

EUROPEAN ECONOMY

BANKS, REGULATION, AND THE REAL SECTOR

NON-PERFORMING LOANS

FROM THE EDITORIAL DESK

Getting Rid of NPLs in Europe by Giorgio Barba Navaretti, Giacomo Calzolari and Alberto Franco Pozzolo

Numbers by José Manuel Mansilla-Fernández

Institutions by José Manuel Mansilla-Fernández

A Bird Eye (Re)view of Key Readings by José Manuel Mansilla-Fernández

PROPOSALS

Completing the Repair of the EU Banking Sector - A Critical Review of an EU Asset Management Company by by Andrea Enria, Piers Haben, and Mario Quagliariello

A Role for Systemic Asset Management Companies in Solving Europe's Non-Performing Loan Problems by John Fell, Maciej Grodzicki, Reiner Martin, and Edward O'Brien

A Strategy for Resolving Europe's Problem Loans by Shekhar Aiyar, Wolfgang Bergthaler, Jose M. Garrido, Anna Ilyina, Andreas (Andy) Jobst, Kenneth Kang, Dmitriy Kovtun, Yan Liu, Dermot Monaghan, and Marina Moretti

Utilizing AMCs to Tackle Eurozone's Legacy Non-Performing Loans by Emiliós Avgouleas and Charles Goodhart

Why We Need to Breach the Taboos on European Banks' Non-Performing Loans by Brunella Bruno, Giuseppe Lusignani, and Marco Onado

DISCUSSION

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Non-Performing Loans and State Aid Rules by Christophe Galand, Wouter Dutilleux, and Emese Vallyon

Resolution Strategies for Non-Performing Loans: A Post-Crisis European Perspective by Helen Louri

Systemic Solutions to Systemic Crises. Dealing with NPLs in the Eurozone by Rym Ayadi, Giovanni Ferri, and Rosa M. Lastra

2017.1

Non-Performing Loans

What is European Economy

European Economy – Banks, Regulation, and the Real Sector (www.european-economy.eu) is a new on line journal to encourage an informed and fair debate among academics, institutional representatives, and bankers on the regulatory framework and its effects on banking activity and the real economy. It is an independent journal, sponsored by Unicredit Group.

The journal aims at becoming an outlet for research and policy based pieces, combining the perspective of academia, policy making and operations. Special attention will be devoted to the link between financial markets and the real economy and how this is affected by regulatory measures. Each issue concentrates on a current theme, giving an appraisal of policy and regulatory measures in Europe and worldwide. Analysis at the forefront of the academic and institutional debate will be presented in a language accessible also to readers outside the academic world, such as government officials, practitioners and policy-makers.

This issue of *European Economy* presents and discusses the foremost proposals of State supported vehicles like Asset Management Companies, system-wide securitization schemes and other solutions to deal with the very large backlog of European Non-Performing Loans (NPLs) brought forward by the main international organizations and prominent scholars. Part of this backlog will be resolved through market based solutions. But in many cases, because of the deadly mix between market failures and banks' resolutions and recoveries, State supported schemes are also necessary. These schemes, even though national, will have to be based on a common European blueprint, to favour a rapid and smooth recovery of the banking sector. This issue takes stock of all the main proposals on the table, highlighting their many common ingredients and the questions still to be sorted out. A meta solution based on a sound compromise between these is necessary and technically and politically feasible. The issue discusses how.

EUROPEAN ECONOMY
BANKS, REGULATION, AND THE REAL SECTOR
YEAR 3 - ISSUE 1

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European Economy – Banks, Regulation, and the Real Sector
is an online publication of the Review of Economic Conditions in Italy magazine.
Accessible free of charge at: www.european-economy.eu

Registrazione del Tribunale di Roma n. 13977 del giugno 1971

PUBLISHED BY

Europeye srl

via Gregorio VII, 368 - 00165 Roma

t. 06 3700556 - www.europeye.com

ISSN 2421-6917

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From the Editorial Desk

Getting Rid of NPLs in Europe

by Giorgio Barba Navaretti, Giacomo Calzolari, Alberto Franco Pozzolo¹

Introduction

Non performing Loans (NPLs) are widespread in European countries, with the largest concentration of NPLs in Italy and the highest NPL ratios in Greece, as reported by Enria et al. in this issue and in Figure 1 of the Numbers section. In the European Union (EU), the stock of NPLs currently stands at about one trillion euros, and the average NPL ratio is at 5.1% of total loans. But the average hides massive differences across countries, with ratios ranging from 46% in Greece to 1% in Sweden, and with ten Member States reporting average NPL ratios of over 10% of total assets.

NPLs generate risks of financial instability and constrain lending growth. What matters is not just the total amount of these assets, but also their distribution among more or less capitalized banks, larger and smaller banks. Even for countries with a low average NPL ratios, there is a very broad dispersion among individual institutions as shown in Figure 4 of the Numbers section and also Eurozone countries with low aggregate NPL ratios are affected by this problem. Finally, because of the integration of the European banking system, risks of spillovers and systemic events can be high across the whole region. This is, therefore, a European wide issue.

A coordinated action to solve the problem of NPLs in Europe, involving State support when required, is necessary and doable. Some of the tools already

1. University of Milan, University of Bologna, University of Molise.

in place or under discussion are market based, other require policy action and State support. They are all complementary and useful. And efforts to make them more effective and easily accessible should be made in all directions.

Yet, and this is the bottom line of this editorial, *we argue that the burden of non performing loans cannot be solved without setting up a coordinated effort of State backed asset management companies (AMCs)*. State intervention is required, beyond supporting policies to market instruments, because of the complex interaction between severe capital shortages in few institutions and market failures affecting the secondary market of distressed assets.

This issue of European Economy reports and comments all the main proposals on the table: by representatives of key European and international institutions (ECB, EBA, IMF), although writing in their personal capacity, and by prominent academics. *The proposals we discuss are not all alike, but they have many points in common, and when there is divergence, the gap to be bridged is pretty narrow. By combining these proposals, it is therefore possible to identify a meta proposal, encompassing common ingredients and viable compromises.*

As the European Commission is working on a blueprint for the setting up of coordinated asset management companies, we hope this *meta proposal* and all contributions to the issue will hopefully provide a useful background to the work of policy makers.

A major concern that we raise in this editorial, is that more clarity would be needed in identifying the rationale for the use of State aid in this domain. *The designs of many proposals superimpose the aim of recapitalizing banks with capital shortages that cannot be matched by the market with the aim of compensating market failures.*

State backed AMCs are normally seen as tools to deal with banks with capital shortages, potentially facing precautionary recapitalization or resolution: impaired assets measures are considered equivalent to direct capital injections. The architecture of the two proposals by Enria et al. and by Fell et al. in this issue is strictly nested in the framework of the Banking Recovery and Resolution Directive (BRRD) and of the Banking Communication on State Aid. This point is also discussed extensively in Galand et al. in this issue and in Council of the European Union (2017). And also the examples of AMCs set up during the Crisis, NAMA in Ireland, SAREB in Spain, DUTB in Germany and MARK in Hungary, follow this principle.

Indeed, in the case of distressed banks, both capital shortages and market failures are especially severe. The price of NPLs would be depressed by the urgency of getting rid of them, in search for a rapid recovery. A quick disposal of these assets would generate large recapitalization requirements. Banks under stress might not be able to afford them or collect resources in the market. In this case there is a clear reinforcing loop between capital shortages and market failures, as further discussed below. Public intervention is grounded on both rationales.

Yet, a large share of NPLs are held in the balance sheets of banks that would not face capital shortages under stress tests and would therefore not be allowed to benefit from State aid and the support of State backed AMCs (due to the lack of so-called “State-aid envelope”, as discussed below). These banks have clearly access to market instruments and must certainly use them: they can manage their NPLs through internal work outs, the recovery of collaterals and a gradual disposal through the market, via direct sales and trading platforms.

However, market failures do exist for these banks too and they slow down the pace at which legacy assets are disposed of. *In our view, market failures provide sufficient arguments for extending the access to State backed AMCs also to healthy banks, particularly until strictly market based instruments like trading platforms achieve sufficient scale and transparency.* As this would also imply reducing the capital requirements of the beneficiary bank, a careful design of these AMCs should also in this case limit moral hazard through burden sharing with shareholders and potentially subordinated creditors. Avgouleas and Goodhart and Bruno et al. in this issue also share this view that part of the outstanding NPLs should be resolved with public support but outside a recovery and resolution framework. Naturally, a critical issue in this domain is identifying the real value of distressed assets and the adequate transfer price from banks to the vehicle.

The array of tools to deal with NPLs under discussion, beyond state backed AMCs are many, as reported by Aiyar et al. , Fell et al., De Haas et al. in this issue²: internal workout, asset protection schemes, NPL trading platforms,

2. See also the ECB's last financial stability review (May 2017). Relevant proposals have also been implemented by the Vienna initiative for Central and Eastern European Countries, as reported by De Haas et al. in this issue

asset management, direct sales. The activation of most of these tools requires policy actions, as clearly stated by Louri in this issue³. This is especially true in the case of measures such as enhanced supervision, structural reforms of insolvency and debt recovery frameworks, measures to favor the development of a secondary market.⁴

This broad scenario of tools and institutions involved shows that there is a general and growing consensus on the need for a rapid disposal of the impaired assets' backlog from banks' balance sheets. And the European Council is fine tuning its master plan as we write. As argued, all tools are important and complementary and viable market solutions should be the main drivers of action. Yet as far as State support keeps being indispensable, it is essential that the definition of a common European blueprint for State backed AMC's keep being at the core of the European policy agenda.

In what follows we discuss the main characteristics of the proposals in this issue highlighting their common ingredients (Section 2). We then discuss in detail the scope of State aid, between market failures and early recapitalization (Section 3), and how transfer prices to external entities such as an AMC can be defined (Section 4). Finally, we discuss a possible framework for a meta solution, based on the common ingredients of the proposals and on options on how to bridge their differences. We finally draw our conclusions.

The proposals

The proposals in this issue are 4, plus a contribution from Aiyar et al., at the IMF, outlining the broad framework required to deal with European NPLs. Two of the contributions, Enria et al. and Fell et al., are from representative of institutions, EBA and the ECB respectively, although writing in their personal capacity. Two are from prominent academics. Avgouleas and Goodhart is a

3. See also the recent report by the FSC Subgroup on non performing loans (Council of the European Union, 2017), prepared as a background document for the European Council

4. Recovering the value of collateral can be quite expensive. According to the Doing Business survey, in Europe the average cost of insolvency is about 10% of the value of an estate. But there are large cross-country differences, with values ranging from over 20% in Italy, where judicial and administrative inefficiencies make the recovery process extremely burdensome, to less than 4% in the Netherlands.

refinement of an earlier contribution, published in the previous issue of European Economy (2016.2). Bruno et al. is a new proposal. All four contributions suggest setting up external vehicles dealing with NPLs, the first three through AMCs, the fourth one through a securitization vehicle. Of course, nothing prevents AMCs to securitize their assets, hence the two schemes can easily overlap. Table 1 below summarizes the main features of each of the proposals. Cells in yellow highlight positions where there is not full consensus among the proposals.

For all four proposals, the mechanics works through the transfer of the impaired assets from the bank to the external vehicle at a higher price than the market price. The vehicle, which will be State supported, though in different ways, will then sell the assets to the market, after a period of gestation, possibly bridging the gap between the initial transfer price and the market price.

All proposals share common underlying rationales and consequently several ingredients. The first element is *market failure*. All contributors agree that because of asymmetric information, uneven bargaining power between buyers and sellers, and the rapid disposal of legacy assets frequently required by regulators, there is a large gap between bid and ask prices for NPLs and also between the resulting market price and the real value of the assets. For this reason, all vehicles proposed have the specific aim of buying time (they all envisage long *gestation* periods, of at least three years), bridging the gap in market power between buyers and sellers, and reducing asymmetric information through impartial and accurate asset evaluations. All proposals also agree that public funding is required to reduce market failures, as far as compliant to State aid rules. So, all vehicles are mixed private/public endeavors.

The second element is *scale*. Managing large amounts of NPLs requires enough scale to undertake a careful evaluation of the recoverability of these loans and enough market power to achieve effective and fair market transactions. Also, secondary markets are affected by first mover disadvantage, in that at start they are not thick enough to attract sufficiently large number of investors at fair bid prices. For this reason, most proposals envisage the setting up of one national vehicle per member country. Enria et al., Avgouleas and Goodhart and Bruno et al. also discuss European wide schemes.

The third one is *European coordination*. Even though there is large heterogeneity in the NPLs' ratio across EU countries, they all have banks with large amounts of NPLs in their balance sheets, as shown by figure 4 in the Numbers section. Therefore, within the EU (or at least within the Banking Union), the conditions for the management and disposal of legacy assets should be harmonized as much as possible, as argued for example by Ayadi et al. in this issue. Consequently, all proposals have a EU or a Eurozone wide ingredient in their architecture. This ingredient may take a loose or a strong form. In the loose form, the proposals envisage highly coordinated national vehicles; in the strong form, a unique EU or Eurozone vehicle. The crucial discriminatory ingredient is the mutualisation of risks among Eurozone countries; in other words, whether the potential costs of the vehicles should be shared by all member countries or they should be borne only by the State and the investors of the country where the initial holder of legacy assets was based. Given the political resistance to risk sharing within the Eurozone, all the present proposals shy away from a strong form of coordination, thus only envisaging a form of coordination in mechanisms and rules, or limited mutualisation. Yet, as argued, Avgouleas and Goodhart, Bruno et al. and Enria et al. do consider a common European scheme, and Avgouleas and Goodhart also propose a certain amount of risk sharing.

The fourth element is *moral hazard*. There is a need to keep skin in the game for banks disposing of their impaired assets, lest they could try to sell to the vehicle their worse assets, those less likely of recovery. Skin in the game might give selling banks also an upside option, in case assets are finally sold by the vehicles at a higher price than initially envisaged. All schemes discussed propose mechanisms of risk sharing between the vehicle and the selling bank, besides for Bruno et al.

The fifth and last element is *preserving financial stability*. A rapid disposal of legacy assets at market prices by banks with limited capital buffers generate an immediate need for recapitalization, which might be difficult to achieve at market terms. The higher transfer prices offered by the vehicles proposed here would implicitly reduce the recapitalization requirements, and hence the risks of resolution or costly early intervention for ongoing institutions. These vehicles are also likely to reduce the costs to tax payers compared to direct recapitalisation. For this reason, these vehicles are of foremost importance for

banks with shortages of capital. In the two proposals by Enria et al. and Fell et al. the vehicles are nested within the BRRD and the Banking Communication of 2013. Avgouleas and Goodhart and Bruno et al., instead, argue that these vehicles should also be available to viable banks, with no capital shortfalls under stress tests, a point that will be taken up again in Section 3.

Finally, all vehicles are conceived so as to *avoid the diabolic loop between banking and sovereign risk*. For this reason, the share of public funding envisaged is limited, so as to avoid consolidation of the vehicles in States' balance sheets. Only two of the proposals (Avgouleas and Goodhart and Bruno et al.) also suggest that a EU wide mutualized fiscal back stop would be necessary.

These common elements identify a general framework for action, and essentially the broad ingredients that any scheme should bear. As the need for these ingredients is well accepted, then details are a matter of negotiation among the main institutional and political parties in the game. Yet the devil is in the details. The proposals reflect also different views on issues like the acceptable boundaries of state aid, the mechanisms for evaluating the real value of NPLs, the options for keeping banks' skin the game, the extent of coordination and risk sharing among Eurozone countries.

We will discuss these controversial points in the next two sections of this editorial, whereas in the last section we will conclude and make a meta proposal, also trying to suggesting ways of dealing with these critical issues.

Table 1: Ingredients of proposals

	Fell, Grodzicki, Martin, O'Brien(ECB)	Enria, Haben and Quagliariello (EBA)	Bruno, Lusignani & Onado	Avgouleas & Goodhart
AMC vs securitization	AMC	AMC	Securitization	AMC
Tranching	<i>Not specified</i>	Yes, by asset class	Yes	<i>Not specified</i>
European scheme	Yes (coordinated national AMCs)	Yes: common blueprint national AMCs or one EU AMC, but no risk sharing)	Yes	Pan European Holding presiding (10% share) over quasi ring-fenced national AMCs
Mutualization of risks at the EU level	No	No	Yes	Pan European holding's equity share in National AMC; ESM partial guarantee
Public/private	* Public/Private equity * enough private share to avoid consolidation with government sector.	* Public/Private equity in the AMC	Private but possible government support as guarantee or partial subscription of junior tranche	Public/Private equity in the European holding and in national AMCs *Participating banks partners of national ESM
Impaired Asset Measures linked to stress test and precautionary recapitalization	* Within precautionary recapitalization framework *Stress Test identifies State aid Envelop	* Within precautionary recapitalization framework *Stress Test identifies State aid Envelop	Not necessarily, if private vehicle and if government guarantees at market prices	* Possible to avoid burden sharing
State support	*Difference between real value (transfer price) and market price. * Funding through ECB eligible senior bonds guaranteed by governments.	*Difference between real value (transfer price) and market price. * National government guarantee on gap between real value and market price	* Possible government support as guarantee or partial subscription of junior tranche or *government's guarantee on senior tranche	*Difference between real value (transfer price) and market price *ESM's partial guarantees
Burden sharing	*Private: difference between net book value and transfer price	*Private: difference between net book value and transfer price	*Private: difference between net book value and bid price	*Private: difference between net book value and transfer price
Clawback Clause / Mechanism	*Equity of AMC large enough to absorb unexpected losses. *GVT remunerated for taking risk of AMC not selling assets at their real value	Yes equity warrant mechanism issued by banks to national governments with penalising strike price if NPLs sold below real value.	No	Yes: capped long term profit loss arrangements Banks shareholders of the AMC
Participation perimeter	Only banks with large exposures to a given asset class.	Banks with NPL ratio above 7%, on standardised data with pre-agreed formats	Undefined	Only banks participating to the AMC
Transfer price	Real Economic value. GVT remunerated for taking risk of AMC not selling assets at their real value	Real economic value.	Based on the characteristics of the securitization: recovery rate, tranching etc.	Weighted average (33% weight) between market price, Net book value and real value
Time frame of the vehicle	Not defined but limited	3 ys.	Not defined	Not defined
Reduction of asymmetric information	* Stress test * NPL platforms	* Stress test * Due diligence by AMC	Due diligence independent entity....	Evaluation of NPLs through EIB

Defining the scope of State aid: market failures vs early recapitalization

As clearly explained by Galand et al. in this issue, the amount of State aid granted by a State supported AMC is conventionally equal to the difference between the value of the asset at the transfer price paid to the bank and the value of the asset at market price. But under what circumstances can this State aid be granted, and how large could it be? In our view the framework which regulates whether and up to what extent an AMC can grant State aid combines different and possibly conflicting objectives, which may limit the scope of action of the AMCs.

The proposals of State supported AMCs by Enria et al. and by Fell et al. in this issue are strictly anchored to a procedure of impaired asset measures and precautionary recapitalization, within article 32(4) of the BRRD and the Banking Communication of 2013. The report of the Subgroup on Non-Performing Loans (NPLs) of the Council's Financial Services Committee (FSC) (Council of the European Union, 2017) sets similar policy guidelines.

Within this framework, the total amount of State aid allowed is subject to two binding constraints. The first one is the so-called State aid Envelope and amounts to the capital shortage identified ex-ante by the stress scenario of a stress test or an asset quality review. The second constraint is that the transfer price paid to the bank cannot exceed what is defined as the "real value" of the impaired assets (except for exceptional cases in which, however, the bank must enter severe restructuring measures and the additional aid must be recovered a later stage, as for recital 41 of the Impaired Assets Communication notes). Hence, if for example the value of the eligible transfer made by the AMC to the bank under the second constraint exceeds the State Aid Envelope under the first constraint, the transfer price must be lowered accordingly. In practice, it can be even annihilated, meaning that there is no room for a bank to sell its NPLs to the AMC at a price higher than the market price.

The implication of this double constraint is that banks that result having no capital shortages under a stress test, and which are not eligible for precautionary recapitalization (because they are healthy enough, not because they are moribund), cannot sell their impaired assets to State supported AMCs. Given that a large share of the NPLs is held by these banks, the scope of AMCs will be pretty limited.

The problem is that the arguments justifying the use of State aid, on the one hand, and the setting of the two constraints, on the other, are not necessarily the same. State aid under precautionary recapitalization is strictly justified by the need to provide capital to viable banks that cannot find it on the market, so as to avoid systemic disruptions. State aid granted by AMCs is justified also, if not mainly, by the presence of market failures that depress the market price of NPLs.

Certainly, a higher transfer price than the market price reduces the capital shortages of the selling bank. Hence, asset impairments measures are equivalent to capital injections. However, market failures affect also viable banks with no apparent capital shortages, burdening their balance sheets. The market failures argument underlines the policy objectives of coordinated State-supported AMCs in Council of the European Union (2017): bridge intertemporal valuation gaps, create critical mass of expertise to evaluate loan portfolios and reduce symmetric information, help smaller lender entering secondary markets. Also, the procedure utilized by DG Competition to identify the real value of legacy assets, clearly explained by Galand et al. in this issue, is itself grounded on the principle of identifying the extent of market failures, as we further discuss below.

So, if the rationale for setting a transfer price higher than a market price is essentially grounded on the presence of market failures, why banks with sufficient capital should be restricted from using these vehicles? Procedures already in place at DG Comp to identify the real value of assets and described by Galand et al in this issue could be applied anyway to avoid setting prices above real values. Moral hazard issues would be dealt with anyway, since the difference between the net book value and the transfer price of the assets would be covered by the capital of the bank, perhaps even by converting subordinated credit or by raising fresh capital in the market. Also, claw-back clauses could apply anyway, and most likely the skin in the game would even be larger for well capitalized banks, that have no incentives to “run for resurrection”.

Yet we do not find good reasons to subject these banks to all the other restrictions and conditionality affecting institutions in early recapitalization: limits to the distribution of assets, sever assessments on market competition and so on. All these conditions would likely shy these banks away from using state funded AMCs.

One may argue that market failures are lower in the case of viable banks which are not forced to dispose of their assets rapidly, or which are large enough to carry out adequate internal work outs. However, for viable banks as well there would be issues of asymmetric information and evaluation of assets that would be eased by AMCs. Also, there is a question of market size, that cannot be sorted out at market terms. In other words, in early stages, secondary markets for NPLs would not be large enough to likely kick start a real disposal of these assets without State support.

Large State supported AMCs, coordinated at the European level, would certainly help creating a critical mass of these assets and developing sufficient scale and expertise to deal with large stocks of NPLs. In this framework, as the market grows, market imperfection would be at least partially overcome, and the market price would gradually converge to the real value. Once this process is completed, then State aid would be less necessary, and could be restricted just to the needs of distressed banks.

Summing up, a coordinated effort of State supported AMCs in Europe is justified and should be implemented independently from precautionary recapitalization procedures. It should be accessible both to banks under recovery procedures and banks with sufficient capital buffers.

Setting transfer prices

As anticipated above, markets for NPLs may come to a halt, with the price buyers are ready to pay, the Bid price, significantly and steadily lower than the sellers' Ask-price. The impediments underlying the bid-ask spread are typically the superior information sellers have with respect to buyers (adverse selection), the coordination issue inducing a first mover disadvantage in a price discovery process and illiquid markets, and the risk for weak banks (and for the stability of the entire sector) of failing to attract capitals to recapitalize the losses of selling NPLs below their book value.

As discussed at length in the contributions of this Issue, a market for NPLs cannot develop because the *Bid-price* (often named the *market value*) is systematically below the price banks currently want to realize when selling their NPLs, i.e. the Ask price. This difference generates a bid-ask gap that in many European countries is estimated up to 20-30%.

Prices, bid and ask, are based on market participants' estimated *economic value* of the NPL, which accounts for the underlying expected returns of the asset over the relevant time horizon (the "fundamentals" of the asset), and also accounts for its present and future scarcity. In normal times, transactions occur when these estimates differ for the two sides of the market. The actual transaction price then depends on these estimates, on the market mechanism, and the bargaining power of the selling and buying sides. In presence of significant market failures, however, buyers' estimated economic value is depressed, and transactions are rare or absent.

When transferring an NPL to an AMC, a *transfer price* needs to be determined, independently of market evaluations and transactions, at a level typically higher than the Bid price, so as to generate the relief effect on the bank's balance sheet. The difficulty of dealing with transfer pricing is that these prices do not reflect market transactions, and as such tend to be based on judgmental evaluations. This is relevant because a transfer price of a NPL implicitly defines a subsidy from the AMC to the selling bank, with respect to a hypothetical market transaction. As we have seen above, this subsidy becomes a State aid when the AMC is publicly backed. The actual state aid per transaction is in fact defined by the European Commission as the difference between the transfer price and the market value (i.e. the Bid price, as explained above).

The Commission also states that the transfer price cannot be higher than the *real economic value* of the NPL, i.e. the best estimate of the "underlying long-term economic value of the assets, on the basis of underlying cash flows and broader time horizons". Operationally, this is the estimated present value of future cash flows generated by the assets, net of workout costs and discounted at an interest rate that includes a risk premium for normal times. In principle, the real economic value is a relevant benchmark, because if a bank granted a loan with a real economic value much lower than the market value, then it would be making an obvious mistake. And, clearly, we do not want that a generous transfer price relieves the bank with aids, and covers losses of obvious and foreseeable errors.

Finally, if we look at banks' books, loans are accounted with their *nominal* or *gross-book value* and, if any write-off already occurred, at a lower *net-book value*, which is the gross book value net of possible accounted provisions.

This long list of different prices and values clarifies that valuing and transferring an NPL in distressed times is a difficult task. This is because the market does not properly function and NPLs do not efficiently trade. Surrogating the market is difficult and requires a complex toolbox of prices and values.

This situation is not unique to NPLs. When related parties, such as for example companies of the same holding group, exchange goods and services, they use a transfer price for these non-market transactions. The value of this price has several consequences, that are also relevant outside the group. For example, a high transfer price may allow to shift profits across companies and across countries. Several approaches have been internationally developed to address this problem, mainly for fiscal reasons, based on the general idea of replicating as close as possible arms' length transactions. A first group of methods is based on information concerning the single specific transaction and can rely either on prices charged for comparable transactions, or on cost-plus methods. In the latter case, the transfer price is the estimated per-unit cost of production plus a fixed mark-up typical for the industry. A second group of methods considers the fact that in several cases (e.g. when licensing intangible intellectual property rights) comparable transactions do not exist and specific cost estimates are simply not available. These non-transactional methods (also identified as profit-based methods) instead rely on acceptable and comparable measures of overall profitability that are subsequently applied to specific transactions.

If possible, the issue with NPL is even more complicate than that of transfer pricing between related entities, because of the pervasive impact of market failures. But the logic is similar. Consider, for example, the case of the Hungarian AMC named MARK, that in 2016 acquired assets and NPLs under the condition that they were collateralized with real estate. When available, reliable information about cash flows was used in an "income model", replicating the idea of determining the real economic value with an appropriate implicit cost of capital (in the range of 7-15%). Alternatively, prices were used for transactions of similar real estates. These estimates of MARK were then double checked by independent external valuers. Then, a second stage followed to calculate the market values of each loan backed by these real estates, applying an appropriate discount to the estimated real

economic value, to finally obtain the transfer price of the NPL. These are relatively simple cases, because they refer to assets backed by real estates.

Clearly, valuing an operating loan to a SME, for example, would be much more complicated, precisely because these loans are unique: no comparable transactions exist and an “income model” would require a lot of information that, if anything, only the entrepreneur may possess and properly judge. Note that the ECB (Constâncio, 2017) recently reported that 36 per cent of gross NPLs is covered with collaterals, so that a large fraction of NPLs is potentially non-standard.

In this quest of the “right” and state-aid-free transfer price for non-standard loans, market mechanisms such auctions are also of very limited help. Although auctions can be very efficient mechanisms, here they could at best reduce buyers’ bargaining power and make emerge the economic value of buyers or of sellers (using reverse auctions), that would remain respectively unduly depressed and overvalued, due to market failures.

With non-standard and non-comparable assets, we think one should accept the fact that other approaches should be used to determine a transfer price (or other mechanisms of public intervention). As in the case of transfer pricing rules for taxing purposes, when the type of NPL and the associated collateral are non-standard, simple profitability approaches should be considered, where some level of acceptable profitability for the buyer and loss for the selling bank are identified. The proposal of Avgouleas and Goodhart in this Issue is in part related to this idea. They suggest to transfer these “special” NPLs to the AMC at a transfer price that is the weighted average accounting for the Net-book value with a $\frac{1}{3}$ weight. Also Bruno et al.’s proposal in this Issue relies on a transfer price anchored to the expected recovery rate of the selling bank’s loans and adding, to that recovery rate, a buffer granting enough profitability to the buyer and sufficient relief to the seller.

The fact that the “best guess” is unbiased requires to take care adequately of possible moral hazard problems. When considering the more problematic class of non-standard NPLs, banks have strong incentives to cherry-pick their best assets for themselves and for future transactions. To avoid this strategic behavior, the profitability approaches for transfer pricing should therefore be associated with a random identification of the NPLs to trade at different points in time.

As previously discussed, a critical issue is that there is a tendency for good assets owners to wait for hopefully higher future prices and, conversely, for low quality assets owners to populate the market immediately. This adverse mix clearly depresses buyers' expectations and increases the bid-ask gap. Although they have not yet been discussed in this framework, other types of temporary interventions in the functioning of a secondary market for NPLs may help jumpstarting the market and restore confidence and liquidity. For example, it might be possible to organize a policy of current trade subsidies and future trade taxes on NPL transactions, with effects similar to a purchase at prices higher than the market price, with a claw-back clause case of overpricing. This would affect the perverse intertemporal trade-off described above, reducing the bid-ask gap, increasing exchange prices, and eventually inducing even more trade.⁵

The meta AMC and conclusions

All the proposals described above originate from the view that, in the current situation, a private solution to the problem of bank non-performing loans is not sufficient, due to the large number of market failures that prevent the determination of a fair price at which banks can sell these assets to outside investors.

But each proposal also has its distinctive features and stresses some specific aspects that may be overlooked by others. It is therefore interesting to find *what the common denominator among the different proposals is*. Further, by making some preferential choices when some aspects are conflicting, we develop a meta-proposal, the meta AMC, that possibly encompasses all the strengths of each single approach. This discussion is useful as the European Council is launching its project for defining the blueprint of national European AMCs.

A *first aspect* that is common across most of the proposals is *the establishment of an AMC*, mainly due to the positive experiences of the past,

5. Several recent papers (Philippon and Skreta 2012, Tirole 2012, Fuchs and Skrzypacz 2013) have clarified how these types of intervention may be very effective by tampering the bid-ask gap also intertemporally.

both within the European Union (e.g., in Ireland, Spain, Slovenia, Hungary) and in the rest of the world, most notably in Japan around the beginning of the new millennium. While other solutions have been suggested by some authors, none of them is fully in conflict with this hypothesis, that we therefore also take as the building block of our meta-proposal.

The second step is the degree of involvement of the banks, the initial owners of NPLs in the AMC. All proposals have in common the view that to address moral hazard it is necessary that banks share at least in part the potential losses that an AMC might face. However, this can be achieved in different forms, for example through a mandatory participation in the capital of the AMC by part of all banks that want to sell their NPLs to the company; or through different claw-back clauses in case of excessive losses on the value of the assets that are transferred. While both mechanisms introduce a relevant degree of uncertainty in the participating banks' value, that may harm their ability to fund normal activities after the removal of the NPLs, this uncertainty is higher in the case of direct claw-back clauses than with participation in the capital of the AMC, since the latter entails a mutualization of risk among the funding banks.

On the other hand, full mutualization may cause both adverse selection and moral hazard problems, because only banks in very bad situations would take part to the scheme, possibly selling only their worst NPLs. *For this reason, without taking a precise position on the relative weights, we advocate a mixed solution of partial cost and benefit sharing: if after a given time frame the price of the NPLs does not converge to the transfer price, the losses of the AMC are supported partly by the bank that has sold them, so as to limit moral hazard and adverse selection, and partly by all other banks, in proportion to the amount of NPLs that they have sold to the AMC. Such mechanism could be made symmetric, at least in part, allowing for a partial mutualization of the upside, in case assets are finally sold at a price higher than the transfer price. Aside from issues of fairness, such a mechanism would have the benefit of increasing banks' incentives to participate in the scheme, as suggested by De Haas et al.*

The third crucial aspect is the role of the State. While positions are more nuanced in this respect, we believe that at this initial stage an AMC cannot work if the State does not provide financial support. This can either take the form of an equity stake in the capital of the company or some form of external

guarantee. Since it is likely that the AMC will have to take some discretionary management decisions before the value of the NPLs will be fully realized, we believe that it is better to allow for a direct participation in its governance. For this reason, we prefer that the State takes an equity stake in the capital of the AMC and be adequately represented in its board, rather than that it just providing an external guarantee.

Since it is of foremost importance that an AMC operates with a relatively high leverage, by raising substantial funding from the market, additional forms of public involvement can take either the form of a State guarantee on the senior liabilities issued, or that of a State guarantee on the value of some classes of NPLs.

An interesting additional option might be for *the AMC to securitize its assets in different risk tranches, and sell them to external investors*, as also envisaged in Bruno et al.'s proposal. When adequately organized and priced, the benefits of pooling, tranching and securitizing assets have been fully recognized in the academic literature (see, e.g., De Marzo, 2004), and indeed many initiatives have been proposed to restart a market for asset backed securities, including by the European Commission. Forcing banks participating in the AMC to acquire the equity tranches of the securitizations and requiring the State to provide a public guarantee to the most senior tranches might obtain the double benefit of reducing moral hazard by banks and enhancing the liquidity of the less risky asset classes. Securitization might also have the advantage of making the pricing of the underlying NPLs easier.

A *fourth* aspect – that in the debate looks a bit like the Stone's Guest in Mozart's Don Giovanni – is whether there should be *some degree of public mutualization of the potential costs of an AMC at the European level*. The problem is that the lack of mutualization might trigger a diabolic loop between State and banks risk if the AMC faces large losses and an issue of sustainability of sovereigns arises.

While we share the view that it is of foremost importance to envisage a mechanism to limit moral hazard at the country level, we also believe that some degree of mutualization of the risks of an NPL crisis at the European level is necessary and beneficial. In this sense, we endorse the proposal of Avgouleas and Goodhart of a two-tier equity and governance structure, with a European-level AMC that holds limited equity stakes in each national AMC. Indeed, this

structure would not conflict with the other ingredients discussed so far. While all the features presented above could be maintained at the level of single country's AMCs, such a structure would engineer ex-ante a framework capable of addressing the contingency that a national AMC turns unsustainable. One option would be for example to foresee a conditional intervention of the ESM. We understand that at this stage mutualization is politically very unlikely to be feasible. So in the immediate, all other ingredients could start being implemented, with a longer term prospect of discussing and engineering such a mutualization at a second stage.

In addition to these fundamental aspects, a set of relevant details are discussed in the different proposals, ranging from the perimeter of assets that should be considered for a potential transfer to an ACM, to their transfer prices, to what banks should take part in the initiative.

With respect to the first issue, a consensus seems to emerge from the different proposals that the only NPLs that should be considered are those for which a common management outside of the perimeter of the bank increases their economic value. Clearly, these include standardized loans, possibly guaranteed by external collateral, such as house mortgages and consumer credit loans. However, given the size and the sector distribution of NPLs in some countries, it is important to recognize that also more opaque expositions such as loans to corporations must be considered.

This is possible using transfer prices identified along the lines discussed in detail in Section 4, possibly with the certification of the EIB, as suggested by Avgouleas and Goodhart.

Finally, with respect to the perimeter of banks that should take part in the initiative, costs and benefits of the different options should be considered. Allowing banks to participate on a voluntary basis might cause adverse selection problems, since banks that think that they can oversell their NPLs would have stronger incentives to participate. On the other hand, forcing all banks to adhere to the AMC might cause moral hazard problems, and impose unwarranted costs to those financial intermediaries that in the past had sounder lending policies. However, considering the disincentives to moral hazard strategies discussed above and the benefits of making as large and liquid a market for NPLs related assets as possible, we do believe that all banks should be forced to contribute to an ACM, at least in part and in the initial period.

