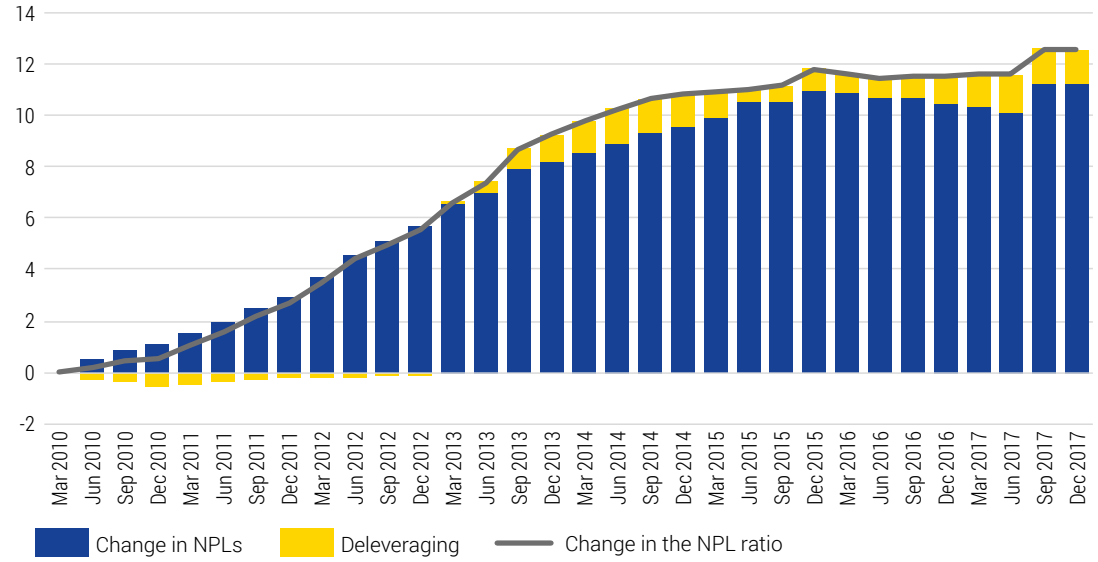
Figure 11:
Composition of the cumulative change in the NPL ratio – 1st, 2nd, and 3rd quartile countries
(in %)



Note: Negative sign for deleveraging means that banks increased their performing loan portfolios or decreased at a slower pace than NPLs were growing.

Sources: European Central Bank (ECB), ESM calculations

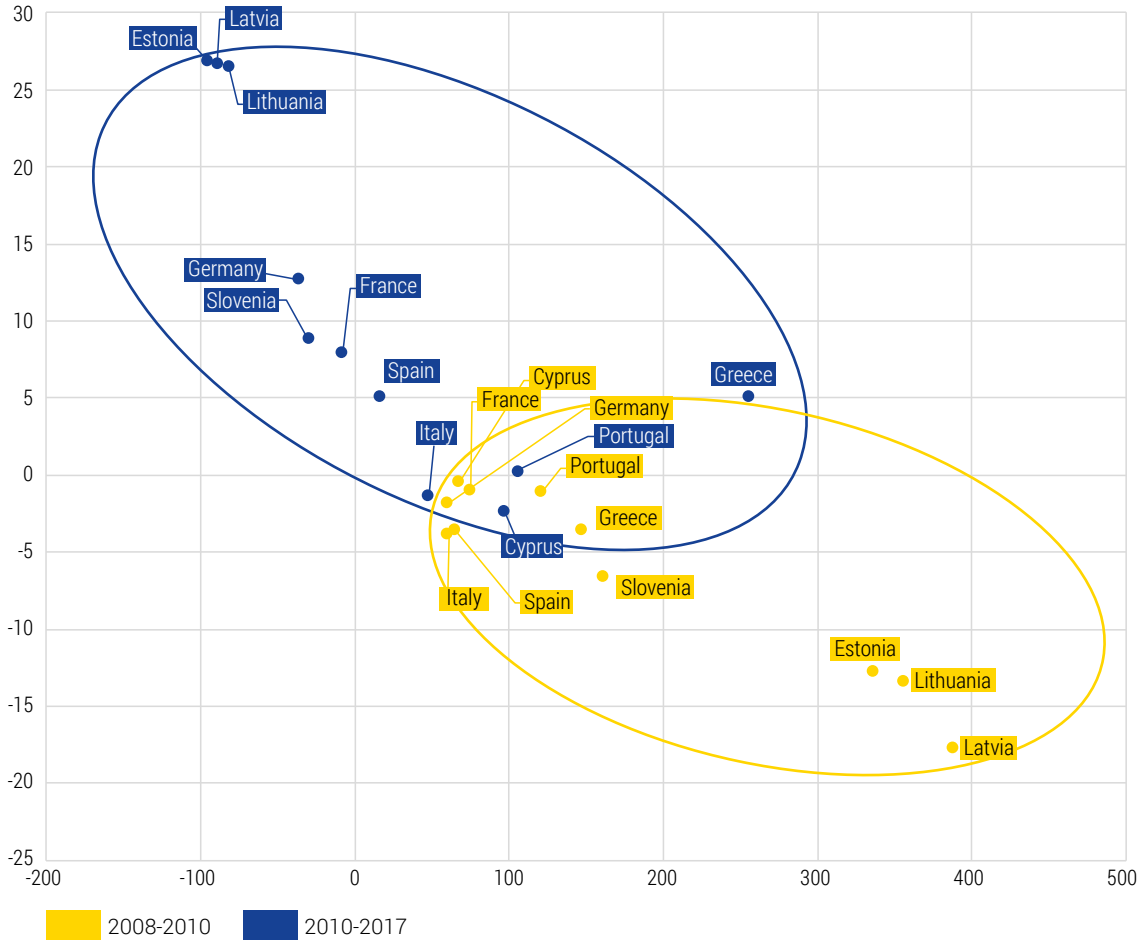
Figure 12:
Composition of the cumulative change in the NPL ratio – 4th quartile countries
(in %)



Sources: ECB, ESM calculations

In countries lacking real GDP growth, NPLs remained persistently high. While NPLs rose in all euro area countries between 2008 and 2010, they only declined in jurisdictions that eventually managed to restore economic growth (Figure 13). As mentioned earlier, the causality between these two variables works in both directions as economic recovery helps restore repayment capacity and declining NPLs release capital for new lending. It is therefore difficult to disentangle the pure impact of NPLs on economic growth. Nonetheless, the improvement in NPLs was particularly strong in the Baltic countries and Ireland, where addressing the legacy issues was part of a comprehensive economic adjustment programme that quickly translated into real GDP growth. Countries where measures aiming to tackle non-performing assets were introduced with delays or inefficiently implemented (Cyprus, Greece), are observing a much slower decline (or sometimes even increase) in their NPLs and a slower recovery in their real GDP.

Figure 13:
Cumulative percentage change in the countries' real GDP and NPLs
(vertical axis in % real GDP, horizontal axis in % NPLs)

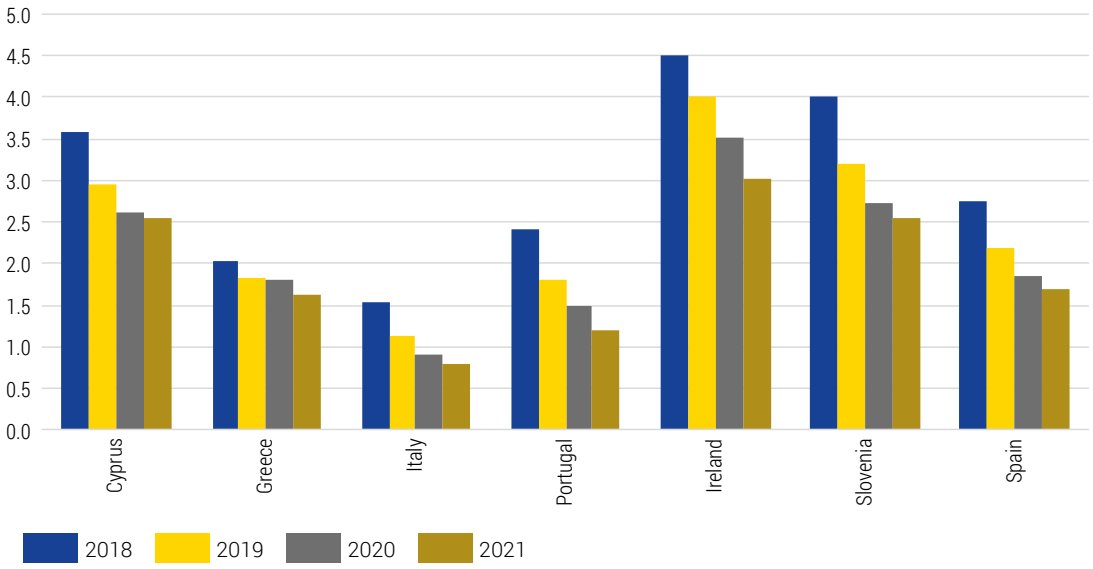


Note: For simplification purposes we excluded a few small (Austria, Belgium, Luxembourg, Malta, Netherlands, and Slovakia) and outlier countries (Ireland).

Sources: SNL Financial, FitchConnect, IMF WEO database, ESM calculations

Some countries will probably not be able to rely solely on their economic recovery to resolve NPLs. As highlighted in the literature (Kobayashi and Inaba (2002), if an economy seems to be trapped in stagnation, policy actions are necessary to address the bad equilibrium. Banks in these countries appear to be waiting for the economy to recover and for new lending opportunities to occur. However, forecasts show a cyclical slowdown, which suggests that it is unlikely this alone would lead to a turning point for NPLs in a reasonable timeframe (Figure 14).

Figure 14:
GDP forecast
(in %)



Source: IMF WEO database

Despite the recent progress in NPL reduction across the euro area, the deteriorating quality of the remaining NPLs in banks' balance sheets raises more concerns. In the initial phase of NPL restructuring and cleaning, banks typically dealt with and worked out the easiest and more valuable cases. As a consequence, the quality of the remaining NPL portfolio has slowly deteriorated with the most problematic ones (with the lowest expected recovery rate) staying on banks' balance sheets. NPLs therefore are expected to remain above their pre-crisis levels in a longer time horizon as workout processes become more time-consuming, unless specific actions are taken to increase the efficiency of the existing insolvency and foreclosure frameworks. Nonetheless, banks are much better capitalised today, which to some extent mitigates the risks stemming from these high NPL levels.

3. Why are high NPL levels a problem?

Lower profitability, tighter capital positions, increasing administrative burdens and higher funding costs are the most cited implications of high NPLs (IMF 2015). NPLs stress banks' profitability for two reasons: loan-loss provisions impact net income, while NPLs kept on the books do not generate actual income. NPLs tie up banks' capital, as risk-weights applied to these loans are higher than that of any type of performing loan, which hinders new lending. The uncertainties around NPLs increase the risk premium in banks' funding costs, which puts additional pressure on their profitability. High levels of NPLs also carry a stigma, damaging banks' franchise value.

Other recent studies also support the view that NPLs cause higher costs for banks and reduce lending activity. Maggi and Guida (2009) analysed the Italian banking sector and modelled the effect of NPLs on the cost structure of the commercial banking system. They found that the effect of a change in the probability of an uncertain loan to become non-performing is extremely costly for the banking system. In their study, however, they used the overall costs for the banks and did not specify which channels the cost increase goes through (i.e. increasing funding costs, increasing provisioning, higher administrative costs etc.). Cucinelli (2015) studied the relationship between NPLs and bank lending behaviour and found that since the financial crisis, Italian banks have started to take less risk as a result of the increase in credit risk. Taking less risk leads banks to reduce their credit lines and thus show a slower growth rate in gross loans. Tracey (2011) reached a similar conclusion based on research conducted on Jamaica, and Trinidad and Tobago. He found that a higher NPL ratio causes banks to become more risk adverse in loan origination. This can ultimately slow monetary expansion, hindering the functioning of the credit transmission channel and as a result, stalling economic growth and prosperity, further feeding the negative feedback between economic activity and NPLs.

NPLs are also found to be sources of externalities. Kobayashi and Inaba (2002) provide an explanation for three anomalies prevalent in the Japanese economy from the 1990s: i) slow economic growth, ii) declining asset prices and iii) procrastination in dealing with NPLs. They define complexity externality as a coordination failure by which inefficiency in one firm affects the other firms' productivity. The simultaneous insolvency of many firms after asset prices collapsed may have triggered the emergence of a stagnant equilibrium in which the complexity externality lowered productivity and banks made a rational decision not to reorganise all the defaulted loans. This vicious circle of complexity externality and forbearance may have trapped the economy in a state of persistent stagnation. As such, market competition alone cannot recover the optimal equilibrium, public policies thus become necessary.

Caballero et al. (2008) also found evidence that a prolonged presence of NPLs is a consequence of banks' flawed lending activity, which could prolong economic stagnation. The study conducted on Japanese banks revealed that the continuous lending to otherwise insolvent firms (zombies) distorts healthy firms by reducing their profits, which discourages their entry and investment. The increase in zombies has depressed the investment and employment growth of non-zombies and widened the productivity gap between them.

High NPLs could also affect borrowers' payment culture. If NPLs reach a critical level, borrowers might default on their loans because they expect that banks will not sanction them individually (i.e. strategic defaulters) (ESRB, 2018b). This could lead to a broader social issue, where policy intervention might be necessary to reduce widespread moral hazard and restore a payment culture.

Delaying public intervention comes at the cost of a further deterioration of banks' balance sheets and higher resolution costs. Baudino and Yun (2017) highlight that individual banks have no incentives to internalise the externalities of their actions.

This can lead to a greater reduction in credit supply than is socially desirable. The overall credit-constraining impact is larger if many banks act simultaneously, for instance by offloading bad assets or by drastically reducing credit provision, increasing the likelihood of an economic downturn. As such, they emphasise that authorities need to be ready to respond early, before indicators point to an unmistakable country-wide problem, to avoid excessive resolution costs.

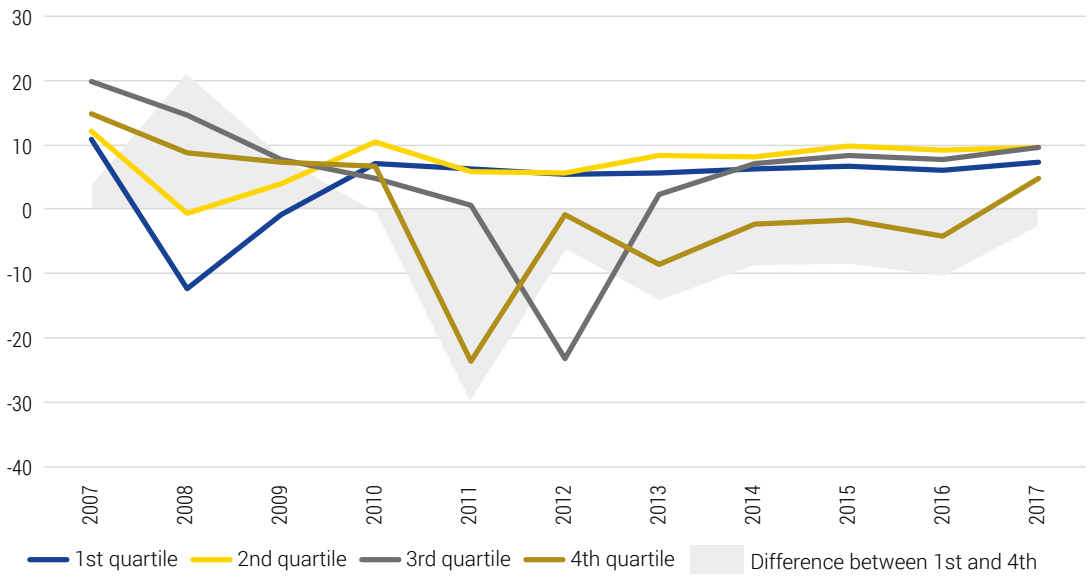
Externalities stemming from high NPLs in individual Member States have repercussions for the entire euro area. The implementation of the banking union allowed the NPL problem to be addressed at broader EU level, starting with the initial steps towards more risk-sharing within the monetary union. The banking union was created in response to the fact that spillover effects do not stop at national borders. First, this stems from the presence of cross-border banking groups. A weak subsidiary with high NPLs needs capital support from the parent entity. This could result in a suboptimal capital allocation within the group and might deprive profitable investments in other countries of resources. Second, the SRF receives contributions from all euro area banks and the funds can be used to cover resolution costs by all contributing banks. As we mentioned earlier, high NPLs can contribute to bank failure and since resolution costs are shared among the euro area banks, adequate internalisation of the NPL-related costs is necessary at European level.