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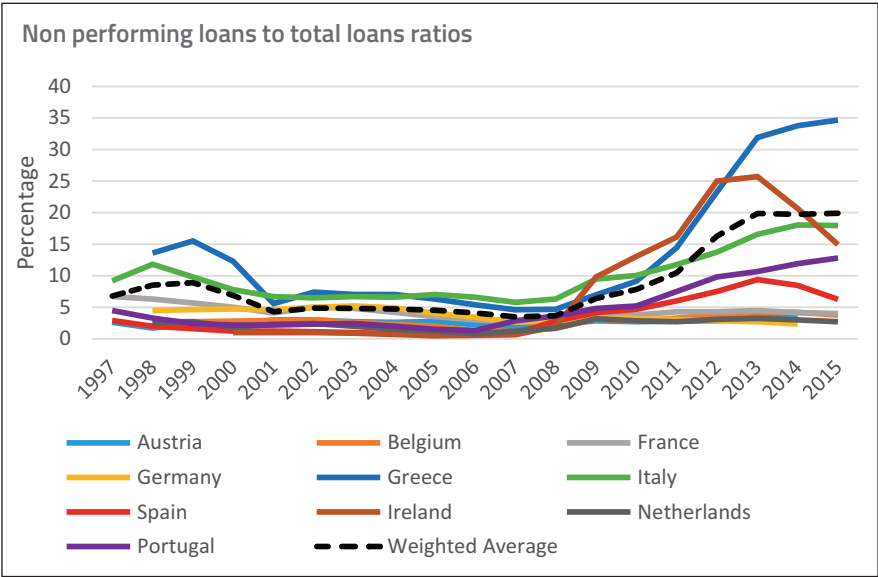
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Numbers

by José Manuel Mansilla-Fernández⁶

Non-performing loans across the European countries

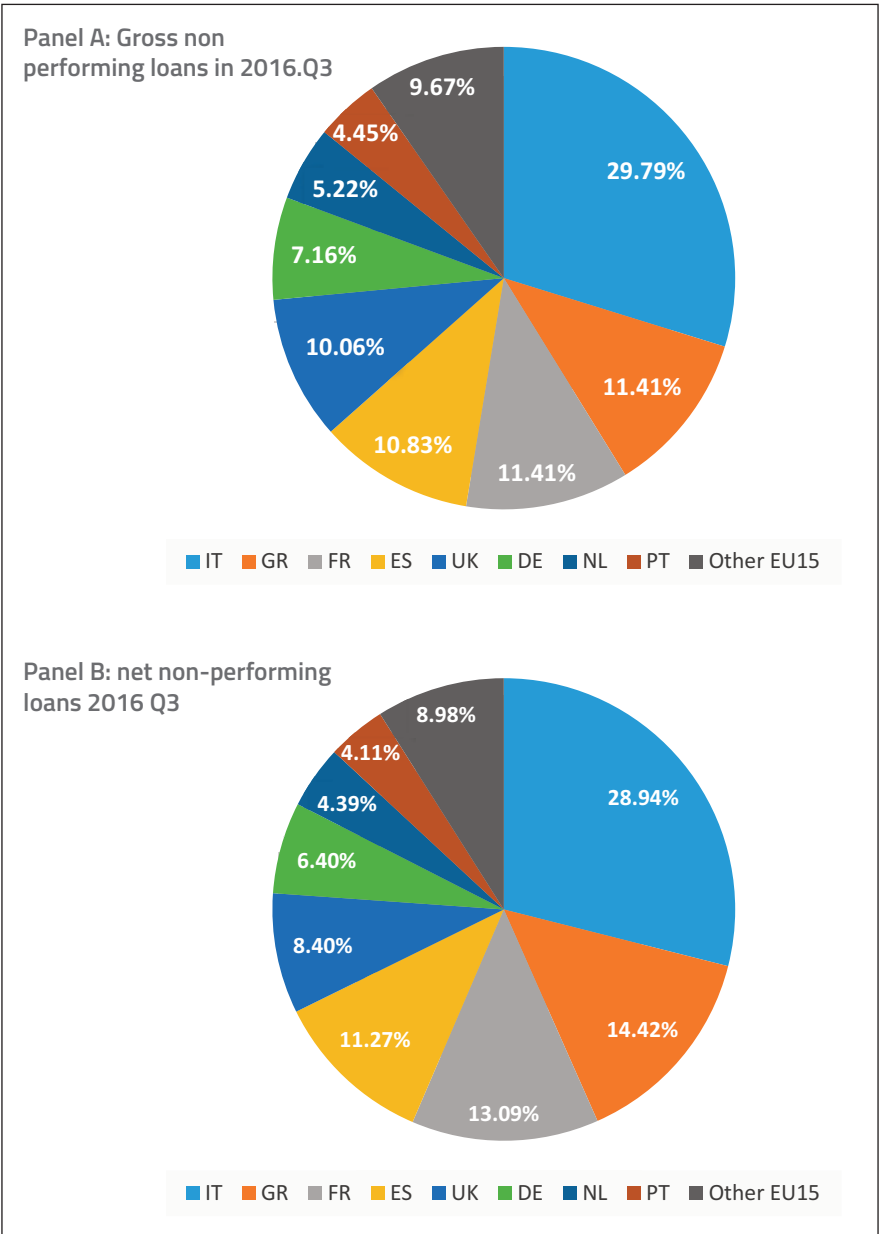
Figure 1: The rise in non-performing loan ratios was significantly stronger among periphery-countries of the Eurozone



Source: Own elaboration based on the World Bank database. The ratio measures the proportion non-performing loans (NPL) to total loans as a percentage by country. The dashed line represents the weighted average of the NPL ratios across all countries.

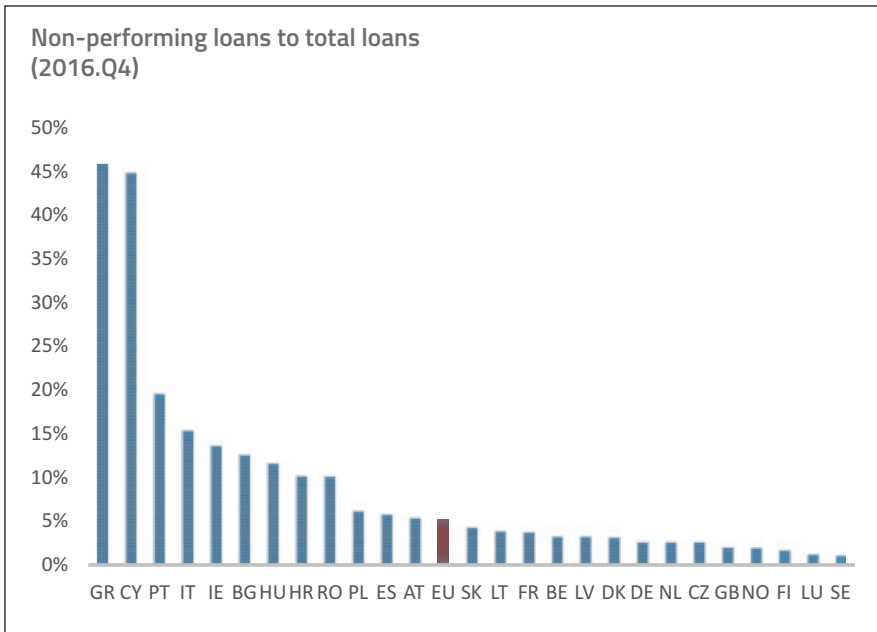
6. University of Milan

Figure 2: Italy has the largest amount of gross and net non-performing loans in Europe, followed by Greece and Spain



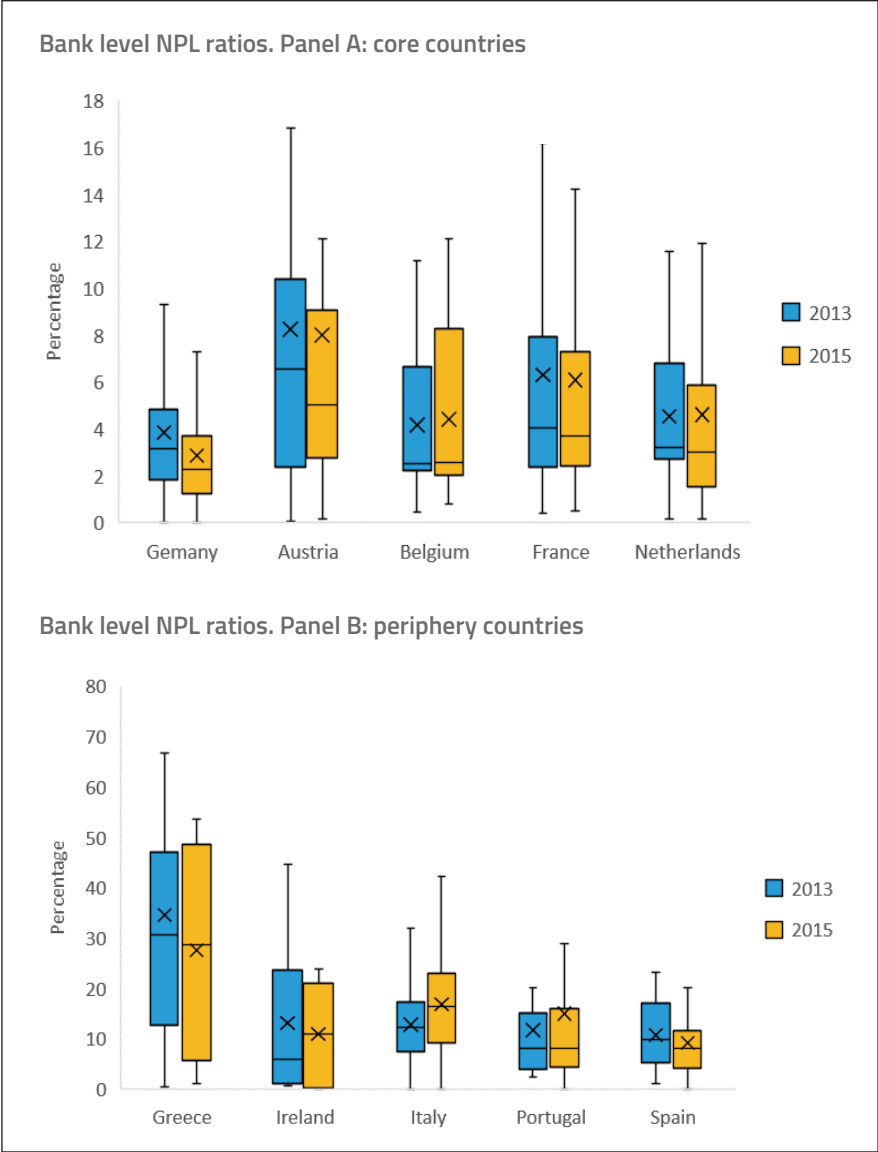
Source: Own elaboration on ECB data.

Figure 3: Three groups of countries emerge within Europe according to the incidence of non-performing loans to total loans



Source: Own elaboration based on the EBA database.

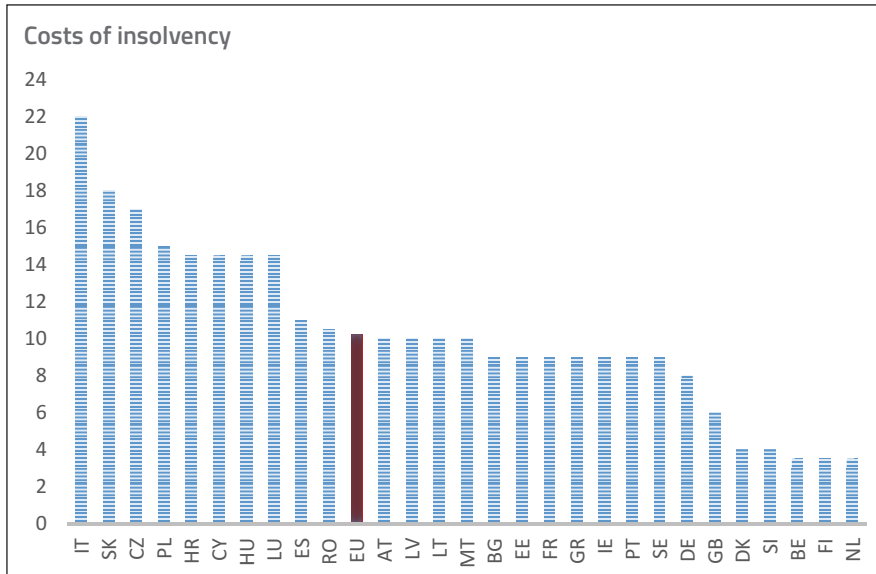
Figure 4: Very large dispersion of bank-level NPL ratios within all European countries



Source: Own elaboration on Bankscope (May 2017) data. Non-performing loan (NPL) ratios are calculated as the amount of non-performing loans over total loans. The whiskers represent the maximum and the minimum of the distribution. The box is divided into two parts by the median, i.e. the 50 percent of the distribution. The upper (lower) box represents the 25 percent of the sample greater (lower) than the median, i.e. the upper (lower) quartile. The mean of the distribution is represented by x.

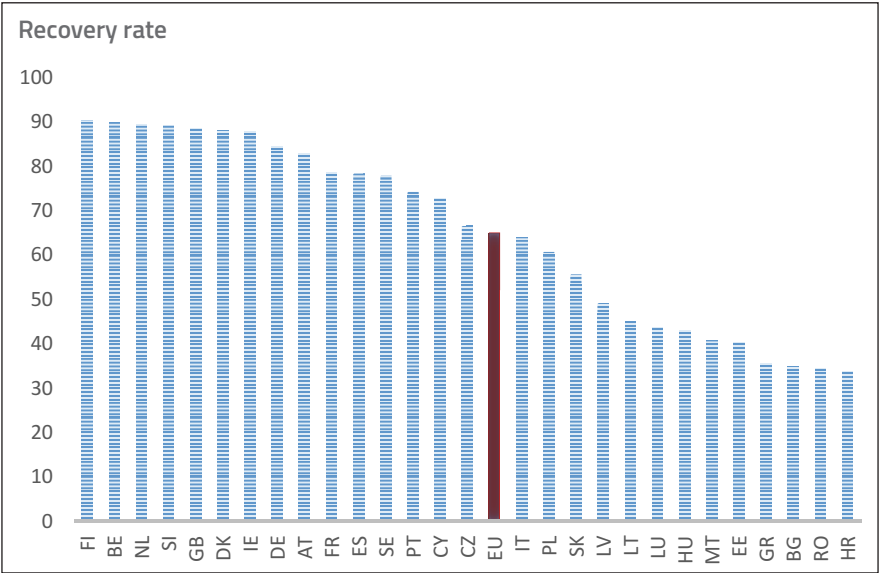
Costs of Insolvency and Recovery Rates

Figure 5: Costs of insolvency as a percentage of the value of the debtor's estate are highly variable across European countries, and can be in some cases substantial



Source: Own calculation based on the "Doing Business" survey. The cost of the proceedings, registered as a percentage of the debtor's estate, is assessed on the basis of questionnaire responses and includes court fees and governments levies, fees of insolvency administrators, auctioneers, assessors and lawyers, and all other fees and costs.

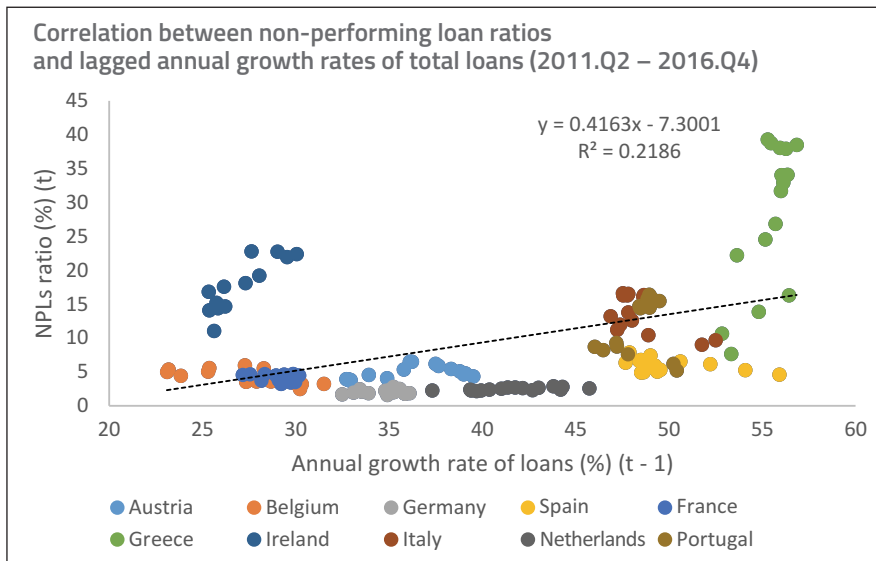
Figure 6: The recovery rates as a percentage of the NPL book value are highly variable across European countries



Source: Own calculation based on the "Doing Business" survey. The recovery rate is recorded as the percentage of the NPL recovered by secured debtors through judicial organizations, liquidation or debt enforcement (foreclosure or receivership) proceedings.

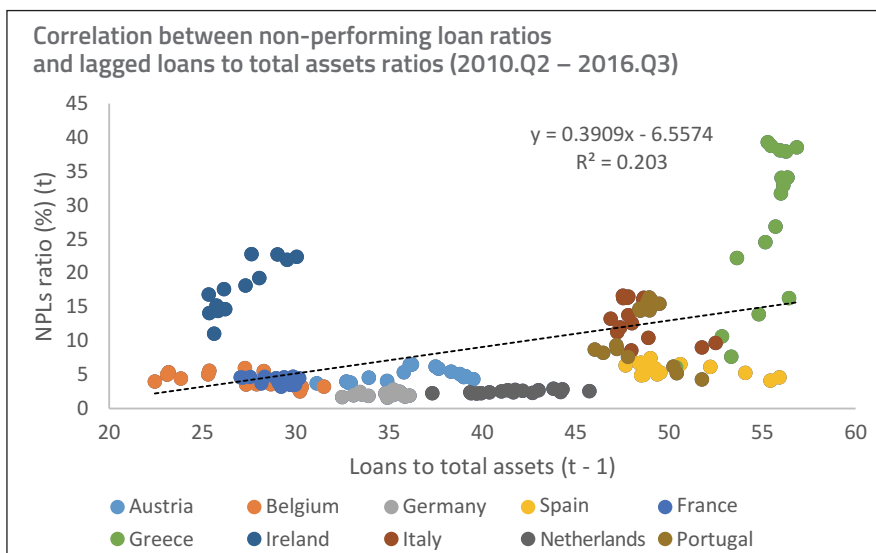
Stylised facts on non-performing exposures

Figure 7: NPL ratios are larger for countries with earlier rapid credit expansion



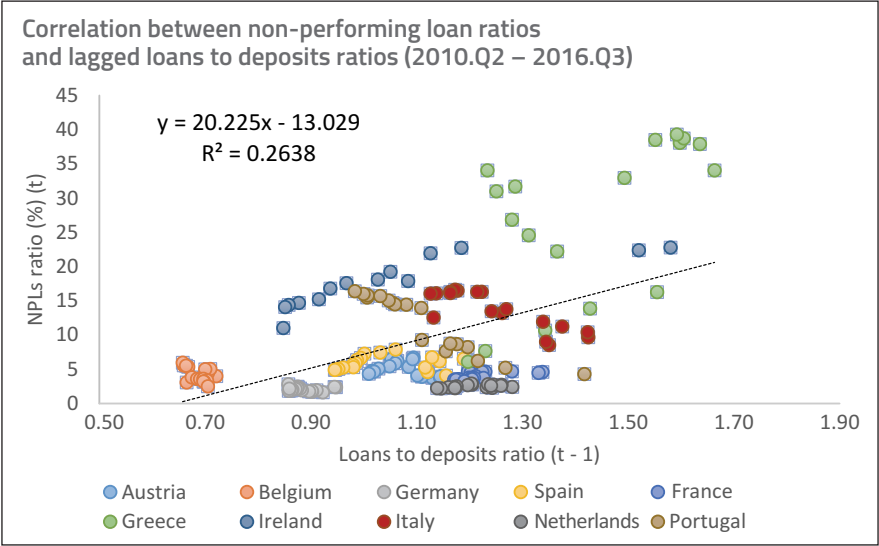
Source: Own elaboration based on ECB data. Non-performing loans (NPLs) ratio is calculated as the amount of non-performing loans over total loans. Annual growth rate of loans is computed as the annual variation rate in the stock of loans as a percentage. Dots are quarterly observations per country

Figure 8: NPL ratios are larger for countries with higher share of loans to total assets



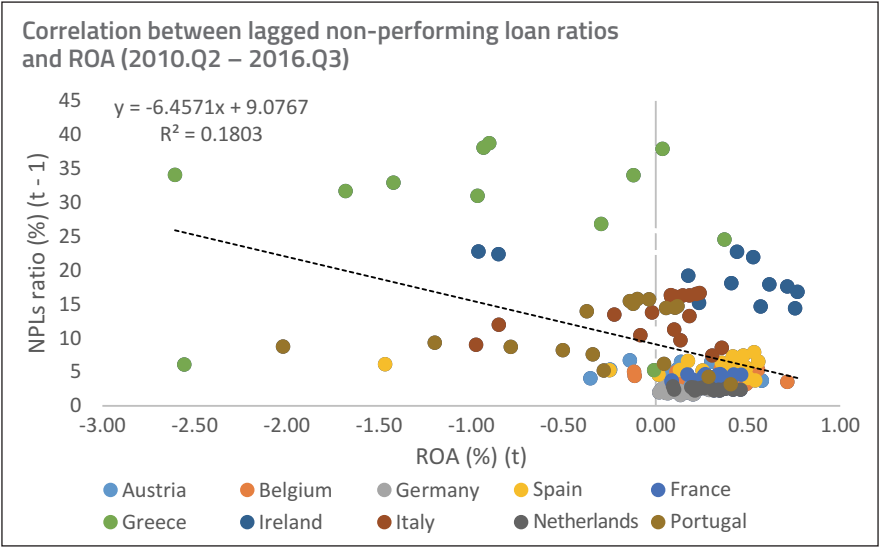
Source: Own elaboration based on ECB data.

Figure 9: NPL ratios are larger for countries with higher share of loans to deposits



Source: Own elaboration based on ECB data.

Figure 10: Higher NPLs ratios determine a drop in ROA



Source: Own elaboration based on ECB data.

Institutions

by José Manuel Mansilla-Fernández

The institutional framework for defining non-performing loans

The recent global crisis has left many banks across Europe with a high volume of non-performing loans (NPLs hereafter) in their balance sheets. NPLs in the European Union grew significantly between 2009 and the time of writing this note, and their levels remain particularly high in the southern part of the Eurozone, as well as in several eastern and southeaster European countries (Aiyar et al., 2015). Consequently, the problem of NPLs has been classified as a regulatory priority by the European Central Bank (ECB hereafter), the Joint Supervisory Teams, and the national competent authorities (ECB, 2017a,b). One of the problems has been the lack of uniformity and clarity of how to recisely define a NPL. This is important because it resulted in the general recognition that banks did not appropriately provisioned and recorded credit losses, i.e. they did it “too little, too late,” which contributed to post-crisis instability.

The debate about **forbearance** as a strategy of credit risk management is still under debate. This concept is referred in different manners across jurisdictions and banks around the world. EBA (2013) defines “Forbearance measures consist of concessions towards a debtor facing or about to face difficulties in meeting its financial commitments (financial difficulties)”. The definition of forbearance builds on existing accounting and regulatory frameworks (EU Directive 2006/48, Regulation EU 575/2013, the ITS on supervisory reporting, the European System of Accounts, the ECB Regulation

2008/32 which is no longer in force) and encompasses transactions which are generally based on concessions or modification of the terms and conditions of loans (EBA, 2013).⁷

As for **banks' accounting standards**, Basel II makes less attractive for the internal rating-based banks to use the discretion in provisioning implied by the International Financial Reporting Standards (IFRS hereafter) to smooth income-increasing loan loss provisions than those using the standardized approach (Hamadi 2016).⁸ The International Accounting Standards Board (IASB) published the final version of the **IFRS 9 Financial Instruments** in July 2014. The final version of IFRS 9 will replace IAS 39 *Financial Instruments: recognition and Measurements*.⁹ The accounting standards IFRS 9 are built under a forward-looking expected credit loss model, which will result in more timely recognition of loan losses, and is a single model which is applicable to all financial instruments subject to impaired accounting (ECB, 2017b). Expected credit losses are an estimate of credit losses over the life of the financial instrument. In this regard, an entity should consider: (i) that the expected credit loss should represent neither the best or worst case scenario, (ii) the time value of money, and (iii) reasonable and supportable information that is available without undue cost or effort. The new standards will come into effect between January 2018 and 2021 (Cohen and Edwards, 2017; IASB, 2014).

Discussing the foremost proposals for resolving NPLs

Addressing asset quality issues is one of the main priorities for the ECB banking supervision. The ECB's objectives were targeted after the 2014 comprehensive assessment comprising two main pillars: an asset quality

7. When talking about forbearance, it is essential to consider a twofold perspective. On the one hand, 'good forbearance' may enable borrowers during temporary difficulties to sustain the capacity to pay their debts, thus being a tool for risk management of problematic loans. On the other hand, 'bad forbearance' would be a strategy to bring NPLs or problem exposures down to avoid negative attention, thus reducing bank's incentives to minimise credit risk portfolio and to improve financial stability (BIS, 2016).

8. Whereas Basel I has been criticized of being backward looking in which a decreased in loan loss provisions results tend to increase income of NPLs, Basel II requires banks to compute forward-looking measures of expected losses on their loan portfolio and to deduct the difference between this expected measure and the actual loan loss provisions (Aiyar et al., 2015).

9. The existing model in IAS 39 is a 'incurred loss' model which delays the recognition of credit losses until there is evidence of a trigger event (Cohen and Edwards, 2017).

review, and a stress test. The ECB released in 2017 the **Guidance for addressing NPLs** within the meaning of Article 4 (1) of Regulation (EU) 575/2013 (CRR). The guidance is applicable to the whole significant institutions supervised directly by the Single Supervision Mechanism (SSM hereafter), including their international subsidiaries (EBA, 2016; ECB, 2017a)¹⁰.

The High Level Group on Non-Performing Loans at ECB was mandated to develop a consistent supervisory approach to the treatment of NPLs. Through the work, a number of best practices have been incorporated into the Guidance as standard for NPL management going forward at the bank level. This proposal requires banks to set ambitious and credible **portfolio-by-portfolio targets**, after having assessed the context in which they operate (Donnery, 2017). These targets are embedded in a comprehensive **NPL strategy and operational plans** which should be approved and steered by banks' management body. These plans should review annually the strategy, define management objectives, define processes for NPL workout decisions, include borrowers' affordability assessment before granting any forbearance measures, and ensure enough internal controls over NPL management process (ECB, 2017a).

The establishment of a bad bank or **asset management company** (AMC hereafter) or special purposes vehicle has been proposed by several voices as a plausible overcome for the question of NPLs (Avgouleas and Goodhart, 2016; Lucchetta and Parigi, 2016; Enria, 2017 and the articles in this Issue of European Economy).¹¹ As discussed at length in this Issue, concentrating NPLs in a single AMC can create economies of scale because it could realize profits, whilst freeing banks' balance sheets at the same time avoiding fire-sales in illiquid markets thus limiting the need and costs of restructuring banks.

However, an obstacle that a European AMC should take on is the prohibition article 125 of the Treaty of Functioning of the European Union (TFEU) of receiving any public support. Accordingly, the EBA's Eurozone AMC proposal is envisaged to buy NPLs at an assessed price, i.e. the real economic

10. This Guidance does not endeavour to substitute or supersede any applicable regulatory or accounting requirement from existing EU regulations or directives and their national transpositions or equivalent, or guidelines issued by the European Banking Authority (EBA). The Guidance is a supervisory tool with the aim of clarifying the supervisory expectations regarding NPLs identification, management, measurement and write-offs in areas where existing regulations are silent or lack of specificity (ECB, 2017a).

11. Other AMCs have been set up at the national level in Ireland (NAMA in 2009), Germany (FMS in 2010), and Spain (Sareb in 2012) (see Bruno et al., 2017).

value, despite their market price which might probably be lower. Then, banks should only incur in losses equal to the amount by which the book value exceeds the real economic value. Otherwise, the amount by which the real economic value exceeds the market price would be a pre-financing of future recovery. The AMC would be to set a timeline of three years to exit and sell the NPLs at the real economic value. If the AMC is unable to do so, the selling bank would have to compensate the AMC for any shortfall, the so-called recourse mechanism. The proposal includes clawbacks to protect public investments in the event of losses, i.e. when sales price is lower than the transfer price to the AMC (Enria, 2017; Habben and Quagliariello, 2017).

The European Commission is working on a comprehensive approach to solving the issue of NPL in Europe. It identifies four policy areas, (i) supervision, (ii) structural issues, including insolvency, (iii) secondary markets, and (iv) restructuring of the banking system. The aim is to address the urgency of the current issue but also to make the EU financial system resilient to the NPL phenomenon in the future. It sets relevant policy objectives and develop options for policy-making on the four areas of intervention. Of particular relevance is the Policy Option C.6: “Consider in a pragmatic approach the setting-up of AMCs to segregate bad assets and facilitate restructuring, to the extent that the conditions of success are met and AMCs bring added value to the working-out of loans. Invite the Commission to develop a blueprint for the permissible design of national AMCs.” The development of a blueprint for national AMCs will have to address a number of key issues: how to determine the appropriate asset classes to be acquired by the AMC, which banks should offload NPLs to the AMC, the asset-size threshold, the asset valuation rules to comply with BRRD and State Aid rules), the capital structure of the AMC avoiding to increase the government debt, the governance and operations of the AMC to maximise the recovery value of transferred assets.

Another common proposal is the creation of **securitisation schemes** which are able to involve private investors with a certain level of risk instead of requiring public funds. Furthermore, securitisation schemes can reduce the gap between book value and market value (Bruno et al., 2016).¹² This bid-ask

12. The bad bank and securitisation schemes are thought to remove NPLs from banks' balance sheets. Both proposals are equivalent in the sense that both require the creation of a vehicle: an AMC or a special

spread is mainly explained by information asymmetry that can be reduced through public initiatives such as enhancing transparency regarding the state of NPLs in general and associated factors, e.g. real estate collateral valuation, which will ultimately facilitate the sales process leading to lower discounts in the secondary markets (Garrido et al, 2016). Supervisors would have to monitor securitisation efforts of banks closely to detect adverse developments.

Market for NPLs needs a certain critical mass, so an EU-wide framework is required (EBA, 2016). In this regard, Enria (2016) proposes (i) promoting a single EU platform, or a network of national framework, to favour the interaction between banks and investors in a market for NPLs based on consistent data, and (ii) overcoming the plethora of national restrictions on purchasers in order to reduce the costs for new entrants to local markets.

The ECOFIN is exploring initiatives to develop a secondary market for NPLs under the guidance of EBA in developing NPL data standardisation, which may remove any possible obstacle for private secondary buyers and loan servicing companies (European Commission, 2017).

Asset relief can be also obtained with guarantees (asset protection schemes) which are also subject to State aid rules. Since 1 January 2016, the bail-in procedure of the BRRD applies and then public bad banks and asset protection schemes are subject the conditions of restructuring the aided bank, transferring or guaranteeing at a price reflecting the real economic value of assets, and some burden sharing of subordinated creditors.

Reforming tax rules can also enhance incentives for adequate provisioning and loan write-offs (ECB, 2017a). The credit hierarchy applied to secured and unsecured private creditors and public authorities should ensure that the whole creditors are equally incentivized to support debt restructuring, and enforcement liquidation options. Thus, tax laws should be amended in areas where creditors may be discouraged to from provisioning or writing-off loans or from participating in collateral markets. Similarly, tax rules inhibiting debtors from accepting restructuring or write-off deals should be also amended (Aiyar et al., 2015).

The Subgroup on NPLs of Council of the European Union's Financial

purpose vehicle. The main difference is that the AMC creates a market for NPLs, whilst the securitisation scheme creates also a market for structured securities guarantees (Bruno et al., 2016).

Services Committee was established in July 2016 to assess the state of NPL in Europe and propose possible solutions. The Subgroup is composed of representatives of Member States, the European Commission, the ECB, the European Systemic Risk Board (ESRB), the European Banking Authority (EBA), the European Securities and Markets Authority (ESMA), the European Investment Bank (EIB) and the Single Resolution Board (SRB). The Subgroup has produced a draft in March 2017¹³ with policy recommendations.

Reducing the weight of NPL on banks' balance sheets is essential for restoring the health of the European banking sector. Since impediments to reduce NPLs are often interlinked, a comprehensive strategy is suggested by several authors and international organizations to address the NPL issue. This strategy is based on four fundamental pillars: (i) enhancing supervision, (ii) harmonizing insolvency rules across jurisdictions, (iii) developing distressed markets throughout a Eurozone AMC and securitisation schemes, and (iv) reforming tax rules.

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A Bird Eye (Re)view of Key Readings

by José Manuel Mansilla-Fernández

This section of the journal indicates a few and briefly commented references that a non-expert reader may want to cover to obtain a first informed and broad view of the theme discussed in the current issue. These references are meant to provide an extensive, though not exhaustive, insight into the main issues of the debate. More detailed and specific references are available in each article published in the current issue.

On the determinants of non-performing loans

A first comprehensive investigation of NPLs in Europe is the IMF staff discussion note (2015). It provides figures for EU and the US and discusses why the secondary market for non-performing loans (NPLs hereafter) is underdeveloped in EU compared to the US market. It also illustrates the impact of NPL on growth which are more relevant for countries that rely mainly on bank financing. Many NPLs reduce profitability, increase funding costs and limit bank capital. This in turn reduces the supply of credit with negative consequences on growth.

The level of NPL were relatively stable until the beginning of the financial crisis in 2008. Afterwards, the quality of banks' portfolio has progressively declined. The response from the governments and central banks to deal with impaired bank assets, recapitalizing and / or restructuring troubled banks, and several actions to inject liquidity into the banking system was significant in

Europe and the US (Avgouleas and Goodhart, 2015, 2016).¹⁴ Nowadays, the level of NPLs remains high and undermines the stability of the European banking sector (Aiyar et al., 2017). Unlike other industries, the impact of a failure of one bank can spread to others, causing a chain effect and jeopardizing the whole sector at home or globally (Demirguç-Kunt, 1989; Barr et al., 1994).

A wide range of reasons may have generated the NPLs problem in Europe including the economic recession, the sovereign debt crisis, government support provided to the financial institutions in the early stage of the crisis, and managerial practices of some banks (Anastasiou et al., 2016; Chiorazzo et al., 2017; Louzis et al., 2012; Jassaud and Kang, 2015; Salas and Saurina, 2002).

The European Investment Bank (2014) and IMF (2015) have shown that Euro Area banks with higher NPLs ratios lend less than other banks, *ceteris paribus*. Furthermore, these effects tend to affect SMEs more significantly because these firms are more dependent on bank finance. The relevance of macroeconomic dynamics reflects the endogeneity issue that undermines the identification of the adequate transmission channel of NPLs on lending supply: NPLs rise in economies and countries affected by economic stagnation, and consequently (i) creditworthiness is deteriorated and (ii) the demand for lending also tend to weaken (Accornero et al., 2017). Similarly, several studies demonstrate that both NPLs and loan loss provisions ratio -two indicators of the quality of banks' loan portfolio- have a negative correlation with bank lending supply (Balgova et al., 2016; Bending et al., 2014; Cucinelli, 2015). Importantly, deterioration of public finances places a 'ceiling' on the market evaluation of credibility of domestic banks, and therefore they are hard-pressed for liquidity (Reinhart and Rogoff, 2010). As a result, banks are unable to provide new lending and debtors cannot refinance their debts.

On non-performing loans and moral hazard problems

A rapid credit expansion is considered as one of the most important causes of troubled loans. Agency problems between shareholders and managers may arise

14. See the issue 2016. 2 of this journal for more information about bank resolution policies implemented in Europe and the U.S.

if the formers are interested in business growth which might imply promotion, more power or better status within the organization (Williamson, 1963).

The distinctive features of the banking sector and the efforts of financial institutions to improve efficiency and risk management are found to influence the evolution of NPLs (Durán and Lozano, 2015; Zhang et al., 2016). Berger and De Young (1997) demonstrated that poor managerial skills in credit scoring, appraisal for pledged collateral, and monitoring borrowers may increase the volume of NPL in the future, the so-called *bad management hypothesis*.¹⁵ Additionally, banks should face a trade-off between allocating resources for underwriting and monitoring loans, and measured cost efficiency. The reduction in efforts to ensure high quality loans will make banks more cost-efficient but increasing NPLs in the long term, the so-called *skimping hypothesis* (Luozi et al., 2012).¹⁶ From the regulator's point of view, NPLs ratio is a useful indicator to measure the extent of moral hazard behaviour in order to avoid potential financial instability (Zhang et al., 2016).

Quality portfolio of banks may endogenously induce further risk-taking. Prudential banks would be more cautious when taking on increasing NPLs. However, NPLs above a threshold may incentivize banks to shift risks (Bernanke and Gelter, 1986). Thus, banks showing a higher level of troubled loan portfolio are more likely to assume higher level of risk in the future (Bowman and Malmendier, 2015; Buchner et al., forthcoming; Eisdorfer 2008; Koudstaal and Wijnbergen, 2012). Accordingly, Bruche and Llobet's (2011) theoretical model predicts that efficiency gains from having bad loans foreclosed allows banks with a relatively proportion of NPLs to gamble to increase their chances of recovery.¹⁷

The 'too-big-too-fail' (TBTF hereafter) banks represent another channel to origin NPLs. Under the TBTF presumption, banks are expected to increase their leverage excessively and extend loans to low quality borrowers, being subsequently affected by adverse selection problems (Stern and Feldman,

15. See Podpiera and Weill (2008) for similar results.

16. Bebchuk and Spamann (2010) and Bebchuk et al. (2010) show that the CEO's system of incentives focussed on short-term results contributed to increasing banks' risk-taking as of the beginning of the financial crisis. Similarly, Pierre (2013) remarks that the CEO's contract contributes to the excessive risk-taking higher than the social optimal level.

17. The optimal contract involves making banks with a small proportion of bank loans foreclose (Bruche and Llobet, 2011).

2004). Thus, moral hazard problems might become more relevant in case TBTF banks take advantage of their higher market power, or they expect to be bailed out in case of capital shortage (Boyd and Graham, 1998; Nier and Baumann, 2006). Consequently, bank risk-taking may be also connected to the characteristics of the government's reaction function due to banks can be members of a deposit insurance network *ex ante* to avoid depositors runs or getting bailouts from the governments, and *ex post* if deemed TBTF or 'too-many-to-fail' (Ashraf, 2017).¹⁸

On the theoretical fundamentals of the proposals to deal with NPLs

The debate about government interventions to reduce the weight of NPLs in several advanced and emerging economies is still alive (Ahamed and Mallick, 2017). The creation of a pan-European bad bank or an asset management company (AMC hereafter) has been proposed as a possible solution by several voices (Goodhart and Avgouleas 2015, 2016; Enria, 2016, 2017; Hellwig, 2017). This argument is recently reinforced by Arner et al. (2017) whom demonstrate that in a context of systemic financial crisis, a combination of balance sheet restructuring and the use of AMCs to deal with NPLs is often the best choice.¹⁹ Despite the importance of this phenomenon, the repercussions of establishing an AMC is referred in the policy literature, normally based in empirical evidence from countries which implemented previously these measures such as Spain, Ireland or China, amongst others (Arner et al., 2017; Bending et al., 2014; Zhang et al., 2016).

Luchetta and Parigi's (2016) theoretical model analyses the rational of an AMC and under which conditions it is socially acceptable. They argue that segregating legacy activities in an AMC might eliminate underinvestment, but on the other hand, it might also add value because it gambles on the resurrection of the segregated entities. This contribution explains why risk

18. Dam and Koetter (2012) shows that the expectation of a bail-out, rather than actual bail-outs, may be a precursor of moral hazard. Cukierman (2013) shows that the decision of bailing out financial institutions depends on political ideologies and considerations. Similarly, Antzoulatos and Tsoumas (2014) argue that a substantial part of the expected bail-outs is attributed to a country's institutional environment which might be associated with higher expectations of bail-outs.

19. Similar arguments are found in Hryckiewicz (2014).

transfer through the AMC is valuable for shareholders. However, risk transfer happens at the expenses of debt holders, so shareholders may segregate activities beyond the social optimal. Likewise, Shi (2004) analyses the reforms implemented in China which had registered a long-standing problem with NPLs. The argument is that during the transition period, the government allowed banks for soft-budget constraints to both state-owned enterprises and state-owned banks. Consequently, capital injections could have induced moral hazard because banks might have had incentivised to make loans to troubled firms due to the government's implicit guarantees (Jiang et al., 2013).

Securitization involves the legal or economic transfer of assets or obligations by an originating institution to a third party, typically a special purpose vehicle (SPV hereafter). Later on, the SPV issues asset-back securities or other structured finance securities such as mortgage-backed securities, collateralised debt obligations or whole business securitisation, representing claims against specific assets (Agostino and Mazzuca, 2011).²⁰ According to the *funding hypothesis*, banks securitize in order to obtain funding channels as alternative to deposits (Greenbaum and Thakor, 1987; De Marzo, 2005; De Marzo and Duffie, 1999). Additionally, the *specialization hypothesis* predicts that banks securitize in order to increase their level of specialisation -i.e. in loan origination activities- thus increasing their economic performance. By doing so, banks decompose the traditional lending process into more sophisticated activities of originating, servicing, guaranteeing, and funding (Greenbaum, 1986). Finally, the *regulatory capital arbitrage* (RCA hereafter) *hypothesis* argue that banks would securitize if they can achieve RCA by transferring to others their best quality assets (Calem and LaCour-Little, 2004). Agostino and Mazzuca (2011) find for an Italian sample of banks that NPLs securitization seems to have been affected to a lesser extent by a funding motivation and to have been conditioned by a specialization incentive, whereas the RCA motivation is apparently irrelevant. During an initial step, banks may have used securitization to clean up their balance sheets, thus causing operations to be collateralized mainly by NPLs. Nevertheless, banks also collateralized

20. At time of writing this note, the Italian government is in the process of creating a state-owned AMC SPV to accelerate the transfer of NPLs without violating the rules of the BBRD. Furthermore, large banks have set up AMC SPVs to dispose of NPLs off-balance sheet. The volume of these NPLs constitute 2-3 billion EUR and the advance is snail because of the NPL market was practically inexistent prior 2015 (Arner et al., 2017).

assets other than NPLs and residential mortgages demonstrating that securitization may provide an alternative to the traditional funding channels.

Recently, Bruno et al. (2016) advocate that a securitization scheme can offer interesting yields for the senior and mezzanine tranches, whilst offering simultaneously a similar price for the stock of NPLs close to the book value. Hence, the issue can be reduced to a manageable volume in two categories: (i) the loss immediately recorded by banks which might not force them to increase capital, and (ii) the risk accepted by investors of the junior tranches.

Other policy interventions

Several recent papers (Philippon and Skreta 2012, Tirole 2012, Fuchs and Skrzypacz 2013) have clarified that public authorities can efficiently allow for a jumpstart of the market restoring confidence and liquidity. These activities can be particularly effective when buyers and sellers significantly disagree over the value of the assets to trade and related collateral. For example, subsidizing current exchanges and taxing future ones can significantly improve the mix of quality of tradable assets inducing early market entry of owners of better assets. There is in fact a tendency for good assets owners to wait for hopefully higher prices and conversely for low quality assets owners to populate the market immediately.

This adverse mix clearly depresses buyers' expectations and increases the bid-ask gap. A policy of current trade subsidies and future trade taxes may affect the intertemporal trade off, reduces the bid-ask gap and increases exchange prices, thus inducing even more trade.

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Proposals

Completing the Repair of the EU Banking Sector- A Critical Review of an EU Asset Management Company

by Andrea Enria, Piers Haben, and Mario Quagliariello²¹

Abstract

The final step in the repair of the EU banking sector is cleaning up legacy assets. Otherwise, all of the work we have done to strengthen banks' capital and assess the quality of their assets will not have the desired positive impact on new lending into the real economy.

Progress is in train but has been slow to date. Although asset quality issues are particularly relevant in some Member States, this is a single market problem and coordinated action is vital for success.

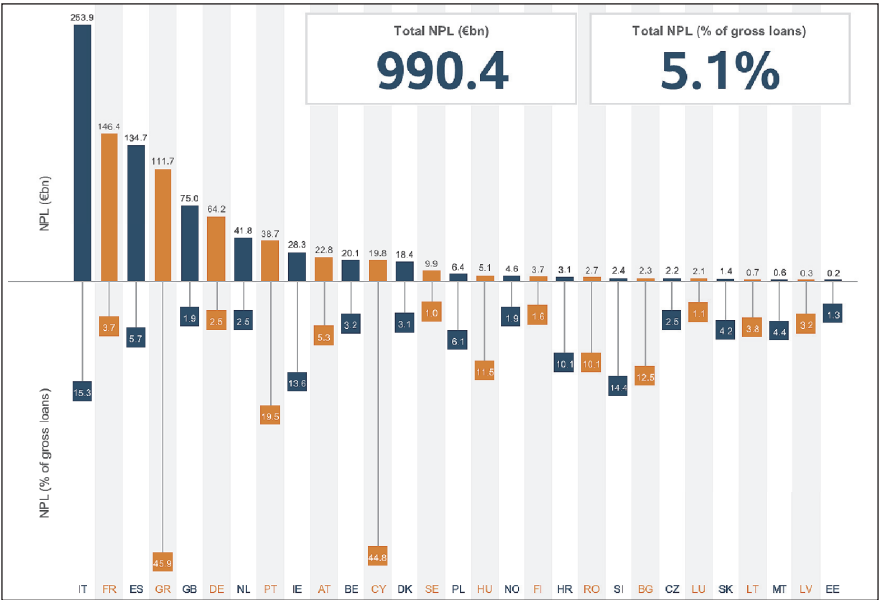
The ongoing effort of supervisors in pushing banks to take action requires that the supporting infrastructure is in place. This means fixing legal systems, which will take time, and addressing market failures in the secondary market for non-performing loans (NPLs), which can be done now. There are legitimate questions about how this should be done, which are addressed in this paper, but those should not be a cause for delay. Whether it be a single European Asset Management Company or a coordinated blueprint for national governments to enact is less important than taking coordinated action urgently.

21. European Banking Authority. The opinions expressed are those of the authors and do not reflect those of the EBA or its Board of Supervisors.

1. The process of repair - Legacy assets as the last step in the repair of the EU banking sector

European banks have increased their ratios of capital of the highest quality by almost 500bp since December 2011, from an aggregate 9.2% core tier 1 ratio in December 2011 to 14.1% CET1 ratio in September 2016. Common equity has soared since 2011, with increases of €180bn in the period from December 2013 to December 2015. Major EU banks' capital ratios are now comparable to their US peers. Extensive asset quality reviews (AQRs) have been carried out in most EU countries in order to identify problematic assets and strengthening banks' provisioning policies.

Capital strengthening and the identification of problem assets have been pivotal in restoring confidence in EU banks, but they are not quite enough for the complete repair of the banking sector. The last and, at this stage, crucial step is cleansing balance sheets. This is now imperative because of the scale of the NPL problem across the EU and its impact on economic recovery as capital is trapped in non-performing investments rather than financing the economy. Also, high levels of NPLs are a significant drag on bank profitability and capital generation, raising concerns as to the long term viability of business models. According to the most recent data, the stock of NPLs currently stands at about one trillion euros and the average NPL ratio of 5.1%, with ten Member States reporting average NPL ratios of over 10%.



While there are differences in NPL levels across jurisdictions, three channels of contagion suggest this is a single market problem. The first is the absolute volume of NPLs in the EU, including in its largest economies. The second is the direct and indirect exposure of large EU banks to NPLs across borders. The third relates to banks' inability to resume new lending in some jurisdictions, which hinders the functioning of the transmission channel of monetary policy and holds back economic growth across the single market.

2. The need for a comprehensive response

In the Report on the dynamics and drivers of non-performing exposures in the EU banking sector, issued by the EBA in 2016, we argued that a comprehensive strategy and a wide range of actions are necessary for tackling the NPLs legacy.

The first area relates to ongoing supervisory pressure on banks to proactively tackle NPLs. Banks have to develop a strategy for dealing with NPLs, strengthen their internal procedures, improve their arrears management, and more generally make NPL management active, efficient and informed. Supervisory guidance is needed on collateral valuation, including valuation methodology and possibly minimum requirements for re-valuation as well as on effective arrears management and NPL resolution governance inside banks. The Single Supervisory Mechanism (SSM) of the ECB has recently made important progress in this area. In general regulatory and supervisory incentives should be in place to promote rapid reduction in NPL levels.

The second area relates to structural issues such as the efficiency of the judicial system, insolvency procedures and out of court restructuring. It is clear that the lengthier the recovery procedures, the wider the ask/bid spread, with an adverse effect on the banks' incentives to dispose of NPLs. Recent experiences show that reforms in this area can prove a key ingredient for a successful resolution of asset quality problems: the judicial system could be strengthened through improvements in the process, as well as adaptation of regulatory framework; judicial systems could be relieved through a more frequent usage of out-of-court restructuring; accounting and tax regimes can also be reviewed with the objective of positively affect the incentives for banks to deal promptly with NPLs.

The last area relates to the importance of a functioning secondary market in loans to facilitate the disposal of NPLs.

3. Restarting secondary markets in NPLs

NPL transactions are almost a textbook example of market failure. First, the absence of easily accessible, comparable data on loan, debtor and collateral characteristics generates asymmetric information. Second, an inter-temporal pricing problem occurs since, at present, markets are illiquid and shallow. There is thus a first mover disadvantage to sell into the market.

Forcing banks to write off or dispose non-performing loans in a very short period of time in the absence of a deep and liquid secondary market for impaired assets and with remaining structural impediments may lead to an inefficient gap between bid and ask prices. In such conditions, and in the absence of efficient market clearing prices, forced NPL sales may create financial stability concerns amidst questions about the viability of the sector as a whole. This could also imply a redistribution effect from banks to the few specialized investors operating in the market.

The following corrective actions could address these failures and improve the efficiency of the secondary market:

- a. addressing incentives for banks management to take action on NPLs;
- b. improving price discovery via
 - higher quality, quantity and comparability of data available to investors;
 - transparency of existing NPL deals;
 - simplification and standardisation of legal contracts;
- c. addressing the inter-temporal pricing problem by overcoming current market illiquidity issues. This would entail stepping into the market at a price reflecting the “real economic value” (REV) or future efficient clearing price rather than current market price, with a view to selling into a deeper and more liquid market at a later date.

Purely private sector solutions are not sufficient given the scale of the problem and the market failures prevailing at the moment. Historical

examples of success in the disposal of non-performing assets demonstrate the key role of the official sector in kick-starting the market, at least for some segments. In several cases, this has involved governments, or special purpose entities sponsored by public authorities, directly taking over impaired assets or supporting with guarantees their sale to private investors.

4. A possible European scheme

To date, a patchwork of national solutions has been trialed, all different in approach and determining an uneven speed of adjustment. In several success cases, an asset management company (AMC) has proved an effective tool to accelerate the process of repair in bank balance sheets. A common European approach, or a coordinated blueprint for government sponsored AMCs, could provide the following benefits: clarity and simplicity for both banks and investors in understanding the criteria for application of the EU framework for state aid and the Bank Recovery and Resolution Directive (BRRD) rules; enhanced credibility of the initiative whilst ensuring that due process is followed in the implementation phase; lower funding costs and higher operational efficiency; critical mass on both the supply and the demand side, pooling assets at the AMC and attracting new investors.

Formal public support could be offered in the shape of a European backed AMC (ideally with “segments” by asset class). Public support could be used to provide capital (say to 8% of total purchasing power), which would in turn crowd in private funding. A hypothetical example would be an AMC purchasing up to a quarter of total outstanding NPLs (about EUR 250 bn) could be capitalised to the tune of EUR 20bn. The solution must be in line with BRRD and State aid rules. Further it should avoid any risk mutualisation of legacy assets.

Banks with NPLs ratios above a given threshold (e.g., 7% NPL ratio) would be required to transfer certain specified assets to the AMC by supervisors. This would require the standardisation of data according to pre-agreed formats (e.g., provided by the EBA).

The process for establishing the AMC would be the following.

Firstly stress tests are used to identify the total envelope of potential state

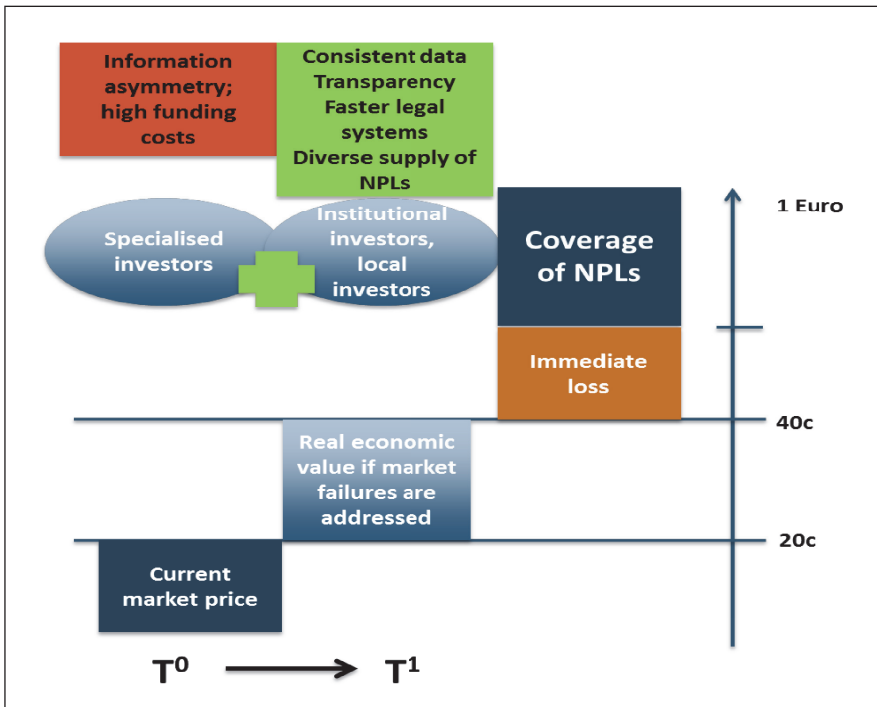
aid for each bank. Such a stress test could take a number of forms ranging from a full balance sheet assessment against complex adverse macro scenarios to more targeted assessments, such as the impact of increasing provisions to meet stressed market price target (e.g. x cents in the euro) levels over a three year timespan. The stress test may also, in isolated cases, identify the need for the immediate resolution of some banks – for instance for banks failing in the baseline scenario.

The State aid envelope calculated in the stress test identifies the theoretical amount of state aid that would be allowed for each bank's precautionary recapitalisation. This theoretical state aid envelope would determine how much state aid could be used to facilitate the transfer of NPLs. The actual amount of State aid would, in line with existing practice in the application of State aid rules, be equal to the difference between the current market prices and real economic value of the assets actually transferred (i.e., the net present value of future cash flows under the assumption that the asset is held until maturity).

An assessment of real economic value vs current market prices is carried out and banks transfer some agreed segments of their NPLs to the AMC at the real economic value, under due diligence from the AMC and accompanied by full data sets available to potential investors. At the time of the transfer to the AMC, the bank bears losses equal to the possible difference between the book value and the real economic value. The assets are irrevocably transferred at the point of sale.

The transfer of assets to the AMC would hit in the first place the existing shareholders to the extent that the net book value of NPLs is above the transfer price to the AMC. This may be accompanied by a liability management exercise and some bail in of junior debt to equity as determined by European Commission under State aid rules but the extent of this may be considered also in relation to the exercise of future warrants as outlined below.

If within a specified time frame the real economic value remains above the market price, the AMC would be compensated by calling upon a guarantee issued by the government of the Member State where the bank transferring the assets is headquartered. To ensure that banks keep skin in the game and avoid moral hazard issues a mechanism could be introduced to ensure an appropriate compensation of the government.



The mechanism would take the form of a parallel issue of equity warrants to national governments at the time of the asset sale to the AMC, with a penal strike price which would be triggered if the (actual or estimated) sale price at the predefined date remains below the transfer price.

While the AMC could sell the assets at any point in time, there would be a limited timeframe (e.g. three years) for achieving the real economic value and reducing the additional impact of the sale on banks. If that value is not achieved within the timeframe or the assets remain unsold the bank must take the full market price hit, covered if necessary by warrants exercised by the national government as state aid with the full conditionality that accompanies that.

The warrants ensure banks still have skin the game and, as they are issued to national government, also ensure that the AMC capital is fully protected and any eventual cost must be borne by shareholders and if necessary national governments. This element is important also to avoid that a European scheme entails any element of mutualisation of risks, which would not be politically acceptable at this stage. The objective is that the State aid element embodied

in the difference between market price and real economic value should reflect only the removal of market imperfections and therefore any price improvement due to increased confidence or economic growth would accrue to the AMC.

5. A critical review of the EBA proposal – incentives, weaknesses and alternative designs

Our original proposal was designed as a sketch, to promote debate and we are aware that many details are missing.

Some criticisms have been well intended but mis-placed. For example, a number of commentators raised the risk of mutualisation of responsibility for legacy assets that would arise by placing NPLs in a common EU AMC. This is not the case. One of the important innovations of the design was precisely to garner all the of benefits that European action offers:- credibility, critical mass; cheaper funding costs – but under no circumstances allowing mutualisation as the AMC was in turn guaranteed by national governments, each remaining responsible for losses generated by banks headquartered in its jurisdiction. Nonetheless, we clearly have a perception problem to deal with.

Other criticisms were more practical. One such was that effort to establish an EU AMC is simply too complex, the scale being unmanageable. We think this depends on the design. We were always clear that the EU AMC may not cover all asset classes not cover all NPLs, but would pick up a critical mass of specific NPLs from relevant portfolios. Moreover, a series of asset class specific AMCs could address the scale problem. Nonetheless, it is reasonable to question how the challenges of operating an EU wide AMC weigh against the benefits of lower funding costs and critical mass that the AMC offers.

Much of the feedback, however, focused on the warrant mechanism. In particular, it has been argued that the potential dilution effect, and associated uncertainty, for equity holders could generate challenges in funding and equity raising.

Our original proposal was designed to identify a system of incentives which was beneficial – or not too detrimental – for any stakeholders, compatible with the current regulatory framework and avoiding moral hazard. A key objective outlined in the original AMC proposal was to achieve a clean break for the

bank, with a full sale bringing NPL levels down in a single shot and allowing its management to focus on restoring the sustainability of the business model.

We are not entirely convinced that the proposal would be so detrimental to bank funding, as the warrant would figure alongside other contingent liabilities in the balance sheet of the bank and could be priced fairly accurately if sufficient information on the transfer process is provided to investors. However, other approaches are possible. The simplest way is to ensure a clean sale at conservative prices that may be below the real economic value, but to accompany this with immediate recapitalisation. This entails full burden sharing at the point of sale but eliminates uncertainty. The flip side is that uncertainty is avoided at the expense of crystallising investors' concerns up front. To compensate for this, a possible upside for the bank could be envisaged, if compatible with State aid rules, in case the final sale price net of servicing costs turns out to be higher than the transfer price. This upfront solution could prove more challenging also for national governments, which might have to step in if the bank is unable to raise the necessary funding in private markets. Alternative options include compulsory insurance purchase by banks, the provision of bonds (or tranches of securitised instruments) to banks in exchange for NPLs, with interest held in escrow accounts until the final sale is completed, and the issuance of contingent convertible instruments (CoCos).

Also, an immediate burden sharing of the junior bond-holders could reduce the incentives for banks and authorities to proceed with the transfer of the assets. If, as we believe, there is a failure in the NPL secondary market, junior bondholders would be affected without any possibility to benefit from the recovery of the prices once the markets become deeper and more liquid. Therefore, some mechanisms – conversion of bonds into equity or write-up clauses – could reduce the redistribution effect and leave some upside also for the bondholders.

There is also the option of doing nothing and leaving the response to purely private solutions. On the latter, however, we note that it does not facilitate the rapid cleansing of the balance sheet of the EU banking sector, which is clearly needed. The inaction so far shows, in our view, that the public sector involvement is necessary. A more attractive alternative is therefore the use of a blueprint for national AMCs, where the scheme would be applied consistently across country but with AMCs established at the national level.

6. A common blueprint for national AMCs

The questions over whether a single European AMC would be appropriate vs a blue print for national AMCs appears largely caught up in concerns over mutualisation, or risk sharing, of legacy assets and concerns about unnecessary centralisation of functions at the EU level.

The subsidiarity test, a cornerstone of the European institutional set-up, clearly allocate the burden of proof to those proposing that certain policies are pursued at the Union level. In their 1993 report, *Making Sense of Subsidiarity*, Begg et al²² propose that centralisation is likely to be desirable in the presence of two simultaneous failures of decentralisation:

- First, that non-cooperative policy-making yields results that are significantly worse than cooperative policy-making; and
- Second, that agreements to cooperate without centralising are not very credible.

They also ask that those proposing centralisation are aware of the risk of diminished accountability. In the case of NPLs it is clear that uncoordinated and sometimes non cooperative policy making is not delivering the necessary progress in addressing the outstanding stock of NPLs, to the detriment of the single market economy. Moreover, existing mechanisms for cooperation, as we have at the EBA, already exist but have not prevented a variety of solutions, and different speed of policy reaction, according to the preferences of national governments and authorities. So some form of centralised policy seem to be necessary.

Our original proposal was designed specifically to avoid any mutualisation by tracing all potential losses to the scheme back to national governments, in the form of a guarantee. On the contrary, potential gains from the scheme would be shared by all contributing governments. Nonetheless, even this high level of protection against mutualisation appears to meet insurmountable political difficulties. Moreover, the dimension of an EU AMC and the diversity of assets it would receive from various Member States, whilst offering

22. *Making Sense of Subsidiarity: How Much Centralization for Europe?*
Monitoring European Integration By David Begg and et al. November 1, 1993

considerable advantages of economies of scale and critical mass for stimulating the secondary market for NPLs, would also create technical challenges. For instance, the different legal settings in Member States might impose that the servicing function is outsourced to companies operating at the national level.

Whilst we remain convinced that a single EU-wide AMC offers the best option for cleaning up NPLs quickly and in the most neutral manner, the most important objectives could be achieved also by developing a common blueprint for AMCs, to be established at the national level, under the management and responsibility of local authorities. The scorecard below compares the benefits of a Single AMC with a blueprint for national AMCs. These approaches should be juxtaposed with the counterfactual of doing nothing and sticking with the hodge-podge of differing national approaches that are currently in play, which do not confer the advantages set out here in addressing the NPL problem across the EU banking sector as a whole.

A common EU AMC would provide clarity on State aid rules and consistency of approach. It would in this context enhance credibility, also by removing any uncertainty about political interference in national approaches. A truly common EU AMC would also attract significantly reduced funding costs, which would not materialise with various national approaches.

COMMON CHARACTERISTICS	BENEFITS	EU AMC	AMC BLUEPRINT
Funding approach + state aid application	Clarity of approach to state aid rules	✓	✓
Actual funding	Cheaper funding costs	✓	✗
Entry criteria	Consistency across the single market	✓	✓
Data and information	Consistency across the single market	✓	✓
Pricing methodology	Consistency across the single market	✓	✓
Timeline for action	Credibility	✓	✓
Management and servicing	Credibility	✓	✗

A common blueprint would however, have two distinct benefits over a common EU AMC. The first relates to perception as it would dispel any misunderstanding about mutualisation of risk for legacy assets across countries. The second is allowing greater flexibility by country depending on the individual circumstances. But this in turn should be set against the trade-off between flexibility on the one hand, and consistency, clarity and credibility on the other.

In short a common EU blueprint for national AMCs offers a reasonable subset of benefits of a single EU AMC to achieve the objectives of addressing market failures in the secondary market for NPLs, making it a very good second best policy in and hastening the cleansing of balance sheets of the EU banking sector.

7. Conclusions

Our proposal for an AMC aims to address market failures in the secondary market for NPLs. It deals with information asymmetry and the intertemporal pricing problem in a way that, in our view, respects existing rules on state aid and resolution, without mutualisation among EU Member States.

The proposal keeps shareholders on the hook for economic losses but offers viable banks an opportunity to speedily remove problem assets from the balance sheet at an efficient clearing price, albeit with some dilution of shareholders if that price is eventually not realised. The guarantees provided by national government, which is accompanied by warrants to maintain some skin in the game for existing shareholders, avoid any burden sharing across Member States and contains the moral hazard entailed by the State aid. A more efficient secondary markets in NPLs also facilitates supervisory pressure on banks to reduce NPLs and hastens exit from the market of banks that are not viable under efficient market conditions.

An EU solution to NPLs, either as a single AMC or a blueprint for national AMCs, has the added benefits of improving clarity for investors and reducing funding costs. It could create a critical mass in supply and demand of NPLs to further facilitate the market. As a key step in the process of repair for the EU banking sector, it will remove one key impediment to economic recovery across the EU.

A Role for Systemic Asset Management Companies in Solving Europe's Non-Performing Loan Problems

by John Fell, Maciej Grodzicki, Reiner Martin, and Edward O'Brien^{23/24}

Abstract

The large stock of non-performing loans (NPLs) held by euro area banks should be more swiftly resolved, while avoiding fire sales. We make a case for a comprehensive European solution, combining various NPL resolution tools. Within the NPL resolution toolkit Asset Management Companies (AMCs) may offer significant benefits by bridging inter-temporal pricing gaps for asset classes such as commercial real estate loans. We outline elements of an EU-wide blueprint for country-specific AMCs, including state aid aspects, asset and participation perimeters, asset valuation, capital and funding structure, and governance. In addition to AMCs, internal NPL work-out will always play an important role in NPL resolution, complemented by private information and trading platforms, and securitisation schemes.

1. Introduction

The large stock of non-performing loans (NPLs) held on the balance sheets of euro area banks is a pressing financial stability issue for the euro area while it also represents sand in the wheels of the bank lending channel of monetary policy. The post global financial crisis surge in NPLs in the euro area peaked

23. The views expressed in this paper are exclusively those of the authors and do not necessarily reflect those of the ECB.

24. European Central Bank. Directorate General Macroeprudential Policy and Financial Stability.

in 2013, when the aggregate NPL ratio reached 8%. While the average NPL ratio has declined gradually since then, by around one percentage point per year, differences across countries have been marked with six countries still having NPL ratios above 10%,²⁵ significantly so in some cases.

There are many reasons why the resolution of NPLs in Europe needs to be accelerated. First, bank resources – capital, funding, management attention and human resources – are tied up by assets that are not producing income while the scope for new lending to productive ventures is also curtailed.²⁶ Related to this, the high stock of NPLs is associated with higher uncertainty about future bank profitability, leading to higher bank funding costs and commensurately higher costs of credit for all borrowers, even the soundest ones. Second, high stocks of NPLs usually indicate underlying solvency and debt overhang issues affecting the corporate sector. Such excessive indebtedness often means that corporate investment cannot keep pace with the expected recovery in the real economy.²⁷ Moreover, keeping over-indebted and ultimately non-viable firms alive by not resolving NPLs in a timely manner generates artificial and unhealthy competition for viable firms in the market.

At the same time, caution is needed to avoid resolving NPLs too quickly as this may create fire sale conditions and put excessive pressure on bank capital levels. Moreover, premature liquidation of firms that might otherwise have remained viable after some restructuring and reorganisation may lead to a destruction of economic value. Overall, therefore, it is crucial to find the optimum speed of NPL resolution, which is likely to differ among countries and between asset classes.

As discussed by Constâncio (2017) and elaborated by Fell et al. (2016), asymmetric information and structural impediments are among the main causes of slow NPL resolution in the euro area. Fully efficient markets for distressed debt would swiftly clear NPLs from bank balance sheets. However, transparency around the quality and real value of NPLs is very limited, and the duration and outcome of legal processes to recover value from NPLs is highly uncertain. NPL transaction volumes in the euro area thus remain a

25. These countries are Cyprus, Greece, Ireland, Italy, Portugal and Slovenia.

26. See Aiyar et al. (2015) for a discussion of the possible impact of NPL resolution on bank capital and lending capacity.

27. See, for example, Goretti and Souto (2013), Nkusu (2011), Balgova et al. (2016) for evidence that a high stock of NPL is associated with weaker economic growth.

small fraction of the entire NPL stock (Deloitte, 2016) and there is a wide gap between prices that banks wish to achieve (in line with their provisioning levels) and prices that investors are prepared to pay.

Against this backdrop, it is clear that a comprehensive approach to NPL resolution, involving some degree of coordination at the European and national level, is necessary. The NPL problem cannot be solved by any single policy measure be it supervisory, macroprudential, or structural in nature. Appropriately robust supervisory guidance as published by ECB Banking Supervision (ECB, 2017) is essential to improve banks' management of the NPL problem. But it must be complemented by structural reforms to enhance the recoveries and the net present value of NPLs, and by complementary measures to facilitate the development of NPL markets. Only when banks can use the full set of potential NPL resolution tools can the current inaction bias be overcome, thereby minimising the undesirable side effects of liquidating NPLs. The remainder of this article discusses the elements of such a comprehensive strategy, with a particular focus on asset management companies.

2. The benefits of Asset Management Companies (AMCs)

Asset management companies (AMCs) have often been used to manage distressed assets arising from systemic financial sector stress (Cerruti and Neyens, 2016) and have a proven track record in making significant contributions to the clean-up of banking sectors suffering from NPL problems. Examples include AMCs that were established in the aftermath of banking crises in Sweden (in the early 1990s),²⁸ in Korea (in the late 1990s)²⁹ and, more recently, in the euro area countries Ireland (2010), Spain (2012) and Slovenia (2013). One of the common features of these systemic AMCs is that governments have been strongly involved in their creation, by providing capital, facilitating funding, and passing legislation governing the design and operations of the AMCs.³⁰

28. See Jonung (2009) for an account of the rationale for the AMC in Sweden and its role in the management of the banking crisis.

29. See He (2004).

30. AMCs may also be created in the process of restructuring or resolution of a single bank, often without government support. Such AMCs are often, somewhat loosely, described as 'bad banks'. Originating from a single bank, they do not have a systemic reach and do not offer the benefits discussed in this article.

The main function of systemic AMCs is to provide a “bridge” for the inter-temporal pricing gaps which emerge when market prices for NPLs and the underlying collateral are temporarily depressed. This may happen because of heightened risk aversion and a drying up of liquidity in the market, but, ultimately, market prices recover as economic conditions improve. Bridging this inter-temporal pricing gap is accomplished by removing a significant share of NPLs, usually belonging to a specific asset class such as commercial real estate, from bank balance sheets and working them out over a specified time horizon to maximise their recovery value. The transfer price paid to banks by the AMC is usually set at long-term (‘real economic’) value, thus avoiding the fire sales that would result from NPL disposals into illiquid markets where the risk premia required by outside investors are unusually high. Shielding banks from fire sale conditions can be especially beneficial if several banks are attempting to resolve their NPLs at the same time: systemic AMCs, in other words, can provide an important coordination role. Other benefits of AMCs are related to a swift reduction in uncertainty surrounding the profitability and solvency of banks once NPLs are transferred to the AMC. This, in turn, has a positive impact on bank’s funding and capital costs.

AMCs do not offer a panacea for systemic NPL problems and their success depends both on their design and the prevailing economic circumstances. Past experience suggests that several success factors should be present if an AMC is to accomplish its objectives. First, AMCs tend to be best suited for particular asset classes, notably fairly homogenous NPLs of a certain size, such as commercial real estate. Second, asset valuations and the resulting transfer prices should be realistic, thereby limiting the risk that AMCs run losses and deplete their capital while giving some room for manoeuvre with respect to asset resolution. A well-designed governance structure, with a strong mandate, is another essential ingredient for a successful AMC. There are numerous examples of AMCs failing because of political interference with their activities. The lifetime of the AMC should be finite and defined at its inception to ensure that the AMC does not become a self-perpetuating enterprise. Dedicated legislation is often necessary to lay down its governance structure and mandate. Finally, a basic premise for the success of AMCs is that asset values start to recover in the medium term. This, in turn, implies that authorities pursue sound macroeconomic and financial policies.