Based on a sample of 300 euro area banks, we aim to provide evidence for the above implications of high NPLs. Our sample consists of balance sheet and profit and loss data of listed and non-listed banks observed during the period 2007-2017. In the following subchapters, we discuss the implications of high NPLs by presenting historical data of selected variables that describe the consequences of high NPLs for each NPL quartile (Table 1). Based on these simple indicators, we present empirical confirmation for the implications of the NPL problem for euro area countries.

3.1 Distortion in performance indicators

High NPLs weigh on banks' profitability, hindering their internal capital generating capacity. After the first wave of the financial crisis, profitability in the first two quartiles improved. Since then, return on equity (RoE) has stabilised at about 7-10% (Figure 15). The pattern is somewhat different for the third and fourth quartiles, where banks' profitability deteriorated considerably during the sovereign debt crisis (between 2010 and 2013). The recovery was swifter for countries in the third quartiles with the RoE currently converging on the 8-10% levels. As such, the negative correlation between profitability and NPLs seems to be non-linear and concentrates only in countries with extremely high levels of NPLs. Indeed, by the end of 2017, only the fourth quartile banks were lagging behind in terms of profitability.

Figure 15:
Return on equity in different NPL quartiles
(in %)



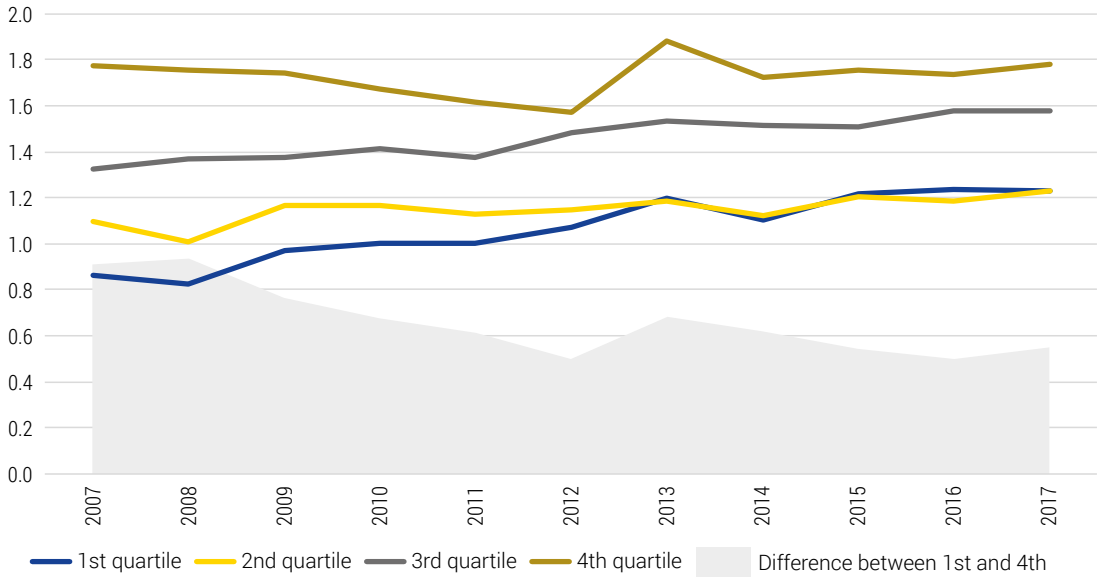
Sources: SNL Financial, FitchConnect, ESM calculations

3.2 Higher costs

Diversion of management's focus on core business and increase in administrative costs

The relationship between the NPL ratio and administrative costs seems straightforward; the higher the NPL ratio in a country, the higher the banks' administrative costs (Figure 16). Resolving NPLs requires additional resources, irrespective of the chosen solution. On-balance sheet options can typically be costly and inefficient for banks that lack the necessary infrastructure (i.e. specialised workout units with experienced staff, bespoke NPL IT systems, clear and effective governance and oversight, etc.) for arrears management. However, banks can mitigate these deficiencies by hiring NPL servicing companies. NPL servicing allows banks to "outsource" the staffing and technological infrastructure rather than developing them in-house. Moreover, managing NPLs on-balance sheet is not ideal for all types of NPLs, and thus the existence of developed secondary markets for NPLs can alleviate banks from certain segments of NPLs that the bank would rather not directly manage on their balance sheets. In some of the countries with the highest NPLs, secondary markets are not well developed and illiquid, or sometimes non-existent, therefore banks must rely on their internal workout capabilities and accept the associated higher costs and slower efficacy. It is noteworthy, however, that the difference in administrative costs between the first and the fourth quartiles has declined over the years, while the difference in NPLs has increased. This suggests that banks with the highest NPLs could efficiently reshuffle some internal resources without further increasing their cost base.

Figure 16:
Administrative costs in different NPL quartiles
(in %)



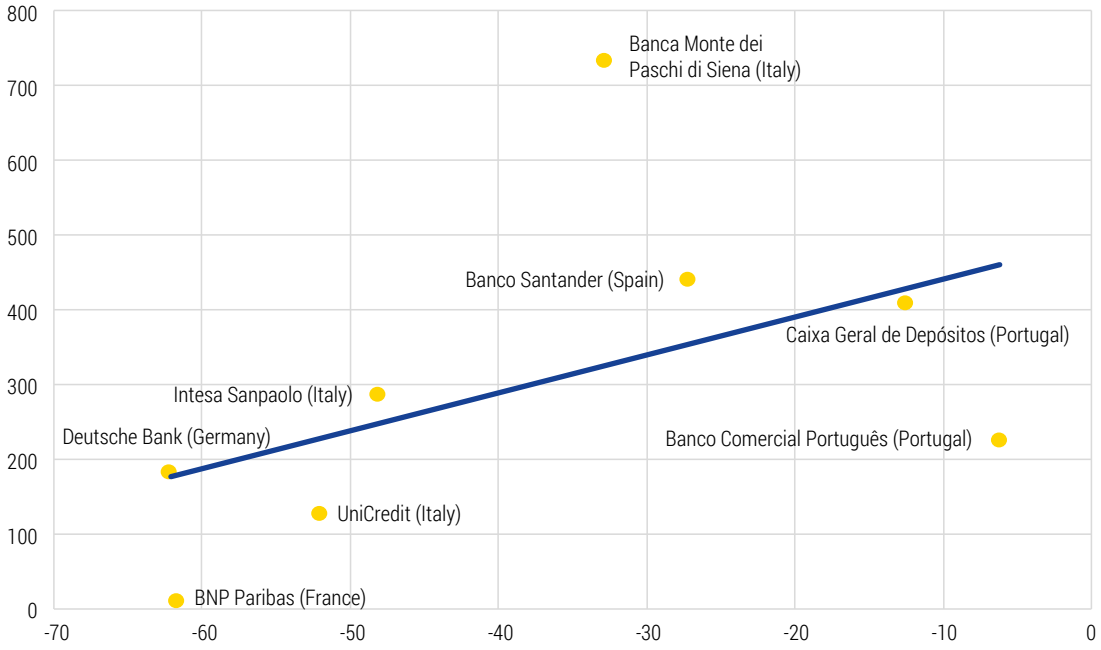
Sources: SNL Financial, FitchConnect, ESM calculations

Higher funding costs

Finding evidence for higher funding costs at aggregate level is less straightforward for several reasons. First, a low interest rate environment decreases funding costs in general. Second, the funding structure of banks differs across NPL quartiles; some are more reliant on debt financing, while others use more equity funding. While the cost of debt is observable, the cost of equity could only be estimated from market data. Our analysis limits the scope to the cost of debt, as it can be retrieved from accounting data.

The results suggest that the decreases in cost of debt were less for higher NPL banks than for the rest. This general decrease in cost of debt, however, even if it was more moderate for high NPL banks, could explain the procrastination of the NPL problem. Due to the low interest rate environment, it is complicated to disentangle the pure impact of high NPLs on funding costs at aggregated level (for more details, see Annex 1). It is, however, observable at individual bank level that entities with high levels of NPLs could benefit less from the generally decreasing funding costs (Figure 17). A sizeable stock of NPLs affects banks' funding costs primarily through wholesale markets, as investors apply an increased risk premium (ESRB, 2017).

Figure 17:
Change in NPLs and cost of wholesale debt
(vertical axis in % change in NPLs (2007-2016),
horizonal axis in % change in cost of wholesale debt (2007-2016))



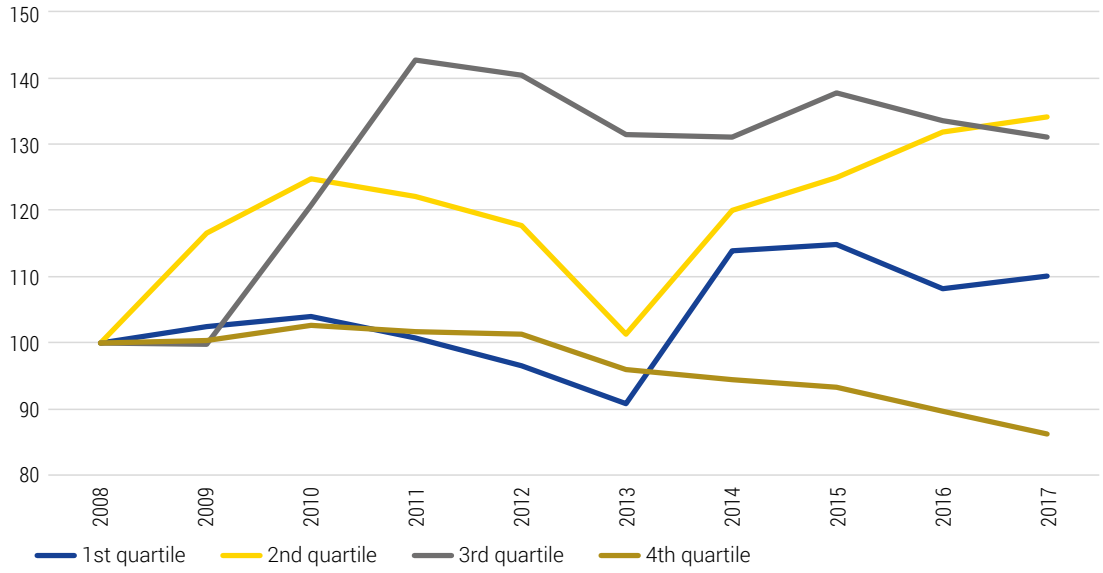
Note: To illustrate the relationship between wholesale debt cost and change in NPLs, we reduced our sample to a few banks across the quartiles, as wholesale funding is not unanimously relevant for all banks.

Sources: SNL Financial, FitchConnect, ESM calculations

3.3 Inability to provide new lending

Gross lending increased in all NPL quartiles except for the fourth, where deleveraging is still ongoing (Figure 18). Our sample supports the findings of the literature, specifically that banks' reduced lending capacity undermines the growth prospects of solvent firms. The outstanding amount of loans is still decreasing in countries most impacted by the high NPL problem, indicating the limited role of the financial sector in supporting economic recovery. This contrasts with other countries, where NPLs either remained at a low level or decreased substantially over the years.

Figure 18:
Change in gross loans
(in %, 2008 = 100)

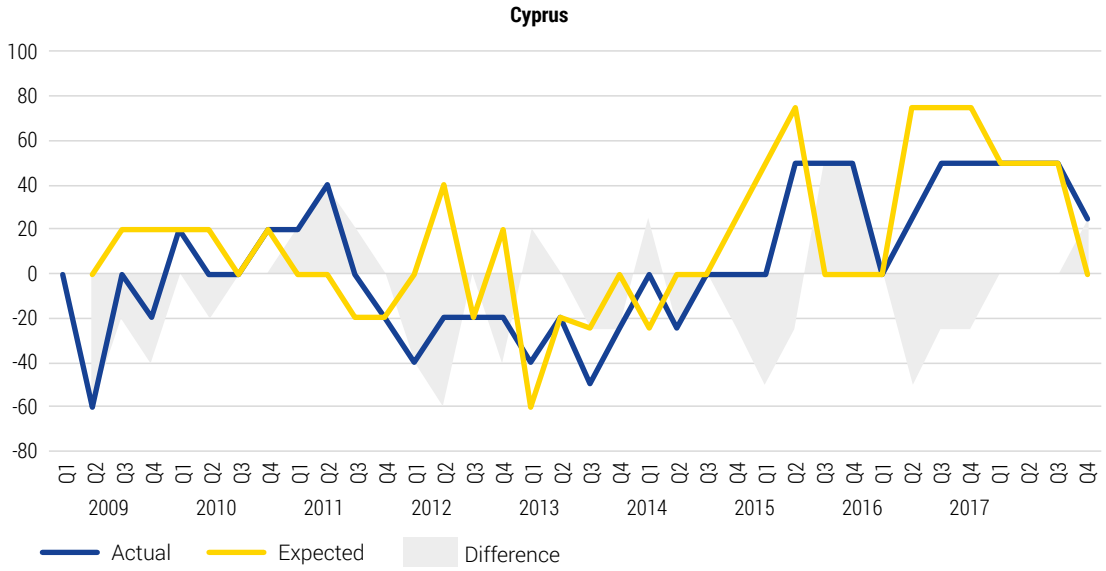


Sources: SNL Financial, FitchConnect, ESM calculations

Providing new loans to the real economy, however, is conditional, not only on the capacity of the banks, but also on sufficient demand for new lending. While it is undoubtedly an important factor that the banking sector is able to support the economic recovery, it is highly likely that it is not only a supply-side issue (i.e. inability of banks to provide loans) in the problematic countries. Apart from the substantial portion of locked up capital, the lack of profitable lending opportunities also plays an important role in the subdued lending.

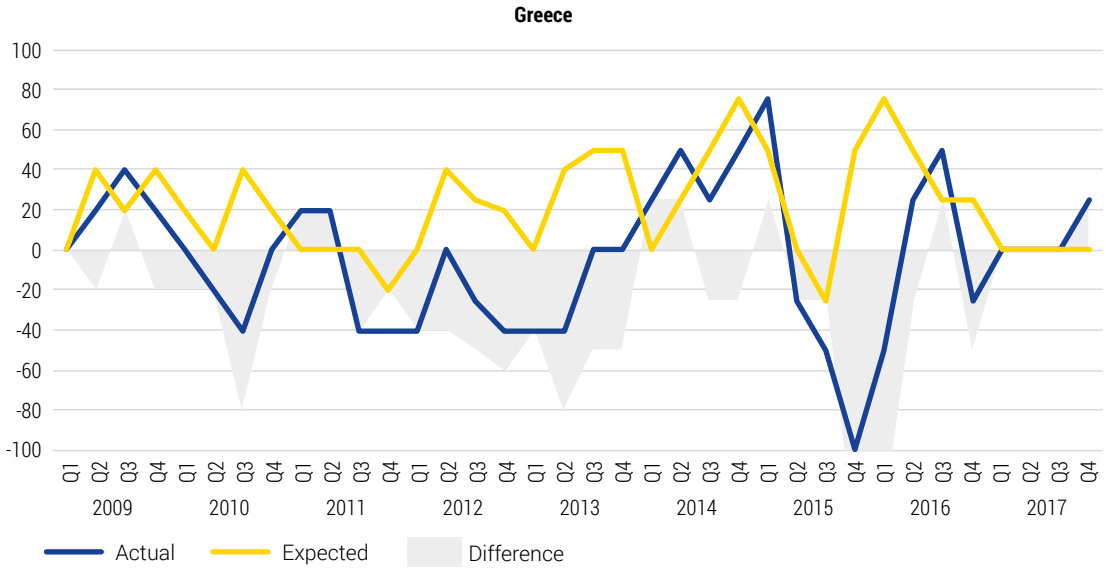
Banks in the most vulnerable countries tend to expect a recovery in demand for new lending, but their forecasts have so far proved systematically too optimistic. The ECB's bank lending survey (BLS) results show that banks more often foresaw an increase in corporate loan demand than the ex-post data confirms. In reality, the corporates' willingness to take new loans has proved significantly weaker than expected (Figure 19 to Figure 22) on average since 2009. The same applies also to households in most of the fourth quartile countries (for more details, see figures in Annex 2).

Figure 19:
Changes in demand for loans to corporates
(in %)



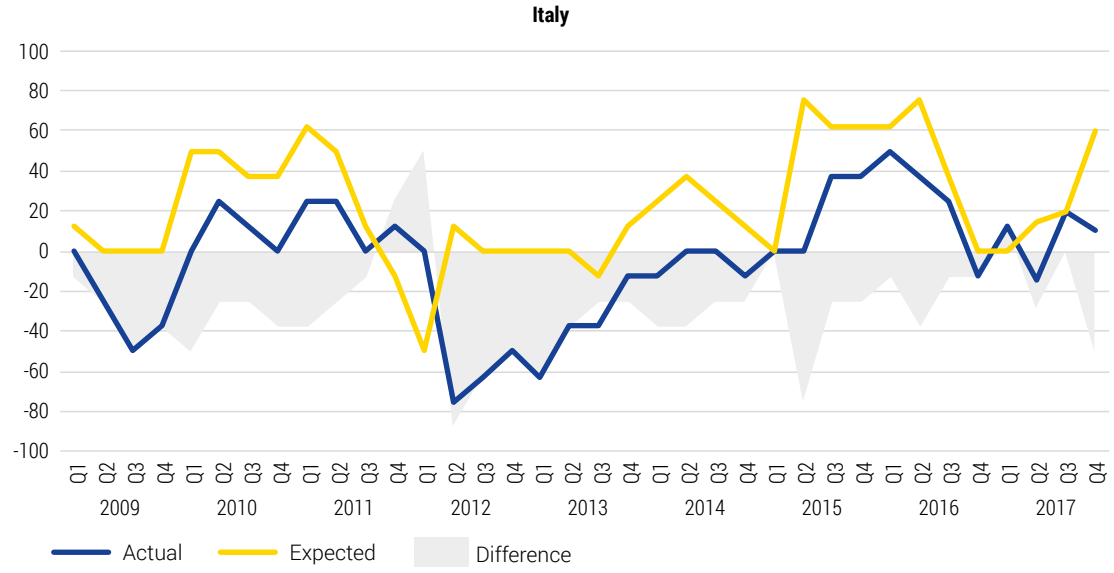
Source: ECB bank lending survey (BLS)

Figure 20:
Changes in demand for loans to corporates
(in %)



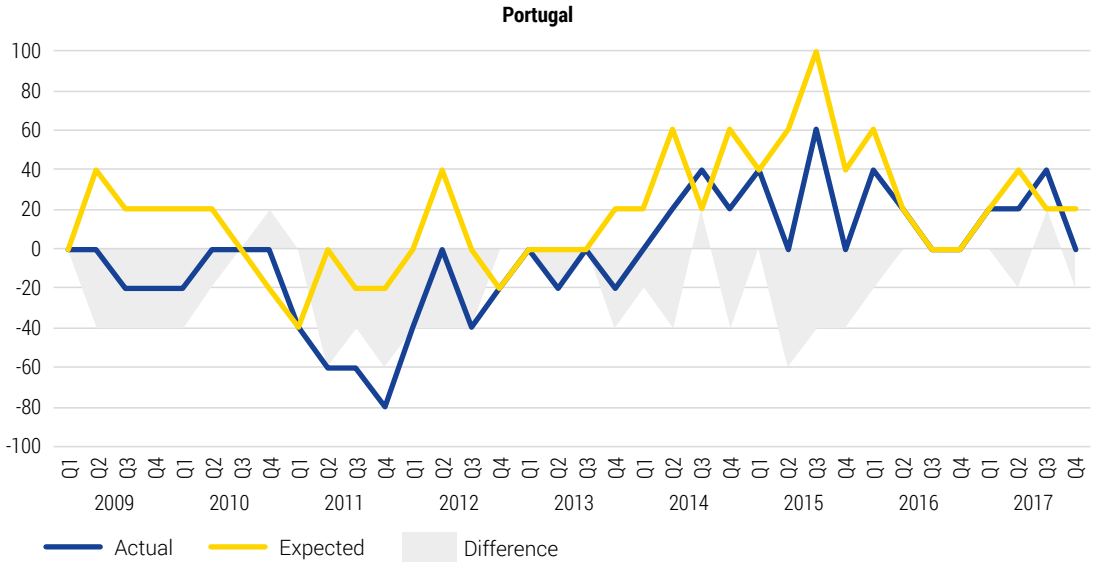
Source: ECB BLS

Figure 21:
Changes in demand for loans to corporates
(in %)



Source: ECB BLS

Figure 22:
Changes in demand for loans to corporates
(in %)



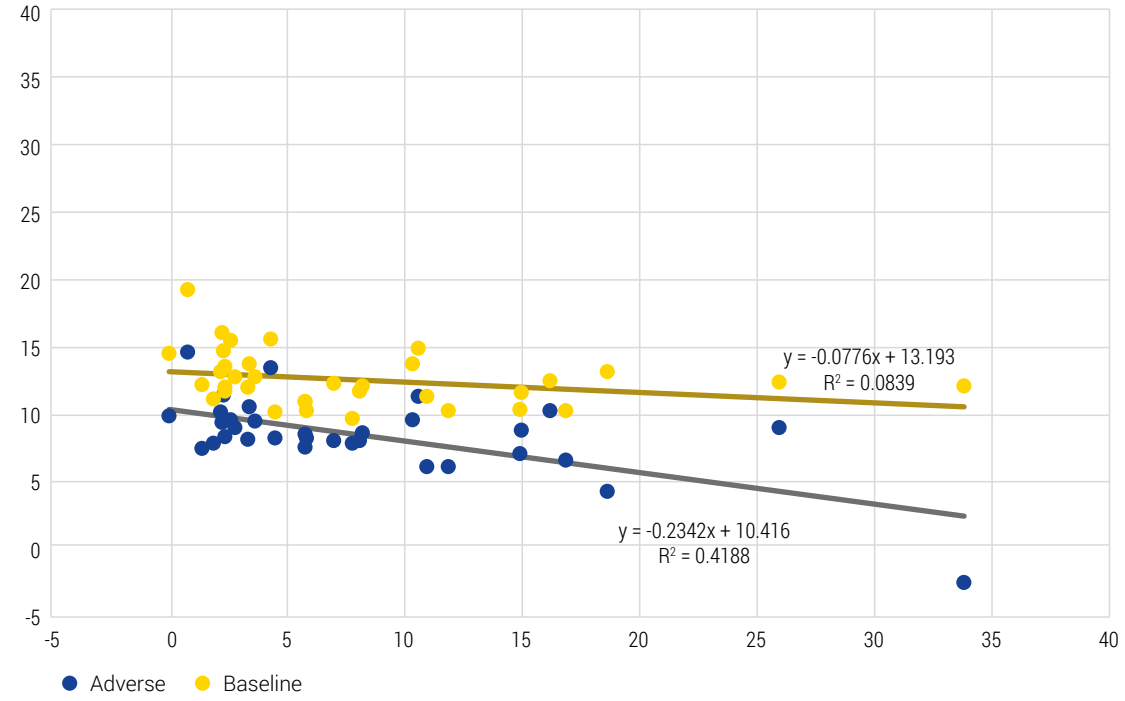
Note: "Actual" values are changes that have occurred, while "expected" values are changes anticipated by banks. Net percentages are defined as the difference between the sum of the percentages of banks responding "tightened considerably" and "tightened somewhat" and the sum of the percentages of banks responding "eased somewhat" and "eased considerably". Net demand will therefore be positive if a larger proportion of banks have reported an increase in loan demand, whereas negative net demand indicates that a larger proportion of banks have reported a decline in loan demand. For Ireland, only the diffusion index was available. The diffusion index refers to the weighted difference between the share of banks reporting an increase in loan demand and the share of banks reporting a decline. The diffusion index is constructed in the following way: lenders who have answered "considerably" are given a weight twice as high (score of 1) as lenders having answered "somewhat" (score of 0.5).

Source: ECB BLS

3.4 Source of externalities at national and EU level

Even if high NPLs are not always a system-wide issue, they are a source of risk that could destabilise the banking system in an adverse scenario. Although the European Banking Authority (EBA) stress test exercise focuses on idiosyncratic shocks, it can identify the weakest entities that could be potential sources of contagion within a country or across the euro area. The results of the 2016 exercise suggest that the negative correlation between the Common Equity Tier 1 (CET1) and the NPL ratio strengthens under the adverse scenario (Figure 23), which implies that the likelihood that banks with high NPLs would fail increases exponentially. This is supported by the findings of Lu and Whidbee (2014) whose results show that asset quality – amongst other factors – positively affects the likelihood of failure.

Figure 23:
NPL ratio at end 2015 and the CET1 ratio under the baseline and adverse scenario of banks participating in the EBA 2016 stress test exercise
(vertical axis CET1 ratio in %, horizontal axis NPL ratio in %)



Sources: European Banking Authority (EBA), SNL Financial, FitchConnect

National social initiatives could lead to significant perverse outcomes. The introduction of a foreclosure moratorium of primary residences in Greece and Cyprus, for example, could exacerbate moral hazard and be a driver for borrowers capable of servicing their debt to strategically default. Analysis by Artavanis and Spyridopoulos (2017) on data from a large Greek bank estimates that 28% of defaults on primary residences in Greece are a result of strategic defaults. Their findings add that prior engagement in moral hazard, in the form of tax evasion, and the level of financial and legal sophistication significantly contribute to strategic behaviour.

The current European legal framework is a clear improvement, but healthy banks may still face a contingent liability from the costs of an individual bank's resolution. Concerns regarding a single bank's viability, for instance due to its high NPLs, could also raise concerns for the entire banking sector via increasing contingent liabilities stemming from additional contributions to the SRF. As such, the level of NPLs that seems manageable at micro level could be suboptimal at macro level, as the costs of individual bank failures have to be covered by the entire banking system.

4. Measures undertaken during the financial crisis in programme and 4th quartile countries

Member States under financial assistance programme have taken initial steps towards reducing NPLs. Coordinated measures implemented at European level started later with the 2014 Asset Quality Review exercise by the SSM, most of which are either still under discussion or in the early phases of implementation. In this chapter we focus on early measures that individual euro area countries have introduced in order to reduce their NPL levels. We aim to identify factors that made certain strategies more successful than others.

The measures undertaken for repairing the financial sector's poor asset quality shows various patterns across these countries. Countries implemented comprehensive strategies for NPLs where the financial system issues were concentrated around targeted loan sectors. An oversized and inefficient banking system, coupled with a large stock of non-performing mortgage loans, primarily driven by poor loan practices, characterised both the Irish and Spanish banking sectors. Given NPLs were concentrated in a specific loan sector, both countries conducted an upfront carve-out and consolidation of their specific impaired assets, facilitated by the set-up of targeted asset management companies (AMCs), such as National Asset Management Agency (NAMA) and Sareb. This repair strategy could not translate to Greece, Cyprus and Portugal. For these countries, the deterioration of their economy caused a rise in NPLs across all loan sectors and geographic regions. This widespread nature of their deteriorating loan portfolios, driven by economic recessions, made the establishment of AMCs unfeasible and highlighted the need for the deployment of alternative strategies and tools. In the absence of AMCs, banks had to rely on an internal workout of NPLs, which initially was through short-term restructuring approaches (characterised by relatively high re-default rates). Delays in the reform of insolvency and foreclosure frameworks exacerbated the deterioration in asset quality and further hindered banks' workout efforts. Meaningful restructuring solutions only took place when insolvency frameworks improved and supervisory oversight strengthened, which in return led to improvements in banks' internal capacities.

Effective NPL management therefore relies on a multifaceted approach, integrating supervisory, legislative and bank-specific measures. Across the countries that have taken proactive and coordinated prudential, judicial and bank-specific measures to tackle the issue, some reductions in NPL formation have been noted. In a number of countries, however, NPL ratios remain persistently high. All countries with high NPLs have implemented several strategies and undertaken many actions, including an intensification of on-site supervisory inspections and the implementation of time-bound NPE reduction targets. Specific supervisory policies are in place in relation to NPL recognition and measurement, which are important for promoting a consistent valuation of loans. The reduction of the uncertainty associated with loan valuation will in turn promote the establishment of an effective secondary market for troubled assets, but only over a medium-term horizon, as these markets take time to fully develop. In parallel, more can be done regarding the issuance of additional banking guidance and requirements on, for example, impairment triggers, provisioning criteria, write-offs and the treatment of accrued interest on NPLs, in order to improve consistency across asset segments and countries (Table 2). To date, only Portugal and Spain have fully implemented additional supervisory guidance.

Table 2:
Supervisory measures undertaken in select member states to improve NPL recognition

Supervisory measures	Ireland	Portugal	Greece	Spain	Cyprus	Italy	Slovenia
NPE reduction targets	×	×	×	×	×	×	×
NPE on-site inspections	×	×	×	×	×	×	×
Additional supervisory guidance for:							
Impairment triggers	×	×	—	×	×	—	—
Provisioning criteria	×	×	—	×	—	—	×
Write-offs	—	×	—	×	×	—	×
Accrued interest	—	×	—	×	—	—	—

Sources: ESM evaluation report, European Commission, ECB

Countries have taken many important steps necessary to introduce reforms to their legal, judicial, and extrajudicial frameworks. Timely and clear processes for enforcement, especially regarding foreclosures, are critical for an efficient NPL resolution to occur. From the outset, the ability of creditors to enforce debts restores the payment culture and provides the credible threat necessary to stem moral hazard and strategic defaults. Targeted household insolvency law reforms are particularly important for countries with long-term and broad foreclosure moratoria in place. Targeted corporate insolvency law amendments also provide for a much needed coordinated restructuring approach between the banks and the state, which is important in the case of debtors with substantial private (i.e. bank) and public (VAT, social security) debt. Legislative shortcomings still pose challenges in only a minority of euro area countries. These countries are currently either still introducing changes to address many of the legislative shortcomings or are still in the early test phases of implementation. However, amendments to judicial systems in these countries have not kept pace with legislative changes in a number of other jurisdictions. In particular, reforms in household insolvency frameworks is an area where further improvements are necessary. Regarding foreclosure procedures, the average duration is a useful indicator to evaluate the effectiveness of debt enforcement proceedings in a country, yet some countries are still in the process of enacting and enhancing out-of-court procedures, which will alleviate the burden on their respective judicial systems (Table 3).

Table 3:
Legislative measures undertaken in select member states to improve NPL enforcement and resolution

Legislative measures	Ireland	Portugal	Greece	Spain	Cyprus	Italy	Slovenia
Judicial insolvency and enforcement	×	×	×	×	×	×	×
Out-of-court workout framework for:							
Household insolvency	×	×	–	×	×	–	–
Corporate insolvency	–	×	×	×	–	×	×
Sale of loans to non-banks	×	×	×	×	×	×	×
Servicing of loans by non-banks	×	×	×	×	×	×	×
Asset management company	×	–	---	×	–	–	×
Securitisation of loans	×	×	×	×	–	×	–

Sources: ESM evaluation report, European Commission, ECB

Supervisory guidance coupled with the use of external loan servicers can provide incentives to identify and resolve NPLs. All countries with high NPLs entered into loan sales by end-2017, alleviating their balance sheets from non-core NPLs. This is a first step towards an efficient management of NPLs, allowing the banks' management to focus on those that banks' deem viable and core to their business. Effective NPL workout hinges on the ability to use external firms specialised in NPL servicing, particularly for banks that lack of expertise and resources. The majority of banks in these countries have already entered into loan servicing arrangements, thereby effectively outsourcing experienced staff and technology needed to enhance their restructuring processes. These processes can in addition benefit from a clear separation of banks' problem loan management and loan origination functions. Despite the undertaking of the above-mentioned measures, banks can still do more in this area, in particular as regards cooperation between banks and on information sharing with supervisory authorities (Table 4). Reliable central credit registers are a valuable supervisory tool, utilised as an important data source for off-site analysis and preparation for on-site inspections. Beyond the benefits for supervisors, the disclosure of consistent, accurate, and granular NPL-related data is a necessity to increase market transparency and awareness, which in turn supports the development of secondary markets for NPLs.