3. The merits of a blueprint for national AMC

In the EU the scope for establishing system-wide, government-sponsored AMCs is restricted by the EU legal framework governing state aid to the financial sector, as well as by other institutional and possibly fiscal constraints. More specifically, the Bank Recovery and Resolution Directive (BRRD) and the State Aid communications of the European Commission³¹ regulate the participation of governments in AMCs. The complexity of these rules and their interplay is one of the reasons for developing a blueprint for system-wide, government-sponsored AMCs in the EU. Besides clarifying in detail how such AMCs would need to be designed in order to be compatible with the EU legal framework, such a blueprint should identify international best practices and explain how these best practices can be applied in those EU countries that may benefit from setting up an AMC.

The BRRD states that public capital support to banks is allowed, outside of resolution measures, only if a stress test identifies that a bank needs additional capital to ensure its solvency under a so-called adverse scenario ('precautionary recapitalisation') and if this capital cannot be fully obtained from private sources. In addition, state aid can only be granted to solvent institutions and it must be approved by the European Commission.

The State Aid communications of the European Commission concern NPL-related measures – AMCs as well as asset insurance schemes – as part of the crisis management toolkit which can be used under certain conditions, in particular³²:

- Transfer prices of NPLs should not exceed their 'real economic value';
- The 'real economic value' should be assessed through an independent valuation exercise following a methodology that is compliant with the requirements of the European Commission, and;
- Bank capital losses resulting from the transfer of NPLs to an AMC should be shared among equity-holders and subordinated creditors of the concerned banks.

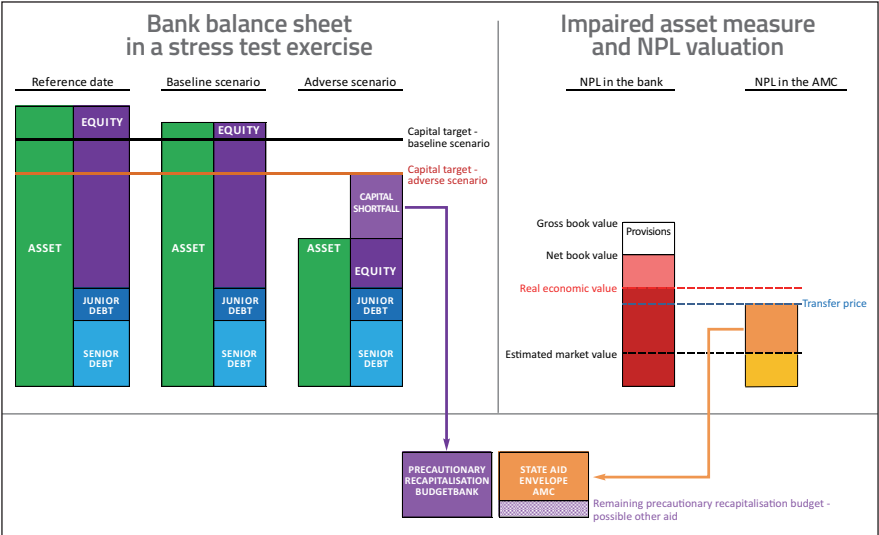
31. See Communication from the Commission on the treatment of impaired assets in the Community banking sector ('Impaired Assets Communication', 2009/C 72/01) and Communication from the Commission on the application, from 1 August 2013, of State aid rules to support measures in favour of banks in the context of the financial crisis ('Banking Communication'), OJ C 216, 30.7.2013, p. 1–15.

32. See Medina Cas and Peresa (2016) for a more detailed discussion of the necessary conditions.

The BRRD and State aid rules further specify that state aid may be provided to banks in two forms: indirectly, as state participation in an AMC, and directly, as a capital injection into a bank. The overall amount of aid is determined by the capital needs identified under the adverse scenario (see Figure 1).

A European blueprint for national AMCs would not involve international risk-sharing among EU or euro area Member States. Fiscal constraints may, however, come into play in some of the EU countries currently facing a high NPL stock. Should the AMC become part of the general government sector, its liabilities may increase, in some cases, already high public debt levels. This may, however, be avoided if the AMC is majority-owned by private parties and the risks related to the underlying assets are not borne by the government.³³

Figure 1: Interplay between BRRD and State aid rules’ constraints on the size of AMCs



Note: the illustration shows a hypothetical case where the precautionary recapitalisation budget is higher than the state aid envelope and the remaining precautionary recapitalisation budget may be used for other kinds of aid. This illustration abstracts from the use of junior debt to offset possible state aid and the capital shortfall.

33. See Part IV.5 of Eurostat (2016), Manual on Government Deficit and Debt. Implementation of ESA 2010.

4. Key features of an AMC blueprint

This section introduces the key considerations for setting up successful AMCs in Europe, allowing them to maximise recovery values, whilst limiting risks to the state.³⁴ The main issues to consider in this context are the asset perimeter, the participation perimeter, the asset valuation, the capital and funding structure and, last but certainly not least, the governance of AMCs. The description below is of a cross-country nature, taking the interconnectedness between the various issues, international best practice and the legal constraints described above into account. Obviously there is a need to adapt this 'blueprint' to country-specific circumstances as appropriate.

4.1. Asset perimeter

The first consideration relates to the assets to be transferred to the AMC.³⁵ Given the overarching objective to maximise asset recovery values, assets transferred to an AMC should be limited to those assets where AMCs have a demonstrated track record in recovering value, such as commercial real estate, large corporate exposures and syndicated exposures.

The scale of asset transfers should strike a balance between the benefits accruing from economies of scale and the risk that the AMC may become overburdened with having to work-out too many assets within a relatively short period of time, in particular if they are insufficiently homogenous.³⁶ Moreover, limiting the size of the AMC helps mitigating funding and capitalisation challenges.

Only assets above a pre-determined gross book value threshold should be transferred, to avoid burdening the AMC unduly with many small exposures, which give rise to substantial operational challenges. Finally, it is often very

34. A poorly designed AMC may, however, increase the risks to the state. Losses incurred by an AMC may burden the state balance sheet and adversely affect the value of residual NPLs remaining in banks. This, in turn, would increase the contingent liability of the state emanating from the banking system, and intensify the negative feedback loop between the state and the banks.

35. Historically, AMCs have often been set up and associated with particular asset classes, such as NAMA in Ireland and Sareb in Spain, arising from specific economy-wide macro-financial developments.

36. As part of a comprehensive NPL resolution strategy, an AMC can only be expected to address part of the NPL problem and need not be scaled to the overall stock of NPLs in a given countries banking sector.

useful to take a debtor-level approach, to ensure that all exposures of the banking system to a (partially) non-performing debtor are transferred to an AMC.³⁷

4.2. Participation perimeter

Participation in the AMC should not normally be fully left at the discretion of the concerned banks, as the case for the AMC rests on its achieving a critical mass of assets. Purely voluntary participation may result in inaction, on account of first-mover disadvantages, or cherry-picking of NPLs by participating banks. The authorities should thus introduce incentives to transfer the assets, be it through moral suasion, supervisory (macro- or microprudential) or accounting measures, or by sharing in the AMC's upside.

Only banks holding significant exposures to the asset class(es) captured in the asset perimeter should participate, whilst level playing field concerns must be satisfied. Objective and transparent criteria, linked to the overall objective of the AMC, should be laid down to identify these banks. Less significant exposures or exposures held by very small banks may be best worked-out by other means.

Non-participating banks may still be willing to contribute equity to the AMC, given that they are likely to reap indirect benefits from its establishment, e.g. a positive impact on asset price developments.

4.3. Asset valuation

State aid rules require that a valuation exercise needs to be conducted at the time of the asset transfers, to establish the market value and real economic value of the assets. The valuation process should be run by an independent expert, following a methodology established in agreement with the European Commission and subject to oversight by the authorities.

The valuation process should start once the possible asset and participation perimeter has been determined. Initially, that perimeter is likely to be broader than the final scope of the AMC as some assets may be unsuitable for resolution within the AMC.

37. Experience has shown that such a debtor level approach is warranted. A debtor may have an NPL with one bank, but performing loans with another. By taking all of the outstanding debt of a specific debtor, subject to the perimeter of the AMC, the positions may be quickly resolved.

The assumptions of the valuation methodology should be realistic and account for all expected cash inflows and outflows associated with the assets. In particular, the legal, tax, maintenance, and servicing costs should be included in the estimates of the real economic value. In line with state aid rules, the government should be appropriately remunerated for taking on the risk that ultimate recoveries may fall short of estimated real economic value.³⁸

The valuation should include a viability test on the underlying assets and debtors. Such a test would identify assets that need to be liquidated rather than transferred to the AMC for recovery, and would inform the future course of action for individual assets.

4.4. Capital structure

The capital structure of the AMC should ensure that the AMC remains unconsolidated with the general government sector. This is particularly important for Member States with limited fiscal space. A public-private partnership model, with the majority private equity stake provided by private sector participants has achieved this goal in the case of NAMA and SAREB. Whilst government still puts up equity, its stake would remain below 50%, thus not giving the government effective control over the operations of the AMC.

The total capital level should be calibrated to ensure that the equity layer is sufficient to absorb unexpected losses on the AMC's assets, so that the majority of risks and rewards from the resolution of the assets would not rest with the government. In any case, the equity requirements when setting up an AMC should remain limited, provided that its overall size remains constrained by the appropriate asset and participation perimeters mentioned above. Moreover, given that asset transfers have to be done at real economic value, AMCs should not make major unexpected losses during their lifetime.

38. In practice, this is captured by a risk premium included in the discount rates. For example, NAMA used the Irish sovereign yield curve with a mark-up of 170 basis points to discount future cash flows for the purpose of establishing real economic value. See Paragraph 71 of the European Commission's Decision in case N725/2009.

4.5. Funding structure

The funding structure of the AMC should minimise costs and liquidity risk. This can be achieved by issuing government-guaranteed senior bonds which can be used as payment-in-kind to purchase NPLs from banks. Senior bonds may be short-dated (one-year), with restrictions on transferability and an implicit roll-over guarantee, to mitigate roll-over risks. With the government guarantee, senior bonds may be structured to meet the eligibility criteria for use in Eurosystem credit operations although the ECB obviously will decide on this on a case-by-case basis.³⁹ This may further expand the range of funding options for the banks.

Appropriate controls should be put in place to ensure that the AMC redeems senior debt according to schedule, rather than building cash reserves or diverting resources to other interests.

4.6. Governance and operations

Strong and sound governance is a critical success factor for an AMC. It should strike the right balance between the business flexibility needed to maximise recoveries, and constraints preventing diversion from the core mandate of the AMC.

The AMC should be established on the basis of legislation that lays down its objectives and decision-making bodies as well as its transparency and accountability rules. Historical experience suggests that AMCs should be free from political interference and budgetary pressures. In particular, they should not be established as a government agency or part of the civil service. Yet, public authorities should exercise oversight over some aspects of AMC operations, in particular with respect to compliance with its mandate and applicable regulations, whilst not interfering with daily business decisions.

The AMC should have a clear primary mandate to maximise the recovery values of NPLs on a commercial basis. It should be permitted to use any relevant legal tool or work-out strategy to achieve its goals, regardless of political or vested interests. Its lifetime should be finite and defined at the outset, alongside a credible business plan and measurable performance goals.

39. See in particular requirements for marketable assets, laid down in Articles 62 to 71 of ECB (2015).

Risks that AMCs are diverted from their core mandate must be carefully controlled. For instance, political interests may attempt to use the AMC as a source of financing for state projects or as part of the social safety net. These risks can be partly mitigated through careful asset selection (for example, avoiding the transfer of loans to state-owned enterprises or residential mortgages), and through restrictions on operations of the AMC provided for in the legislation (for example, the AMC should not hold a banking license).

The operational overheads of the AMC should remain light. Wherever available, the AMC should be allowed to outsource services such as property management, legal services or collections to independent providers at market prices. Where servicing capacity is not available in the market, governments should implement necessary reforms to facilitate the build-up of the servicing industry.

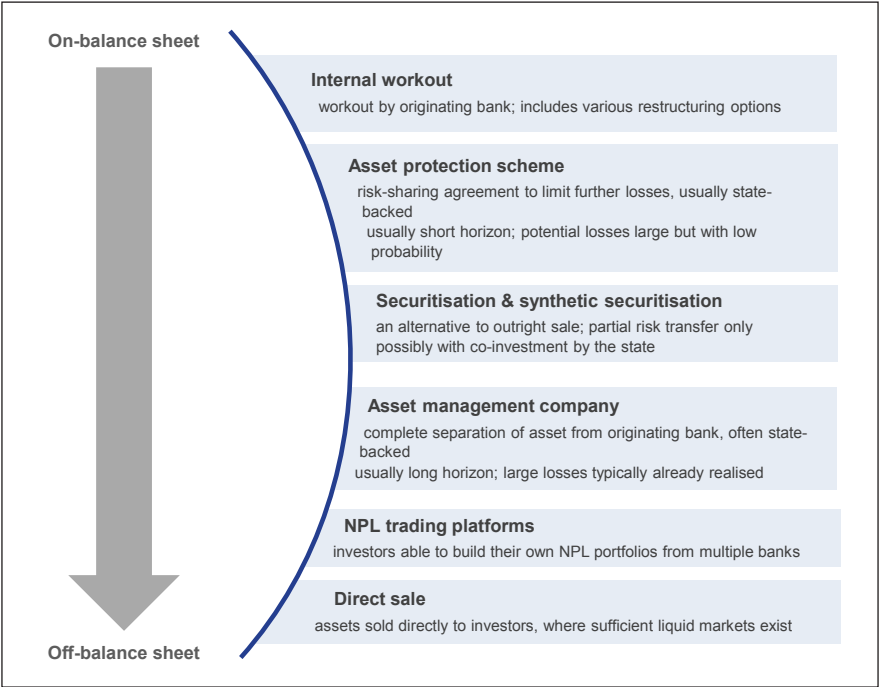
5. Other elements of a comprehensive approach to NPL resolution

Besides robust supervisory oversight of AMCs, three additional approaches should be considered when designing comprehensive, multifaceted approaches to deal with large systemic NPL stocks: NPL transaction platforms, co-investment schemes and liquidation vehicles (see Figure 2).⁴⁰

An NPL transaction platform has the potential to deliver some of the benefits of an AMC whilst avoiding most of the costs. The platform may act as a central hub for NPL sales by being a central repository for NPL data from participating banks. Data must be standardised and of sufficient quality for investor due diligence purposes. The platform should be enabled with uniform, standardised legal, documentation and transactional services. Ideally, the platform should be enabled to sell assets, subject to guidance, from participating banks.

40. Internal work out of NPLs by the originating bank will always form part of NPL resolution. It requires banks to maintain or build necessary expertise. At the same time they may recover more value for themselves than from an asset disposal and maintain potentially profitable future client relationships. Notably, highly granular, small-ticket retail exposures may be best worked-out internally or sold directly to investors. Bespoke products, that require detailed knowledge of the borrower and their business, may also be best kept on balance sheet, given the sunk costs of acquiring that knowledge. At the other end of the spectrum, the direct sale of NPLs to investors is the most rapid but also the most costly resolution mechanism from a bank perspective.

Figure 2: Elements of a comprehensive approach to NPL resolution



Source: Fell et al. (2016).

The advantages of such a platform are significant and the platform is likely to have a discernible impact on market prices for NPLs by reducing information asymmetries. As the value of NPLs would become clearer, the rate of return expected by NPL investors would be expected to decline. Furthermore, investor costs, including, for example, shoe-leather costs can be reduced, through standardisation of data and processes, and the consolidation of NPL sales in one agency. Participation in such a platform, which may be encouraged by supervisors, may induce banks to resolve data problems. This could help resolve, in particular, the least transparent and most difficult-to-value assets, such as corporate and SME loans. A further impetus to prices may arise from transparency around completed NPL transactions. The establishment of the platform should also be an impetus for necessary services to be established / increased, for example, in relation to data quality improvements, transaction services, loan servicing, etc. The platform may even have a role in centralising

and coordinating these activities. Operationally, a number of challenges around, for example, data confidentiality, would have to be overcome. At the same time, a precedent for such a platform already exists in the EU, in fact with a rather similar rationale.⁴¹

Fell et al. (2017) make the case for appropriately structured co-investment instruments, where the state co-invests, at market conditions, with NPL investors. Having the capacity to address information asymmetries and incentivise states to implement necessary structural reforms, this may, in turn, partially address wide bid-ask spreads. Through risk-sharing and by reducing the cost of carry, such instruments may enable NPL transactions to take place which might otherwise not have closed, in turn having the potential to increase the price that investors are willing to pay for NPLs. Co-investment structures are particularly effective in the context of securitisation, considering the significant advantages that securitisation has over direct sale, as a NPL resolution tool.

Finally, given the scale of the NPL problem and the elapsed time since some NPLs became impaired, it seems plausible that some loans, extended to SMEs as well as households, have little recovery value beyond the collateral. Given the time and costs of recovery, and the potential for some collateral to be of limited re-sale value, orderly liquidations may be required. Banks – as well as AMCs – are not typically well placed to take on this role. There may hence be a case for a public entity specialised in liquidating loans that have no or very little recovery upside.

6. Conclusions

The high stock of NPLs in the European Union calls for urgent policy action. Although significant and necessary progress has been made by microprudential supervisors in improving NPL measurement and

41. The ECB led an initiative to improve transparency in ABS markets by requiring loan-by-loan information to be made available and accessible to market participants and to facilitate the risk assessment of ABSs as collateral used by Eurosystem counterparties in monetary policy operations. The ABS loan-level initiative established specific loan-by-loan information requirements for ABSs to increase transparency and make available more timely information on the underlying loans and their performance to market participants in a standard format.

management by banks, this is unlikely to be sufficient on its' own. This article has outlined the broad range of NPL resolution options available to banks and policymakers, as well as some desirable extensions of the existing toolkit.

In particular, system-wide national AMCs may contribute to a speedy reduction of large, systemic NPL stocks in Europe. We see value in developing a European blueprint for national AMCs that clarifies how such AMCs can be established in full respect of the EU legal framework and drawing on international best practices. Appropriately designed, AMCs may offer substantial benefits and provide an important complement to more standard NPL resolution options such as internal work-out and direct NPL sales. Other tools which should be developed to allow a more comprehensive yet country-specific, bespoke approach to dealing with systemic NPL problems include an NPL transaction platform, co-investment schemes and liquidation vehicles.

It is very important to keep in mind, though, that all of these tools can only be successful if they are supported by appropriate legal and administrative framework conditions that facilitate debt enforcement and access to collateral, and by sound macrofinancial policies which help to promote economic recovery.

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A Strategy for Resolving Europe's Problem Loans

by Shekhar Aiyar, Wolfgang Bergthaler, Jose M. Garrido, Anna Ilyina, Andreas (Andy) Jobst, Kenneth Kang, Dmitriy Kovtun, Yan Liu, Dermot Monaghan, and Marina Moretti⁴²

Abstract

Persistently high non-performing exposures (NPLs) in several European countries pose significant challenges to financial stability and are likely weighing on credit growth and economic activity. This paper, which summarizes a detailed IMF analysis (IMF SDN/15/19), examines the structural obstacles that discourage European banks from addressing their problem loans. It argues that a comprehensive approach comprising three pillars is needed to accelerate balance sheet clean-up: (1) intensified banking oversight, to incentivize write-off or restructuring of impaired loans, including fostering more conservative provisioning and time-bound restructuring targets on banks' NPL portfolios; (2) enhanced insolvency and debt enforcement regimes, and more developed out-of-court restructuring frameworks; and (3) the development of distressed debt markets by improving market infrastructure and, in some cases, using asset management companies (AMCs) to jump-start the market. A variety of facilitating measures could support these three main pillars, including better public registers, the removal of tax disincentives, and debt counseling services.

42. International Monetary Fund.

1. Introduction

Many European countries continue to grapple with large stocks of impaired assets almost a decade after the onset of the global financial crisis. The deep and prolonged economic downturn has weakened borrowers' debt service capacity, particularly for those borrowers that were overleveraged, leading to an increase in loan defaults and large corporate and household debt overhangs. NPLs in the European Union (EU) stood at about €1.1 trillion (or over 9 percent of the region's GDP) at mid-2016, more than double the level in 2009. Ten EU countries registered NPLs of ten percent or higher as of June 2016. A similar number of non-EU countries, mainly in central, eastern, and southeastern Europe (CESEE) experienced peak NPLs above that threshold⁴³. The NPLs are mostly concentrated in the corporate sector, notably in SMEs, which contribute almost two-thirds of Europe's output and employment, and tend to be more reliant on bank financing than large firms.

High NPLs so many years after the crisis reflect the slow pace of restructuring, disposals, and write-offs, with only a handful of countries showing lower NPL ratios at mid-2016 compared with their post-crisis peaks. While economic conditions have gradually stabilized across Europe, NPL ratios continue to increase in some stressed economies, albeit at a slower pace. Given the need to support Europe's still nascent recovery, quickly resolving NPLs to promote new lending is of first-order macroeconomic importance.

2. Macro-financial implications of high NPLs

NPLs influence bank lending through three interrelated key channels—profitability, capital, and funding. Bank profitability suffers because high NPLs require banks to raise provisions, which lowers net income, while NPLs carried on banks' books do not usually generate income streams comparable to performing assets. NPLs, net of provisions, also tie up substantial amounts of capital due to higher risk weights on impaired assets. Deteriorating balance

43. Differences in definitions complicate comparisons of NPL ratios across countries. The EBA introduced new definitions of non-performing exposures (NPEs) and forbearance in 2013, but their application beyond the larger euro area banks has been uneven.

sheets increase banks' funding costs due to higher risk and lower expected revenue streams. Together, these factors result in a combination of higher lending rates, reduced lending volumes, and increased risk aversion.

The data shows that euro area banks with higher NPLs tend to be less profitable, have relatively weak capital buffers, face higher funding costs, and lend less. Empirical analysis generates similar findings for a sample of CESEE banks. A growing literature on the macro-financial effects of NPLs finds a robust relation between higher NPLs and weaker credit and GDP growth, with causality going both ways. Banks' reduced lending capacity undermines the growth prospects of viable firms, and is also likely to disproportionately affect SMEs that are more dependent on bank financing.

Persistent NPLs are linked to unresolved private debt overhangs. On average, the corporate NPL ratio and the level of corporate debt overhang are positively correlated. Corporate debt overhangs are also associated with weaker investment and delayed recoveries. Analysis using firm-level data shows that firms' employment and investment decisions in response to positive or negative shocks depend on their level of indebtedness. Mutually reinforcing feedback loops exist between bank NPLs and excessive corporate debt. Overextended companies have little incentive to invest because returns must be allocated to debt service. This also implies that their demand for credit is weak, which further weighs on banks' profitability and makes it more difficult for them to dispose of impaired assets. Thus, when NPLs are large and persistent, they are unlikely to be worked off through a normal cyclical economic recovery. Concerted efforts are therefore needed to address both NPLs and the private sector debt overhang to ensure that a large stock of distressed debt does not hold back growth.

3. Obstacles to NPL resolution

In 2015 two IMF surveys were conducted of European countries and banks⁴⁴ where the aggregate NPL ratio exceeded 10 percent during 2008–

44. The "country survey" was completed by 19 countries (Albania, Bosnia and Herzegovina, Croatia, Cyprus, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Macedonia, Montenegro, Portugal, Romania, San Marino, Serbia, Slovenia, and Spain). The "bank survey" was completed by 10 banks (Alpha

2014. These revealed some common themes on structural obstacles to NPL resolution. Deficiencies in the legal framework and underdeveloped distressed debt markets were the two most severe obstacles, but information, supervision, and tax regimes were also found to be lacking in several respects:

1. **Prudential supervision.** While bank capital buffers were found to be of medium concern, collateral-related issues registered as a medium or high concern. Many countries had begun to allocate more supervisory attention to impaired assets through asset quality reviews, but many banks lacked the expertise, capacity, or tools to deal with NPLs on a large scale, and time-bound operational targets for NPL reduction was rare. Accounting standards were found to weaken incentives to resolve NPLs due to several reasons, including application of an incurred loss approach; leaving too much room for judgment; lack of specificity on write-off modalities; accrual of interest income from NPLs; and lack of guidance on collateral valuation.

2. **Legal obstacles.** Although many countries had overhauled or upgraded their insolvency regimes, reforms have been uneven and progress slow. Prepack processes and out-of-court mechanisms were underutilized for corporates and there were no personal insolvency regimes in over one-third of surveyed countries. Worrying findings include the slow and inconsistent implementation of insolvency laws; the lack of effectiveness of, and delays with debt enforcement and foreclosure; and the poor efficiency of institutional frameworks (especially judicial systems).

3. **Distressed debt markets.** The survey found there are few explicit restrictions on sales of NPLs, yet distressed debt markets remain shallow or nonexistent. The impediments included incomplete credit information on borrowers; lack of licensing and regulatory regimes to enable nonbanks to own and manage NPLs; overvalued collateral and lack of liquid real estate markets; low recovery values, partly related to lengthy court procedures; and inadequate provisioning of NPLs. These factors contributed to large pricing gaps between potential buyers and sellers.

4. **Informational obstacles.** Rules preventing sharing of debtor information and limitations of asset registers and real estate transaction

Bank, Intesa, NBG, Piraeus, Pro Credit, Raiffeisen, Societe Generale, Unicredit, Eurobank, and Erste Group). Both surveys were completed by June 2015.

registers were seen as significant obstacles. Credit bureaus typically do not include crucial information for debt restructuring, such as tax payments, social security contributions, and payments to utility companies. Most credit bureaus do not have credit scoring for individuals or for SMEs and larger companies. Debt counseling services were also limited, with few countries offering budgeting or legal advice services for households, and less than half of countries providing credit management training and advice for SMEs.

5. **Tax and other obstacles.** Some countries impose restrictions on deducting provisions and charge-offs for income tax purposes, thus disincentivizing NPL reduction. Others lack loss carry-forward provisions (e.g. deferred tax assets); or subject debtors to capital gains tax upon debt relief. Debts that involve private and public creditors are often subject to specific problems including privileged (priority) claims of public creditors in debt restructuring; limits on debt relief by the public sector; and poor coordination between public and private creditors.

The different types of obstacles were found to be interlinked, with difficulties in one area compounding challenges in other areas. Empirically the survey-reported severity of structural obstacles tends to be associated with worse NPL outcomes.

4. Tackling high NPLs

A comprehensive strategy for NPL resolution in Europe would combine more robust supervision, institutional reforms to insolvency and debt enforcement regimes, and the development of markets for distressed debt. These measures should be supported by changes to the tax regime and reforms to improve access to information.

1. **Supervisory oversight** should be enhanced by: (1) issuing guidance on accounting treatment as in Ireland and Cyprus and recently by the ECB/SSM. The guidance should cover provisioning and write-off practices, it should halt accrual of interest for loans past a set delinquency threshold, and introduce time-bound write-off requirements for uncollectible loans where legally allowed; (2) collateral should be subject to enhanced supervisory

scrutiny to ensure accurate valuations (reflecting changes in market conditions, cost of sale, and delays in realizing proceeds) and require periodic valuation by independent experts; (3) micro- and macroprudential measures should be applied as necessary, such as time-bound targets for resolving NPLs and increasing risk weights according to NPL vintage; (4) banks with NPLs above a set threshold (e.g. 10 percent) should be subject to more intensive oversight including significantly enhanced quarterly reporting requirements and be required to develop an internal NPL management strategy, which includes ambitious operational targets for NPL reduction; and (5) strengthening the regulatory and sanctioning toolkit, including introducing a code of conduct for borrower engagement.

2. **Insolvency and debt enforcement.** The legal framework should consist of both legal tools designed to facilitate speedy in- and out-of-court solutions and an adequate institutional framework (including courts and insolvency practitioners) to support the consistent, efficient, and predictable implementation of the laws. Improvements should include: (1) facilitating the rapid exit of nonviable firms and the rehabilitation of viable firms and a fresh start for good faith entrepreneurs within reasonable time periods; (2) out-of-court frameworks with hybrid and enhanced features (e.g., stay on creditor actions, majority voting, mediation or arbitration, or a coordinating committee); (3) simplified debt enforcement and foreclosure processes (e.g., to clearly specify enforceable titles, limit appeals, set short preclusive deadlines, and to introduce e-auctions platforms) to enable swift process. (4) strengthen the judicial system by increasing the specialization of judges, rationalizing fees and introducing performance measures for professionals. (5) eliminate super-priority claims for public debtors, introduce caps on public claims, and provide guidance to public creditors to allow them to participate in and be affected by debt restructuring; (6) aim for convergence of insolvency regimes across Europe; and (7) unify and enhance data collection on insolvency and enforcement processes to enable adequate comparisons and proper assessments.

3. **External NPL management and distressed debt markets** should be enhanced by: (1) enabling specialist NPL servicing and legal workout agencies to participate through a licensing and regulation regime for nonbanks. (2) improving access to timely financial information on distressed borrowers,

collateral valuations and recent NPL sales; (3) facilitating structured finance transactions that remove NPLs from bank balance sheets, perhaps by involving European investment institutions to participate in securitization transactions; and (4) considering use of public and private special purpose vehicles (i.e. AMCs) to centralize creditor discussions, foster specialization, and exploit economies of scale. Public AMCs would need to have strong governance and be compatible with the EU's state aid rules.

4. **Additional supportive measures** should include: (1) centralizing and improving public registers. Credit registers should include arrears to utilities and tax and social security authorities and asset registers should contain sufficient information to accurately assess wealth. (2) debt advisory services should be introduced so debtors are well informed and confident to engage with creditors. Households should have access to free or subsidized budgeting and legal advice services and SMEs should have access to credit management training. (3) real estate transaction prices should be published on a website. (4) tax rules should be reviewed and amended to encourage creditors to provision, write-off, and sell collateral and encourage debtors to accepting debt restructuring or write-off deals.

In cases where NPLs exceed a systemic threshold, governments should consider establishing a coordination mechanism, such as a ministerial council. The mandate should be to fully diagnose the obstacles to NPL resolution, set reform priorities, and ensure that all stakeholders are clear on their role in implementation. A coordinated public communications strategy as well as a dedicated project management office would help ensure effective implementation.

5. Conclusion

Reducing the level of impaired assets is essential for restoring the health of the banking sector and supporting credit growth in Europe. High NPLs hold back credit supply by locking up capital that could be used to support fresh lending. Low provisioning and write-off rates hinder necessary corporate restructuring and prolong the debt overhang, depressing credit demand. Given

that impediments to NPL resolution are often interlinked, a comprehensive strategy is needed to address the NPL problem. Based on international experience, such a strategy should be based on three key pillars: (1) enhanced supervision, (2) insolvency and debt enforcement reforms, and (3) the development of a distressed debt market. Since European banks operate across multiple jurisdictions—both within and outside the euro area—a successful NPL resolution strategy will require close coordination between EU, euro area, and national competent authorities.

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Utilizing AMCs to Tackle Eurozone's Legacy Non-Performing Loans

by Emiliós Avgouleas⁴⁵ and Charles Goodhart⁴⁶

Abstract

The recovery of the Eurozone (EZ) economy has made even more pressing the tackling of its debt overhang with the bulk of over 1 trillion Non-Performing Loans (NPLs) concentrated in the more vulnerable economies of the EZ periphery. There is clearly a need to adopt a more radical approach to resolving NPLs than merely augmenting supervisory tools and national legal frameworks. The discussion about the feasibility of country-based or Pan-European Asset Management Companies (AMCs) to tackle legacy NPLs has recently intensified. Yet political objections premised on fears of debt mutualisation, the structural and legal questions surrounding the possible establishment of AMCs, and differing recovery rates and levels of market transparency within the EZ have led to the dismissal of the idea by the European Council. This article discusses the merits and shortcomings of AMCs in tackling NPLs and proposes a comprehensive structure for a Pan-European “bad bank” with virtually ring-fenced country subsidiaries to ensure burden sharing without debt mutualisation. The proposed “bad bank” structure intends to resolve a host of governance, valuation, and transparency problems that would otherwise surround a “bad bank” solution. Also, the proposed scheme is in effective compliance with the EU state aid regime and could lead, if implemented, to the alleviation of the EZ debt overhang to stimulate credit growth.

45. Professor (Chair) in International Banking Law and Finance, University of Edinburgh.

46. Norman Sosnow Professor of Economics (emeritus), LSE.

1. Introduction

The gradual recovery of the Eurozone (EZ) economy has made even more pressing the tackling of legacy Non-Performing Loans (NPLs) in the EZ. Authoritative sources (Aiyar et al. 2015) have pointed out that the huge load of NPLs standing at more than 1 trillion EUR at ECB's latest estimation is clearly a serious impediment on EZ growth, especially as the bulk of them is concentrated in the more vulnerable economies of the EZ periphery. So far, most countries concerned have been slow in tackling the NPL problem. This has highlighted the need to adopt more radical steps than merely augmenting the supervisory tools and national legal frameworks dealing with NPLs, though the latter have been necessary and essential reforms. It also explains why the discussion about the feasibility of country-based or Pan-European Asset Management Companies (AMCs) that will purchase, securitise, workout, and dispose the bulk of legacy NPLs has intensified since last year (e.g., Bruno et al. 2017; Enria 2017; Haben, Quagliarello 2017; ECB 2016). For their proponents, AMCs offer the fastest and most radical remedy for Eurozone's NPL problem. Yet political objections premised on fears of debt mutualisation within the EZ, and the structural and legal questions surrounding the possible establishment of a Pan-European Fund or country-based AMCs, led to the dismissal of the idea in the ECOFIN's informal meeting in Malta in April 2017.

Amongst the first contributions to this debate was a proposal by the authors of this note sketching a form of privately funded AMC backed by a fiscal backstop to tackle EZ bank NPLs (Avgouleas, Goodhart 2016). In this note we revisit the issue with a view to painting a more detailed picture of our proposal. But before we set out our proposal it is apposite to summarize the structural and legal obstacles that the process/effort to tackle EZ NPLs through an AMC would face. The structural problems are more, or less, the same that have prevented the creation of a liquid secondary market for NPLs in Europe. They are in summary:

- (a) bankruptcy regimes with a pro-debtor bias: this is a shortcoming that is gradually being remedied through the introduction of out-of-court procedures and a code of conduct for NPL settlement, aiding the recovery process;
- (b) long recovery times and high recovery costs, which differ on a country-to-country basis, (even if the NPL laws are increasingly being harmonised), due

to differing legal and judicial cultures and different degrees of restructuring skills on the business side as well as variable legal infrastructure effectiveness;

- (c) low and differing levels of transparency, which, first, create “market for lemons”⁴⁷ conditions in the secondary market, and intensify bid ask spread discrepancies;
- (d) appreciable disparities between net book value (ex provisions) and market value, mostly as a result (a)-(c) factors above which amount to a major disincentive to clean up the pile of NPLs in the EZ, since a sale way below net book value would generate serious capital write offs,⁴⁸ possibly triggering the bail-in process under the BRRD (Avgouleas, Goodhart 2016);
- (e) EZ banks’ low profitability, which, in turn is partly due to the burden NPLs place on bank balance sheets, and in part to a sluggish interest rates. Under these conditions there is little, or no, prospect of accumulating sufficient retained profit to absorb losses from the writing down of NPL values.

These structural obstacles are complemented by the constraints posed by the EU State Aid laws and the EU Bank Resolution and Recovery Directive’s (BRRD) near complete prohibition of making available public funding to an ailing bank, including resorting to public money to fund bank recapitalisation in resolution, unless, in the latter case, a round or rounds of creditor bail-ins have taken place first.

The interaction of these structural obstacles and the BRRD constraints have also less tangible, but evident, behavioural consequences in the form of regulatory and bank management forbearance (Avgouleas, Goodhart 2016). Where the problem of NPLs is systemic affecting several banks (e.g., Greece, Italy), bank management and their regulators may wish to avoid, at least for a time, the bitter pill of capital write offs in fear of the institutional and systemic consequences that a wave of bank bail-ins could give rise to.

In the remainder of our note we first set out in summary the key benefits and costs for using country-based or Pan-European AMCs to tackle EZ NPLs, and then we give a detailed description of our proposal and how we consider the above challenges could be met by our plan.

47. Akerloff (1970).

48. For a very comprehensive exposition of this problem see Bruno, B. G. Lusignani, and M. Onado (2017).

2. AMCs and NPL Resolution –Pros and Cons

In a nutshell, the advantages of using AMCs to clean up bank balance sheets are the following:

- (a) The solution can be quite radical and may be the best way to provide a fiscal backstop to the banking sector; the ensuing virtuous cycle of renewed bank credit, strengthened economic growth, and increased bank profitability has often worked miracles for NPL resolution and the financial results of AMC “bad banks”. Such burden sharing and attendant financial engineering has been successfully employed in a variety of NPL transfer schemes during the Asian crisis of late 1990s (Arner, Avgouleas, Gibson 2017);
- (b) AMCs can secure economies of scale in tackling NPLs, especially where a large part of the AMC’s portfolio comprises corporate NPLs, which, in general, are harder to restructure than receivables NPLs. In specific, AMCs can provide economies of scale in hiring professionals with turnaround skills or negotiating with private equity firms, securing thus higher recovery values;
- (c) AMCs can provide economies of scale vis-à-vis the issuance and marketing of tranches of debt collateralised with distressed loans, widening the size of the secondary market for distressed debt and making it more liquid;
- (d) Finally, with an AMC it could be easier to implement debt to equity swaps, due to minimum or limited capital requirements, a distinct disadvantage facing banks engaging in this method of debt write offs.

This encouraging picture is not uniform. The use of a country AMC to resolve the Scandinavian banking crisis and the Asian financial crisis proved to be a success. On the other hand, the post-2008 experience in Europe has been more mixed. From the three countries that have used “bad banks” only Ireland’s NAMA shows encouraging signs of final value recovery and that may also be down to the underlying strength of the Irish economy.

The use of AMCs to resolve NPLs can face important challenges which in the main can be summarised as follows:

- (a) the governance issue – mostly relating to a fear of cherry picking, or that the bad bank will be used to restructure loans to related parties at favourable terms, or to warehouse and hide worthless assets. Debt to

- equity swaps may encounter a similar problem resulting in the rescue of “zombie” companies” (IMF, 2016 on the challenges of Chinese scheme);
- (b) limited transparency and uncertainty about the quality of bank disclosures and due diligence can give rise to a “market for lemons” situation;
 - (c) asset valuation – the choice of measures to be employed to calculate NPL value, e.g., market value, book value, net book value, or long-term economic value is a matter of great importance both for the success of the scheme and the distribution of losses. Of course, this is no simple matter as the rate of NPL recovery, especially vis-à-vis corporate and real estate loans, is also dependent on the prevailing conditions of demand in the market and the state of the macroeconomic cycle;
 - (d) ultimate loss absorption – which party will absorb any losses on liquidation and winding up.

In addition, bank management’s and owners’ incentives are crucial, especially since regulatory “coercion” may not be able to offer immediate results or at least not without running the risk of firesales. Either the bank’s management is incentivised to sell or it is forced to sell. While the latter may be achieved through a host of supervisory tools attached to the bank recovery and resolution plans and stress tests, as well as BRRD’s early intervention regime, a less enforced approach may secure higher market prices. On the other hand, unsurprisingly, especially where the deterioration of the loan book is mostly due to macroeconomic factors, shareholders (who presumably will resent being wiped out) and management (who presumably will be replaced) will obviously be less than happy to cooperate willingly. Of course, BRRD’s early intervention regime and some other provisions of EU regulatory regime offer wide supervisory discretion, up to and including changing management, with a view of replacing it with one presumably more energetic in tackling NPLs. But without resolving the underlying problems the supervisor must also be determined to push the bank into resolution. This of course entails (under the BRRD) a bail-in possibly in more than one bank, a feared prospect for regulators due to the capacity for systemic disruption when NPLs are spread system-wide, or anticipated problems to fund the bank post-resolution.

Bank management can be incentivised to sell if the price is closer to net book value, book value ex provisions, rather than the normally much lower market price, a gap that may in fact worsen in the case of forced selling

leading to firesales. Profit and loss (P&L) agreements can resolve the issue of the final division of losses but they will not constitute a clean break for the bank's balance sheet. Any future losses resulting from P&L arrangements act as a contingent liability inhibiting balance sheet growth for some time. Our earlier proposal considered capped P&L agreements to tackle this matter directly and avoid creating unlimited contingent liabilities. Another approach would be to make the banks hold an equity stake in the member state AMCs which would also help to increase the cushion that would be available before private bondholders are hit, allowing the banks to avoid facing extensive clawbacks. Nonetheless, bundling all banks in the same bracket regardless of their volume of NPLs and portfolio riskiness (objectively measured by reference to the recovery rate of NPLs) would raise moral hazard concerns.

3. The Proposal

3.1 AMC Rationale

In the absence of willing buyers at prices that would not be very far from banks' estimations of the asset's value, all recommendations for quick liquidation of NPLs in the current environment of low bank profitability would just deliver European banks straight into the hands of the resolution authorities, or worse into liquidation, despite the rapid modernisation of NPL tackling procedures through amendments to insolvency law and the adoption of requisite codes of conduct. We believe that this gap between expectations for rapid NPL resolution in the EZ and reality can be bridged through a specially designed AMC scheme.

AMCs, in general, have an encouraging record in tackling NPLs, notwithstanding the distributional concerns associated with the problem of valuations. Given the high level of corporate NPLs in the EBU and specialized turnaround (and possibly private equity) skills required to work-out such credits, AMCs also offer the distinct advantage of offering economies of scale in tackling corporate NPLs and creating liquid secondary markets for distressed debt. Yet only four countries use them in the EU (Ireland, Spain, Germany, and lately Italy). Moreover, a pan-European bad bank could ensure

diversification of losses and peer pressure for the rapid resolution of NPLs. At the same time, we acknowledge that the “market for lemons” problem is asymmetrical from country to country and legislative reform is not sufficient to resolve it. In addition, costs of recovery can be uneven on a country by country basis, preventing the formation of a fully-fledged Pan-European bad bank. We also accept that, objections based on burden-sharing arguments are not going to go away, whatever the legal argument against them, as they are essentially part of the predominant (and unwritten) doctrine underpinning the EMU so far, i.e., that the fallen pay the price for their fall.

So, the circumstances call for an effective compromise solution. To this effect, we suggest that the following ideas can provide the best solution to the EBU bad-bank conundrum.

3.2 AMC Structure

In our opinion the most effective approach to tackle NPLs through an AMC scheme would involve the formation of a pan-European holding company that would preside over quasi-ring-fenced country-based AMCs. The holding company would have as initial shareholders all EBU member states with a share-capital participation that would be a factor of a symbolic, but not totally insignificant, participation of (say 1 billion EUR) multiplied by the share of NPLs to total loans of the country's banking sector multiplied by a factor that represents the country's share of the EBU GDP. E.g., if we assume that Greece represents 2% of the EBU GDP and its level of NPLs is 45%, the Greek participation should be $1\text{billion EUR} \times 45/50 = 900\text{ million EUR}$. On the other hand, if we assume that Germany represents 40% of EBU GDP and its level of NPLs as certified by the competent supervisor, probably the single Supervisory Mechanism (SSM) is 5%, the participation of Germany in the pan-European holding AMC would be, $1\text{billion EUR} \times 5/2.5 = 2\text{billion EUR}$. The holding company would set up country-based AMCs as subsidiaries. The initial shareholders of country AMCs would be the Holding Company participating as a private investor (but with increased governance rights) at a minimum of 10% of member state AMCs' issued share capital. Namely, it would participate in the same way as, by analogy, a private equity limited partner with its potential losses firmly capped. The Holding Company's participation to the

member state AMCs would represent, at a minimum, the country's participation in the holding company). All member state banks wishing to do business with the AMC would participate to the AMC's initial share capital with a share-capital contribution (each) of a minimum $\times 1$ times the country's participation in the holding company, less if their share of NPLs over total loans is lower than the national average, more if their share is higher than the national average. The losses or profits of each AMC would be cleared at the national level. The board of the holding company would have the responsibility for appointing the board of country AMCs, holding an open tender. The three supervising institutions (SSM, the Commission, and the European Stability Mechanism (ESM) would have to be informed of requisite appointments). Country AMCs would have to appoint the European Investment Bank (EIB) as an advisor to implement the valuation method advised below.

To avoid excessive upfront recapitalisations as well as unmanageable long-term losses to the AMCs and thus offer incentives to both bank management to sell the NPLs and private investors to buy debt issued by the AMCs, we suggest the following valuation approach. The NPLs would be transferred to the AMC at a price that is the weighted average (33% each) of the net book value (i.e., book value ex provisions), the long-term economic value of the asset as calculated by the EIB (LTEV),⁴⁹ and the market value of the assets to be transferred. The triple weighting is of course bound to provide a marked uplift in terms of transfer price. But it also reflects the fact that in some cases, e.g., Italy, the economy has posted anaemic growth rates since 2008 and before, so any economic boost would result in a substantial rise in market prices. Other countries, like Greece, Cyprus, Portugal, have lost a considerable portion of their GDP and any return to growth is bound to lift asset prices and thus valuations to substantially higher levels than current market prices.

One objective way to find the current market value could be through holding an auction under which the bank will sell to interested buyers a sample

49. The LTEV variable suggested here is already employed in the valuation of NPLs transferred by Irish banks to the country's AMC the National Asset Management Agency (NAMA), which was set up in the wake of the country's bailout by the Eurozone and ensuing re capitalisation of its banking system. It is derived as a combination of market value and an uplift of 0-25% to reflect the long-term economic value of the asset when conditions in the market and the financial system normalize and the reasonably expected future yield of the asset based on historical performance. The weighted average uplift has been 8.2%. NAMA has bought NPLs from the Irish banks at an average discount of 57% of face value.

of assets similar to the assets about to be transferred to the AMC. Namely, the bids for the pre-transfer auctions would refer to actual transfers and not submission of fictitious bids, as was the case with Libor rate setting in the pre-2012 period. The fact that LTEV valuations would be conducted by the EIB could secure objectivity in the calculation of this key stabilising variable.

Overall the objective of the AMC would be to buy the asset at a price that wouldn't trigger a requirement for extensive capital injections, so that, if possible, the impact on bank capital of relevant losses would be manageable, or could be amortized and absorbed in conjunction with other measures currently adopted to boost EU bank capital.

3.3 Burden-Loss-sharing

Following the winding up of the AMC operations any residual losses to the AMC would first be absorbed by its shareholders (i.e., the banks and the Pan-European AMC). The AMC could employ structured P&L agreements with banks. These agreements could provide the following claw back clause. When the losses from NPLS sold by a specific bank (or banks) exceed the average level of losses the AMC has experienced in its overall NPL portfolio, then that bank (banks) would have to make further payments to the AMC, amortized over a period and capped by the amount that the money loss emanating from the specific bank's NPLs proportionately exceeded the amount the AMC would have lost if the specific bank's (banks') NPLs had scored the same levels of recovery as the portfolio average. This is a good way to penalize a bank (or banks) whose portfolio of transferred NPLs fall below AMC average in terms of recovery values. Such structured P&L arrangements would contain the worst offenders and thus they would counter moral hazard. In addition, they would maximize banks' incentives to engage in honest conduct with the AMC.

80% of any further residual losses in the country-based scheme would be covered by an ESM guarantee that the country could procure at any time under the indirect bank recapitalization instrument (broadly defined, i.e., loans certainly include contingent future loans: guarantees) and under the so-called "precautionary recapitalisation" process, i.e., without triggering the BRRD conditions. The indirect "precautionary" recapitalisation facility is explicitly envisaged under the current ESM regulations. These arrangements would

leave AMC's private bondholders with very limited exposure to AMC losses, thus, they significantly boost AMC's chances to find private bond finance to fund its purchase of bank NPLs.

However, philosophical problems relating to moral hazard and the Too-Big-To-Fail concerns would remain. Thus, we suggest that banks selling NPLs to the AMC - other distressed financial instruments ought to be excluded from the scheme - could be subject to a structural conditionality to cede business and branches, if the authorities thought it necessary. Such conditionality would tackle fears of reinforcing big banks and the TBTF subsidy through the AMC scheme. It could also be a sufficient measure to conform with the EU state aid framework and open-up Eurozone banking markets to new contestants/entrants.

3.4 The distribution of competences between the Pan-European Holding Company and member state AMCs

The Holding Company should be a fund jointly owned by the participating member states set up to run for an initial period of five years. There is no reason for it to be an inter-governmental or EU agency. While it would seem logical that the Holding Company should be an ESM subsidiary, such a move might trigger fears of debt mutualisation. In addition, the ESM may have a conflict of interests given that it would provide guarantees to each member state-based AMC through the member state concerned. Thus, the holding company would have to be a separate corporate body that is wholly owned by the participating EZ member states.

The board of the Holding Company would report to the SSM, the EU Commission, and the ESM every 6 months. The reports could be made public. Each member state would be able to exercise the percentage of voting rights that would correspond to its stake in the Holding Company's share capital.

In the beginning, the Holding Company would not be able to borrow money to downstream liquidity to its country subsidiaries but that restriction could be altered by a decision of the 2/3 of Holding Company shareholders. Voting in this case would be based on the principle of one share one vote. In the case that the board of the holding company cannot reach a decision on one of the matters it considers (other than leveraging its balance sheet), its

articles should provide that in that case all shareholders' voting rights are automatically transferred to the EU Commission, the ESM, and the ECB whose decisions would have to be taken by a two thirds majority of their own votes bypassing the company's shareholders. This power should exist to discourage standstills and encourage consensus building.

Each country-based AMC would have the freedom to decide how to meet its financing needs given that this would also be dictated by the quality of its portfolio of assets. The funding strategy would be determined through a resolution of the AMCs' shareholders in a process where the vote would be by majority and the holding company would not enjoy supra-voting rights, as in the case of board appointments. On the other hand, the holding company would ensure that each country-level (ring-fenced) subsidiary operates under the same conditions of governance, transparency, disclosure, and valuations. In addition, the holding company could establish and control FinTech platforms, given their ability to safely hold and disseminate due diligence reports, to effect direct sales of assets from the AMCs to any interested investors, augmenting the integrity and reliability of the platform.

Such centralisation of rules and operations presents distinct advantages. First, it secures comparability of operations and performance. Comparability of performance would of course expose NPL recovery problems generated by any odd legal and regulatory regimes. It would also eliminate any excuses on behalf of national authorities and bank management to create a functional secondary market for NPLs. Secondly, it would ameliorate governance and transparency discrepancies, since the matter of valuations would be handled by the EIB, and the AMC's management would be a matter for the Pan-European AMC to decide and not of country authorities and bank AMC shareholders. In case of strong disagreements with the latter the three supervising institutions (the SSM, the Commission, and the ESM) could have the final word. Third, centralisation would augment the accountability of the management of AMCs. Fourth, the combined impact of centralisation of decision-making process and operations would take the sting of moral hazard and unequal governance away from the provision of an ESM guarantee to the country-based AMCs.

3.5 Legal Considerations

AMC transactions with going concern banks need not meet the BRRD requirements. NPLs could be transferred to the AMC by banks that have neither entered the resolution or pre-resolution stage. But another obstacle would remain: the EU state-aid rules under article 107 TFEU. Inevitably, such injection of public funds would indeed amount to some form of state assistance but could be allowed under certain circumstances under Article 107(3)(b) of the TFEU. In general, EU state aid rules have been applied to the EU banking sector with various degrees of flexibility. The suggested here ESM guarantee is not a permanent transfer and of course, it may never be triggered. If the ESM guarantee is offered (via the state) to the country AMCs on commercial terms, earlier decisions of the EU Commission on state aid by means of guarantees offered by the state on commercial terms become relevant.⁵⁰

However, the 2013 Commission Communication on State Aid Rules in the banking sector declared that state aid to assist with a capital shortfall should be preceded by all possible measures to minimise the cost of remedying that shortfall, including burden-sharing by shareholders and subordinated creditors. Micossi et al. 2016 point out that the Communication is the exception in the Commission's State Aid jurisprudence and, in any case, it should not be construed independently of the Treaty Principle of Proportionality. Moreover, the Banking Communication itself (para. 45) offers an 'exception rule' from burden-sharing, which can be derogated when implementing burden-sharing measures would endanger financial stability or could lead to disproportionate results.

But while Advocate General Wahl in the *Kotnik* case,⁵¹ the 2013 Communication expressing the view that the only binding legal rule is Article

50. See EU Commission, Press Release, "State aid: Commission gives final approval to existing guarantee ceiling for German HSH Nordbank", 3 May 2016. The rationale of earlier Commission decisions on the supply of an asset protection guarantee to Nordbank by its majority shareholders, the Landen of Hamburg and Schleswig Holstein, centered on the fact that the guarantee was offered on commercial terms. The latest decision requires drastic asset disposals. While the decision refers to state aid offered before the implementation of the BRRD and it is probably not the right precedent, the commercial terms language may not be ignored.

51. Opinion of Advocate General Wahl, case C-526/14, *Tadej Kotnik and Others v Državni zbor Republike Slovenije*, 18 February 2016.

107 the Court of Justice laid down instead some guidance on how the Communication should be interpreted holding it as binding.⁵² In specific, the Court held that⁵³:

The burden-sharing measures are designed to ensure that, prior to the grant of any State aid, the banks which show a capital shortfall take steps, with their investors, to reduce that shortfall, specifically by raising equity capital and obtaining a contribution from subordinated creditors since such measures are likely to limit the amount of the State aid granted.

Clearly, this requirement is met by obliging banks to become shareholders in the AMC with the clear risk that their participation may be written off to absorb losses. But authorities may deem that to meet the burden sharing requirement banks participating in the suggested scheme may conduct rights issues to increase their equity capital buffers while selling their NPLs to the AMCs.

On the other hand, things are less clear as regards the conversion/write off of subordinated creditors. On this issue the Court gave a rather ambivalent interpretation, which, on the one hand, explicitly acknowledged that it is legal and legitimate for member states to refrain from bailing-in subordinated creditors outside the BRRD framework, and, on the other, it states that all such cases will be examined *ad hoc* and such exemption may make a state injection of funds fall foul of the state aid prohibition.⁵⁴ In our view the Court's ambivalent statement on the matter should be read in conjunction with para. 45 of the Commission Banking Communication about exceptional circumstances. This combined reading leads to the conclusion that exempting subordinated creditors from sharing the burden of any NPL losses under the scheme will not endanger the legality of the scheme.

52. Court of Justice of the European Union, case C-526/14, *Tadej Kotnik and Others v Državni zbor Republike Slovenije* 19 July 2016.

53. *Ibid.*

54. The Court's exact wording is as follows: 'As regards measures for conversion or write-down of subordinated debt, the Court considers that a Member State is not compelled to impose on banks in distress, prior to the grant of any State aid, an obligation to convert subordinated debt into equity or to affect a write-down of the principal of that debt, or an obligation to ensure that that debt contributes fully to the absorption of losses. In such circumstances, it will not however be possible for the envisaged State aid to be regarded as having been limited to what is strictly necessary. The Member State, and the banks who are to be the recipients of the contemplated State aid, take the risk that there will be a decision by the Commission declaring that aid to be incompatible with the internal market. The Court adds however that measures for conversion or write-down of subordinated debt must not go beyond what is necessary to overcome the shortfall of the bank concerned.' *Ibid.*

Accordingly, we believe that the hybrid Euro-AMC scheme suggested here will not fall foul of EU State Aid rules. The scheme secures a substantial amount of burden sharing (the paramount requirement of the EU communication and of the Enria 2017 plan) and the magnitude of the disturbance and the impact of the continuous debt overhang on the economies of the Eurozone countries concerned is such as to warrant the suggested measures.

Finally, the nature of any transfers via the ESM under the “precautionary recapitalisation” scheme would within the spirit of Art. 125 TFEU as authoritatively interpreted by the Court of Justice of the EU in the *Pringle* case.⁵⁵

4. Conclusion

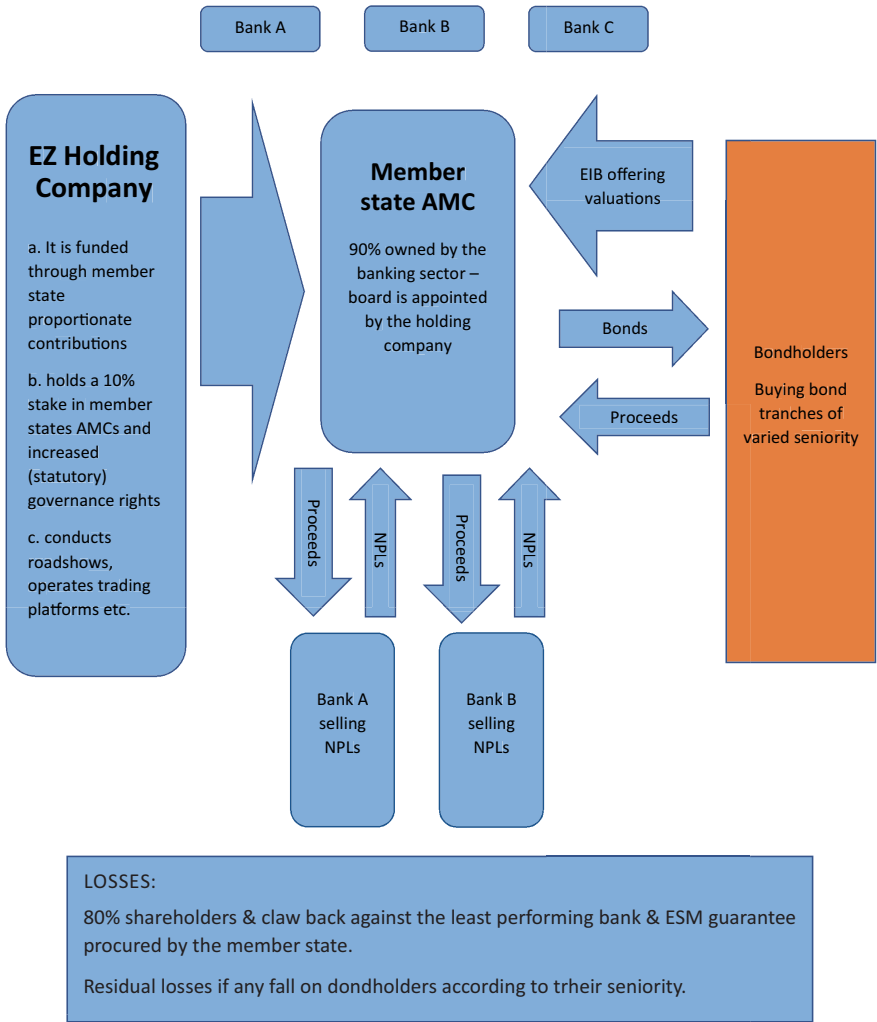
Most Eurozone leaders regard Pan-European AMCs with suspicion as there is a general fear of their redistributive outcomes. So, to clean up bank balance sheets without pushing Eurozone banks into bail-in centred recapitalisations, necessitated by the present dearth of investor interest in EZ bank equity, we have considered the possibility of a hybrid Euro-AMC. The holding company approach we have suggested secures the capping and minimisation of any fiscal transfers while it lays down the groundwork for a future EBU fiscal backstop for the banking sector which to us seems both desirable and inevitable, as much as it is legal under the *Pringle* reading of Art. 125 TFEU. In addition, the use of AMCs would act as a catalyst for attracting new private entrants and boosting liquidity in the euro-market for distressed bank debt. Sales of NPLs to a member state AMCs would free up capital for new lending, relieving Eurozone periphery’s debt overhang. Moreover, radical balance sheet cleaning up and the near elimination of banks’ future exposure would be good news for the market and could encourage fresh injections of equity investment in the EZ banks concerned. A final benefit is that the suggested AMC scheme could, indirectly, relieve current pressure placed on the ECB in the context of sometimes controversial bank bond purchase programmes.

55. *Thomas Pringle v Government of Ireland, Ireland and The Attorney General* Judgment of the Court of 27 November 2012, CJEU Case C-370/12, esp. paras 136-137. Reiterated in the more recent *Peter Gauweiler and Others v Deutscher Bundestag* (CJEU, Case C-62/14), paras. 135-136.

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Appendix:
Suggested Structure of an EZ AMC (Bad Bank) Scheme for NPLs & Burden Sharing



Why We Need to Breach the Taboos on European Banks' Non-Performing Loans⁵⁶

by Brunella Bruno⁵⁷, Giuseppe Lusignani⁵⁸, and Marco Onado⁵⁹

Abstract

We propose a comprehensive, pan-European scheme to address the issue of non-performing exposures. We contend that securitisation is the most effective way to sell the bulk of troubled loans because it can rise the transfer price at a level closer to the real economic value, reducing the loss for the banks at bearable levels. Through a numerical example, we describe the main characteristics of a blueprint of securitisation to be implemented at a national level. We argue that this scheme could attract funds from a wide array of investors, while forms of public support can be worked out in terms compatible with the current European rules on state aid.

1. Why securitisation is the best way to get rid of European NPLs

The poor quality of banks' loan portfolios seems to be at present the main unresolved issue in Europe. Non-performing loans (NPLs) in the Eurozone stand above €1 trillion; notwithstanding the discrepancies across banks and

56. This work is the adjourned version of the policy paper «A securitisation scheme for resolving Europe's problem loans» (see Bruno et al. 2018), developed through CEPR's Restarting European Long-Term Investment Finance (RELTIF) Programme, which is funded by Emittenti Titoli. The authors thank Riccardo Tedeschi (Prometeia) for his invaluable contribution to the econometric exercises underlying this paper and his comments to a previous version.

57. Bocconi University.

58. University of Bologna and Prometeia.

59. Bocconi University.

countries, more than one third of EU jurisdictions have NPLs ratios above 10% (EBA 2016). Such a bulk of NPLs is likely to have micro and macro-prudential effects. NPLs may impair the lending channel – therefore the transmission mechanism of monetary policy – due to the negative impact on banks’ profitability, capitalisation, and funding costs (ECB 2015). The low quality of loan portfolios can also revive the “diabolic loop” between banks and sovereigns, which forced the ECB to deploy ultra-accomodative monetary policies whose side effect is to depress banks’ net interest margin. Given the high interconnectedness within the Euro area financial system the risk of spillovers across banks and countries can also rise (ECB 2015; IMF 2016).

The issue has been so far left to national initiatives, as the European commission and Parliament, that avoided to adopt a comprehensive approach, pretending not to see the elephant in the room.

Since the inception of the financial crisis, many economists warned that a prompt and bold solution to improve the quality of banks’ assets was necessary (Spaventa 2008); others pointed to the example of the successful restructuring of the Nordic after the banking crisis of the early ‘90s (Borio et al. 2010). The response of the European and national authorities has not been up to these proposals and recently the IMF has warned on the urgency of a comprehensive solution (Aiyar et al. 2015). In particular the ECB stressed the need to solve the market inefficiencies that dampen the creation of a pan-European market for distressed loans (ECB 2016).

Our paper aims to contribute to the current debate by proposing a comprehensive, pan-European solution. We contend that securitisation is the most effective way for banks to sell their stock of troubled loans especially because it may reduce the wedge between demand and supply prices of NPLs, the major evidence of the inefficiencies of the market and the main cause of the delayed development of a secondary market for distressed loans.

A number of factors contribute to such a pricing gap (ECB 2016). The limited size of the market for distressed loans, the lack of detailed information on distressed portfolios, as well as the poor debt enforcement framework in several jurisdictions are all factors that raise the risk premium required by potential buyers and depressing the net present value of NPLs. In addition, the more the banks are convinced to have already followed prudential provisioning criteria, the less they are willing to sell doubtful loans at prices

significantly below the book price. All these factors create a new version of the “lemon market” where participants are not willing to trade.

Against this background, securitisation seems a preferable solution, *vis-à-vis* a straight sale of NPLs through, e.g., bad banks or asset management companies (Enria 2016), because it creates not only a market for distressed loans, but also a market for structured securities guaranteed by the pool of distressed loans. Because different degrees of protection are possible, several tranches of securities with different risk-return combinations can be issued. Thus, securitisation schemes may also reduce the need for public funds by attracting private investors with different risk/return profiles, including those with a relatively high level of risk appetite. As an effect of the tranching mechanism, the funding cost (the weighted average cost of capital) of the securitisation vehicle will be cut down, the more so if the scheme is backed by some form of public guarantee, within the limits of European rules. The next section will expand on this aspect and illustrate two examples of securitisation of NPLs.

2. A system wide securitisation scheme: two exercises

In this section, we first propose an example of a nation-wide securitisation structure for the Italian banking sector. We then extend the example to other European countries.

Italy. We use aggregate data on (gross and net) NPLs and coverage ratios in Italian banks (Table 1) and hypothesize a securitisation transaction where the underlying portfolio is composed of the entire stock of Italian banks' bad loans (*sofferenze*), i.e. the poorest quality component of the NPL aggregate that weighs more on banks' balance sheet.⁶⁰

60. Without considering any further hair-cut from the recovery evaluation estimated by the banks, an expected recovery rate of 51.4 per cent has been calculated by adding back to the current book value of 42.3 per cent the time value effect at 4.25 per cent discount rate for a 5-year period.

Table 1 - Italy: NPLs and coverage ratios

	€ BN	% OF TOTAL LOANS	COVERAGE RATIOS (%)	BOOK VALUE (%)
NPLs gross	304.4	16.1	48.7	51.3
NPLs net	156.3	8.3	—	—
Gross Bad debts (sofferenze)	197.9	10.5	57.7	42.3
Net Bad debts (sofferenze)	83.7	4.4	—	—

Source: Our calculations on Bank of Italy and ECB consolidated banking data – June 2016.

As in Lusignani and Tedeschi (2016), our nation-wide securitisation SPV scheme is based on the following assumptions:

- (1) On the asset side, an average portfolio recovery rate of 51.4% and a 15% volatility of the overall gross exposure (equivalent to almost 30% of the expected recoveries);
- (2) On the liability side, the weights of the different tranches are 67% for the senior notes, 18% for the mezzanine notes, and 15% for the junior notes;
- (3) A state guarantee (as in the Italian “Garanzia cartolarizzazione sofferenze - GACS” scheme) is activated to cover the senior tranches that have received an investment grade rating (BBB- or higher) by an independent rating agency.

Table 2 summarises the main results of our simulation.⁶¹ The SPV’s weighted average cost of capital is around 7%. Adding legal and servicing fees (12% of

61. We estimate the par-yield returns for each tranche via Monte Carlo simulations using a risk-adjusted probability loss distribution of the securitized loans pool. We also use proper risk premiums calibrated on market conditions as of the evaluation date, to account for the volatility of recoveries risk and liquidity risk.

recoveries) and taxes (tax rate 24%), the estimated bid price is about 28% of the bad debts gross book value. The yields offered to the three tranches could attract different types of investors. In particular, senior tranche yields are in line with the expected returns required by mutual funds while the mezzanine notes are compatible with the risk/return profile of institutional investors such as hedge funds and funds specialized in the NPLs. The junior tranches can be firstly addressed to private national entities such as the Italian Fondo Atlante. Some form of public support may be also introduced, as a compensation of the “first mover disadvantage”. Such a public support would be compatible with the “Bank Recovery and Resolution Directive” (BRRD), being the European banking system stability at stake (Enria 2016; Regling 2016).

Table 2 – The Italian case SPV liabilities

Bad Debts Gross Exp.	197.9	100%				
		Tranche thickness		Loss attach. point		
Securitisation-tranche	Nominal value (€ bn)	% on Gross Exp.	% on SPV tot. asset	% on Gross Exp.	AVG life (years)	Cost of funding
Senior	37.2	18.8%	67.0%	18.8%	4.5	Euribor + 0.6%
Mezzanine	10.0	5.1%	18.0%	23.9%	8.0	Euribor + 6.6%
Junior	8.3	4.2%	15.0%	28.1%	8.0	15.6%
	55.6	28.1%	100.0%		5.7	7.1%
						WACC

The immediate loss for the Italian banks, net of the tax effect, will amount to nearly €21 billion (about 10% of bad loan gross exposure). Such a loss would represent the actual price paid by bank shareholders, as it will be directly deducted from the common equity tier 1.⁶² At any rate, the heavy burden of almost € 200 bn (nominal value) of Italian NPLs can be concentrated in the placement of a junior tranche of 8 bn and a further loss for the banks of €21 bn.

By raising the sale price to 33% of gross bad debts the impact on the bank's common equity will decrease: (1) the SPV total asset will rise to €65.3 billion (€197.9 billion \times 0.33) and (2) the immediate net loss will be reduced from €20.5 to €13.3 billion. As for the liability side of the vehicle, because the higher the sale price the higher the risk borne by investors, the junior tranche's size will increase accordingly (to €18 billion) in order to absorb such an extra (potential) loss, while the senior and the mezzanine tranches will remain the same.

Euro area. We re-run the same exercise on a larger sample of Euro area banks although we had to relax some assumptions due to the lack of granular data at European level (e.g., on the breakdown of NPLs and coverage ratios). We apply the same bad loan to total NPL ratio as in the Italian case (i.e., 65%), estimating a portfolio of € 975 billion (gross book value).⁶³ As before, we first set a sale price equal to 28% of gross exposure of bad assets in the area. In such a case, the disposal of bad loans would determine a gross loss for Euro area banks of about €70 billion (€51 billion net of tax). The value of the underlying portfolio (net of the loss) would be € 173 billion, financed by a senior note tranche of €116 billion (67% of total notes), a mezzanine note tranche of €31 billion (18%), and a junior note tranche of €26 billion (15%). As in the Italian case, the weighted average cost of capital would be nearly 7%. We then increase the sale price to 33% of gross exposure of bad loans in the Euro area: in such a case the total gross loss on disposal would be €46 billion (€34 billion net of tax). Hence, the asset size of the vehicle will be €197 billion, financed through the following tranches: €116 billion of senior notes,

62. The net loss is calculated as it follows. The net book value of bad debts in Italian banks, as of June 2016, is €83.7 billion (42.3 % of gross exposure). A sale price of € 55.6 billion (28.1% of gross exposure) would imply a gross disposal loss of €28.1 billion for the originating banks. Once accounted for the tax effect (at a tax rate of 27.5 %), the net disposal loss for the banks would reduce to €20.5 billion (10.3 % of gross exposure).

63. We estimate the NPLs transfer prices for Euro area countries by using World Bank data on average enforcing contract times and BCE data on average loans rates and coverage ratios.

€31 billion of mezzanine tranches and by a larger junior tranche of €50 billion to absorb the extra potential losses associated to this second hypothesis.

In both examples for Italian and Euro area banks, we have not included (unlike Avgouleas and Goodhart 2016) a claw-back provision under which banks are liable for a certain amount of the future losses of the NPV. In our opinion, such a contingent liability would drag on banks' balance sheet creating uncertainty in the market and reducing the banks' incentive to securitize NPLs in bulk.

A coherent scheme for selling the bulk of NPLs could reduce the Italian banks' NPL ratios from 16.1 to 5.6 % (gross value) and from 8.3 to 3.9 % (net value). The country with the largest amount of troubled assets would suffer an immediate loss of €13-20 billion and would need a junior tranche in the order of € 8-18 billion. At European level, the problem of NPLs could be downsized to a net loss for the banking system of about €34-51 billion and a junior tranche in the order of €26-50 billion. In other words, the securitisation solution can reduce the mountain of European NPLs by an order of magnitude.

3. Conclusions

The problem of NPLs has reached a dramatic dimension for many countries of the Eurozone and drags on the overall efficiency of the financial system and economic growth.

While there is a general consensus on the opportunity to remove NPEs from banks balance sheets, it is now clear that the market suffers from many failures that create a wedge between bid and ask price. Banks have therefore limited incentive to sell. We have shown that a securitisation scheme could drastically reduce the wedge and therefore the immediate losses for the banks.