Table 4:
Bank measures undertaken in select member states to improve NPL management

Bank measures	Ireland	Portugal	Greece	Spain	Cyprus	Italy	Slovenia
Conducted loan sales	×	×	×	×	×	×	×
Entered into loan servicing arrangements	×	×	×	×	×	–	–
Established loan restructuring units	×	–	×	–	×	–	×
Use of credit register	–	×	×	×	×	×	×

Sources: ESM evaluation report, European Commission, ECB

5. What are the lessons learned in programme countries?

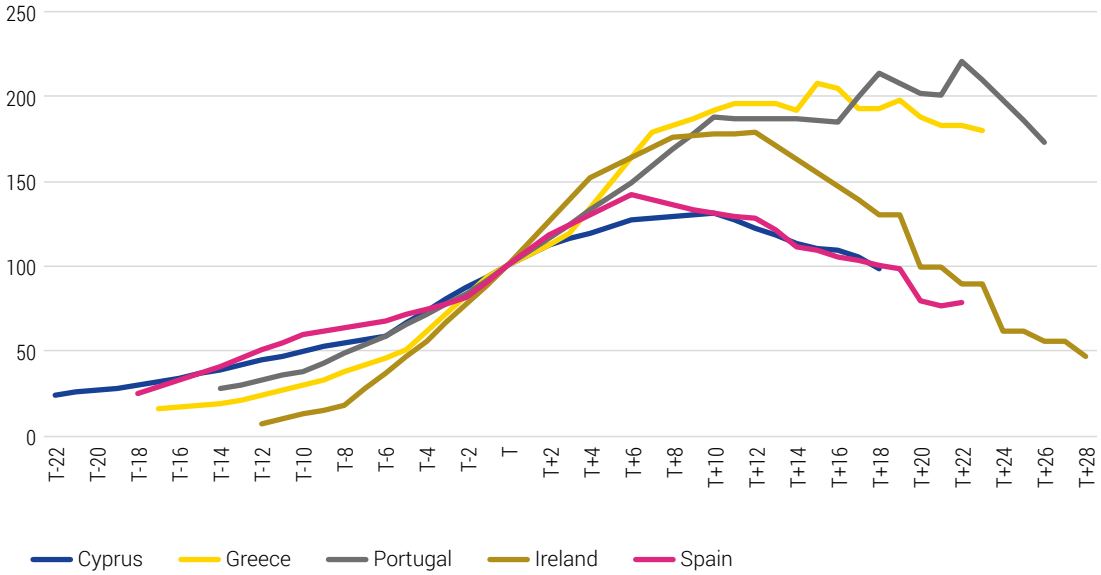
The build-up of NPLs and lack of timely action to resolve them has underlined weak corporate governance in many of the programme countries' banking systems. In cases where NPLs stemmed from one specific loan segment, such as Ireland and Spain, high NPLs can be attributed to risky bank lending activities, indicating inefficient internal controls and procedures on loan origination. In other cases, such as Greece, NPLs stem from all loan segments. This occurred due to multiple drivers, including a prolonged recession that reduced borrowers' capacity to repay, as well as ineffective judicial and legislative systems leading to moral hazard. Banks were also ineffective in restructuring their large NPL stocks. This stemmed from a lack of expertise and weak institutional set-up, such as a lack of adequate NPL workout divisions within a bank, inefficient internal reporting lines to banks' credit committees, and a lack of a secondary market for NPL sales. Programme experience has shown that it has been difficult to directly address bank governance with programme conditionality, as privately-owned banking institutions are not signatories to the relevant Memoranda of Understanding (MoUs). Programmes, however, have attempted to tackle this issue indirectly via conditionality, enhancing supervisory oversight, and intervention powers.

Banks have benefited from AMCs when they had a clear scope and objective. This was the case of the NAMA in Ireland and Sareb in Spain. In both countries, governments deployed AMCs to help clean banks' balance sheets of specific troubled assets. The AMCs' success also hinged on the explicit prescription that Spanish and Irish banks needed to carve out specific toxic assets, which helped address disincentives that banks faced and allowed the management to focus on the healthy parts of their loan portfolios. These findings are also supported by Medina-Cas and Peresa (2016). They found that the homogeneity of assets transferred, along with the general macroeconomic environment, were crucial to the pace of asset disposal in Ireland and Spain. Of course, the impact of AMCs on the state and the economy is a separate issue, which hinges on the financing and governance of the respective AMC.

Comprehensive approaches for addressing crisis legacy issues have proved more efficient. The strategy to tackle financial sector problems covered every crucial step to facilitate the clean-up of banks' balance sheets both in Ireland and Spain. The upfront recapitalisation, the early introduction or streamlining of insolvency and foreclosure frameworks, the creation of the legal background for loan sales, as well as the set-up of bad banks and the imposition of time-bound targets for the restructuring of NPLs were all part of a comprehensive strategy to reduce the outstanding stock of NPLs and the formation of new NPLs. Other countries have implemented some of these measures as well, but in an isolated way and with significant delays. As a result, they could only deliver partial and less sustainable results. In Spain, NPLs started declining six quarters after the launch of the programme, while it took eight-to-10 quarters in Ireland and Cyprus (Figure 24). The reduction of NPLs in Greece and Portugal started much later (four-to-five years after the programme start) as the financial sector problems became apparent at a later stage and programmes treated them less consistently. There are still several aspects that are not adequately addressed, such as the collateral enforcement practices.

This chapter is based on the ESM Evaluation Report (2017).

Figure 24:
Change in banks' gross non-performing loans before and after the start of the financial assistance programmes
(vertical axis in %, t=100%, horizontal axis in number of quarters)



Sources: SNL Financial, FitchConnect, ESM calculations

6. What can still keep banks from cleaning their balance sheets?

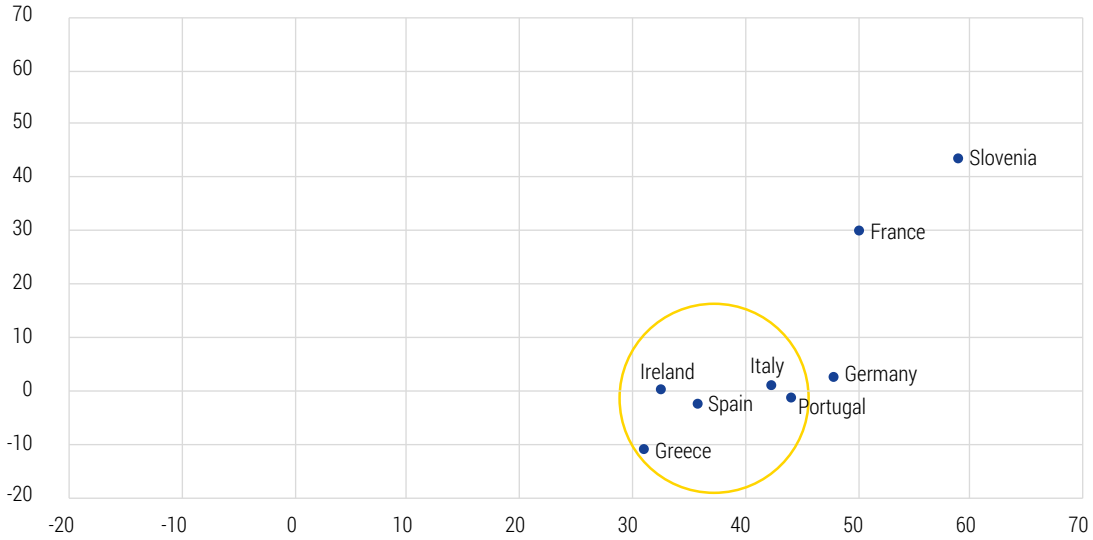
The lack of capital and functional secondary markets are the main impediments for progressing with NPL resolution. Sustainable economic growth is a precondition for both options. The former cannot be addressed administratively but rather via sufficient internal capital generation or additional capital injections, as opposed to the creation of secondary markets. The European Systemic Risk Board (ESRB, 2017) highlights that the wide gap between the sale and purchase price (bid-ask spread) of NPLs is the main reason for banks' postponing the clean-up. These wide spreads suggest a possible market failure(s), which prevent(s) the development of a functional and liquid secondary market. Among the factors blocking the off-loading of NPLs, there are elements on all sides; insufficient supply from the banks, lack of demand from investors, and structural impediments in the legal and tax regimes.

Supply side issues include weak incentives to dispose of NPLs. Accounting rules, tax issues, the disadvantage stemming from being the first mover, and capital constraints are the most important elements. Under the International Accounting Standard 39, banks had to accrue interest only on recoverable amounts, but in certain cases, short-term restructuring approaches (characterised by high re-default rates) allowed banks to continue to accrue interest income on their NPLs in order to inflate their income. Moreover, provisions and write-offs are not fully tax deductible in all jurisdictions, which delays banks' decisions to realise these losses. The introduction of the International Financial Reporting Standard 9 for financial instruments could mitigate this phenomenon, as it requires a timely recognition of credit losses.

Barriers to entry are still high for investors and servicers due to strict requirements in some cases, such as compulsory establishment. The lack of third party servicers reduces the willingness of investors to buy NPLs and holds back securitisation possibilities. Information asymmetry also contributes to the subdued demand for NPLs, which is mostly due to the unavailability of precise data on NPLs. Although servicers are increasingly more present in high NPL countries (e.g. in Cyprus and Greece), they typically take over the banks' workout units and resources, provide the IT background, but rarely delegate experienced staff to the fields. Despite immense efforts, NPL secondary markets are still not fully functional in Europe, which restrains investors from buying impaired assets.

The inefficient foreclosure procedures and the complex legal systems substantially delay the NPL cleaning process. While the efficiency of the insolvency regime has improved in most of the euro area countries, recovery rates remained unchanged or have declined in countries where the NPL problem is the most severe (Figure 25). Despite these improvements, there are still several elements in the corresponding laws that prevent investors from buying NPLs and banks enforcing collaterals.

Figure 25:
Change in the recovery rate and the efficiency of the insolvency procedure between 2007 and 2016
(vertical axis change in recovery rate, horizontal axis change in insolvency efficiency*)



Note: *The efficiency of the insolvency procedure is measured by the "Distance to Frontier" index. The distance to frontier score helps assess the absolute level of regulatory performance over time. It measures the distance of each economy to the "frontier," which represents the best performance observed on each of the indicators across all economies in the Doing Business sample since 2005. One can both see the gap between a particular economy's performance and the best performance at any point in time and assess the absolute change in the economy's regulatory environment over time as measured by Doing Business. An economy's distance to frontier is reflected on a scale from 0 to 100, where 0 represents the lowest performance and 100 represents the frontier. For example, a score of 75 in 2016 means an economy was 25 percentage points away from the frontier constructed from the best performances across all economies and across time. A score of 80 in 2017 would indicate the economy is improving.

Sources: World Bank Doing Business Indicator, ESM calculations

Beyond the impediments highlighted above, low funding costs and lack of demand for new lending could also contribute to the sluggish resolution of NPLs as they reduce banks' incentives. A simple numerical example sheds light on the drivers of persistently high levels of NPLs. The choice between keeping the NPLs versus cleaning them depends on banks' expectations on the length and value of recovery.

The simplified example below illustrates the choice between immediately addressing NPLs and granting of new loans versus keeping the NPLs on balance sheet and assuming that they will turn performing at a certain point in time. The calculation compares the net present value (NPV) of these two options under different assumptions with respect to the length of recovery, provision coverage, market price of NPLs and funding cost of the bank[4]. More specifically, we compare the NPV of cash flows from NPLs under the assumption that they turn performing after a certain number of years (at time t+x) with cash flows from new lending that the bank could provide if it immediately addresses NPLs (at time t). To demonstrate the difference between the cash flows of selling the NPLs or keeping them on balance sheet, we use a scenario analysis with the following parameters:

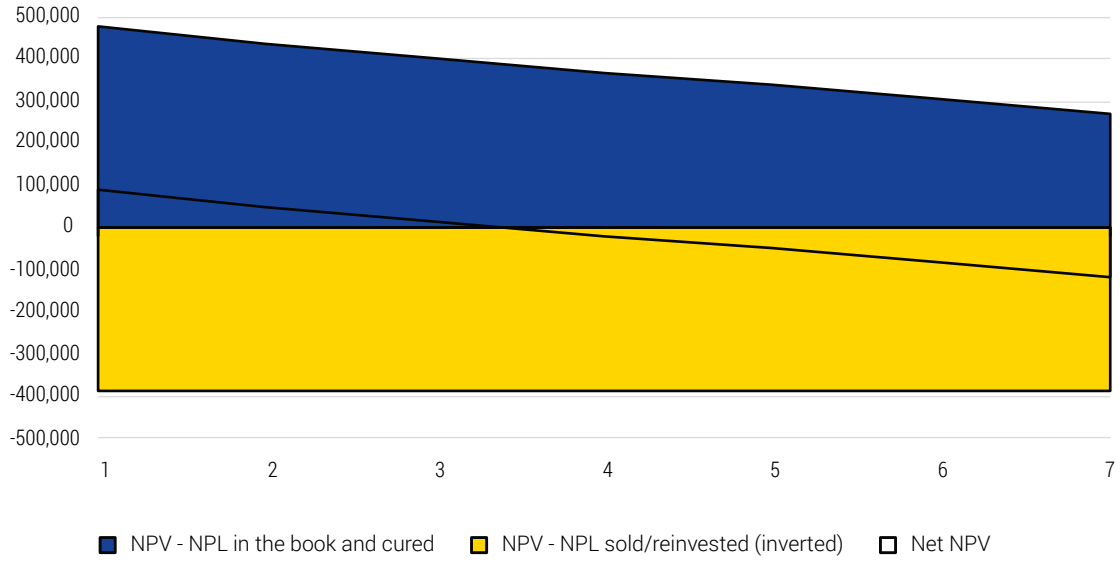
1. Outstanding amount of NPLs: €300,000
2. Spread on NPL: 200 bps
3. Euribor 3M: -0.30%
4. Remaining maturity of NPLs: 8 years

[4] We use the weighted average cost of capital (WACC) which captures both the cost of debt and the cost equity.

5. Coverage ratio: 40%
6. Under-provisioning: 10%
7. Weighted Average Cost of Capital (WACC): 4%
8. Maturity of the new loan: 15 years
9. Spread on new loan: 400 bps
10. Risk weight on NPLs: 1.5
11. Risk weight on new loans: 0.5
12. Future Euribor rates are derived from forward swap rates.

In the scenario where banks maintain NPLs on their balance sheets, NPV decreases over time. Delays in addressing NPLs prevent cash flows from new lending[5]. As such, the longer the bank delays, the lower the NPV, as the time period without cash inflow is longer (illustrated by the blue area in Figure 26). In the alternative scenario, the bank immediately uses the funds from the sale of NPLs and the corresponding capital relief for new lending. As such, the NPV does not decline over the years (illustrated with the yellow area in Figure 26). Both scenarios assume that the bank grants new performing loans from the cash inflows.

Figure 26:
NPVs of cash flows from NPL curing and new lending under the baseline assumptions
(vertical axis in €, horizontal axis in number of years)



Source: ESM calculations

Our results show that immediately addressing NPLs is likely the most profitable approach, unless macroeconomic conditions drastically improve in the short-term. Under the above assumptions, the breakeven point – where the bank is indifferent between addressing NPLs versus maintaining them on-balance sheet – is about 3.5 years (illustrated by the diminishing black line in Figure 26). This implies that the bank expects borrowers' repayment capacity to be restored within this timeframe, either due to improving macroeconomic conditions or incentives. If the

[5] In our scenario analysis, we analyse actual cash flows from NPLs and new lending.

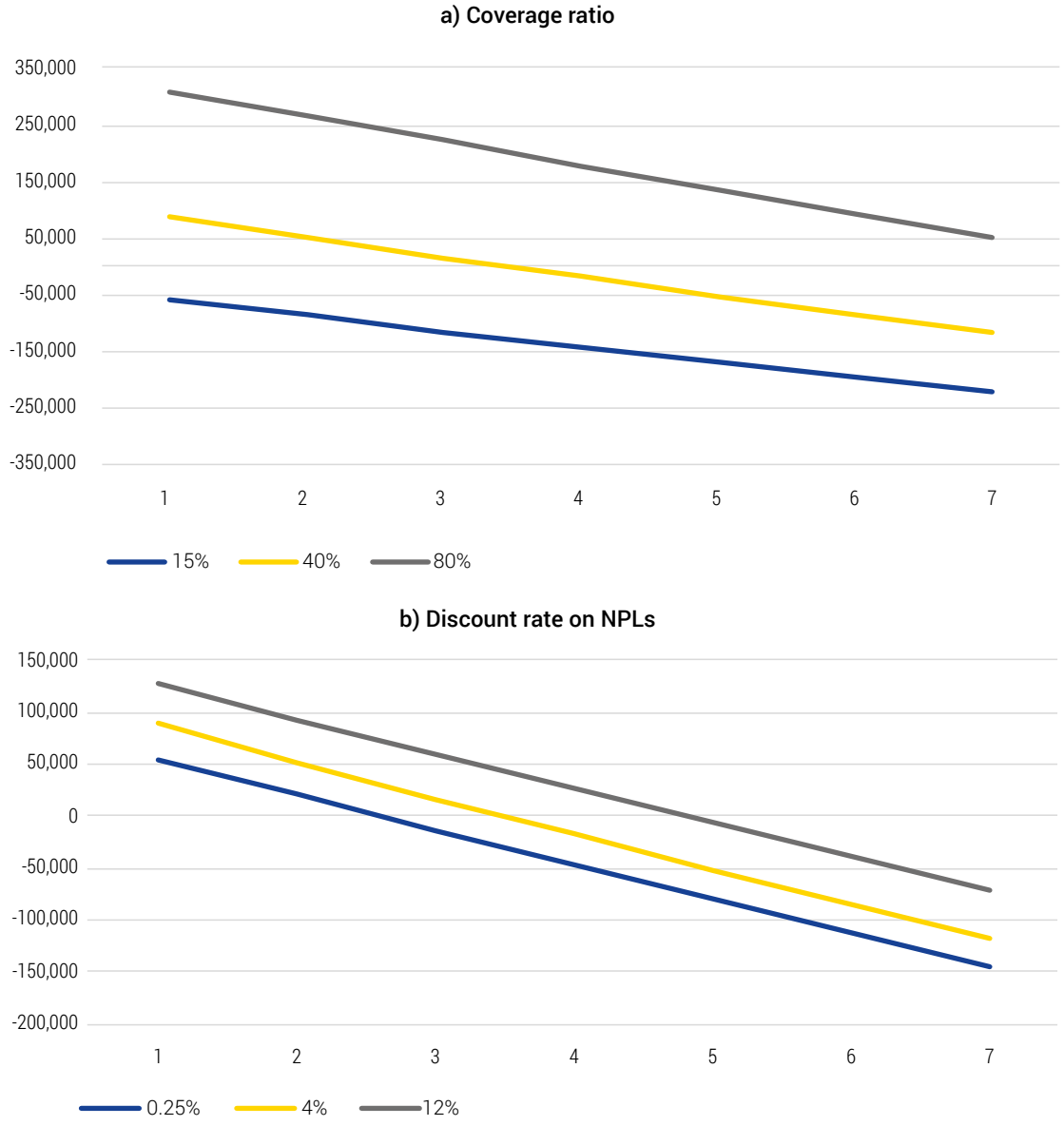
timeframe is considered unrealistic, immediately addressing NPLs appears to be the most effective option.