Important to say, although key to resolve European banks' problem loans, securitisation might not be sufficient. Together with a proper securitisation scheme, three further important features are, in fact, needed:

- 1) The accurate due diligence of the underlying portfolio of non-performing loans by an independent external advisor.
- 2) The sales of troubled assets must be accompanied by restructuring processes to reduce excess capacity and improve profitability. In

particular: (i) The sale of the NPLs should be conditional to the approval by the prudential regulator of a medium-term plan aiming at restoring a sustainable long-term profitability; (ii) The sale of the NPLs should be an essential component of any resolution under the BRRD.

- 3) More detailed and standardized information on the NPLs market are needed. As outlined by the EBA (2016), measures should be implemented to enhance transparency regarding the state of NPLs and associated factors, such as real estate collateral valuations. More and higher quality information will facilitate the sale process and lead to lower discounts in secondary market transactions.

More granular data are of course needed to draw more precise conclusions on the actual effects of a system-wide NPL securitisation. However, we believe that three circumstances make our proposal credible and effective. First, the estimated disposal losses in our examples are largely in line with the capital buffers currently held by Euro area banks, as determined by the Supervisory review and evaluation (Srep) exercise. Second, the BRRD provides sufficient flexibility to allow for a public support for banks needing a precautionary recapitalization) where the financial stability is at stake. Third, the disposal of NPLs as a step of a broad restructuring plan approved by regulators, can assure the market (and politicians) that the entire scheme would work for restoring the long-term efficiency and profitability of the European banking system.

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Discussion

Reducing Non-Performing Loans in Europe

by Ralph De Haas⁶⁴, Bojan Markovic⁶⁵ and Alexander Plekhanov⁶⁶

Abstract⁶⁷

The current overhang of NPLs in Europe is not exceptional in a historical perspective. However, despite the wealth of experience in NPL resolution accumulated after earlier crisis episodes, resolving Europe's NPL problem continues to be a thorny issue. Difficulties reflect the chronic nature of the NPL malaise this time round but also the widely differing perceptions about the upside that NPLs may still present. For these reasons, NPL stocks are unlikely to decline fast and the costs of delayed action continue to accumulate. A number of promising resolution schemes – involving specialised asset management companies, specialised servicers, and/or securitisations – have been put forward. To be effective, these schemes will require hard policy choices to be made.

64. Ralph De Haas, Director of Research, European Bank for Reconstruction and Development, One Exchange Square, London, EC2A 2JN, UK. Email: dehaasr@ebrd.com.

65. Bojan Markovic, Deputy Director, Economics, Policy and Governance, European Bank for Reconstruction and Development, One Exchange Square, London, EC2A 2JN, UK. Email: bojan.markovic@ebrd.com.

66. Alexander Plekhanov, Deputy Director of Research, European Bank for Reconstruction and Development, One Exchange Square, London, EC2A 2JN, UK. Email: plekhana@ebrd.com.

67. The authors are grateful to Maria Balgova and Martin Hoflmayr for excellent comments and suggestions. The views expressed are the authors' and not necessarily those of the EBRD.

1. Introduction

Across much of Europe, and both within and outside of the Eurozone, non-performing loans (NPLs) continue to loom large almost a decade after the 2008-09 global financial crisis. This NPL overhang is hardly new or unique: high NPL ratios have been observed in the aftermath of many previous financial crises and economic downturns. Moreover, various approaches to cleaning up bank balance sheets have been successfully tried and tested in markets ranging from Malaysia to Sweden. Why then, given this wealth of experience in NPL resolution, is it proving so hard to resolve non-performing loans this time round? And what can be done to clean up the balance sheets of European banks? This short article examines these questions against the background of recent European policy discussions as well as the global experience with NPL resolution over the past two decades.

2. Europe's NPL challenge in a comparative perspective

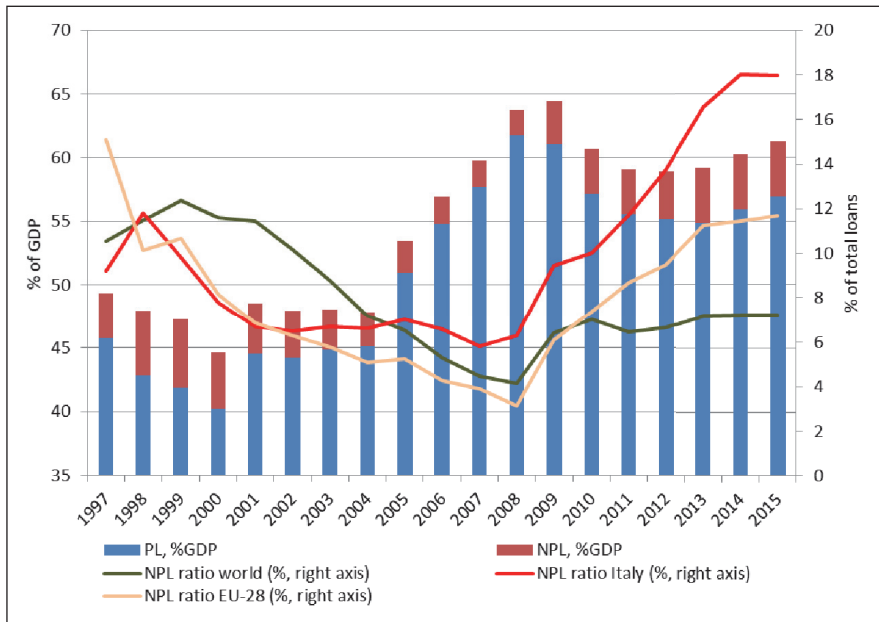
Data on non-performing loans are notoriously difficult to compare across place and time. The definition of what constitutes a non-performing loan varies widely across countries and so does the quality of reporting by banks and their supervisors. With these caveats in mind, a look at the global NPL picture since 1997 is nonetheless insightful. The analysis follows Balgova, Nies and Plekhanov (2016) and is largely based on data reported in the World Development Indicators of the World Bank.

Chart 1 indicates that current NPL levels in the EU are not exceptional on average. The global (unweighted) average NPL ratio in a sample of over 130 countries is around 7.5 per cent, slightly above the average of 7.1 per cent in Central, Eastern and South-Eastern Europe (CESEE) as well as the European Union (EU)'s weighted 5.5 per cent. These averages are well below the peak of around 12 per cent for the global sample in 1999 in the aftermath of the Mexican, Asian and Russian crises. That 1999 peak in fact corresponds to the level of today's unweighted average in the EU-28 (the picture is broadly similar if we look at median rates).

What is different this time round, however, is the profile of the rise and

fall in NPLs. The NPL problem currently is more “chronic” while in the past it tended to be more “acute”. For instance, while the average NPL ratio peaked in 1999 (almost immediately after the Asian and Russian crises) it subsequently fell swiftly and persistently. It eventually bottomed out at 4 per cent just before the 2008 crisis. The pattern was similar in the Nordic countries in the early 1990s. In contrast, the average NPL ratio globally and in many European countries has been edging up gradually but persistently ever since the 2008 crisis. In the EU-28, this rise has been steeper than was the case globally, especially in Italy which is now responsible for about 30 percent of the NPL stock in the Eurozone.

Chart 1. The development of NPL ratios globally, in the EU28, and in Italy (in %)



Source: World Development Indicators, IMF, authors' calculations.

Note: Unweighted averages, based on a global sample of 135 countries. PL: Performing loans. NPL: Non-performing loans.

3. Passive muddling through versus active resolution

Although this aspect is often overlooked in policy discussions, various countries managed to ‘passively’ grow out of their NPL problems on the back of a supportive external environment and/or the resumption of rapid credit growth. In such cases, NPL ratios may fall organically as total credit (the denominator of the ratio) expands. Moreover, firms that were not in a position to service their obligations may start generating sufficient cash flow to repay their debts in part or in full. In China, for instance, rapid economic growth has played a major role in supporting a steady decline in the (officially reported) NPL ratio from almost 30 per cent in 2002 to just 1 per cent in 2012. While China also established several specialised asset-management companies to transfer non-performing assets from the balance sheets of the four largest banks, supportive growth conditions and rapid credit expansion arguably made a more important contribution to the drop in NPL ratios.

Unfortunately, a systematic examination of episodes of NPL reductions indicates that cases where an NPL overhang is successfully resolved on the back of a credit boom and a supportive external environment are not common (Balgova et al., 2016). Moreover, such occurrences tend to happen in countries with low per capita income levels, low debt-to-GDP ratios and high inflation, where prospects for prolonged rapid growth are more likely. These factors for instance played a role in driving down NPL ratios in the new EU member states in the late 1990s and early 2000s.

In cases where a passive, organic strategy to grow out of an NPL problem is unlikely to be successful, a more active and decisive form of NPL resolution is needed. Unfortunately, such action is often delayed by a lack of incentives for the main stakeholders involved. In many cases, banks do not have the incentive to resolve NPLs as they expected to recover more than what is priced by the market. Corporate managers do not have an incentive either as widespread corporate restructuring often requires a change in management. Finally, regulators may delay NPL resolution because they are wary of disturbing fragile economic recoveries too soon. For all these reasons, NPL reductions underpinned by policy action typically only start when NPL ratios exceed 22 per cent (Balgova et al., 2016) – a level surpassed in Cyprus and Greece but not in Italy (data as of early 2017).

4. Why is tackling NPLs proving so difficult in Europe?

Large and persistent NPL stocks continue to hamper the post-crisis recovery as they drag on economic growth, even when fully provisioned (as is the case in many European economies), since they absorb managerial time, both in banks and corporates, and render performing loans more expensive. Why has a solution to Europe's NPL problem been so difficult to pin down? We discuss seven important factors in turn:

First, an important component of a successful NPL resolution scheme is the establishment of a market for distressed debt. However, NPL valuations that attract buyers may be substantially lower than those that tempt banks to sell their exposures. This bid-ask spread reflects differences in discount factors arising from diverging funding costs; different levels of risk aversion; different access to or assessment of data, and different perceptions about the upside in case of improving economic conditions. In particular, with record-low interest rates in the wake of the crisis, the difference between lending rates, which banks often use as a discount factor, and the required return on equity of asset-management companies (typically in the region of 15 per cent) may be particularly high. This leads to wide gaps in estimated net present value even for identical future cash flows. As a result, markets for distressed debt often do not emerge spontaneously and regulatory pressure may be needed to incentivise NPL transfers. Yet, in some cases stricter rules may also discourage NPL sales. For instance, if banks are required to mark-to-market their debt portfolios based on the completed sales of comparable NPLs, they may be further discouraged from participating in NPL sales at lower prices (Fell et al., 2016).

Second, the creation of a market for distressed debt is often hampered by the high cost of due diligence, especially in smaller European countries, with smaller potential volume of NPL sales. This is because NPL investors are often large US companies, with little existing local knowledge about the legal and judiciary system, regulatory resolution framework, or local companies and real estate. Investing in due diligence is costly for these investors, particularly if the prospective NPL market is not large enough to justify it. Standardisation of data prepared for such global NPL investors, and raising the skills of local NPL sellers in preparing and presenting standardised data, can help to overcome these problems and help to attract a larger pool of investors.

Standardisation of resolution frameworks across Europe, as much as possible, can also be of help.

Third, banks have clear incentives to offload the worst exposures as part of a resolution package. Banks, as the originators, have far more inside information about loan quality than outside investors. The presence of asymmetric information creates a classic market failure where the package of NPLs on offer at any given price is of a quality below what is needed to justify that price. This may call for a solution in which banks retain some of the downside associated with the non-performing loans after sale. In addition, uniform valuation principles should be applied to increase transparency. This, however, may be easier for straightforward loans, such as real-estate projects, than for more idiosyncratic borrowers such as small and medium-sized enterprises (SMEs), which for instance make up a large proportion of Italian bad loans.

Fourth, the role of an “upside” is typically overlooked. If NPLs remain on banks’ own balance sheets, banks retain an upside in case of an organic, demand-driven resolution of the NPL problem. In contrast, if loans are sold to a special-purpose vehicle at a fixed price, any upside will rest with the buyer. An upside due to a strengthening economic outlook is often regarded as likely by banks or policymakers, in some cases based on earlier experiences (notably in Central and South-Eastern Europe). For instance, recent studies indicate that sustained economic growth of just 1.2 per cent would be sufficient to let Italian NPLs steadily decline (Mohaddes et al., 2017). At first sight this appears to be imminently achievable. Yet, the last episode when Italy’s economy sustained a rate of growth in excess of 1.2 per cent for 3 years or more (1994–2001) ended 16 years ago. This puts the odds of a favourable growth dynamic that would take care of the NPL problem into perspective. The example also highlights why any solutions to a chronic NPL problem may remain elusive: the potential upside of a “muddling through” approach may appear more appealing to banks, and perhaps also their regulators, than is warranted based on facts.

Fifth, banks continue to experience difficulties in raising fresh capital from private sources (Avgouleas and Goodhart, 2016). In Europe in particular, the low profitability of banks in mature banking systems (often with excess capacity) makes it hard for banks to replenish capital. This stands in stark contrast with banks in South-East Asia in the 1990s that could use retained

profits to bolster their capital ratios (Bruno et al., 2017), or in Japan in 2003, where banks were able to access fresh capital at short notice (Farrant et al., 2003). Note also that schemes in which banks retain some downside of NPL resolution are likely to require additional fresh capital to underpin contingent or direct liabilities (unless, of course, NPLs are sufficiently provisioned).

Sixth, and related to the previous point, the Bank Recovery and Resolution Directive (BRRD) imposes strict restrictions on the use of public funds in bank recapitalisations. The long run aim of the directive is to reduce moral hazard and make a repeat accumulation of bad debts less likely. In the short run, however, it limits options for state-sponsored recapitalisation even in countries where there may be enough fiscal space. And even if such recapitalisation could deliver ex-post profits to the taxpayer.

Seventh and finally, asset management companies (AMC), special purpose vehicles (SPVs), and specialised NPL servicers tend to bring higher value where they can best leverage their work-out expertise. In case of AMC or SPVs this is typically in the case of real estate or real-estate-backed loans, or in case of fragmented debt, whereby one company borrows from multiple banks. Synergies in the case of other corporate (and retail) loans may be more limited – yet corporate loans account for a major part of the NPL stock in a number of European countries. Specialised NPL servicers, both local and regional, may nevertheless turn out to be essential, since widespread NPL resolutions create a large demand for corporate restructuring, foreclosure, collateral sales and other relevant skills. Such skills are often in short supply in specific countries and represent a major bottleneck for a sustainable NPL resolution.

5. Required features of resolution schemes

A strategy for dealing with NPLs typically involves four components: tightening of supervisory policies; insolvency reforms; skills capacity building; and the development of markets for distressed debt (Aiyar et al., 2015; Garrido et al., 2016). The first three components are crucial and yield dividends over the longer term. The effect of transferring distressed debt to specialised asset management or servicing companies is more immediate and much of the policy debate has focused on such companies.

A distressed debt market may have (privately-funded) bad banks at its core or it may rely on a securitisation scheme (Bruno et al., 2017). For a securitisation scheme to work, market participants need to share fairly upbeat assumptions about the recovery rates of currently non-performing loans. These assumptions need to be not only shared but also realistic – to avoid the pitfalls of subprime mortgage securitisation in the run-up to the 2008 crisis. In this regard, it is imperative to collect historical evidence on recovery rates from a variety of NPL episodes across countries and time periods. If they validate the model assumptions, securitisation can be a promising approach, in particular if governments can buy or guarantee junior tranches.

Most of the current policy proposals are structured in a way that banks fully forego any upside associated with NPLs on their books. In certain proposals, banks also retain some of the downside in the form of clawback provisions. Such provisions are designed to address the aforementioned asymmetric information problem by incentivising banks not to offload predominantly hopeless loans (see, for instance, Haben and Quagliarello, 2017). In practice, however, clawback provisions may be challenging to implement. They may of course also reduce the incentives of the SPV to put effort into loan workout.

An alternative approach is to leave the banks some upside potential, in order to help bridge the gap between bid and ask prices in the market. This can take the form of a (minority) equity stake by a bank in the AMC or SPV. While such equity stakes can provide banks with additional incentives to transfer NPLs – and in particular NPLs that may be viable and benefit from AMC workout expertise – they may also increase the amount of fresh capital that the banks need to raise (as part of this capital would indirectly be used to underpin the purchase of equity in AMCs). This capital may (in part) come from public sources, provided this can be compliant with the BRRD.

Finally, whatever the structure of the distressed debt market, the issue of the composition of NPLs in Europe remains. AMCs may be well suited for real-estate loans or other debt with strong collateral, or to ensure managing control in distressed companies with fragmented debt. However, even when transferred to the balance sheets of special purpose vehicles, loans of small and medium-sized businesses remain a heavy burden on these firms' balance sheets and therefore a drag on economic recovery. Straight write-off of such

exposures, in case of viable companies, may in some cases be an economically and socially more attractive option – albeit, once again, one that would require higher amounts of fresh capital upfront, both for banks and for restructuring of such viable companies.

Alternatively, there are views that a public and centralised asset management company could be set up at the level of the Eurozone (Beck and Trebesch, 2013) to deal with the legacy of the Eurozone crisis in case private schemes are unable to overcome the information asymmetries and other problems associated with a private market in non-performing debt. Such an international asset management company may be better at exploiting economies of scale (as national schemes are no longer necessary) and at dealing with cross-border NPLs. In addition, a Eurozone solution could be defended on the grounds that banks in this zone have a common regulator and access to a common lender of last resort while national authorities can do little to incentivise banks to deal with NPLs (Beck, 2017).

Critics of such a scheme have pointed out that it may bring about moral hazard as NPLs are unevenly spread across the Eurozone countries, while the burden is equally shared between taxpayers. Such a scheme would, of course, also not help to reduce the significant NPL burden of many countries outside the Eurozone, especially in Central, Eastern and South-Eastern Europe (CESEE). Additional measures would need to be taken in this region, in particular since the smaller absolute size of their NPL markets renders attracting private NPL investors even more challenging, while at the same time more necessary, given that limited fiscal space mostly rules out public solutions.

Many CESEE countries have coordinated their actions on NPL resolutions through the so-called Vienna Initiative platform⁶⁸, and its NPL Initiative⁶⁹. This initiative focuses on three major areas: (i) increasing transparency of NPL resolution frameworks, by creating credible action plans for NPL resolution in each country, including a range of legal reforms (such as bankruptcy laws and out-of-court restructurings), tax reforms, and regulatory reforms; (ii) capacity building (workout professionals, judiciary, insolvency professionals);

68. A public-private platform for coordinating private banks, international financial institution, and home and host authorities in CESEE.

69. See <http://npl.vienna-initiative.com/>

and (iii) knowledge sharing on best practices in NPL resolution, through the NPL Initiative website, a regularly published NPL Monitor as well as regular cross-regional discussions.

Partly because of the NPL Initiative's efforts, NPL ratios in CESEE have dropped by almost a percentage point in the year to June 2016 when they stood at 7.1 per cent. This downward trend has continued in 2017. Most of this drop has been the result of private NPL sales. But more needs to be done, particularly by addressing skill shortages. Given that most of the NPLs in CESEE region are in the corporate rather than retail sector, skills in the area of corporate restructuring and wind-down are a particular bottleneck. A way to address this is through the faster development of dedicated local or regional NPL servicers, which could exploit economies of scale in dealing with corporate restructurings and wind-downs.

6. Conclusion

Europe's mountain of non-performing loans is large – but not uniquely large in an international historical perspective. However, for a variety of reasons, lessons and solutions from past episodes of high non-performing loans cannot be simply applied to the current European situation. Complicating factors include the chronic nature of Europe's NPL malaise as well as the conflicting objectives of solving market failures related to downside and upside risks of NPLs while simultaneously minimizing bank recapitalisation needs (and in particular the use of public funds).

A number of promising resolution schemes have been put forward. To work effectively, they, too, require hard choices to be made. International experience suggests that a muddling-through approach may work but only if the economic cycle picks up markedly. The odds are strongly against such a scenario and the costs of delaying active NPL resolution schemes are hence substantial.

In Central, Eastern and South-Eastern Europe, a long-term effort to resolve large NPLs (partly coordinated through the regional Vienna and NPL Initiative platforms) has recently started to bear fruit. The efforts were based on the implementation of transparent action plans developed by the authorities, often

in collaboration with international financial institutions, banks and the real sector. These actions included reforms in legal, regulatory and fiscal areas, followed by a decisive regulatory push. Given that limited fiscal space mostly constrained public-funded solutions, the key condition for falling NPLs was the ability to attract international and local NPL investors to these countries. Transparency of action plans and the availability of relevant data helped and continues to be crucial in these efforts.

Since most NPLs in Central, Eastern and South-Eastern Europe are in the corporate segment, a sustainable resolution not only requires removing NPLs from banks' balance sheets, but also a lengthy process of corporate restructurings and wind-downs, which is still ahead of us. For the success of the latter, building up skills and capacities of workout professionals, judiciary and insolvency professionals will be key. In that respect, developing specialised NPL servicers, both local and regional, will be essential to optimise the use of scarce specialized human resources in this part of the world.

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Non-Performing Loans and State Aid Rules

by Christophe Galand, Wouter Dutilleux, and Emese Vallyon⁷⁰

Abstract

Impaired assets such as non-performing loans (“NPLs”) continue to pose significant problems across the EU. When possible solutions are being considered, “bad banks” or similar impaired asset relief measures are often discussed. However, if they involve support by the State such measures need to be compliant with a set of EU law provisions. This article aims to clarify which interventions are considered to be State aid, and to give an overview of the compatibility conditions that apply to State aid measures. A brief explanation is also given concerning the recent changes brought about by the EU’s new recovery and resolution framework introduced by the Banking Recovery and Resolution Directive (“BRRD”).

1. Introduction

Occurrence of non-performing loans (“NPLs”) is a normal event in the life of a financial institution providing loans, as it cannot be expected that all debtors will always be in a position to repay their loans. Therefore, the management of NPLs should be a standard activity for any credit institution.

70. The authors are respectively Head of Unit, Case Handler, and Blue-Book Trainee at the European Commission’s Directorate-General for Competition’s Task Force Financial Crisis. They have written this contribution in a personal capacity. For this reason, the views expressed in this article are solely those of the authors and do not represent a position of the Directorate-General for Competition or the European Commission.

NPL management without State support should be the normal approach to deal with NPLs in a market economy. Indeed, this is the best way to ensure that banks operate on a level playing field. In addition, if banks have to face the consequence of past lending decisions and cannot shift part of the bill stemming from past lending to the taxpayer, this avoids moral hazard. When such moral hazard is present, credit decisions are distorted and credit is not allocated to the most creditworthy projects; this inefficient allocation of credit hurts the long-term performance of the economy.

The outbreak of the financial crisis, which led to a sudden significant deterioration of financing conditions and evolved into an economic crisis, resulted in a previously unseen proportion of borrowers defaulting on their loans. While some banks and some countries have been less affected by NPLs or were already able to reduce their NPL ratios, the NPL problem still persists in parts of the EU. Indeed, banks with high NPL ratios that are either increasing, stagnating or decreasing much slower than expected, can be found in a number of EU Member States.⁷¹

There are multiple ways for banks to deal with NPLs (for example by restructuring loans, enforcing the collateral, or selling NPLs on the secondary market). In normal circumstances, banks deal with their NPLs themselves and will not require interventions by the State. Even in the unfavourable (post-)crisis environment, many banks have been able to significantly reduce their NPL portfolio without public support. For instance, several large Spanish banks⁷² did not receive public support and dealt with their NPLs by themselves. Likewise, the Italian UniCredit recently raised EUR 13 billion on the market which it will use to hive off a significant portfolio of NPLs.

Nevertheless, since the beginning of the crisis in 2007, as part of a wider strategy and restructuring effort of their banking sectors several EU Member States have deemed public intervention necessary to handle the unprecedented problem of impaired assets. Given market turbulence and uncertainty surrounding the value of such assets, financial interventions by the State were often the only possibility to keep banks afloat and preserve financial stability. In order to safeguard competition and the internal market,

71. For detailed statistics on non-performing loans see for example the EBA Risk Dashboard. This publication is available online on: <http://www.eba.europa.eu/risk-analysis-and-data/risk-dashboard>.

72. For instance, Santander, BBVA, and La Caixa managed their NPLs internally.

EU law however controls the Member States' interventions. Indeed, as a general rule the Treaty on the Functioning of the European Union⁷³ ("TFEU") prohibits the granting of State aid.

A State intervention has to comply with State aid rules only if it fulfils the following cumulative conditions⁷⁴:

- i. The measure must be granted directly or indirectly through State resources and must be imputable to the State;
- ii. The measure has to confer an economic advantage to undertakings;
- iii. This advantage must be selective and distort or threaten to distort competition;
- iv. The measure has to affect trade between Member States.

If a public intervention does not fulfil all of the above conditions, it is not qualified as a State aid measure and hence not subject to any compatibility conditions. There have been some public measures to help banks reduce their NPL ratios where the European Commission ("the Commission") concluded that they did not constitute State aid, for instance because the State charged a market conform price, such that the public measures did not confer an economic advantage to the banks that make use of them. Recent examples of such "aid-free" measures include the Hungarian "bad bank" (MARK)⁷⁵ – where NPLs and real estate are bought at market price – and the Italian debt securitisation scheme (GACS)⁷⁶ where the State charges a market conform fee to guarantee the investment-grade-rated senior tranche of the securitisation of NPLs.

Alternatively, if a public intervention is granted at terms which are more favourable than what a private investor would grant, it qualifies as State aid and the measure needs to be notified to the Commission who will assess whether it is compatible with the internal market. Member States may only

73. See: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:12012E/TXT>.

74. More guidance on these conditions can be found in the *Commission Notice on the notion of State aid as referred to in Article 107(1) TFEU*. This document can be found on DG Competition's website, see: http://ec.europa.eu/competition/state_aid/modernisation/notice_aid_en.html

75. See Commission decision of 10 February 2016 in case SA.38843. The full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/260961/260961_1733345_231_2.pdf

76. See Commission decision of 10 February 2016 in case SA.43390. The full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/262816/262816_1744018_70_2.pdf

implement the measure after the Commission has given its formal approval.⁷⁷ While State aid is in principle prohibited by the TFEU, certain exceptions are foreseen under which Member States may implement public support measures. Given the unprecedented nature and the enormous scale of adverse effects of the crisis, the exception under Article 107(3)(b) of the TFEU that State aid may be given “*to remedy a serious disturbance in the economy of a Member State*” was invoked to approve State aid to banks at the beginning of the crisis. To increase transparency and lay down detailed compatibility requirements, the Commission established a framework compiling the temporary rules in response to the financial crisis⁷⁸ which has been regularly revised and adopted to the changing conditions since then. The so-called “Crisis Communications”⁷⁹ which are the core of this framework continue to serve as a basis for the Commission’s assessment of State aid measures for banks.

Since the outbreak of the crisis, EU Member States have implemented and have been implementing various types of aid measures with the Commission’s approval to a very large extent both in terms of number of beneficiaries and aid amounts.⁸⁰ These public interventions have taken the form of recapitalisations, impaired asset relief measures (hereinafter also referred to as impaired asset measures), guarantees on liabilities, and other liquidity measures. Impaired asset relief measures are aimed at “*free[ing] the beneficiary bank from (or compensat[ing] for) the need to register either a loss or a reserve for a possible loss on its impaired assets and/or free[ing] regulatory capital for other uses*”.⁸¹ Such measures typically take the form of either a sale whereby the impaired assets are removed from the bank’s balance sheet (see Section 0) or of a (partial) State guarantee on the impaired assets that remain on the bank’s books (see Section 0).

77. This requirement is laid down in Article 108 (3) of the TFEU.

78. The documents that make up this framework can be found on DG Competition’s website, see: http://ec.europa.eu/competition/state_aid/legislation/temporary.html

79. In particular it concerns: the 2008 Recapitalisation Communication, the 2009 Impaired Assets Communication, the 2009 Restructuring Communication, the 2010 Prolongation Communication, the 2011 Prolongation Communication and the 2013 Banking Communication. See footnote 78 for a link to these documents.

80. The State aid scoreboard which reports aid expenditure made by the Member States, contains a dedicated table on State aid to financial institutions in the years 2008-2015, by type of aid instrument and can be found on: http://ec.europa.eu/competition/state_aid/scoreboard/index_en.html

81. Impaired Assets Communication, recital 15.

The nature of banks' impaired assets has changed since the beginning of the crisis. Initially, it were mainly securities, namely structured credit products (like ABS, CDO, etc.) whose value became uncertain and became illiquid. In a second phase, real estate bubbles burst in certain Member States (Ireland, Spain, etc.), such that real estate loans became non-performing on a massive scale. The last wave of increasing NPLs, which is partly the consequence of the protracted recession in some Member States, affects loans to corporates, SMEs, households etc. The Commission has clarified that Member States may set up impaired asset relief measures only for impaired assets where there is uncertainty concerning their value (which in turn depends on uncertain recovery rates), such that their market price is incorporating an increasing illiquidity premium and risk premium, and therefore the market price drops below what can be considered their real economic value ("REV")⁸².

When the value of securities drops or when loans become non performing, banks have to adjust the book value (either directly if they are recorded at fair value or indirectly by booking provisions or impairments) of these assets which usually results in significant losses. Banks that want to reduce their exposure to such assets through a sale are sometimes unable to do so because markets have become illiquid and/or because a sale would result in even higher losses than the reduction in value already booked in the accounts. Finally, impaired assets may also be subject to higher risk weights so that they consume more capital at a moment when the bank's capital position may already be under pressure.

Impaired asset relief measures, often combined with private or State recapitalisations, are a possible tool to remove (or reduce) the risk and uncertainty from a bank's balance sheet. This approach can also be applied to deal with NPLs in the current context, provided that the relevant EU legal frameworks are respected.

In Section 2 of this contribution we aim to clarify when public interventions are considered to be State aid. In Section 3 we discuss asset transfers to asset management companies while Section 4 covers the situation of asset guarantees. In both sections, we first explain under which conditions

82. For more detail on the concept of REV, see the explanation in Section 0.

the respective measures amount to State aid and then discuss the key compatibility requirements applicable to them. Section 5 then gives an overview of the additional State aid compatibility rules (not covered in the previous sections) that apply to impaired asset measures and explains the rationale behind these requirements and their application in practice. In Section 6 we summarize the recent changes that have been introduced by the Banking Recovery and Resolution Directive⁸³ (“BRRD”) which became applicable on 1 January 2015. Finally, in Section 7 we draw some conclusions.

2. The definition of State aid in the context of impaired asset measures

As explained in the introduction, not all public interventions constitute State aid. Therefore, it always needs to be established first whether an impaired asset measure actually qualifies as State aid. Since the qualification as State aid is based on a set of cumulative conditions, it is sufficient that one of those conditions is not fulfilled for a measure to be aid-free. In most cases, impaired asset measures are financed directly with public resources and the first condition for a measure to qualify as State aid is met.⁸⁴ When public interventions are made in favour of selected banks it can be assumed that there is a risk of distortion of competition vis-à-vis banks that do not benefit from such measures. Likewise, given that many banks are active in several Member States, an effect on trade can usually not be ruled out.

However, in some cases it may be less clear whether the remaining condition for State aid, namely that the measure confers an economic advantage on the beneficiary undertaking, is also fulfilled. For this purpose, the so-called market economy operator principle⁸⁵ (commonly referred to as MEO or MEOP) has been developed. The underlying idea is to compare the behaviour of the State or of public bodies to the behaviour of similar private economic operators under normal market conditions. According to the MEO

83. Directive 2014/59/EU of 15 May 2014. Available online on: <http://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A32014L0059>

84. For simplicity, the condition of imputability to the State will not be discussed in this article.

85. Commission Notice on the notion of State aid (see also footnote 74), Section 4.2.

principle, there is no advantage if the State has acted like a normal private party would have done in similar circumstances.

This can be applied to any type of economic transaction in which public actors are involved. For example, in case of a capital injection, the MEO principle translates to whether, in similar circumstances, a private investor of a comparable size operating under normal market conditions could have been prompted to make that given investment on the same terms. Analogically, when assessing loans or guarantees, the relevant question to pose would be whether the State is applying the same conditions as a private creditor or a private guarantor would apply. Finally, when a public body sells an asset, the relevant question to pose is whether a private vendor in a similar situation would have sold the asset at the same or at a better price.⁸⁶ If the MEO principle is not respected, i.e. if the State acts differently than a private economic operator, then the transaction grants an economic advantage to the recipient undertaking and if all of the other conditions are fulfilled it amounts to State aid.

It is important to note that, this assessment should be made on an *ex ante* basis, taking into account only the information available at the time when the intervention was decided upon. The rationale behind this is that business decisions under normal market conditions are also solely founded on information that is accessible upfront. Thus, respecting this principle ensures that the comparison is made on realistic terms.⁸⁷

3. Existence of aid and cap on transfer price in case of asset transfers to an AMC

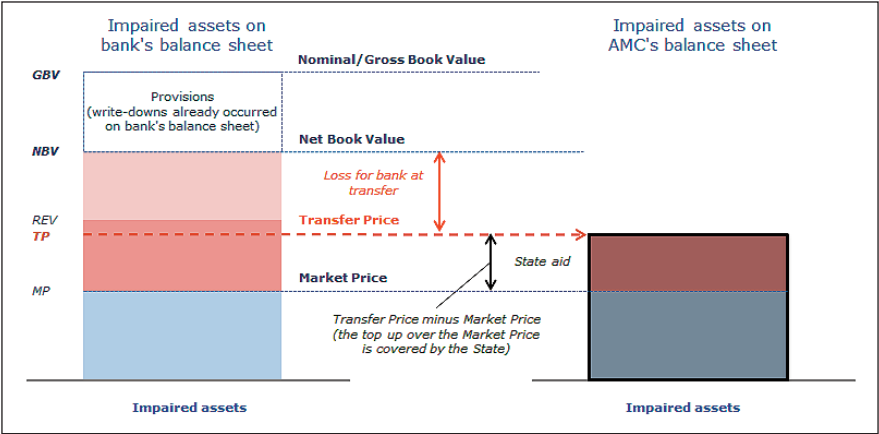
One way to address the problems related to troubled assets such as NPLs is to permanently remove them from the bank's balance sheet. This can be done by transferring the assets to a separate legal entity established for this sole purpose, a so-called asset management company ("AMC") which is also commonly referred to as "bad bank". Via this asset transfer, the AMC typically

86. Commission Notice on the notion of State aid (see also footnote 74), recital 74.

87. Commission Notice on the notion of State aid (see also footnote 74), recital 78.

acquires the ownership of NPLs (and in most cases also collaterals of NPLs that have already been repossessed by the bank) and pays a purchase price to the selling bank in return. An AMC can be set up to buy impaired assets from one bank or from several or all banks within a Member State (e.g. NAMA in Ireland, SAREB in Spain). The AMC is often owned, funded or guaranteed by the State in which case it meets the condition of State resources and imputability to the State as explained above. In the rest of this section, we will assume that this condition is fulfilled. As illustrated in Figure 1, the losses that the bank realises by transferring the assets to the AMC amount to the difference between those assets' net book value (NBV in Figure 1) and the transfer price (TP in Figure 1).

Figure 1: State aid in the transfer of impaired assets



Source: European Commission

Under the MEO test, no advantage is conferred to the bank selling the assets if the State as a buyer (via the AMC) has acted like a market economy purchaser operating under market conditions would have done in a similar situation. What a private buyer would be willing to currently pay is the current market price (MP in Figure 1) of the asset. To comply with the MEO principle, the transfer price that the State-supported AMC pays to the bank should therefore not exceed the current market price of that asset. In practice, since impaired assets are often non-traded assets for which the price can

therefore not be directly observed on stock exchanges or liquid OTC markets, the market price often needs to be estimated for the purposes of carrying out the MEO analysis, as explained in more detail further below.