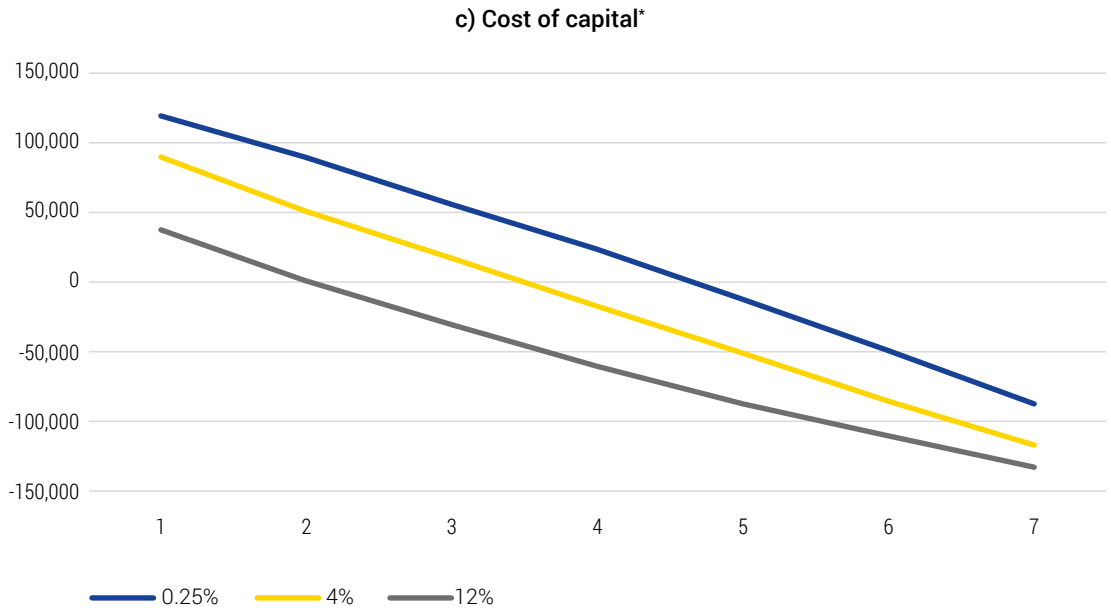
Low funding costs extend the period for which keeping NPLs is efficient but, even with extremely favourable funding conditions, bad debtors would need a long time to recover. It is clear that banks facing elevated funding costs should accelerate the NPL resolution processes. However, even at very low funding costs (blue line of Figure 27c), macroeconomic conditions should improve substantially enough for non-performing debtors to turn performing, and therefore for banks to benefit from keeping NPLs on their balance sheets. Our calculation indicates that this should happen in a period of up to five years. Given that the latest GDP forecasts for countries with the highest NPLs show a prolonged period with sluggish growth (Figure 14), a 'wait-and-see' strategy may prove optimistic. Considering these circumstances and projections, a faster and more intensive cleaning and provisioning might be the more effective way forward to achieve a considerable reduction in the stock of NPLs.

The presence of demand for new loans is a crucial assumption in our simulation. The lack of appetite from companies and households to undertake new loans makes the cleaning procedure more favourable for banks, irrespective of low funding costs or the discount rate on the NPLs. If the outlook for new lending remains subdued and net lending is expected to decline, banks should not procrastinate the cleaning/write-off process. Furthermore, supervisors may increase provisioning requirements to reduce uncertainties surrounding banks' solvency.

If there is sufficient demand for new lending and profitable opportunities, efforts to increase coverage could delay the cleaning process. The result seems ambiguous at first glance. However, it is not surprising if we take into account the fact that the write-off of an NPL that is barely covered results in a higher capital release (since the risk-weight is higher for uncovered NPLs) and hence, a larger volume of new lending. As such, banks can better compensate for the losses of the NPL clean-up by providing new loans. Similarly, the higher the discount rate on the NPLs' offloading price, the longer the benefit of keeping them. The argument is the same as earlier (Figure 27a-c). Overall, supervisors and policy makers should carefully assess the business cycle when implementing regulatory measures. Overly rigorous provisioning requirements could keep banks from new lending, albeit conditional on a sufficient amount of loan demand. On the other hand, a prolonged weak macroeconomic outlook and lack of demand for new lending requires stronger supervisory monitoring and more stringent coverage targets to maintain financial stability.

Figure 27a-c:
Difference between the NPV of keeping the NPLs on balance sheet and that of cleaning and providing new lending under different coverage ratio, discount rate, and cost of capital assumptions
(vertical axis in €, horizontal axis in number of years to clean)





Note: *Weighted average cost of capital (WACC) used for the net present value calculation.

Sources: Bloomberg, ESM calculations

Our example has several limitations. First, we assume that the funds freed up from NPLs can immediately be loaned out. In case of standard products (e.g. mortgage loans), the credit origination procedure is relatively fast, however, for more complex loans it could take longer. If we assume that banks are not able to use their funds immediately for new lending, it would shorten the period during which holding NPLs on their balance sheets is more favourable. Second, newly provided loans do not turn into NPLs in our time horizon. If we included a default rate in our simulation, it would extend somewhat the period where holding NPLs has higher NPV. Last, the simulation uses normal secondary NPL market conditions, i.e. no fire sales. A massive disposal of bad assets would put significant pressure on prices, hence the amount available for new lending would be much lower. This would also give an incentive to procrastinate the NPL cleaning.

7. What could still be done? – Policy considerations

The introduction of banking union allows the NPL problem, including negative externalities stemming from high NPL levels, to be addressed at the broader European level. In order for the banking union to be effective, however, banks and national authorities also need to address national impediments. As we discussed earlier in Chapter 3, due to increasing risk-sharing within the euro area, negative externalities need to be addressed by supranational measures. One way to tackle the externalities stemming from NPLs is to decrease the outstanding amount of impaired loans across the euro area. Various international forums have started working on the topic and it has become a priority for the SSM as well as for the European Commission.

The report of an EU committee on tackling NPLs (NPL Action Plan)[6] combines forward-looking measures with suggestions to reduce the outstanding stock of NPLs. As such, it is a comprehensive strategy to ensure the availability of all the necessary conditions for banks and authorities to effectively cope both with the outstanding amount (short-term measures) and the new inflows of NPLs (long-term measures). The Action Plan includes policy proposals in four main areas. It focuses on enhancing supervisory tools, promoting structural reforms of insolvency and debt recovery frameworks, developing secondary markets for NPLs in Europe, and fostering restructurings in the European banking sector (Council (2017). Table 5 summarises the measures outlined in the Action Plan as well as other related EU initiatives.

As a follow-up to the Council NPL Action Plan, several EU institutions have taken concrete measures or issued proposals to reduce both the outstanding stock and the new inflow of NPLs. The announced policy actions are targeting the impediments present both on the supply and the demand side of the NPL market, as well as externalities stemming from high NPLs.

[6] Report of the FSC Subgroup on Non-Performing Loans, Council of the European Union, May 2017, http://data.consilium.europa.eu/doc/document/ST-9854-2017-INIT/en/pdf.

Table 5:
Measures to reduce NPLs in Europe

Measure	Responsible institution	Stock/flow	Supply/demand/ extexternalities
Interpret existing supervisory powers in EU legislation as regards NPL provisioning	European Commission (EC)	Stock and flow	Supply
ECB NPL Guidance and Addendum	ECB	Stock and flow	Supply
Extend SSM NPL guidelines to small banks	ECB	Stock and flow	Supply
Adopt EU-wide management guidelines for non-performing and forborne exposures	EBA	Stock and flow	Supply
Harmonise insolvency procedures	EC	Stock and flow	Supply
Benchmark national loan enforcement and insolvency frameworks	EC	Stock and flow	Supply
Develop the focus on insolvency issues in the European Semester	EC	Stock and flow	Supply
Enhance the protection for secured creditors	EC	Stock and flow	Supply
Strengthen data infrastructure for NPLs, including potential transaction platform	EBA, EC, ECB	Stock and flow	Demand
Develop secondary markets for NPLs	EC	Stock and flow	Demand
Improve loan tape information required from banks	EBA	Stock and flow	Demand
Develop a blueprint for asset management companies	EC	Stock and flow	Supply and demand
Address potential under provisioning via automatic and time-bound provisioning	EC	Flow	Supply
Apply new guidelines on banks' loan origination, monitoring and internal governance	EBA	Flow	Supply
Develop macroprudential approaches to tackle the build-up of future NPLs	ESRB	Flow	Externalities
Enhance disclosure requirements on asset quality and NPLs for all banks	EBA	Stock and flow	Demand/externalities
European AMC*		**Flow**	**Supply and demand**

	Implemented
	Pending
	Under discussion

Note: *Given the long timeframe for the implementation, we consider this option viable for future NPLs.
Sources: European Commission 2018a, ESM collection

Measures to reduce the outstanding stock of NPLs

The ECB guidance on NPLs published in March 2017 lays down the supervisory expectations on banks' workout strategies. It clarifies and harmonises supervisory expectations across banking union with respect to NPL identification, management and write-offs. Banks under SSM supervision and with high NPLs are also obliged to submit NPL reduction plans. Supervisors challenge the ambition and credibility of the plans, which may lead to triggering additional supervisory measures under the Supervisory Review and Evaluation Process. The guidance follows the life cycle of the NPLs and provides standards for each stage. The emphasis is mostly on banks implementing board-level oversight of the NPL strategy and its execution, sufficient operational capacity, a portfolio-by-portfolio approach and a reporting system (ECB, 2017a). As such, the guidance is a collection of best banking practices that aim at reducing the outstanding NPL stock. The EBA issued a similar guidance on NPL management that is applicable to all banks in the EU (EBA, 2018a), which also refers to less significant institutions proportionately. Moreover, the European Commission provided clarification with respect to supervisory powers as regards NPL provisioning in its report on the SSM (EC, 2017). This suggests that supervisors can influence banks' provisioning policies within the limits of the accounting framework and apply the necessary reductions from own funds on a case-by-case basis.

The proposed new approach on business insolvency in Europe aims to promote early restructuring. The initiative provides common principles to increase the opportunities for companies in financial difficulties to restructure early on so as to prevent bankruptcy. It will also ensure that entrepreneurs get a second chance, as they will be fully discharged from their debt after a maximum period of 3 years. It will also lead to more effective and efficient insolvency procedures throughout the EU by reducing the excessive length and costs of procedures. This removes the legal uncertainties for creditors and investors as well as increase the recovery rates (EC, 2016). The European Commission has also launched a benchmarking exercise on the efficiency of national loan enforcement regimes from a bank creditor perspective, which will be complemented by dedicated peer-reviews on insolvency regimes across the EU.

Additional steps that enhance recovery could facilitate the enforcement of collateral. The Accelerated Extrajudicial Collateral Enforcement measure provides a framework for banks and borrowers to agree in advance on an accelerated mechanism to recover the value from loans guaranteed with collateral (EC, 2018c). This out-of-court enforcement would be strictly limited to loans granted to businesses and subject to safeguards. Consumer loans would be excluded. The respective directive ensures a minimum harmonisation of extrajudicial collateral enforcement procedures. It achieves coherence at EU level while leaving sufficient flexibility to member states. More efficient collateral enforcement increases demand and liquidity in the secondary NPL market, which results in higher prices and thus incentivises banks to continue off-loading NPLs.

An EU-wide NPL transaction platform would effectively address information asymmetry present in secondary NPL markets. As a result, it could help banks increase sales and obtain higher sales prices than currently possible, ease investor access to NPL markets, and allow banks to dispose of NPLs and clean up their balance sheets faster. Such a platform could help deal with current stocks of NPLs and provide a permanent channel for the efficient disposal of future NPLs as they arise (EC, 2018a). In order to implement the platform, the European Commission invited several stakeholders to come to an agreement by early 2019 on the concrete forms for developing and issuing industry standards for European NPL platforms.

The European Commission initiatives to remove barriers to entry for credit purchasers and harmonising rules for credit servicers could help boost NPL second-

ary market activity. The proposed directive defines the activities of credit servicers, sets common standards for authorisation and supervision and imposes conduct rules across the EU (EC, 2018b). In fact, it means that operators respecting those rules can be active throughout the EU without separate national authorisation requirements. This could reduce the administrative costs for investors, hence reduce the bid-ask spread of NPLs, which is one of the main impediments to offload impaired assets.

The EBA NPL templates provide a common ground to data disclosure and reduces information asymmetries. The templates allow investors to screen, execute financial due diligence and value NPL portfolios (EBA, 2017). As such, it can extend the potential investor base and improve transparency with respect to NPL prices. The use of the templates is voluntary; however, it can ideally act as a market standard. The loan level data including information on the collateral would not create additional costs for banks as it is built on already existing reporting structures.

As part of the NPL Action Plan, the European Commission published the technical blueprint for setting up national AMCs, which provides a collection of best practices. The non-binding blueprint guides member states on how they can set up national AMCs in line with EU banking and state aid rules. While an AMC with state aid elements is an exceptional solution, the blueprint clarifies the permissible design of AMCs receiving public support. Moreover, the blueprint suggests a number of common principles on the set-up, governance, and operations of AMCs (EC, 2018b).

The proposed AMC concept favours large, centralised entities, which however come at a cost of inflexibility and limitations in terms of transferable assets. The proposal rightly highlights the importance of strong governance and independence from political interference as well as the need for setting-up a uniform data platform. However, it focuses mostly on large, publicly funded AMCs under public control with a limited class of assets and a limited timeframe. In our view, asset class focused AMCs, under private management but with public financing either in the form of capital, funding, or guarantees may better serve the two primary purposes of deleveraging NPLs from the banking sector, while realising value in the NPLs through active and professional management. The potential contradiction between a private sector, value-maximising AMC and maintaining financial stability through the proposed beneficial transfer price could be addressed by requiring private sector participation in the equity risk and profit sharing arrangements over a pre-agreed threshold.

The coordinated measures of the ECB, the European Commission, and the EBA could revive secondary NPL markets. In our view, these steps are necessary to mitigate market failures and correctly target the impediments both on the supply and demand side. This, however, does not exempt national authorities from 'doing their homework' and making additional efforts to reform the corresponding legislative frameworks in their remits (such as data availability in land registries, court procedures, auctions etc.).

Measures to reduce new NPL inflows (medium-/long-term actions)

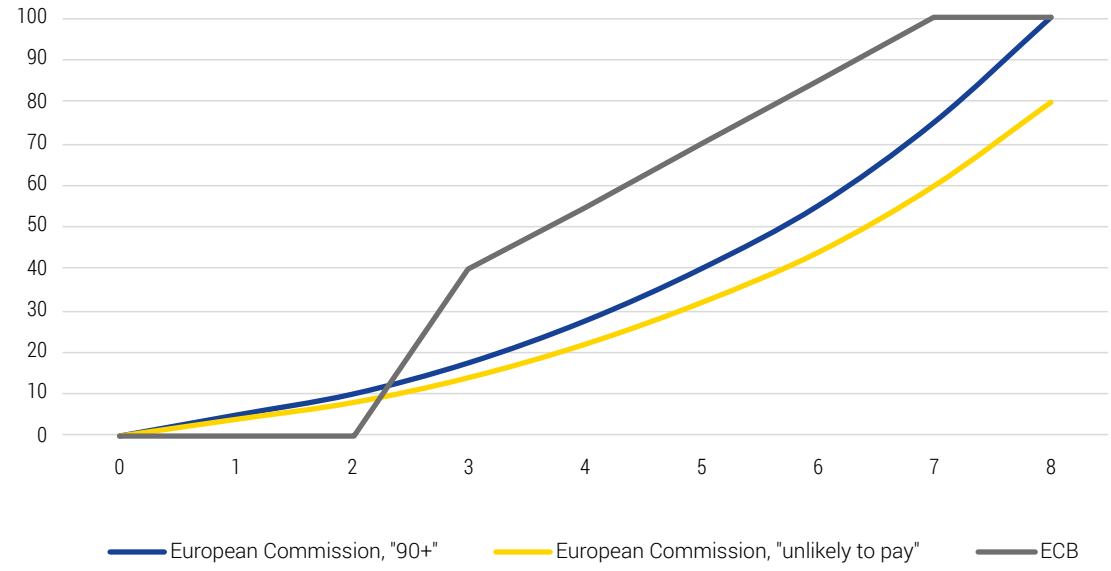
The amendment to the Capital Requirements Regulation (CRR) introducing minimum provisioning levels will lower the risks of banks running into solvency problems due to their increasing NPLs. The European Commission initiative would introduce a statutory prudential backstop which consists of a i) requirements for banks to cover up to common minimum levels the incurred and expected losses on newly originated loans once such loans become non-performing, and ii) where the minimum coverage requirement is not met, a deduction of the difference between the level of actual coverage and the minimum coverage from Common Equity Tier 1 (CET1) items (EC, 2018d). Similarly, the ECB communicated its expectations to assess prudential provisioning levels of new NPLs, which are broadly in line with the

proposed CRR amendment (ECB, 2018a). The impact analysis conducted by the EBA support the legislative actions. The conservative estimates show that the introduction of the prudential backstop could lead to a decrease in the aggregate CET1 ratio of 205 bps after 20 years (EBA, 2018c).

Despite the same spirit of the two measures, there are conceptual differences. First, the European Commission proposal to amend the CRR represents a higher level of legislation, which has stronger consequences for banks breaching the requirements. By contrast, in the event that a bank's applied practice is not considered prudent from supervisory perspective (not in line with the ECB Addendum), the supervisor may determine adequate measures (typically deductions from prudential capital) on a case-by-case basis. Second, the CRR is applicable in the entire European Union, whereas the ECB Addendum is only applicable for banks under the direct supervision of the SSM. Third, the two policy actions are also different in terms of the timeline to reach full coverage. While the CRR will require a gradual provisioning, the ECB leaves more freedom for the banks to resolve their impaired assets in the first few years of the NPL lifetime and requires faster provisioning at the later stages. Last, the EC proposal is expected to be applied to newly originated loans (as of 14 March 2018) that become NPEs at a later stage, whereas the ECB introduced the minimum provisioning requirements for all new NPEs, irrespective of the loan origination date. As such, the legal scope of the two requirements will differ until there is no more NPL inflow from old loans.

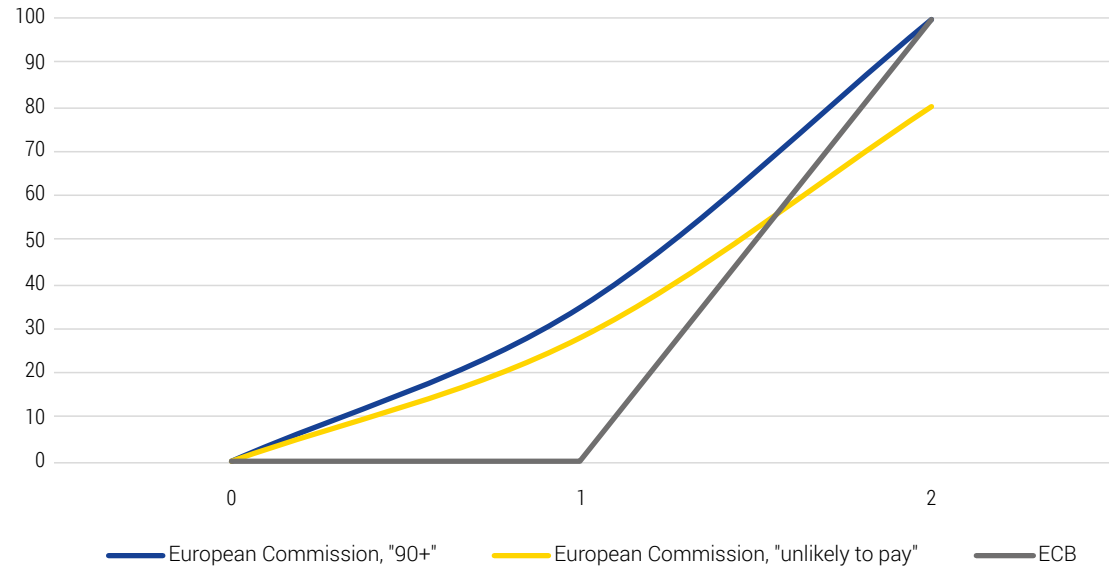
The two measures prescribe a different pace of provisioning for the same type of loans. For secured loans, the Addendum is more lenient in the first two years but becomes stricter from the third year onwards (Figure 28). The European Commission proposal follows a more gradual path for provisioning; starting from a low level of provisions and reaching 100% after eight years. For unsecured loans, the Addendum is less strict along the full time horizon (Figure 29).

Figure 28:
Minimum coverage requirement – secured loans
(vertical axis in %, horizonal axis in number of years)



Sources: European Commission, ECB

Figure 29:
Minimum coverage requirements – unsecured loans
(vertical axis in %, horizonal axis in number of years)



Sources: European Commission, ECB

In our assessment, both measures create the right incentives for banks to prudently recognise losses stemming from impaired assets. However, it would be optimal if the EC proposal and the ECB Guidance and Addendum were aligned, as the latter's provisioning expectations are higher after the fourth year (Figure 28 and Figure 29). To avoid any conflicts between the different levels of regulation, in particular when the ECB requirement is higher than the binding CRR minimum level, some harmonisation seems necessary. Furthermore, to ensure a level playing field in the single market, it would be desirable if all competent authorities in the EU followed the ECB's best practice.

The EBA's new guidelines for loan origination aim to provide a compass on responsible lending. The draft guidelines are planned to cover banks' internal governance on credit risk; assessment of borrowers' creditworthiness; collateral valuation; and banks' credit risk monitoring activities, including different asset classes and counterparties. The potential interaction with consumer protection rules, however, makes this exercise more time-consuming. Following the public consultation, the EBA plans to publish the final draft at the end of 2019.

Measures to tackle externalities stemming from NPLs

The EBA guidelines provide a common content and uniform disclosure formats for information on non-performing exposures. The aims of the guidelines are to ensure the provision of meaningful information to market participants on credit institutions' asset quality and to gain a better insight into the distribution and level of collateralisation of NPEs among institutions with a gross NPL ratio of 5% or above, and thus a better understanding of credit institutions' risk profiles. As such, the increased transparency will help tackle information asymmetry, thereby reduce the bid-ask spread for NPLs, decrease bank funding costs and restore confidence in the industry. The disclosure requirements are consistent with the disclosure part of the NPL management cycle described in the ECB NPL Guidance (EBA, 2018b).

The ESRB's Advisory Scientific Committee's report emphasises the need for monitoring of lending standards as well as concentration of lending on certain sectors or locations, possible mis-valuation of collateral, which may prove unsustainable in the long term or vulnerabilities of borrowers to common factors such as interest rates (ESRB, 2018b). Moreover, it highlights the importance of the timely announcement of measures to be used for dealing with future NPLs. This would impact the lender's behaviour upfront, at the time of the loan origination. Another key aspect that has been investigated is the optimal speed and form of NPL resolution from a system-wide perspective. The final report by the ESRB is still under preparation, hence, it might include additional and/or different policy recommendations.

The idea of a European asset management company

The concept of a pan-European NPL management vehicle, potentially involving the ESM, has been raised on several occasions. Enria (2017) and Haben and Quagliarello (2017) first suggested the concept of either a coordinated blueprint for a government sponsored AMC or a European AMC. According to their views, the AMC could potentially involve state support, which could only materialise at the end of the NPL life cycle. At the time of transfer, the bank takes the loss that equals the difference between the net book value and the real economic value. At the same time, the bank receives a guarantee from its sovereign if the sale price is lower than the real economic value (the transfer price). If the guarantee is triggered, state aid and corresponding burden-sharing is involved.

Uncertainties around the potential dilution of existing shareholders make this concept less viable. The participation of banks might prove low if it is on a voluntary basis, or the impact on share prices could be disruptive if the participation is mandatory. This is due to the fact that investors would need to face a medium-term uncertainty with respect to the sovereign potentially diluting their stakes when the sale procedure is concluded. For this reason, banks might be reluctant to engage in selling NPLs even at a relatively favourable transfer price.

Avgouleas and Goodhart (2017) suggested a somewhat different concept that would combine a national and a European layer. It would leave the workout operations with the national AMCs, however, there would be a pan-European holding company presiding over them. Member States would be the shareholders of the supranational AMC and their stake would be linked to their economic power as well as their level of NPLs. This holding company (as a private investor) would have a stake of at least 10% in the national AMCs (subsidiaries). Participating banks would be the remaining shareholders in the country-level AMCs. An important element is that profits and losses would be cleared at national level. Losses would be first absorbed by the national AMC's shareholders (banks and the holding company), but they would be capped according to specific rules. The remaining losses, if any, would be covered by an ESM guarantee that a country could withdraw under the indirect recapitalisation tool[7]. This would leave the bondholders of the national AMC's with limited exposure to AMC losses, which could boost the chances to find private investors.

The implementation of a European AMC in any format could only help in the medium and long run. The ESM's role in providing funding to AMCs is limited by both the ESM Treaty and by EU legislation, which lays down the conditions for using public funds to assist the financial sector. Without an amendment of these legislations, the ESM's involvement in financing AMCs appears infeasible.

[7] For further details on the indirect recapitalisation tool of the ESM, see https://www.esm.europa.eu/assistance/lending-toolkit#lending_toolkit

Further steps

The further reduction of NPLs is part of the discussion on the completion of the banking union. A further reduction of NPLs will have to be achieved to finalise the construction of the banking union's legal and institutional frameworks, including a common European deposit insurance scheme. The timeframe of the NPL reduction could be linked to that of EDIS in a way that the re-insurance phase may only start if NPL targets agreed upfront are achieved. Targets could be country-specific, given the strong heterogeneity across jurisdictions. Alternatively, goals could be defined as a minimum required pace of decrease in the NPL stock for systemically important institutions, instead of a focus on NPL levels. In either case, the aggregation of NPL goals, which are laid down in the NPL strategies prescribed by the SSM, at country levels could be a good starting point. This would ensure consistency in the requirements (i.e. nothing would contradict the supervisory expectations) and avoid giving wrong incentives for better performing countries that have lower NPL ratios than the agreed quantitative target.

Banks' contributions to the SRF and the deposit guarantee schemes could also be explicitly dependent on their un-provisioned NPLs. The current SRF contribution rules includes the density ratio, i.e. total risk exposure over total assets, which to some extent captures the riskiness of a bank due to its NPLs. However, the capital ratio compensates for the riskiness of individual institutions and does not necessarily take into account the repercussions of idiosyncratic problems to the system as a whole. Instead, the individual contribution could be directly linked to (even in a progressive way) the level of un-provisioned NPLs. This means that banks with high NPLs or banks that do not sufficiently reduce their NPLs (i.e. in line with their NPL strategies submitted to the SSM), could be required to pay an add-on to their standard SRF and EDIS contribution. This could provide a direct incentive for banks to clean up their NPLs or maintain their NPLs at a low level. It would also ensure that there are sufficient funds to cover potential losses stemming from the externality related to high NPLs.

Authorities could use macroprudential tools more widely and in a more binding manner to reduce the possibility of the high NPL problem reoccuring. There are several capital buffer instruments available for competent authorities to mitigate the impacts of pro-cyclicality (countercyclical capital buffer or CCyB) and also, other type of systemic risks stemming from specific sectors or activities (systemic risk buffer). Among euro area countries, only Austria, Estonia, the Netherlands, Lithuania and Slovakia have introduced one or both buffer(s) so far (ESRB, 2018a). However, emerging asset price bubbles and stronger credit growth would justify gradual steps for other countries as well. The advantage of these tools is that they can tackle system-wide issues in a more generic way (by using the CCyB if new lending is growing more intensively than the economic cycle would justify) or in a targeted way (by introducing the systemic risk buffer, which increases capital requirements for specific loans or sectors).

Macroprudential authorities can also effectively intervene in lending activity by using various instruments. Collateral stretch instruments, such as Loan-to-Value (LTV), limit the leverage on real estate loans. By implementing lender stretch rules, the resilience of banks can be increased via increased risk weights, sectoral capital buffers and stress tests. Carefully calibrated borrower-based measures (Loan-to-Income (LTI), Payment-to-Income (PTI) and Debt Service-to-Income (DSTI)) help prevent over-indebtedness. According to Baskaya et al (2016) binding LTV, Debt-to-Income (DTI), and DSTI measures can effectively smooth the variations in total credit, whereas the price-based tools (such as reserve requirements, liquidity requirements, risk weights and provisioning rules) are ineffective. These results suggest that borrower-based and collateral stretch measures should be sufficiently binding, which is not necessarily the case at the moment. Although they are widely introduced in

most EU countries, they are ineffective in some cases due to the inadequate calibration of the limits. Sufficiently binding rules could limit the build-up of vulnerabilities in the private sector and reduce the likelihood of a system-wide deterioration of asset quality.

National authorities and policy makers need to further complement initiatives at European level to make them effective. The measures proposed and initiated by the ECB, European Commission, and the EBA address the main impediments to progress with NPL resolution. The ECB has set the reduction of NPLs as one of its supervisory priorities in three consecutive years since 2016[8] and published its expectations with respect to NPL management and provisioning. The European Commission has proposed several legislative actions to remove barriers to entry for investors intending to buy impaired assets. Together with the EBA NPL template, which lays down a standard set of information that makes it easier to asses NPL portfolios, the obstacles on the demand side will be eased substantially. The success of these harmonised policy actions, however, depends also on the Member States and the extent to which they complement them with reforms in their remits. Most importantly, efficient collateral enforcement and fast court procedures are crucial elements to reduce the outstanding stock as well as to prevent the build-up of future NPLs.

Policy makers could preserve the progress made over past years and prepare for the consequences of the ongoing economic slowdown. Strong economic growth by itself alleviates NPL problems as it improves borrowers' repayment capacity. It is more effective to take accelerated NPL reduction measures when banks and borrowers are facing an improving economic environment rather than during an economic downturn, where the costs of NPL restructuring are difficult to digest. Pursuing measures on the fiscal and structural sides in parallel would of course help to strengthen long-term growth or reduce the potential impact of future recessions.

[8] ECB Banking Supervision: SSM Priorities 2016 (ECB, 2016b), 2017 (ECB, 2017b) and 2018 (ECB, 2018b).