If the purchase price does not exceed the current market price, the asset transfer does not confer any advantage on the vendor bank and the measure does not constitute State aid within the meaning of the TFEU. On the other hand, if the transfer price exceeds the current market price, i.e. the AMC pays more than what a private investor would currently pay for those assets, an advantage is present. This advantage is equal to the amount by which the transfer price exceeds the current market price, and constitutes the State aid contained in the measure as shown in Figure 1.⁸⁸

The market price of the assets typically targeted by impaired asset measures may be quite distant from their net book value (NBV in Figure 1). Certain market prices are severely depressed due to lack of transparency and uncertainty regarding the value of the assets (and/or the underlying collateral in case of loans). Therefore, purchasing impaired assets above their market price, thereby granting State aid, may be necessary to allow the bank to remove this source of uncertainty in its balance sheet at a price which is not unduly low compared to the cash flows which can be expected from the those assets.

The previous paragraphs discussed the identification and quantification of State aid. In the following paragraphs, the requirements for any aid identified to be compatible with the internal market will be explained. For an impaired asset purchase by a State-supported AMC, the Impaired Assets Communication has introduced a specific compatibility requirement – on top of the requirements applicable to restructuring or liquidation aid – in the form of a cap on the purchase price which would be paid by the State-supported AMC for the impaired assets. This cap is set at the “real economic value” of the purchased assets. The REV is defined as the “*underlying long-term economic value of the assets, on the basis of underlying cash flows and broader time horizons*”.⁸⁹ Overall, the Commission considers that the REV is “*an acceptable benchmark indicating the compatibility of the aid as the minimum necessary*”⁹⁰.

88. Impaired Assets Communication, footnote 2 to recital 20 (a), recital 39.

89. Impaired Assets Communication, recital 40.

90. Impaired Assets Communication, recital 40.

The REV is an estimation of the asset value by disregarding the unexpected distresses caused by the crisis. In contrast to the market price, the REV does not include the additional risk premium which private investors require because of the high uncertainty surrounding the value of the concerned assets and because of their illiquidity. The REV is a prudent estimation of the future cash flows which can be generated by the assets, net of all workout costs, and discounted using an interest rate including a certain risk premium. As market conditions improve over time, the market price should in theory converge towards the REV.

The reason for capping the purchase price of the impaired assets at REV is that an asset transfer should not relieve a bank from losses that are foreseeable. Losses that are expected to occur should be borne by the bank and its shareholders, and not be shifted to the AMC, and hence indirectly to the tax payer. Indeed, impaired asset measures such as asset transfers should only protect banks from unexpected losses (so called “tail risk” in statistics jargon).

Since the purchase price paid by the AMC must not exceed the REV of the transferred assets, the amount of State aid that a Member State can grant under the form of an asset transfer to an AMC it supports is capped at the difference between the REV and the market price of the assets.⁹¹

In order to be able to assess a proposed impaired asset measure, the Commission needs to be able to quantify both the market price and the REV. Thus, valuation plays a crucial role in determining whether a given State intervention is compatible with EU law or not. Under normal circumstances, the market price may quite straightforwardly be established in case of a directly observable trading price in a liquid market, in case of *pari passu* transactions or in case of competitive tender procedures in which private parties also participate.⁹² Otherwise, benchmarking to directly comparable transactions may serve valuation purposes well.⁹³

However, for the type of assets subject to an impaired asset measure, there

91. However as an exception to this general principle, recital 41 of the Impaired Assets Communication notes that Member States may in some circumstances decide that it is necessary to use a transfer price that exceeds the REV of the assets. In such cases, the amount of State aid is larger which the Commission can only accept if far-reaching restructuring measures are taken. Furthermore, conditions need to be introduced allowing the recovery of this additional aid at a later stage, for example through claw-back mechanisms.

92. Notion of State Aid Notice, recitals 84, 86-96.

93. Notion of State Aid Notice, recitals 85, 97-100.

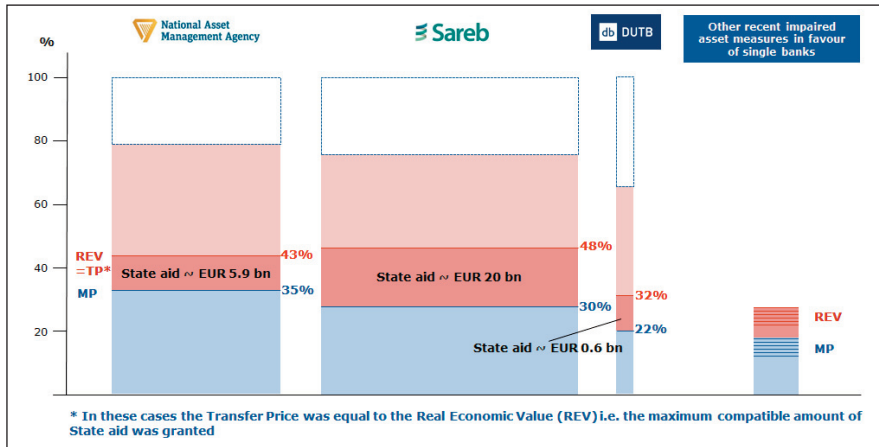
is most of the time no liquid market and no directly comparable transaction taking place at the same moment. In those circumstances, to establish the market price, the Commission may use adjusted benchmarking, namely to adjust the price observed for the sale of assets that have some similarities with the assets covered by the impaired asset measure. The adjustment is based on the difference of the characteristics and quality of the two sets of assets.⁹⁴ This approach was for instance applied in case of the Hungarian “bad bank” MARK, which focused on commercial real estate loans.⁹⁵ For the loans collateralised by offices in Budapest, there were some transaction prices observable for such real estate. Conversely, it was more difficult to value loans collateralised by assets located in geographical areas where there were very few transactions. The market price was established via different formulae for the different asset classes to reflect the different characteristics of each of them.

Regarding the REV, it needs to be determined on a case-by-case basis, taking into account the type of the assets and the underlying collateral (and the geographical location of the latter in case of real estate), the expected cash flows, various costs (including servicing costs, funding costs, taxes, maintenance costs), the long-term macroeconomic outlook, and by applying a discount factor that correctly reflects the risks and provides an adequate remuneration for the AMC.⁹⁶

94. Notion of State Aid Notice, recitals 85, 101.

95. Assets were to be purchased by MARK at a transfer price determined by the formulae that the Commission approved to result in a price that did not exceed the market price, therefore the measure was aid-free. See footnote 75 for the link to the Commission decision in this case.

96. Impaired Assets Communication, recitals 40-43 and Annex IV.

Figure 2: Examples for the REV and market price levels from past cases⁹⁷

Source: European Commission

97. For the National Asset Management Agency ("NAMA") see Commission decisions of 26 February 2010 in case N725/2009, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/234489/234489_1086237_117_2.pdf; of 3 August 2010 in case N331/2010, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/237101/237101_1177824_52_2.pdf; of 29 November 2010 in case N529/2010, the full text of this decision can be found on: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_2011.040.01.0005.01.ENG&toc=OJ:C:2011:040:TOC; of 29 July 2014 in case SA.38562, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/252347/252347_1584913_91_2.pdf.

For SAREB see Commission decisions of 28 November 2012 in case SA.33734, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/244293/244293_1400377_199_2.pdf; of 28 November 2012 in case SA.33735, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/244292/244292_1400504_213_2.pdf; of 28 November 2012 in case SA.33735, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/244807/244807_1400359_165_4.pdf; of 28 November 2012 in case SA.35253, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/246568/246568_1406507_239_4.pdf; of 20 December 2012 in case SA.34536, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/247029/247029_1413168_96_4.pdf; of 20 December 2012 in case SA.35488, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/247030/247030_1413141_80_6.pdf; of 20 December 2012 in case SA.35489, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/247032/247032_1423221_82_2.pdf; of 20 December 2012 in case SA.35490, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/247031/247031_1413159_210_3.pdf.

For DUTB see Commission decisions of 18 December 2013 in case SA.33229, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/245268/245268_1518816_267_7.pdf; of 18 December 2013 in case SA.35709, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/248544/248544_1522897_264_2.pdf; of 13 August 2014 in case SA.38228, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/251840/251840_1583043_100_2.pdf; of 16 December 2014 in case SA.38522, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/252220/252220_1625594_223_2.pdf.

Figure 2 shows some historical examples of asset transfers approved by the Commission, comparing the level of the estimated market price and the REV to the gross book value, as well as reflecting the relative amounts of assets transferred. Apart from the three AMCs (i.e. NAMA, SAREB and DUTB) set up to buy impaired assets from several banks in the respective Member State, the Commission also approved several AMCs that only dealt with the impaired assets of individual banks. From these past cases one may draw the conclusion that on average the REV is usually 10 to 15 percentage points above the market price. However both values range widely across cases if expressed as a proportion of the gross book value. This observable difference in the respective levels illustrates that neither the estimated market price nor the REV may be grasped by uniform percentages. Ensuring consistency in the Commission's approach requires assessing and taking into account all the important characteristics named above in each case that largely varies depending on the assets concerned, across Member States and the stage of the economic recovery as well. Based on the evidence available until now, these past REV valuations seem to be a rather correct estimation of the actual proceeds from the purchased impaired assets.

Conducting a valuation exercise that fulfils the requirements listed above may take a significant amount of time. This has given rise to complaints and criticism by Member States and beneficiaries alike, who would like the Commission to be able to determine the market price and the REV in a few days or weeks. While determining the REV for large portfolios of assets may indeed be time- and resource-consuming, it is an essential step in the process to ensure that Member States do not pay too much for the assets. It is the best way to ensure that the use of taxpayer money is minimized. Above all, any private market economy operator, before considering buying such type of illiquid and non-transparent assets would also require a detailed due diligence of the assets to determine their value before making any purchase.⁹⁸ In practice, the valuation exercise by the Commission services can be accelerated if it can draw from databases set up in the framework of other – regular or irregular – in-depth valuations such as the supervisory asset quality review (“AQR”). In this way, synergies can be realized leading to a reduction in the time and efforts spent on the valuation while maintaining the necessary degree of in-depth analysis.

98. Alternatively, if investors cannot perform such a due diligence they would require significant discounts to compensate for the uncertainty, leaving the banks who sell the assets with even greater losses.

4. Existence of aid and attachment point in case of asset guarantees

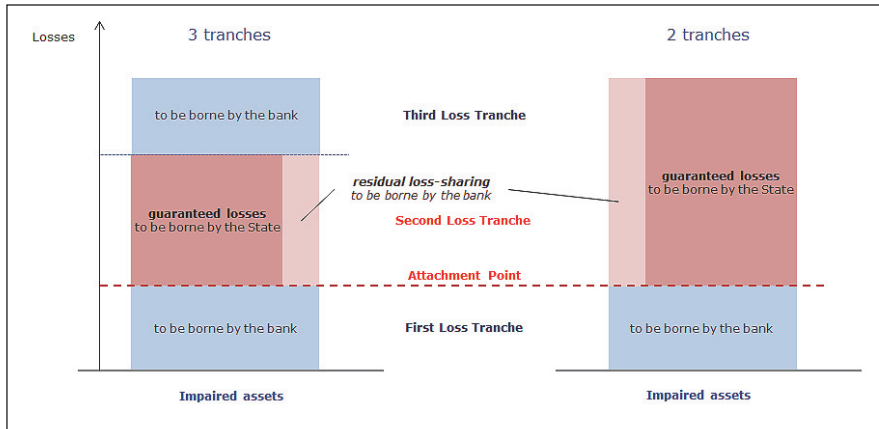
Asset guarantees form the second type of impaired asset relief measures. Contrary to asset transfers, the impaired assets remain in the bank's balance sheet but the State commits to bear part of the losses in case of non-performance. Typically, the first losses will be fully borne by the bank. The State guarantee will kick-in and leads to payment to the bank only if the cumulative losses on the guaranteed portfolio exceed an amount defined in the guarantee contract (the "attachment point"). Thanks to the State guarantee, potential losses to be borne by the bank are capped, or at least reduced. In return, the bank pays a guarantee fee to the State.

The assessment whether such a measure constitutes State aid within the meaning of Article 107(1) TFEU follows the same logic as the one for asset transfers. The MEO principle is applied to test whether there is an advantage conferred upon the bank. In the case of asset guarantees, it translates to whether a normal market economy operator would provide a guarantee to the bank under the same terms. The important elements to consider in this context are the exposure of the State and the amount of the guarantee premium paid by the bank. Regarding the exposure of the State, one has to compare the attachment point with the likely cumulative losses which the guaranteed assets will generate over time. The likelihood that the measure involves State aid is lower if, based on the assessment of the likely losses of the guaranteed assets, the likelihood that the attachment point is reached is very low. Regarding the level of the guarantee fee, the higher it is, the lower the likelihood that the measure involves aid. If the likelihood that the attachment point is reached is very low and if the State receives a market-conform remuneration for the guarantee, the Commission would conclude that no advantage is granted to the bank, and therefore the measure is aid-free. However, if the outcome of the MEO assessment is that a private guarantor would only provide such a guarantee for a higher fee or would not provide it at all, the intervention constitutes State aid.

The previous paragraphs discussed the identification and quantification of State aid. Below, the requirements for any aid identified to be compatible with the internal market are explained. For an impaired asset guarantee, as for impaired asset purchases, the concept of REV should be applied. Therefore,

asset guarantees must never cover the entire potential loss associated with a certain asset. The first losses should be fully borne by the bank; the guarantee shall only cover losses that exceed the attachment point. In line with the concept of REV, the attachment point should be set such that all the existing and likely losses are borne by the bank, i.e. by the first loss tranche. The State guarantee should only protect the bank against unlikely losses. In addition, in order to provide adequate incentives for the bank to reduce losses to the minimum even after the attachment point is reached, the bank shall also bear a given percentage of the losses that exceed the attachment point (residual loss-sharing or “vertical slice” retention by the bank), as illustrated in Figure 3. For an example of a guarantee with two tranches, see the State guarantee provided to Royal Bank of Scotland under the Asset Protection Scheme of the United Kingdom.⁹⁹ For an example with three tranches, see the guarantee granted by Belgium on a portfolio of EUR 21 billion of assets.¹⁰⁰

Figure 3: Examples of asset guarantee measures



Source: European Commission

99. See Commission decision of 14 December 2009 in case N 422/2009 and N 621/2009, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/233798/233798_1093298_30_2.pdf

100. See Commission decision of 12 May 2009 in case N255/2009 and N274/2009, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/231121/231121_1040770_72_1.pdf

5. Additional State aid compatibility requirements applicable to impaired asset measures

When an impaired asset relief measure qualifies as State aid as explained above, it has, on top of the cap at REV, to respect a number of conditions in order to be declared compatible with the internal market by the Commission. Impaired asset relief measures are a form of restructuring aid and therefore have to meet the requirements of the Commission's 2009 Restructuring Communication¹⁰¹ and of the 2013 Banking Communication. First, such measures can only be approved by the Commission on the basis of a restructuring plan that demonstrates how the bank's long-term viability will be restored. Second, there needs to be a sufficient degree of burden sharing to limit the aid amount to the minimum possible. Thirdly, to ensure the level playing field with banks that do not receive State aid, additional measures limiting the distortions of competition need to be introduced. These three conditions are explained more in detail in the following paragraphs.

To comply with the Restructuring Communication, the restructuring plan must demonstrate how the bank intends to restore its long-term viability without State aid as soon as possible.¹⁰² This condition is crucial to assure that State aid is not given to artificially keep banks alive that do not have a sustainable business model. Indeed, not only would this be a waste of taxpayers' money and endanger financial stability, but it would also disrupt competition in the banking sector (in the event that the bank cannot be restored to viability, the restructuring plan should indicate how it can be wound up in an orderly fashion – in such case specific requirements for liquidation aid apply). The restructuring plan should identify the causes of the bank's difficulties and the bank's own weaknesses and outline how the proposed restructuring measures remedy the bank's underlying problems.¹⁰³ The bank's problems may among others concern its assets (e.g. significant drop in value due to their risk and stressed markets), its liabilities (e.g. overreliance on short-term market funding that suddenly dried up), or its cost

101. See also footnotes 78 and 79.

102. Restructuring Communication, recital 9.

103. Restructuring Communication, recital 10.

base (e.g. which may have grown faster than its revenues, especially once the crisis hit). The Restructuring Communication requires that *“restructuring should be implemented as soon as possible and should not last more than five years”*¹⁰⁴.

Long-term viability is achieved when a bank is able to cover all its costs including depreciation and financial charges and provide an appropriate return on equity, taking into account the risk profile of the bank. The restructured bank should be able to compete in the marketplace for capital on its own merits in compliance with relevant regulatory requirements.¹⁰⁵ Long-term viability also requires that any State aid received is either redeemed over time, as anticipated at the time the aid is granted, or is remunerated according to normal market conditions, thereby ensuring that any form of additional State aid is terminated.¹⁰⁶ The sale of an ailing bank to another financial institution can contribute to the restoration of long-term viability, if the purchaser is viable and capable of absorbing the transfer of the ailing bank.¹⁰⁷ In such a situation, it should however be ensured that by selling the ailing bank, the buyer does not benefit from State aid.

In order to limit the amount of State aid to the minimum necessary, several conditions need to be respected before any State aid can be authorised. First, the 2013 Banking Communication requires that *“[...] outflows of funds must be prevented at the earliest stage possible. Therefore, from the time capital needs are known or should have been known to the bank, the Commission considers that the bank should take all measures necessary to retain its funds”*¹⁰⁸. For this reason, banks may among others not pay dividends or coupons, not make any acquisitions, and not engage in aggressive commercial practices. Second, the 2013 Banking Communication invites Member States to submit a capital raising plan, either before or together with the submission of the restructuring plan. According to the Communication the former plan *“should contain in particular capital raising measures by the bank and potential burden sharing measures by the shareholders and subordinated creditors of the bank”*.¹⁰⁹

104. Restructuring Communication, recital 15.

105. Restructuring Communication, recital 13.

106. Restructuring Communication, recital 14.

107. Restructuring Communication, recital 17.

108. 2013 Banking Communication, recital 47.

109. 2013 Banking Communication, recitals 29-30.

Banks should first try to finance the restructuring costs with their own resources and hence limit the amount of required State aid. For this reason, the restructuring plan should contain cost-cutting measures. In addition, the plan should also propose the sale of non-core activities as this not only generates resources but also reduces risk-weighted assets and hence results in lower capital requirements. To ensure that banks retain their capital rather than pay it out, for instance in the form of dividends or debt buybacks, the Commission puts restrictions on such transactions. Since the entry into force of the 2013 Banking Communication, burden sharing implies that an impaired asset relief measure – as any State recapitalisation – can only be granted after the shareholders and junior debtholders have contributed to cover the capital shortfall¹¹⁰. In practice, this means that shareholders are written down or diluted while junior debtholders are converted (to equity) and/or written down. This burden sharing helps to absorb losses and/or contribute to restore the capital base thereby reducing the amount of required State aid.¹¹¹ In addition, it addresses the moral hazard problem that arises from bailing-out banks with public funds by shifting a significant part of the cost to the bank's owners and junior debtholders.

As explained in recitals 29 and 30 of the Restructuring Communication, State aid can distort competition among banks both within and between Member States. For this reason, it is necessary to take measures limiting the distortions of competition in addition to the bank's overall restructuring (which usually already entails closure of non-viable activities and adjustment of the pricing of new production to make it profitable) and the burden sharing by its investors (which addresses the moral hazard problem of State aid). The nature and form of such measures is dependent on the aid amount and the circumstances under which it was granted and the characteristics of the market(s) where the beneficiary bank operates.¹¹² For the assessment of the first criterion, the Commission considers both the absolute amount of aid and

110. 2013 Banking Communication, recital 44.

111. The 2013 Banking Communication contains two exceptions to the burden sharing requirements. Burden sharing is not required where it would cause disproportionate results or where it would endanger financial stability. Until now, the latter exception has not been applied while the former has only been used in a few cases.

112. Restructuring Communication, recital 30.

its size in relation to the bank's risk-weighted assets.¹¹³ As regards, the second criterion, the Commission takes into account the bank's market share and considers whether effective competition is preserved.¹¹⁴

Three main categories of measures to limit distortions of competition, and hence to safeguard a level playing field among banks, can be distinguished. First, structural measures include the divestment of subsidiaries, branches, portfolios of customers, etc. and can also consist of putting constraints on the bank's activities (e.g. limiting certain types of activity or in certain markets). Second, a number of behavioural measures are commonly imposed on the bank. This type of measures among others concerns acquisition bans, restrictions on pricing (to ensure State aid is not used to offer clients better rates than the bank's competitors), and the prohibition to refer to the received State aid in its marketing. This category can also entail restrictions on management remuneration¹¹⁵ and other corporate governance requirements. Third, market opening measures can be required with a view to facilitating market entry and eventually to result in a more competitive, open market. Such measures may be taken at Member State level rather than at bank level.

Since the entry into force of the 2013 Banking Communication, these conditions need to be complied with before the aid is granted. For impaired asset relief measures this means that all of the abovementioned requirements need to be fulfilled at the moment of the asset transfer or the starting date of the guarantee. For this reason, the bank's restructuring plan needs to be approved upfront by the Commission.¹¹⁶ Restructuring plans can be drawn up at the level of the individual beneficiary bank or at the level of the merged

113. Restructuring Communication, recital 31.

114. Restructuring Communication, recital 32.

115. See recitals 38-39 of the 2013 Banking Communication in this respect:

"38. [...] any bank in receipt of State aid in the form of recapitalisation or impaired asset measures should restrict the total remuneration to staff, including board members and senior management, to an appropriate level. That cap on total remuneration should include all possible fixed and variable components and pensions, and be in line with Articles 93 and 94 of the EU Capital Requirements Directive (CRD IV).

The total remuneration of any such individual may therefore not exceed 15 times the national average salary in the Member State where the beneficiary is incorporated or 10 times the average salary of employees in the beneficiary bank.

Restrictions on remuneration must apply until the end of the restructuring period or until the bank has repaid the State aid, whichever occurs earlier.

39. Any bank in receipt of State aid in the form of recapitalisation or impaired asset measures should not in principle make severance payments in excess of what is required by law or contract."

116. 2013 Banking Communication, recital 50.

entity in case several banks are being restructured and will be merged in a consolidation process. For instance, in Spain a number of *Cajas* was merged first and a restructuring plan was drawn up for the new entity.¹¹⁷

6. Recent changes of the EU legal framework introduced by the BRRD and SRMR

In 2014, the European Parliament and the Council adopted the BRRD and the Single Resolution Mechanism Regulation (“SRMR”)¹¹⁸ with the aim of ending “too big to fail” and creating a framework within which bank failures can be handled without the excessive use of taxpayers’ money. In line with this objective, the new legislative regime makes the application of the so-called bail-in tool the default approach by which it imposes losses and resolution costs primarily on the bank’s shareholders and creditors, thus limits the extent to which State resources may be used to finance restructuring.¹¹⁹

Under the BRRD, as a general rule the granting of “extraordinary public financial support”¹²⁰, under which term State aid within the meaning of the TFEU falls, triggers resolution of the beneficiary bank.¹²¹ However, Article 32(4)(d) BRRD also provides for three important exceptions¹²² under which

117. See for example Commission decisions of 20 December 2012 in case SA.35489, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/247032/247032_1423221_82_2.pdf

and of 20 December 2012 in case SA.34536, the full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/247029/247029_1413168_96_4.pdf

118. Regulation (EU) 806/2014 of 15 July 2014. Available online on: <http://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex%3A32014R0806>

119. For a summary of the recovery and resolution framework see also the accompanying press releases which can be found on: http://europa.eu/rapid/press-release_IP-12-570_en.htm and http://europa.eu/rapid/press-release_STATEMENT-14-119_en.htm; and the publication on frequently asked questions which can be found on: http://europa.eu/rapid/press-release_MEMO-14-297_en.htm

120. Under Article 2(1)(28) of the BRRD, “*extraordinary public financial support means State aid within the meaning of Article 107(1) TFEU, or any other public financial support at supra-national level, which, if provided for at national level, would constitute State aid, that is provided in order to preserve or restore the viability, liquidity or solvency of an institution or entity referred to in point (b), (c) or (d) of Article 1(1) or of a group of which such an institution or entity forms part*”.

121. Under Article 32 (1) of the BRRD, three cumulative conditions have to be met in order to place an institution under resolution, namely that (a) the institution is failing or likely to fail, (b) there is no reasonable prospect that any alternative private sector measures, would prevent the failure of the institution within a reasonable timeframe and (iii) a resolution action is necessary in the public interest. As a general rule, receiving extraordinary public financial support triggers the qualification as failing or likely to fail (see Article 32 (4) of the BRRD cited under footnote 122), thus is taken into account in relation to the first condition, and triggers resolution only if the other two conditions are also met.

122. Article 32 (4) of the BRRD:

granting extraordinary public financial support will not lead to resolution. Besides providing State guarantees on central bank liquidity assistance or on newly issued liabilities, the exception set out in Article 32(4)(d)(iii) BRRD, “an injection of own funds or purchase of capital instruments at prices and on terms that do not confer an advantage upon the institution”, commonly referred to as precautionary recapitalisation, is of particular relevance from the perspective of impaired asset relief measures.

Alternatively, Member States may grant State aid in the form of liquidation aid to banks that do not meet the conditions for resolution¹²³ in order to facilitate market exit by orderly winding them down while preserving financial stability.

In the context of a precautionary recapitalisation, public support has to be “limited to injections necessary to address capital shortfall established in the national, Union or SSM-wide stress tests, asset quality reviews or equivalent exercises conducted by the European Central Bank, the European Banking Authority

“For the purposes of point (a) of paragraph 1, an institution shall be deemed to be failing or likely to fail in one or more of the following circumstances:

[...]

(d) extraordinary public financial support is required except when, in order to remedy a serious disturbance in the economy of a Member State and preserve financial stability, the extraordinary public financial support takes any of the following forms:

(i) a State guarantee to back liquidity facilities provided by central banks according to the central banks' conditions;

(ii) a State guarantee of newly issued liabilities; or

(iii) an injection of own funds or purchase of capital instruments at prices and on terms that do not confer an advantage upon the institution, where neither the circumstances referred to in point (a), (b) or (c) of this paragraph nor the circumstances referred to in Article 59(3) are present at the time the public support is granted.

In each of the cases mentioned in points (d)(i), (ii) and (iii) of the first subparagraph, the guarantee or equivalent measures referred to therein shall be confined to solvent institutions and shall be conditional on final approval under the Union State aid framework. Those measures shall be of a precautionary and temporary nature and shall be proportionate to remedy the consequences of the serious disturbance and shall not be used to offset losses that the institution has incurred or is likely to incur in the near future.

Support measures under point (d)(iii) of the first subparagraph shall be limited to injections necessary to address capital shortfall established in the national, Union or SSM-wide stress tests, asset quality reviews or equivalent exercises conducted by the European Central Bank, EBA or national authorities, where applicable, confirmed by the competent authority.”

123. Namely because the third condition for resolution that taking a resolution action is necessary in the public interest (Article 32(1)(c) of the BRRD) is not fulfilled. Pursuant to Article 32(5) of the BRRD “a resolution action shall be treated as in the public interest if it is necessary for the achievement of and is proportionate to one or more of the resolution objectives referred to in Article 31 and winding up of the institution under normal insolvency proceedings would not meet those resolution objectives to the same extent”.

or national authorities”¹²⁴. This means that incurred or likely losses cannot be covered, i.e. the State aid may only cover the additional capital shortfall stemming from the adverse scenario of the stress test, while capital needs stemming from the AQR and the baseline scenario have to be covered by private means.¹²⁵ Another important condition is that precautionary recapitalisation may only be granted after the Commission has granted its approval,¹²⁶ i.e. the requirements concerning the restructuring plan and burden sharing described in Section 0 need to be fulfilled upfront. Precautionary recapitalisations were approved by the Commission for example in the case of National Bank of Greece¹²⁷ and Piraeus Bank¹²⁸.

Finally, for banks that are failing or likely to fail but for which resolution is not triggered (e.g. because it is not deemed to be in the public interest),¹²⁹ the 2013 Banking Communication foresees the possibility of granting liquidation aid.¹³⁰ The aim is to facilitate the market exit of such banks by orderly winding them down in the framework of the applicable national insolvency proceedings while mitigating the disturbance in the financial stability of the Member State concerned. The main requirements for liquidation aid are that shareholders and junior debt holders of the bank bear full losses and that the bank ceases to be an independent market player either by discontinuing any operation on the relevant market or by being fully integrated into another market player. As indicated in the latter case, the sale of part or the entirety of asset and/or viable businesses, for example the transfer of the deposit book, does not preclude the granting of liquidation aid. Nonetheless, the general principle of the EU State aid rules that aid must be limited strictly to the minimum necessary needs to be respected in any case.

124. Article 32(4)(d) of the BRRD.

125. See for example footnote 12 of Commission decision of 4 December 2015 in case SA.43365. The full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/261565/261565_1733770_121_2.pdf

126. Article 32(4)(d) of the BRRD.

127. See Commission decision of 4 December 2015 in case SA.43365. The full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/261565/261565_1733770_121_2.pdf

128. See Commission decision of 29 November 2015 in case SA.43364. The full text of this decision can be found on: http://ec.europa.eu/competition/state_aid/cases/261238/261238_1733314_89_2.pdf

129. See footnotes 121 and 123.

130. 2013 Banking Communication, Section 6.

7. Conclusion

Several EU Member States have, as part of a wider strategy and restructuring effort of their banking sectors, taken impaired asset relief measures. The State aid rules applicable to such impaired asset relief measures were drafted and adopted early 2009, at a time when several European banks, burdened by the rapidly decreasing and more and more uncertain value of structured credits, like US RMBS, asked support from their governments. Nowadays, some European banks are burdened by a different type of assets, namely plain vanilla corporate, SME, mortgage and consumer loans. However, the rationale and concepts on the basis of which the Impaired Asset Communication was built continue to be relevant and appropriate to assess any new impaired asset relief measure. For instance, it makes full sense to continue capping the purchase price of impaired assets at REV, which, as explained, is the present value of the future cash flows which can be expected from the assets, net of all workout costs. If the State was paying more than that price for the assets, it would be unlikely to recover the money injected. From the definition of REV, one can also conclude that, if a Member State would introduce reforms which, in practice, are able to shorten and to reduce the cost of workout of NPLs, this would by construction increase the REV of the assets. It would also most probably increase their market price, since private investors would also be able to recover more money from the processing of the NPLs. The concepts of REV and estimated market price – which are at the basis of the State aid analysis of impaired asset relief measures – are therefore not at all a disincentive to implement structural reforms facilitating and reducing the cost of processing NPLs, to the contrary.

Resolution Strategies for Non-Performing Loans: A Post-Crisis European Perspective

by Helen Louri¹³¹

Abstract

NPLs are a dominant problem for banks in the euro area as in some countries almost one quarter of loans are not serviced. NPLs represent a real challenge for bank profitability and financial stability. In addition, they constrain credit expansion and delay economic recovery.

Despite some recent progress, slow growth and persistent unemployment as well as low investment interest due to asymmetric information and a wide bid-ask price wedge, make extremely difficult the cleaning of banks' balance sheets.

A series of options have been suggested with a view to improving conditions in the European NPL market and reinforcing investor confidence respecting at the same time state aid rules. Public intervention measures, such as asset management companies and other co-investment strategies are deemed necessary in order to increase market efficiency and create a virtuous circle of reductions in NPLs and increases in investment and growth much needed in the euro area.

131. Professor of Economics at the Athens University of Economics and Business. Research Fellow, HO/EI, London School of Economics. Former Deputy Governor of the Bank of Greece (2008-2014).

1. A high stock of NPLs

Non-performing loans (NPLs) are a dominant problem for euro-area banks, as they exceed 6.6% of all loans in 2016 compared to 1.5% in the US. Total NPLs reach 1 trillion euro, while uncovered (after considering provisions) NPLs are more than six times the annual profits of EU banks (Enria, 2016). Especially for a group of six countries (Cyprus, Greece, Italy, Ireland, Portugal and Slovenia) NPLs reach 22.8% and represent a real challenge for bank profitability. Moreover, such prominent and persistent differences in NPLs can be interpreted as a clear sign of fragmentation in the euro-area banking market. In a recent report ECB (2017b) states explicitly that in some euro-area regions the prospects of banks' profitability continue to be depressed due to the large stocks of NPLs in their balance sheets. In addition to being a drag on profitability, NPLs constrain credit expansion, endanger financial stability and delay economic growth (Constancio, 2017).

NPLs are also closely related to the problem of debt overhang which acts as a disincentive for highly leveraged firms to ask for credit in order to finance new profitable projects and, consequently, it suppresses demand for corporate investment. In addition, non-viable firms may be kept alive by already committed banks while at the same time viable firms suffer from lack of funding and unhealthy competition. Thus, recovery is further delayed (Demertzis and Lehmann, 2017).

But what creates NPLs? They are caused mainly by (a) macro-economic factors (which characterize recessions) such as lack of growth, increasing unemployment, high interest rate margins, reductions in disposable income and increasing tax burden, and (b) bank-related factors such as management skills and risk preferences. Moral hazard may also play a significant role (Anastasiou, Louri and Tsionas, 2016). The recent financial crisis in Europe combined most of these factors and created conditions of heavy systemic stress in the banking sector which led to the current large stock of NPLs. For as long as slow growth and high unemployment persist, especially in some countries, NPLs will continue being a serious problem for their economies and for the entire euro area because of related spillovers. Even if macro-economic conditions improve and bank management becomes more efficient the current stock of NPLs is so high that it will need a long period of time to reach acceptable levels.

2. Resolution strategies

To reduce the NPL stock faster and more effectively public intervention measures are required in the euro area. Such measures should help removing the impaired assets from the banks' balance sheets swiftly and without triggering requirements for capital injections which will not be easily manageable. There can be two ways both of which should be complemented by appropriate reforms in the legal framework facilitating debt enforcement:

- a) The banks enhancing their efforts to manage NPLs on their own through internal NPL workout and external servicing. Enhanced supervisory guidance (ECB, 2017a) can be helpful in setting ambitious targets and restructuring plans but it is unlikely to be sufficient in current circumstances. And
- b) The banks transferring impaired assets to a third party, such as outright sales to investors, or to a special purpose securitization vehicle or to an asset management company (AMC). Since fire sales are to be avoided the most important questions related to transferring NPLs are through which mechanism to proceed and at what transfer price. The difference between the net book value (nominal book value minus provisions) of the impaired asset and its transfer price is the loss incurred by the bank at the time of the transfer. Since markets for impaired assets are rather illiquid at present due to lack of symmetric information about their quality and legal uncertainties about their recovery time and process, there is a first-mover disadvantage for banks selling NPLs which may lead to higher losses.

In order to face the challenge and help banks restore their intermediation function and support the real economy again a comprehensive strategy using new and radical tools has to be designed and implemented. Otherwise, the existence of such legacy assets will create a doom loop, whereby slow growth increases NPLs and NPLs obstruct further growth due to lack of finance. In addition, the debt overhang, which often forces business to deleverage, represses investment and though hysteresis effects further delays recovery.

Aiyar et al. (2017) argue that a comprehensive approach to the NPL problem comprises three pillars: (1) intensified oversight by the supervisor imposing detailed schedules of gradual NPL reduction and more conservative

provisioning; (2) enhanced judicial procedures as well as an out-of-court restructuring framework; and (3) developing markets for NPLs by reducing asymmetries in information, improving the available infrastructure and establishing asset management companies (AMCs) to exploit economies of scale, scope and specialization. The Swedish experience of the early 1990s where NPLs had reached 11% and bank lending contracted by 26% between 1990 and 1995 is an excellent example of the potential an AMC has to clean the market and help the real economy start growing again. It is useful to underline that large part of the Swedish AMC's success was due to efficient focusing on homogenous types of loans (Demertzis and Lehmann, 2017).

2.1. AMCs

For an effective reduction in the 1 trillion euros of NPLs that European banks currently hold in their balance sheets conditions in the market for NPLs have to be improved. Constancio (2017) distinguishes the market impediments from the demand side as information asymmetry, uncertain debt enforcement, transfer restrictions and complicated licensing procedures for those interested in acquiring delinquent debt. On the supply side are the banks which would like to transfer NPLs close to their book value and are unwilling to realize losses for which provisions are not enough. Such structural inefficiencies may drive a wide wedge between bid-ask prices which may exceed 40% in some cases even if the loans are fully backed with collateral.