References

A Strategy for Resolving Europe's Problem Loans (2015): International Monetary Fund, IMF Discussion Note, September 2015
https://www.imf.org/external/pubs/ft/sdn/2015/sdn1519.pdf

Artavanis, N. and Spyridopoulos, I. (2017): Behavioral Attributes of Strategic Default: Evidence from the Foreclosure Moratorium in Greece
http://dx.doi.org/10.2139/ssrn.2946595

Avgouleas, E. – Goodhart, Ch. (2017): Utilizing AMCs to Tackle Eurozone's Legacy Non-Performing Loans, European Economy, No. 2017.1, July 2017
http://european-economy.eu/2017-1/utilizing-amcs-to-tackle-eurozones-legacy-non-performing-loans/

Baskaya, Y.S. – Kenç, T. – Shim, I. – Turner, Ph. (2016): Financial development and the effectiveness of macroprudential measures, BIS Paper, No. 860, September 2016
https://www.bis.org/publ/bppdf/bispap86o_rh.pdf

Baudino, P. – Yun. H. (2017): Resolution of non-performing loans – policy options, BIS FSI Insights on policy implementation No. 3, October 2017

Beck, R. – Jakubik, P. – Piloiu, A. (2013): Non-performing Loans – What matters in addition to the economic cycle?, ECB Working Paper Series, No 1515, February 2013

Caballero, R. – Hoshi, T. – Kashyap, A. (2008): Zombie Lending and Depressed Restructuring in Japan, American Economic Review 2008, 98:5

Climent-Serrano, S. – Pavia, J. (2014): An analysis of loan default determinants: the Spanish case, Banks and Bank Systems, Vol 9, No. 4, 2018

Cucinelli, D. (2015): The impact of Non-performing Loans on Bank Lending Behavior: Evidence from the Italian Banking Sector, Eurasian Journal of Business and Economics, Vol 8, Issue 16, 2015

De Bock, R. – Demyantes, A. (2012): Bank Asset Quality in Emerging Markets: Determinants and Spillovers, IMF Working Paper, WP/12/71, March 2012

Enria, A. (2017): The EU banking sector – risks and recovery. A single market perspective, Presentation to the ESM, January 2017
https://www.esm.europa.eu/sites/default/files/2017_01_30_-_esm_risk_and_adjustment_at_eu_banks_0.pdf

Espinoza, R. – Prasad, A. (2010): Nonperforming Loans in the GCC Banking System and their Macroeconomic Effects, IMF Working Paper, October 2010

European Banking Authority (2017): NPL Final Templates, December 2017
https://www.eba.europa.eu/risk-analysis-and-data/eba-work-on-npls

European Banking Authority (2018a): Guidelines on management of non-performing and forborne exposures, October 2018

https://eba.europa.eu/documents/10180/2425705/Final+Guidelines+on+management+of+non-performing+and+forborne+exposures.pdf

European Banking Authority (2018b): Guidelines on disclosure of non-performing and forborne exposures, December 2018
https://eba.europa.eu/documents/10180/2531768/Final+GLs+on+disclosure+of+non-performing+and+forborne+exposures.pdf

European Banking Authority (2018c): EBA Report on Statutory Prudential Backstops, Response to the Commission's Call for Advice of November 2017, March 2018
https://www.eba.europa.eu/documents/10180/2087449/EBA+Report+on+Statutory+Prudential+Backstops.pdf

European Central Bank Annual Report on supervisory activities 2015: March 2016
https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssmar2015.en.pdf?76bfa705d9eb131ceed673b36b94079a

European Central Bank Economic Bulletin (2016a): Recent developments in the composition and cost of bank funding in the euro area, Issue 1, February 2016
https://www.ecb.europa.eu/pub/pdf/ecbu/eb201601.en.pdf?26cca7c35e58466f5b9f6012cd89b0d8

European Central Bank (2016b): SSM supervisory priorities 2016, ECB Banking Supervision
https://www.bankingsupervision.europa.eu/ecb/pub/pdf/publication_supervisory_priorities_2016.en.pdf?024a0072fe923441556e5bba7251dd6d

European Central Bank (2017a): Guidance to banks on non-performing loans**,** ECB Banking Supervision, March 2017
https://www.bankingsupervision.europa.eu/ecb/pub/pdf/guidance_on_npl.en.pdf

European Central Bank (2017b): SSM supervisory priorities 2017, ECB Banking Supervision
https://www.bankingsupervision.europa.eu/ecb/pub/pdf/publication_supervisory_priorities_2017.en.pdf?ac63ee34433643f0d7c8eea5a688327c

European Central Bank (2018a): Addendum to the ECB Guidance to banks on non-performing loans: supervisory expectations for prudential provisioning of non-performing exposures, ECB Banking Supervision, March 2018
https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.npl_addendum_201803.en.pdf

European Central Bank (2018b): SSM supervisory priorities 2018, ECB Banking Supervision
https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.supervisory_priorities_2018.en.pdf?3b4a89e9ad114ff7dbdaf156d0f0f564

EFSF/ESM Financial Assistance, Evaluation Report (2017): June 2017
https://www.esm.europa.eu/sites/default/files/ti_pubpdf_dw0616055enn_pdfweb_20170607111409.pdf

European Commission (2016): Proposal for a Directive of the European Parliament and of the Council on preventive restructuring frameworks, second chance and measures to increase the efficiency of restructuring, insolvency and discharge procedures and amending Directive, 2012/30/EU, November 2016

http://ec.europa.eu/information_society/newsroom/image/document/2016-48/proposal_40046.pdf

European Commission (2017): Report on the Single Supervisory Mechanism established pursuant to Regulation (EU) No 1024/2013, Report from the Commission to the European parliament and the Council, October 2017
https://ec.europa.eu/info/sites/info/files/171011-ssm-review-report_en.pdf

European Commission (2018a): Third Progress Report on the reduction of non-performing loans and further risk reduction in the Banking Union, Communication from the Commission to the European Parliament, the European Council, the Council and the European Central Bank, November 2018
http://ec.europa.eu/finance/docs/policy/181128-communication-non-performing-loans_en.pdf

European Commission (2018b): AMC Blueprint, Commission Staff Working Document, March 2018
http://ec.europa.eu/finance/docs/policy/180314-staff-working-document-non-performing-loans_en.pdf

European Commission (2018c): Proposal for a Directive of the European Parliament and of the Council on credit servicer, credit purchasers and the recovery of collateral, March 2018
http://ec.europa.eu/finance/docs/policy/180314-proposal-directive-non-performing-loans_en.pdf

European Commission (2018d): Proposal for a Regulation of the European Parliament and of the Council on amending Regulation (EU) No 575/2013 as regards minimum loss coverage for non-performing exposures, March 2018
http://ec.europa.eu/finance/docs/policy/180314-proposal-regulation-non-performing-loans_en.pdf

European Systemic Risk Board (2017): Resolving non-performing loans in Europe (2017): ESRB, July 2017
https://www.esrb.europa.eu/pub/pdf/reports/20170711_resolving_npl_report.en.pdf

European Systemic Risk Board (2018a): A Review of Macroprudential Policy in the EU in 2017, April 2018
http://www.esrb.europa.eu/pub/pdf/reports/esrb.report180425_review_of_macroprudential_policy.en.pdf?a46dda84af956ff7fbc10fbfbf8491c8

European Systemic Risk Board (2018b): Approaching non-performing loans from a macroprudential angle, Reports of the Advisory Scientific Committee, No. 7, September 2018
https://www.esrb.europa.eu/pub/pdf/asc/esrb.asc181001_7_ApproachingNPLs-macroprudentialangle.en.pdf

Fernández de Lis, S. – Pagés, J.M. – Saurina, J. (2000): Credit Growth, Problem Loans and Credit Risk Provisioning in Spain, Working Paper 18, Banco de España, October 2000

Haben, P. – Quagliarello, M. (2017): Why the EU needs an asset management company, Central Banking, March 2017
https://www.centralbanking.com/central-banking-journal/opinion/2481794/why-the-eu-needs-an-asset-management-company

Keeton, W. R. (1999): Does Faster Loan Growth Lead to Higher Loan Losses? Economic Review, Second Quarter 1999, Federal Reserve Bank of Kansas City

Klein, Nir (2013): "Non-Performing Loans in CESEE: Determinants and Macroeconomic Performance" IMF Working Paper, WP/13/72, March 2013
https://www.imf.org/external/pubs/ft/wp/2013/wp1372.pdf

Kobayashi, K. – Inaba, M. (2002): Japan's Lost Decade and the Complexity Externality, RIETI Discussion Paper Series 02-E-004, March 2002

Louzis, D. – Vouldis, A. – Metxas, V. (2010): Macroeconomic and bank-specific determinants of non-performing loans in Greece: A comparative study of mortgage, business and consumer loan portfolios, Bank of Greece Working Paper 118, September 2010

Lu, W. – Whidbee, D. (2014): Bank structure and failure during the financial crisis, Department of Finance and Management Science, Washington State University, September 2014
https://www.researchgate.net/publication/263478644_Bank_structure_and_failure_during_the_financial_crisis

Maggi, B. – Guida, M. (2009): Modelling non-performing loans probability in the commercial banking system: efficiency and effectiveness related to credit risk in Italy, Universitá di Roma Working Papers, No. 1, May 2009

Makri, V. – Tsagkanos, A. – Bellas, A. (2014): Determinants of Non-Performing Loans: The Case of Eurozone, Panoeconomicus, 2014, Vol. 2, April 2013

Medina-Cas, S. – Peresa, I. (2016): What makes a Good 'Bad Bank'? The Irish, Spanish and German Experience, European Commission Discussion Paper 036, September 2016
https://ec.europa.eu/info/sites/info/files/dp036_en.pdf

Messai, A. – Jouini, F. (2013): Micro and Macro Determinants of Non-performing Loans, International Journal of Economic and Financial Issues, Vol. 3, No. 4, 2013

Nkusu, M. (2011): Nonperforming Loans and Macrofinancial Vulnerabilities in Advanced Economies, IMF Working Paper, WP/11/161, July 2011

Rinaldi, L. – Sanchis-Arellano, A. (2006): Household Debt Sustainability – What explains household non-performing loans? An empirical analysis, ECB Working Paper 570, January 2006

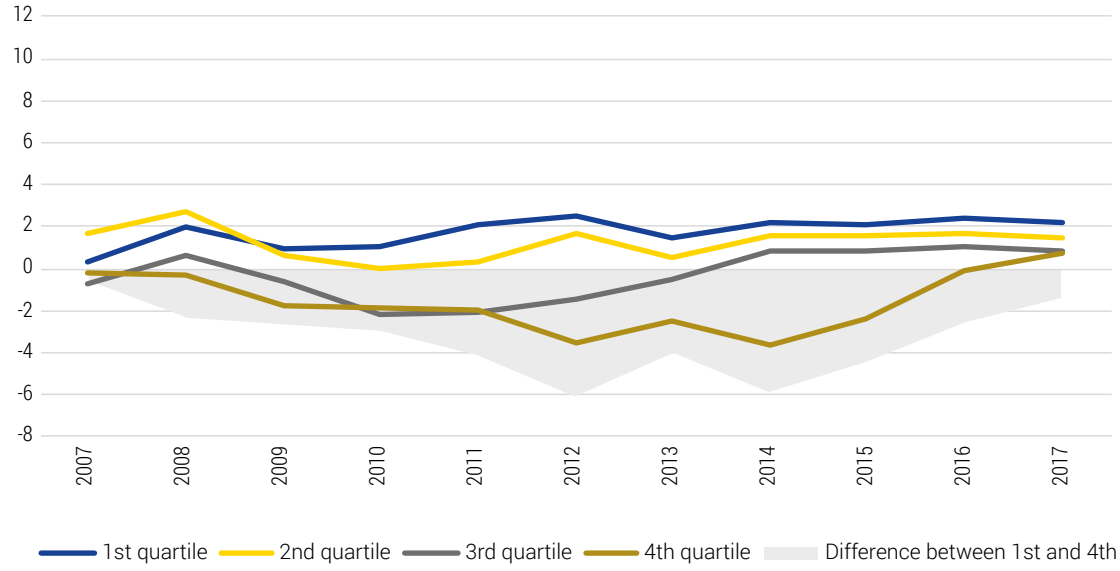
Tracey, M. (2011): The Impact of Non-performing Loans on Loan Growth: an econometric case study of Jamaica and Trinidad and Tobago, Bank of Jamaica, September 2011

Annex 1

The relationship between NPL levels and cost of debt is difficult to abstract from aggregated data. As Figure 30 shows, the cost of debt is lower in countries with high NPL levels. Several factors can explain this seemingly counterintuitive result.

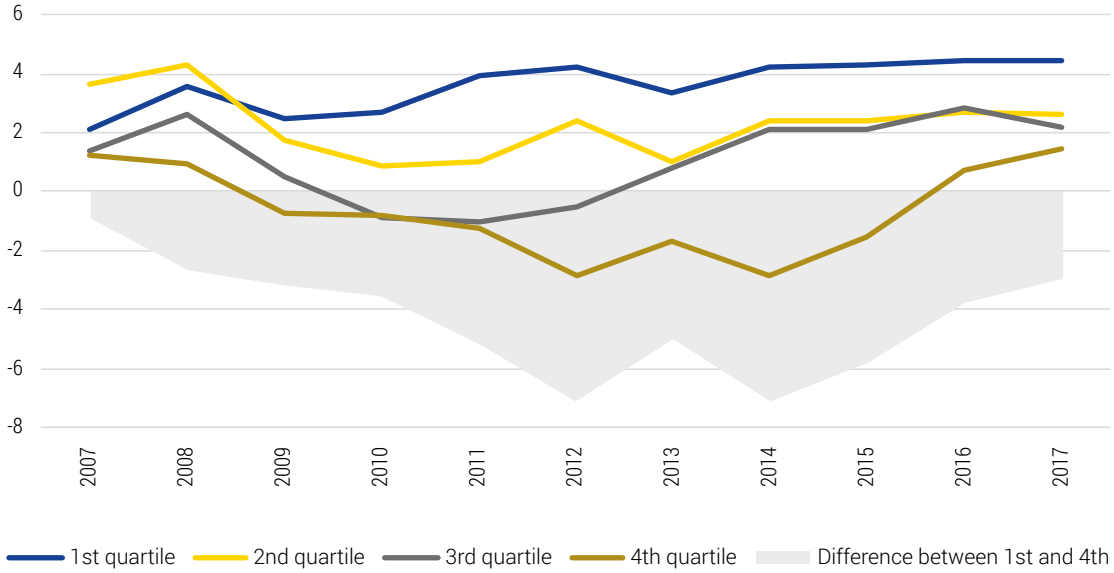
Different business models and debt funding structures of banks could be one possible explanation. While banks are more reliant on more expensive wholesale funding in the lower NPL quartiles, they are more dependent on traditional funding sources, such as deposits, in the higher quartiles (Figure 31 and Figure 32). The cost of debt remains the lowest in the fourth quartile despite the exclusion of deposit funding (Figure 33). This could also partially be due to the wide-spread mis-selling of wholesale saving instruments in Italy and to a lesser extent, in Portugal, although this is hard to distil from the available data. Banks in these countries offered more complex, junior debt products to households at a lower price than what they would otherwise have had to pay under market conditions to non-retail investors.

Figure 30:
Cost of debt in different NPL quartiles
(in %, interest expense / total funding – sovereign bond yield)



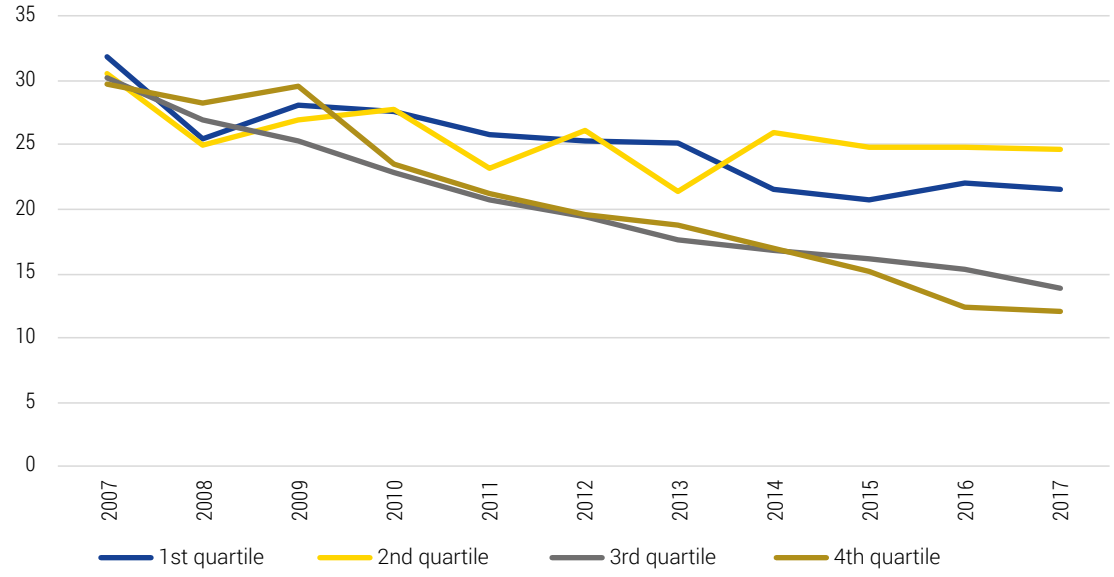
Sources: SNL Financial, FitchConnect, ESM calculations

Figure 31:
Cost of debt in different NPL quartiles
(in %, interest expense / total funding excl. deposits – sovereign bond yield)



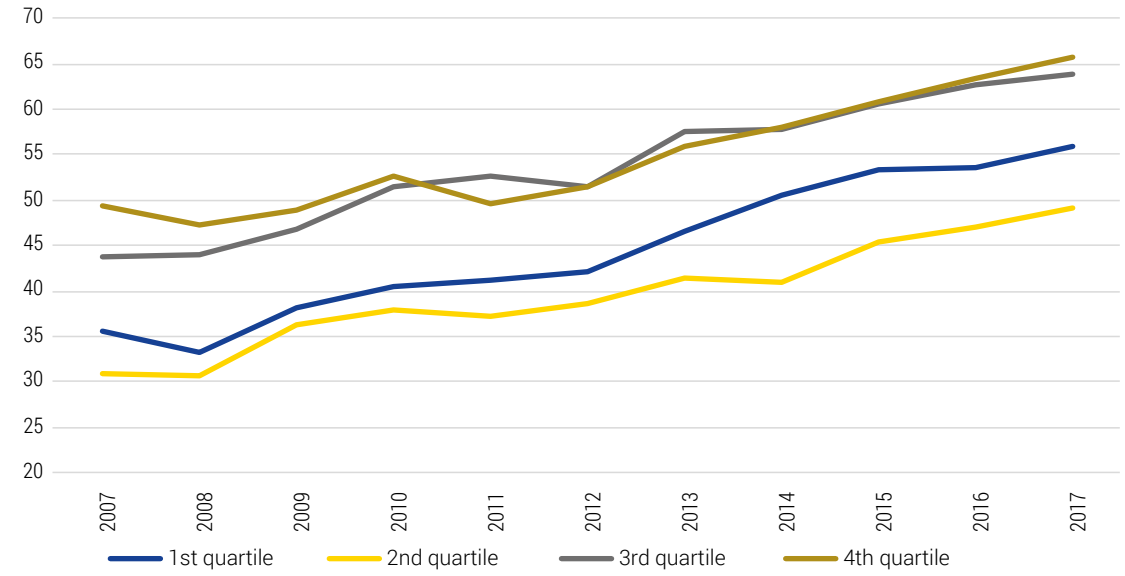
Sources: SNL Financial, FitchConnect, ESM calculations

Figure 32:
Share of wholesale funding in total liabilities
(in %)



Sources: SNL Financial, FitchConnect, ESM calculations

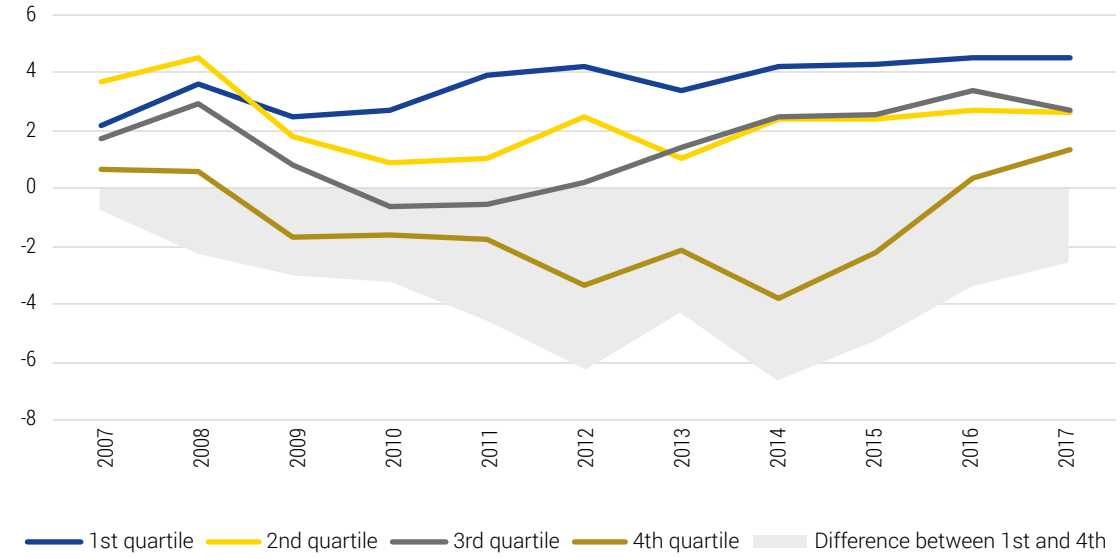
Figure 33:
Share of deposit funding in total liabilities
(in %)



Sources: SNL Financial, FitchConnect, ESM calculations

The ECB's quantitative easing operations also cause distortions as they lower banks' funding costs (both directly through LTROs and indirectly via the declining sovereign spreads) in the most vulnerable countries. Monetary policy measures helped ease funding conditions in the euro area, particularly for deposits and bonds. Countries with high NPL levels (Portugal, Greece, and Spain) benefited more from the quantitative easing measures and observed a decreasing cost of debt (ECB, 2016). This created distortions in their wholesale funding costs and could possibly explain the widening gap between the first and fourth quartiles in 2011 and 2014. However, the difference between the quartiles does not change significantly when central bank funding is excluded (Figure 34), which suggests that the indirect channel is likely to be stronger.

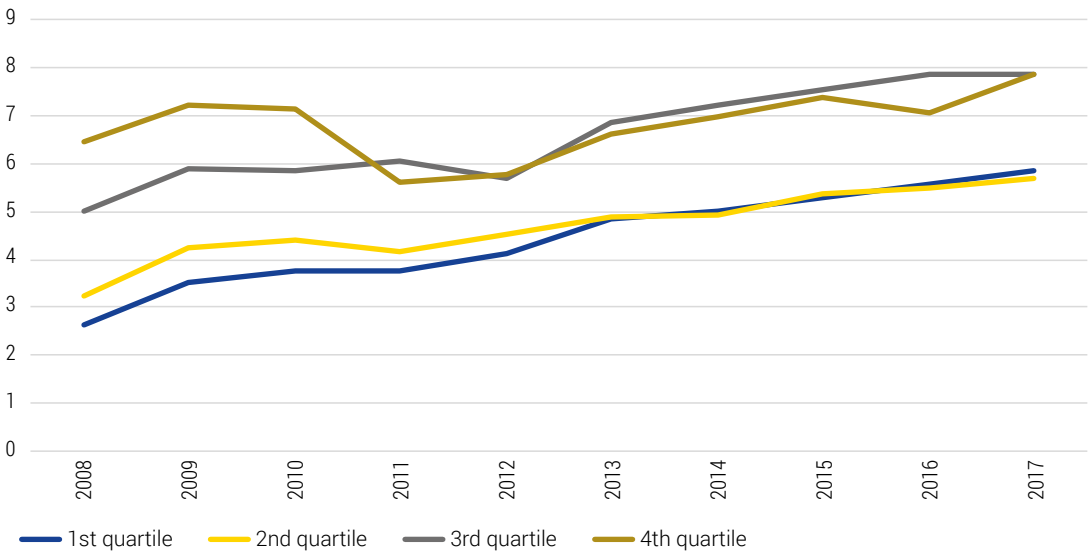
Figure 34:
Cost of debt in different NPL quartiles
(in %, interest expense / total funding excl. deposits & CB funding - sovereign bond yield)



Sources: SNL Financial, FitchConnect, ESM calculations

Beyond the monetary policy stance, the difference in banks' leverage is most likely behind the seemingly counterintuitive results. The cost of equity is not observable in banks' balance sheets and income statements; hence the above analysis does not include it. Depending on the extent to which banks rely on debt instruments in their funding strategy, our conclusion could be different; the more equity funding a bank uses, the less the cost of debt represents the overall funding costs. Among the NPL quartiles, there is a clear distinction between the first two and the last two groups. While the first and the second quartile banks are more or less equally leveraged, the third and the fourth quartiles use significantly more equity funding and operate with lower leverage (Figure 35). Estimates suggest (ECB, 2016a) that cost of equity rose sharply in vulnerable countries during the crisis. This is well reflected in the ambiguous results of recent capital increases of some Italian banks. The uncertainties stemming from the high NPLs are strongly related to the difficulties in the underwriting process, which deters investors from participating in capital raisings.

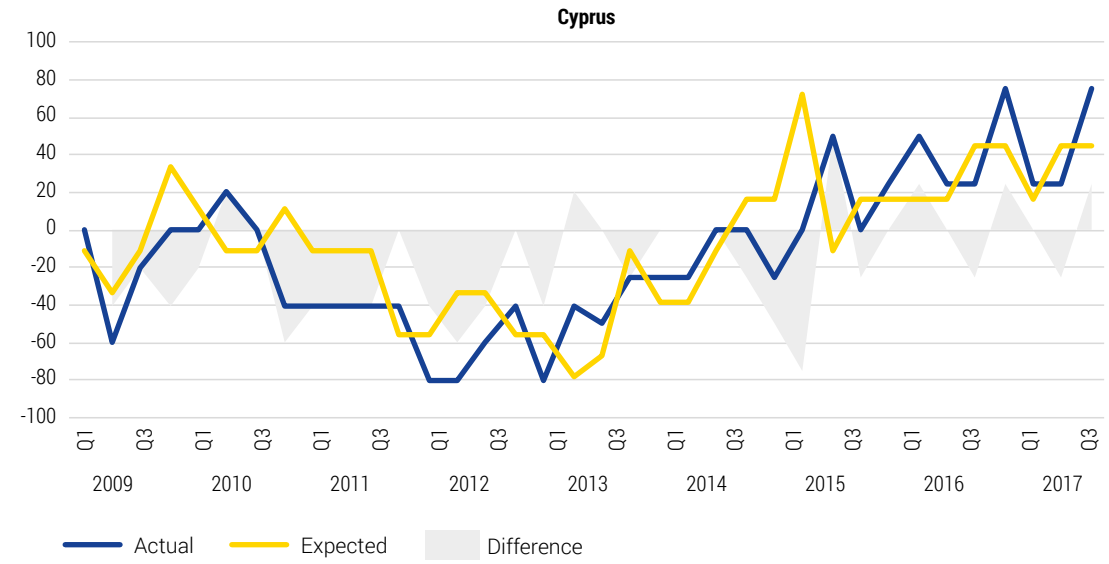
Figure 35:
Equity-to-total assets ratio
(in %)



Sources: SNL Financial, FitchConnect, ESM calculations

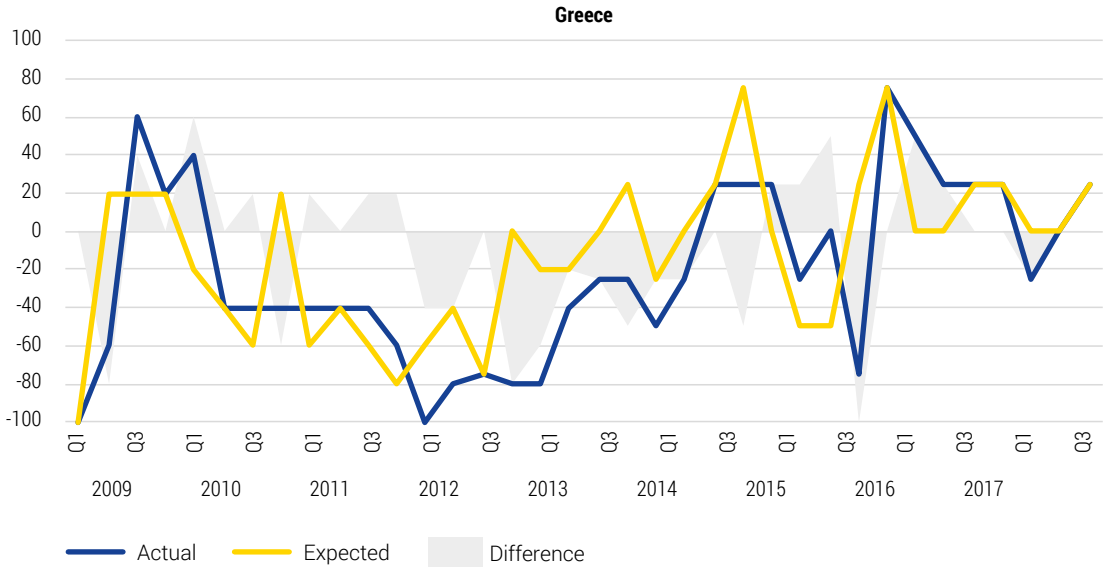
Annex 2

Figure 36:
Changes in demand for loans to households
(in %)



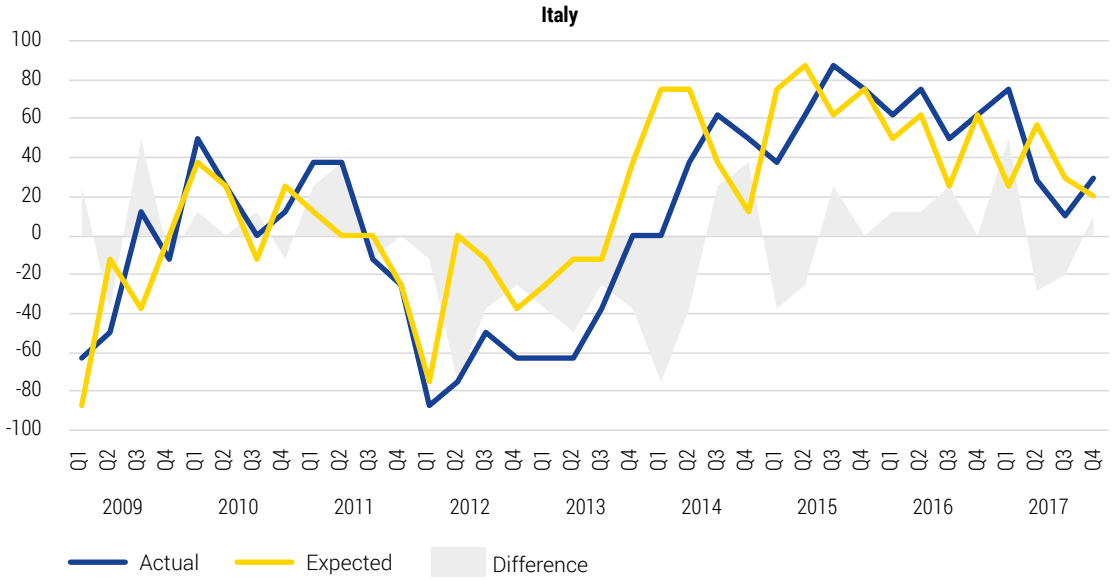
Source: ECB BLS

Figure 37:
Changes in demand for loans to households
(in %)



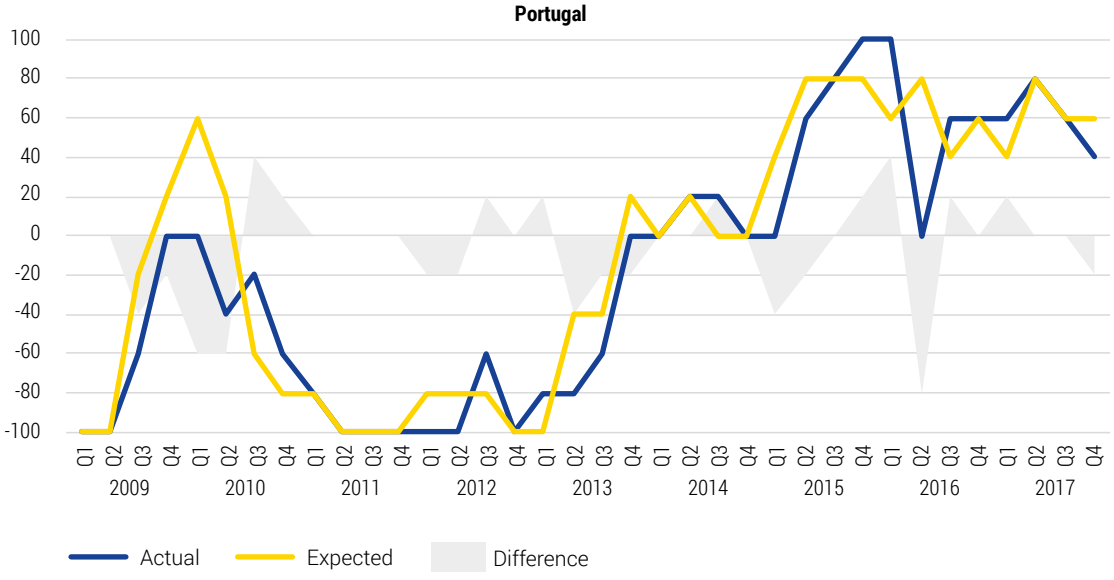
Source: ECB BLS

Figure 38:
Changes in demand for loans to households
(in %)



Source: ECB BLS

Figure 39:
Changes in demand for loans to households
(in %)



Source: ECB BLS

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