An important strategy is thus, to reduce all those impediments in order to facilitate the market mechanism and create a liquid and smoothly functioning secondary market for NPLs. Structural reforms which facilitate symmetric information and transparency to all participants e.g. through platforms and clearing houses improving the capacity of the judicial system as well as the out-of-court resolution process, increasing the range of restructuring options and reducing their enforcement cost can be very helpful. The creation of an AMC may also be helpful in initiating market transactions.

Although the success of the Swedish and Asian experiences has stressed the potential of an AMC in clearing the market smoothly and relatively fast, and such an entity has already been used in Spain and Ireland with some positive effects, a state backed AMC is considered as state aid in Europe and

following the BRRD (implemented as from 1st Jan 2016) it is allowed only under certain conditions.

In addition, there is the problem of the appropriate price. Avgouleas and Goodhart (2017) explain that a major disincentive for banks to clean up the pile of NPLs is the price of sale of NPLs which, if it is below the net book value, will generate a capital write off. European banks already have low profitability making it difficult to absorb further losses. Recording a serious loss of capital may trigger the bail-in process (introduced by the BRRD) with dire consequences for some of the bank's stakeholders. A series of such bail-ins could destabilize the banking sector of a country with further systemic consequences (Bruno, Lusignani and Onado, 2017). Any mechanism which can help avoiding such undesired developments by correcting the transfer price is worth trying.

An AMC extends a visible and credible commitment of a fiscal backstop which puts a cap to bank losses. On top, AMCs can enjoy synergies especially when dealing with homogeneous types of assets (e.g. commercial real estate or corporate loans) and hire specialized skilled professionals to restructure the delinquent assets and negotiate appropriate prices as well as debt/equity conversions. They can also be more efficient at securitizing NPLs adding to the liquidity and the depth of the secondary market. On the negative side, AMCs may face uncertainty about the quality of the assets especially if transparency is limited. Consequently, the choice of the appropriate valuation method is very important. A critical issue is also the question of loss absorption.

Avgouleas and Goodhart (2017) recommend a pan-European AMC (EAMC) as the most effective approach to manage the accumulated delinquent assets in the euro area. The EAMC will be a holding company of national AMCs and will be funded through proportionate contributions by member states. The EAMC will hold a 10% stake in the national AMCs which will be set up as subsidiaries. National banks will hold the remaining 90% of the national AMC's (their contribution depending on their share of NPLs) which will operate under the same conditions of governance, transparency and disclosure. Strong uniform governance links will connect the EAMC with its subsidiaries while redistributive outcomes are to be strictly avoided.

The price at which the impaired assets will be transferred can be a combination of their book value excluding provisions, their real (long-term)

economic value and their market value. Thus, a more balanced valuation will take into account the potential rise in market prices once the economy rebounds. Objectivity can be assured by holding auctions for similar assets and asking the EIB to conduct the real economic value estimations. Profit and loss agreements between the banks and the AMCs can be accompanied by an ESM guarantee within the framework of the 'precautionary recapitalization' process and a respective conditionality on their business plans. Thus, private bondholders of the AMCs will be less exposed to losses and private interest in financing the project can be broader. Reporting of the EAMC to the SSM, the EC and the ESM will be on semi-annual basis.

The EAMC has a comparative advantage to establish a centralized platform where information sharing and direct sales of assets can take place, facilitating the function of the secondary NPL market and boosting liquidity. Transparency of outcomes will improve accountability and help remove moral hazard. Also, based on its market information, the EAMC will be able to determine the optimal speed of NPL resolution and achieve the most efficient outcome. Avgouleas and Goodhart (2017) also stress how efficient the EAMC-national AMCs structure will be in attracting new private funding both for the AMCs and the national banks as well as freeing up capital for new lending and growth.

In the same vein, Haben and Quagliarello (2017) argue in favor of a European AMC which could enjoy some public (capital) support within the BRRD framework. The aim is to improve clarity of information, reduce funding costs and lead to higher operational efficiency. After calculating a state aid envelope for each bank based on stress test results, part of this theoretical state aid (allowed for precautionary recapitalization) can be used to fund the transfer of NPLs to the AMC at their real economic value. Since real economic value will be lower than the book value, capital write offs may follow and some bail in may be needed. Furthermore, an ex post clawback provision may require banks to bear part of the loss if the real economic value is not achieved after a specified period (e.g. three years). Such a clause discourages moral hazard.

For not causing further uncertainty to the banks impaired assets will be irrevocably transferred at the point of sale. The clawback could have the form of equity warrants to the government which are to be triggered if the final sale price is lower than the transfer price (assumed to be the real economic value) and state aid will thus be introduced with full conditionality. Such a

provision creates a further incentive to the banks to agree on an objective real economic value and have skin in the game to the end. The proposal avoids burden sharing since it will be each national government stepping in for a capital injection needed by a national bank. Haben and Quagliarello (2017) also argue that their blueprint leading to a more efficient secondary market for NPLs has the potential to uplift supervisory expectations with regard to management and reduction of NPLs (ECB, 2017a).

Fell, Moldovan and O'Brien (2017) elaborate on the role of the national AMCs bridging the time between the current period of high risk and depressed prices of the distressed assets and the future improvement of the economy which can lead to maximizing recovery values. Following transfer of the depressed assets, banks enjoy an improvement in funding and capital costs. Dedicated legislation and a finite lifetime are essential prerequisites for the success of an AMC. The legislation should introduce the appropriate governance, objectives and accountability rules. Outsourcing, (e.g. of legal services, collections, etc.) should be used in order to keep the AMC structure light and flexible.

Regulatory constraints as imposed by the BRRD and the state aid directives of the EC must be respected. The capital structure should not allow the government to own more than 50% thus avoiding political interference and control. Government guaranteed senior bonds can be provided as capital which (if they meet eligibility criteria) can be further deposited for funding from the Eurosystem or even from the interbank market. Participation in the AMC should be incentivized, while the perimeter of the assets included should be clearly defined. Homogeneity of assets as well as a minimum size threshold (i.e. only significant exposures) are necessary conditions for optimizing the function of the AMC and achieving a high recovery value. The asset valuation should be as objective as possible, close to the real economic value and conducted by an independent authority.

2.2. Securitization, co-investments and other measures

Apart from an AMC, Fell, Moldovan and O'Brien (2017) propose three additional approaches to help the swift reduction of NPLs in the euro area:

- a) Platforms which can be used as a central hub for providing due diligence type of information and facilitating the exchange of NPLs and/or even

selling such assets. The idea is to reduce information asymmetries and other investor costs.

- b) Securitization instruments or other co-investment structures which promote risk-sharing and improve recovery value. And
- c) Liquidation frameworks for those assets whose value is unlikely to be recovered. A 'central liquidator' may be designed as a public entity the purpose of which is following the member state's liquidation legislation to recover part of the value and return it to the legal recipients. The proceeds of the liquidator depend a lot on the general macroeconomic conditions and especially the recovery speed of the economies under stress.

Galand, Dutillieux and Vallyon, (2017) elaborate on the state aid which is considered to be the difference between the market price of an asset and the transfer price paid e.g. by a state-backed AMC. A higher transfer price may be necessary to allow the bank to remove the impaired asset from its balance sheet without causing a major capital write off. For the related state aid to be considered compatible with the internal market a cap has been suggested at the real economic value of the purchased asset. Real economic value is the present value of the future net cash flows from the asset and as macroeconomic conditions improve the market price will converge to the real value. The discount factor used to find the present value should take into account the time needed and the risks taken until the value is realized.

The efficient operation of platforms could help retrieve such information easier and faster. The recent experience in Europe shows that on average real economic value is 10-15% higher than the market price and that it has been a good proxy of the realized proceeds from the final sale of the impaired assets. With reference to the state aid, banks should be protected only from unexpected losses due to extraordinary circumstances. It is obvious that accurate valuation is very important but at the same time it is very difficult as there is no liquid market for NPLs. The EC trying to combine all the available information so as to provide accurate valuations has often been criticized for delays which could be avoided if reliable platforms were in operation.

External servicing companies could also be facilitated by platform-provided information. Servicers, as they undertake the management of a

sub-set of NPLs, can be used to relieve some of the pressure banks receive from their clients and reduce moral hazard. Banks can outsource part of the management of NPLs while keeping them on their balance sheets. Outsourcing servicing through e.g. an SLA agreement can be a cost-efficient solution which may also help banks redistribute their staff to more profitable activities.

Another type of impaired asset relief measure suggested by Galand, Dutillieux and Vallyon (2017) is asset guarantees by the State which commits to bear a remaining part of the loss after the bank incurs an agreed first part. The guarantee kicks in only if the loss exceeds the “attachment point”. For this relief the bank has to pay a guarantee fee to the State, which has to be comparable to what a market economy insurer would ask. If the fee is high enough and the probability of the attachment point reached low, then the measure can be considered as aid-free. The guarantee can thus have two or three tranches (senior, mezzanine and junior) if it is agreed that the bank pays a certain percentage of the loss above the attachment point. The idea is again that the bank is protected against losses due to extraordinary and not foreseeable circumstances.

Since both real economic value transfers and asset guarantees are a form of restructuring aid, they have to be accompanied by specific conditions showing that the bank follows a comprehensive restructuring plan, and at the same time shares the expected part of the losses incurred due to its bad loans. It is imperative to avoid distorting competition in the market as a consequence of the relief measures extended only to some banks. Hence, divestment of subsidiaries, of branches or of non-core assets may be required and restrictions on management remuneration, pricing policies, marketing strategies can be imposed. Opening up the market and facilitating new entry can also be pursued.

Bruno, Lusignani and Onado (2017) propose a securitization scheme which could increase bid prices and provide a significant cleaning of impaired balance sheets. They correctly point at the main problem which is the appropriate transfer price. On the one side banks are reluctant to dispose of bad loans at prices not covering the net book value and on the other market uncertainty raises the risk premium demanded by investors and thus lowers the transfer price. Asymmetric information creates a ‘lemons market’ where trade eventually stops and some kind of risk absorber will be needed for uncertainty

to recede and trade to start again. Thus, an official intervention could facilitate exchange through e.g. the creation of risk-sharing investment vehicles.

According to the blueprint by Bruno, Lusignani and Onado (2017) NPLs can be sold to an SPV which can then issue different tranches of securities. The tranches will provide different risk-return combinations and will thus be appealing to different categories of investors from risk-averse (buying the senior tranche) to risk-lovers (buying the junior tranche). Using euro-area data the authors estimate the benefit from two alternative schemes based on different assumptions about capital costs and transfer prices. Their exercise shows that in either case such securitization techniques can seriously reduce the 'big mountain' of European NPLs. Banks will record an immediate, contained loss due to the lower transfer prices but there must be enough buffers to absorb it. The subscribers of the riskier junior tranches may need some public support in the form of a guarantee.

ECB (2017b) also promotes co-investment (private-public) strategies in order to bridge the bid-ask spread putting forward two different instruments relating to either securitization or direct sale of impaired assets. The central idea put forward by Fell, Moldovan and O'Brien (2017) is for the state to signal its aligned interests with banks and investors. The first instrument is a state guarantee of junior tranches of NPL securitization (JGS) of e.g. up to 50% of the losses in return for any better performance of actual recoveries. Thus, the state is exposed to the same risk as the investor, while the investor can choose the level of protection he desires. It is this freedom of choice of the degree of protection which can attract a larger group of investors opening up the market and eventually increasing the price paid to the bank selling the NPLs.

The second co-investment (forward purchase) scheme (FPS) suggested by Fell, Moldovan and O'Brien (2017) is a type of loan provided by the state to the investor in order to finance part of the purchase price of the transferred NPLs. The purchase price is actually a forward price at the maturity of the scheme (e.g. in 5 or 7 years). Since the bid price at the time of the transaction is lower, the state extends a loan to the buyer of the NPLs equivalent to the 'forward premium'. In order to contain the risk to the state the buyer has to have as guarantor an investment grade institution. With the support of the FPS the transfer price of the NPLs is higher and thus closer to the 'ask' price by the bank, improving the functioning of the NPL market.

3. Conclusions

The European NPL problem has reached dramatic proportions as Bruno, Lusignani and Onado (2017) stress and is delaying economic recovery. A European solution or, rather, a combination of resolution tools and strategies has to be put in place in order to face the challenge.

Despite some recent progress, slow growth and persistent unemployment (especially in some euro-area countries) as well as low investment interest due to asymmetric information and a wide bid-ask price wedge, make extremely difficult the swift cleaning of the banks' balance sheets.

A series of options have been suggested by researchers with a view to improving conditions in the NPL market and reinforcing investor confidence respecting at the same time state aid rules. Public intervention measures are deemed necessary in order to increase market efficiency and create a virtuous circle of reductions in NPLs and increases in investment and growth much needed in the euro area.

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Systemic Solutions to Systemic Crises. Dealing with NPLs in the Eurozone

by Rym Ayadi, Giovanni Ferri, and Rosa M. Lastra ¹³²

Abstract

We focus on the restructuring of troubled banks in the Eurozone. First, we review how legacy assets (mostly NPLs) were dealt in various countries (especially Japan, USA, Sweden and Spain), supporting a centralized solution in case of generalized banking crises. Second, drawing on the credit channel literature, we stress the need to differentiate between systemic and non-systemic events. Third, we theoretically advocate a systematic centralised Eurozone level approach to maintain fair recovery rates of restructuring banks' NPLs. Our paper contributes to the lively debate on how to reinvigorate the EU banking system and thus avoid the related negative macroeconomic consequences.

This material was originally published in a paper provided at the request of the Committee on Economic and Monetary Affairs of the European Parliament and commissioned by the Directorate-General for Internal Policies of the Union and supervised by its Economic Governance Support Unit (EGOV). The opinions expressed in this document are the sole responsibility of the authors and do not necessarily represent the official position of the European Parliament. The original paper is available on the European Parliament's webpage. © European Union, 2017

132. The authors are, respectively, with HEC Montreal, Lumsa University of Rome, and Queen Mary University of London. The paper draws on a report "Carving out legacy assets: a successful tool for bank restructuring?" prepared in March 2017 for the European Parliament's Economic and Monetary Affairs Committee. The views in this paper are the sole responsibility of the authors and by no means involve any affiliated institution. Nonetheless, we wish to thank Benoit Mesnard for useful comments and insight.

1. Introduction

The 2007-2009 Great Financial Crisis (GFC) and the 2010-2012 euro area sovereign debt crisis were very damaging to the EU banking sector and forced EU Member States to undertake bold actions to keep the banking sector afloat. During the period 2008-2014, EU Member States committed in total EUR 4,884.1 billion of state aid¹³³, which was broadly divided into four categories, namely: recapitalisation (€ 802.9 billion), asset relief measures (€ 603.3 billion), guarantees (€ 3,249 billion) and other liquidity measures (€ 229.7 billion), from which an overall reported amount of (€ 1,934.9 billion) was used (see Appendix 1). Beyond the different forms of state aid used, European banks also received massive emergency liquidity assistance from central banks to keep liquidity flowing in the interbank system.

The economic and social costs of bailing out European banks during this period have been unprecedentedly large for the European economy as a whole and for European taxpayers in particular. This exposed the fundamental weaknesses in Europe's financial architecture, coupled with decades of flawed banking regulation and supervision which necessitated a major regulatory overhaul from both an institutional and legislative perspective.

Amongst the institutional and legislative reforms, the Bank Recovery and Resolution Directive (BRRD)¹³⁴ was a cornerstone and the first step in dealing with failing banks in an orderly fashion as well as helping to reduce market disruptions at the EU level. By the end of 2015, national resolution authorities were established almost everywhere throughout the EU,¹³⁵ with clear powers and tools to act. The practicalities of resolution and, later on, the restructuring of a failed bank is not an easy endeavour, however. Several issues may interplay to make resolution and restructuring successful. These issues include the level of complexity and interconnectedness of the ailing bank, the effectiveness of the resolution planning process and the level of coordination among the various authorities involved in the resolution, the adequacy,

133. Approved by the European Commission Directorate General Competition http://ec.europa.eu/competition/state_aid/legislation/temporary.html

134. Introduced and expected to be transposed into the member states' national laws on 31 December 2014.

135. Except five countries including Czech Republic, Luxembourg, the Netherlands, Poland, Romania and Sweden http://europa.eu/rapid/press-release_IP-15-5827_en.htm

fairness and transparency of balance sheet valuations, adequate planning of the restructuring process and intricacy of how to deal with legacy assets etc.

The rest of the paper delves into the restructuring process of banks in the EU. Section 2 provides an overview of how legacy assets have been dealt with in specific cases and exposes the policy lessons learnt. Section 3, by reviewing the credit channel literature, stresses the need to differentiate between systemic and non-systemic events. Section 4 elaborates the theoretical argument on the need of a systematic, centralised EU-level approach to deal with legacy assets in bank restructuring. Section 5 presents our conclusions and chief policy suggestions.

2. Dealing with legacy assets: historical policy perspective

Non-performing loans (NPLs) are at the root of most banking crises. To understand the challenges involved in the resolution of NPLs in the Eurozone, we provide a brief comparative study of government-backed solutions to deal with NPLs, referencing selected cases in Sweden, Japan, the US (RTC and TARP) and Spain (FROB and SAREB), emphasizing what works and what doesn't work. The examples of Spain and Ireland are relevant, because they were Eurozone member states that used state-backed money to clean up the troubled financial institutions' balance sheets of toxic assets.¹³⁶

The very definition of NPLs is a matter of controversy, as examined in Bholat, Lastra et al. (2016). Divergences in their valuation, accounting and regulatory treatment across jurisdictions, time, databases and – within the institutions themselves – according to whom they have to report and for what purpose, complicates the comparability of bank soundness and renders stress tests a less useful tool in assessing solvency.

According to EBA (2016), the EU weighted average NPL is highly dispersed across EU countries, ranging from below 5% in financially sound member states and up to 45% in financially distressed countries like Greece and Cyprus.

A generalized banking crisis (of a systemic nature) is treated by the

136. However, as we discuss later, since the coming into force of the BRRD, any bank receiving state aid must impose losses on its unsecured bondholders. See arts 44(5) and (7), 37(10)(a), Rec 73, BRRD.

authorities differently from isolated bank failures in a sound economy. The former often results from or reflects the deterioration in the economic environment, or poor macroeconomic management. The costs of a crisis can, of course, be magnified by weak bank supervisory structures, or by supervisory and regulatory mistakes. And good crisis management is crucial for preserving, or quickly restoring confidence in, the banking system, which is indeed the ultimate rationale of the whole supervisory process.

Governments can choose to deal with each troubled bank on a case-by-case basis, using a mix of strategies (takeovers and rescue packages in some cases, liquidation in others etc.) or they can choose an overall strategy to deal with all the troubled institutions. The difficulty of calculating *ex ante* the total amount of the losses and the speed with which a crisis unfolds, adds to the complexity of its resolution. The experience in the US, Sweden¹³⁷ and Spain suggests that a comprehensive strategy involving recapitalization is the most efficient and prompt way of resolving a systemic crisis. Governmental assistance – often by creating a centralized agency – is needed to resolve a systemic crisis, because of the potential for disruption to the nation's economy and of social unrest (Lastra, 1996, pp. 139-143). Delaying the resolution of problems or 'buying time' is generally not a good strategy, and Japan's lost decade (briefly assessed below) provides clear evidence in this regard.

That is why the proposal by EBA Chairman Andrea Enria – and by Avgouleas and Goodhart – to create an EU's Asset Management Company (AMC) to buy billions of euros of toxic loans (estimate: 1 trillion euros)¹³⁸ seems a sensible one. The taxpayer-backed fund proposed by Mr Enria is in line with historical precedents that we analyse below. It is also a recognition that stress tests have not been bold enough and that heavy NPLs compromise the health of many bank balance sheets in the Eurozone.

There is a certain pattern or dynamics that develops, in terms of the measures public authorities take to deal with systemic crises. At the beginning of a generalised banking crisis, the authorities tend to provide emergency liquidity assistance, hoping for an early restoration of confidence, in the belief

137. <http://www.riksbank.se/Documents/Avdelningar/AFS/2015/Session%201%20-%20Englund.pdf>

138. <https://www.ft.com/content/3b18e5ec-d047-36b2-a35a-10ae8e6a76ed>. It should be noted, however, that the €1 trillion of gross NPLs reduces to €0.6 trillion net NPLs if one considers the average coverage ratio of 40% that European banks possess.

that the problems are of short-term illiquidity rather than insolvency. In 2007 and early 2008, this was exactly what the ECB did in the Eurozone, the Bank of England did in the UK and the Federal Reserve Bank of New York did in the US.

However, if banks start failing or getting into further trouble (suggesting that the problems are more than liquidity constraints) the government is often compelled to provide solvency assurances to depositors and to design a coherent policy, with an expeditious decision-making process and a clear voice. The government faces the delicate and difficult policy choice of whether, and when, to commit fiscal resources to recapitalize banks. In the case of the Eurozone, this task is further complicated by the fact that fiscal policy remains in the hands of the national Member States, though the ESM (and eventually the Single Resolution Fund) can provide [limited] financing under the terms of the ESM Treaty (and the SRF under the terms of its governing rules).

Two extreme solutions are available to governments when dealing with systemic crises: liquidation on a large scale (an unlikely solution given the public interest at stake) and (total or partial) nationalization via large injections of capital to all (or most) troubled institutions, as happened in Sweden in 1992. Between those two radical solutions (saving all institutions via de facto nationalisation or letting all institutions fail) lie a variety of other solutions and policies, ranging from debt restructuring techniques (when the links between bank debt and sovereign debt prove strong, this can be an effective alternative, in terms of value preservation and market attractiveness) to a mix of government and private assistance (like the so-called ‘lifeboat operation’ in the UK that was applied to solve the secondary banking crisis in 1974) or the creation of a government backed centralized agency or a comprehensive centralized program (funded by taxpayers’ money).

It is a government backed centralized agency at the heart of the proposals by EBA’s Chairman and by Avgouleas and Goodhart, further discussed (and endorsed) below.

A centralized agency to dispose of the assets of failed institutions was created in the US by the 1989 Financial Institutions Reform, Recovery and Enforcement Act (FIRREA) under the name of Resolution Trust Corporation (RTC). RTC managed the assets of the failed Savings and Loan associations. Of course, the creation of such an agency was complemented by other legislative and regulatory measures designed to strengthen supervision. A

centralized agency¹³⁹ also saw the Spanish banking system sail through its deep structural problems as a consequence of the effects in the Eurozone of the GFC. The example of Sweden and the more recent example of TARP (Troubled Asset Relief Program/s)¹⁴⁰ in the US corroborate the effectiveness of government led programmes in achieving a prompt resolution of the crisis. Japan, after several failed strategies, only solved its severe banking crisis through a comprehensive programme.

Japanese authorities were perceived ambivalent during the 1990s on the degree of support they intended to provide to troubled financial institutions. The so-called 'Japan premium' denoted a logical market reaction to this situation, which was only solved much later when ample government assistance recapitalized the ailing banking system.

As noted by Fujii and Kawai (2010) in an excellent paper published by the ADBI¹⁴¹:

'The Japanese government's response to the financial crisis in the 1990s was late, unprepared and insufficient; it failed to recognize the severity of the crisis, which developed slowly; faced no major domestic or external constraints; and lacked an adequate legal framework for bank resolution. Policy measures adopted after the 1997–1998 systemic crisis, supported by a newly established comprehensive framework for bank resolution, were more decisive. Banking sector problems were eventually resolved by a series of policies implemented from that period, together with an export-led economic recovery. Japan's experience suggests that it is vital for a government not only to recapitalize the banking system but also to provide banks with adequate incentives to dispose of troubled assets from their balance sheets, even if that required the government to mobilize regulatory measures to do so, as was done in Japan in 2002. Economic

139. See <http://www.frob.es/en/Paginas/Home.aspx> The Fondo de Reestructuración Ordenada Bancaria (FROB), was a government funded program adopted by the Spanish government in June 2009 to manage the restructuring and resolution of troubled credit institutions (*cajas de ahorro* and others).

140. <https://www.treasury.gov/initiatives/financial-stability/TARP-Programs/Pages/default.aspx> The TARP, signed into law by President G.W. Bush on October 3, 2008, was a government program to deal with the toxic assets that were burdening financial institutions. The TARP, the 'bazooka' to which the then Secretary of Treasury, Hank Paulson, referred to in unveiling the program, proved an effective way of resolving the crisis, together with the adoption of other measures, including reliable stress tests that did not hide the true dire state of many financial institutions.

141. The authorities had long refused to recognize the full extent of bank NPLs till the late 1990s. As a part of comprehensive efforts to revitalize the banking system and the economy, in April 2003, the government established a new asset management company, the Industrial Revitalization Corporation of Japan (IRCJ). IRCJ was designed to promote the restructuring of relatively large and troubled, but viable, firms by purchasing their loans from secondary banks, leaving the main bank and IRCJ as the only major creditors. The IRCJ was expected to promote "structural reform" of the Japanese economy.

stagnation can cause new nonperforming loans to emerge rapidly, and deplete bank capital. If the authorities do not address the banking sector problem promptly, then the crisis will prolong and economic recovery will be substantially delayed’.

Fujii and Kawai point out four lessons to be learnt from the Japanese banking crisis:

First, in order to address a banking crisis properly, prompt action to gauge the exact amount of loan losses is a critical initial step, although this is not an easy task... Second, a government recapitalization operation that involves taxpayer funds is the most direct policy measure to contain the acute phase of market turmoil (and, as the authors note, most of the public funds allocated to banks were recovered by 2008) ... Third, the removal of impaired assets from banks’ balance sheets is essential to the restoration of bank health. A government initiative to purchase bank assets is often necessary to restructure bank balance sheets during a crisis, as when markets lose their ability to determine prices, the government is better able to maintain flexibility in timing and so could realize higher values for those troubled assets. Fourth, economic stagnation can cause new NPLs to emerge rapidly, and deplete bank capital (emphasis added).

Landier and Ueda (2009) argue that government intervention is justified only for systemic banks or in cases of a generalized financial crisis. Otherwise, the government can let normal bankruptcy procedures apply. Market imperfections call for a restructuring operation, to reduce the probability of default, which requires simultaneous action on both assets and liabilities. Voluntary restructuring of a bank is decided by shareholders, who would oppose such measures as debt renegotiation because they lower the value of equity relative to that of debt. That is why some transfer from the government is called for, unless the government finds a way to make restructuring compulsory. A bank that is asked to participate in a restructuring plan would be reluctant to do so because of the negative signals this would transmit to the public. Also, one of the primary considerations of any form of asset sales is what message will this send. Bank managers have better estimates of the value of the assets of their institution than the public does. Government and private investors must do their own due diligence in order to come up with an estimate of the value of the assets.

Recently, Medina Cas and Peresa (2016) study AMCs set up in three EU jurisdictions to carve out legacy (impaired) assets from banks in the aftermath of the 2007-2009 GFC and ponder the factors that make such 'bad banks' a success. The study features NAMA (National Asset Management Agency) set up in Ireland in 2009, FMS Wertmanagement set up in Germany in 2010 to manage the impaired assets of one specific banking group, Hypo Real Estate Holding AG, and SAREB (*Sociedad de Gestión de Activos procedentes de la Reestructuración Bancaria*) set up in Spain in 2012. While FMS is publicly owned, NAMA and SAREB combine private-public ownership.

The final composition of these three AMCs was carried out in close consultation with the European Commission, since each needed approval under the EU state-aid rules. The effectiveness of these AMCs is examined along five criteria to determine their success: (1) *Ex-ante transparency in reporting the legacy assets* (though this condition was not met in the case of SAREB); (2) *Valuation by and independent institution* (this condition was met in the three AMCs); (3) *Reference recovery rates based on trustworthy risk assessment model* (this condition was met in the three considered cases); (4) *Certainty of the legal framework underpinned in the structures* and, finally, (5) *Adequate skills and appropriate ethics of the management of the AMC*.

Particularly relevant to our study is the case of SAREB (Company for the Management of Assets proceeding from Restructuring of the Banking System), established as a condition set by the EU in exchange for aid of up to € 100 billion for the Spanish banking sector and designed and developed from the work of three independent specialists: Oliver Wyman, BlackRock and European Resolution Capital (ERC).

SAREB functions as a 'bad bank' acquiring property development loans from Spanish banks in return for government bonds, with a view to maintain and, if possible, to improve the availability of affordable credit to the economy. Private shareholders own 55% of SAREB and the remaining 45% is held by FROB *Fondo de reestructuración ordenada bancaria* (FROB), the Spanish banking bailout and reconstruction program established in June 2009.

The main objective of SAREB, apart from achieving restructuring of the Spanish financial system within a maximum period of 15 years, is to obtain the maximum possible profit earning capacity from these toxic assets. About € 55 billion were transferred to SAREB from nationalised bodies and banks

requiring medium-term financial aid. Of this amount, two-thirds corresponds to loans and credit linked to the real estate sector, and one-third to real estate assets. It does not possess a banking licence and, thus, is not supervised by the SSM.¹⁴² SAREB enjoys legal advantages which do not apply to other Spanish limited liability companies, such as status as a preferential creditor for subordinated debt over other creditors.¹⁴³

Medina Cas and Peresa (2016) emphasize the need to attract skilled, qualified and experienced staff, to outsource some of the services and to have solid corporate governance rules. Having a favourable macroeconomic context, in particular the recovery of the mortgage market, is also a positive factor for AMCs.

The regulatory context in which these three AMCs were created has since evolved significantly. At the time when they were approved by the European Commission, the BRDD was still in gestation. The directive has now been in force since 2016 and any future AMCs or 'bad banks' need to take into account the BRRD resolution tools and requirements as well as the Banking Union legislation. However, the positive experience of establishing a bad bank cannot be ignored.

Gandrud and Hallerberg (2014) argue that assessing recovery rates has to be done in the context of preventive measures, to avoid future turmoil and fire sales. It is always more beneficial to taxpayers to insure the entire asset pool of a bank than a specific pool. Those schemes usually combine asset guarantees with capital injections, as exemplified by the UK intervention in January 2009 to support systemically important banks, with the Royal Bank of Scotland and Lloyds HBOS being the obvious beneficiaries. It is open to conjecture whether the implied recovery rates can be backed up by a detailed examination of the insurance fee imposed on the beneficiary banks, as well as the conversion rate of the preferred shares that the government has acquired through capital

142. As regards the legal nature of SAREB see <http://www.iflr.com/Article/3302121/Spanish-schemes-and-SAREB.html> and <http://ec.europa.eu/eurostat/documents/1015035/2990735/ES-Classification-of-SAREB.pdf/95a10697-19f3-4387-a457-12f87f341242>

SAREB is supervised by Banco de España. Sareb also has a unique and exclusive instrument, which has been specifically developed in order to serve as its very own divestment tool – Bank Asset Funds (FAB - Fondos de Activos Bancarios). These are flexible instruments, inspired by securitisation funds and collective investment institutions, and are specifically tailored to professional investors. Their set up and operation will be supervised by the Spanish Stock Exchange Commission (CNMV). See <https://en.sareb.es/en-en/about-sareb/Pages/What-is-Sareb.aspx>

143. See <https://www.boe.es/boe/dias/2012/11/15/pdfs/BOE-A-2012-14062.pdf>, <https://en.sareb.es/en-en/about-sareb/Pages/What-is-Sareb.aspx>, and <https://www.bankia.es/en/sareb>

injection. The authors also provide indications on haircuts that were observed on transferred assets to AMCs (bad banks) in Europe during the 2007-2009 GFC. These vary from 10-40% (SFEF, France) to 71% in Slovenia (DUTB, Slovenia). In some other cases of AMCs, mostly with public ownership stakes, assets have not been transferred but, rather, assigned to the AMC at book values, so that no haircut took place. Based on a simple framework, they clarify the economics behind bank restructuring and assess various restructuring options for systemically important banks. The case study of the recap and asset guarantee of RBS and Lloyds-HBOS suggests that the conversion rate of the preferred shares that the government acquired through capital injection can give indications as to the market value of the recovery rate. Understanding the accounting framework imposed by Eurostat rules helps provide contrast between privately owned AMCs and publicly owned ones.

3. Dealing with NPLs: economic perspective

From an economic perspective, dealing with NPLs carved out from banks undergoing restructuring must be distinguished according to whether it is a non-systemic event, or it implies a systemic risk dimension. In the former case, the issue may be addressed from a micro – individual bank – perspective while in the latter, the systemic dimension calls for necessary macro considerations. In this section, first we consider the credit channel literature and then we summarise two recent proposals – the one cited above put forward by Andrea Enria, chairman of the European Banking Authority (EBA), and suggestions by Avgouleas and Goodhart (2016) on how to deal more effectively and efficiently with NPLs.

The credit channel literature owes greatly to Ben Bernanke – e.g., Bernanke (1983) – and to a group of economists refocusing scholarly attention on the macro implications of imperfect banking markets. In essence, bank credit markets are plagued by information asymmetries between borrowers and banks, causing two different problems: adverse selection and moral hazard.¹⁴⁴

Adverse selection arises before a contract is signed. It refers to situations

144. This sub-section partly draws on D'Apice and Ferri (2010).

where potentially less desirable borrowers, from the point of view of lenders, are also those who will more likely be approved for a loan (Greenwald et al., 1984). This may lead to equilibrium credit rationing. Due to information asymmetries, lenders cannot see the specific quality of each borrower and to avoid attracting low-quality borrowers (adverse selection) refrain from increasing the loan interest rate, to keep it stable and reducing the supply of credit (Stiglitz and Weiss, 1981). So, excess demand affects a share of not financed potentially productive investments, with negative macroeconomic effects. To minimize adverse selection, lenders must be adept at screening good quality businesses.

In turn, moral hazard arises *ex post* where lenders undergo the risk that borrowers behave irresponsibly (opportunistic behaviour), jeopardizing loan payback. A typical moral hazard situation occurs when borrowers have incentives to invest in high-risk projects in which, if the outcome is positive, they obtain high profits; whereas, if the outcome is negative, lenders bear the losses. With high moral hazard, banks curb loan supply and, thus, contribute to slow down economic activity. To minimize moral hazard problems, debt contracts include collateral guarantees and provisions to limit a borrower's opportunistic actions, and banks must closely monitor that borrowers respect those provisions. Screening and monitoring are very important for bank solvency, but become extremely difficult to carry out during systemic financial crises, aggravating the initial effects of the shock (Mishkin, 1999).

Many empirical studies show that interest-rate variations are not enough to explain the scope of macro fluctuations. Thus, the credit channel literature (Bernanke and Gertler, 1995) offers a framework featuring an additional transmission mechanism of monetary policy shocks and/or financial shocks. Acknowledging the existence of frictions in the credit market, due to information asymmetries, the credit channel identifies three distinct transmission sub-channels of monetary policy: balance-sheet channel, bank-lending channel, and bank-capital channel.

First, the balance-sheet channel, due to possible borrowing constraints, links the width of the external finance premium (EFP) – the wedge between the cost of external funding and the 'opportunity cost' of using internal funds – to the borrower's financial soundness. Specifically, the higher the latter's net worth, the smaller the EFP. This is because, there is a low probability of

conflict of interest between high net-worth borrowers and lenders, due to the fact that a larger portion of the loan is backed by collateral. Monetary policy and/or financial shocks, via this channel, through a change in interest rates, not only modify the cost of credit, but also borrowers' financial soundness, thus creating an additional propagation effect. For example, an increase in interest rates negatively affects borrowers' financial soundness and their ability to borrow money, through both direct mechanisms – such as higher cost of debt at variable rate or reduction of value of collateral securities – and through indirect mechanisms – such as reducing household consumption levels – which in turn cut business profits.

Second, the bank-lending channel focuses on the possible deterioration in the capacity of intermediaries to provide credit. For example, an interest-rate increase may lead savers to shift their funds from deposits to other higher yielding investments. If banks are unable to compensate this outflow of resources with other liabilities, their capacity to grant loans is considerably reduced and this may slow down the macro-economy. Those most affected are businesses using almost exclusively bank credit, induced to cut their investment level. If, on the other hand, banks can offset the deposit outflow with other kinds of liabilities, the volume of funds they raise does not change, but its cost increases, as alternative deposit funds are usually more expensive. The higher cost for funding is then translated into a further interest rate increase for the borrowing businesses, which also in this case, will have to reduce investment.

Third, the bank capital channel runs as follows. When banks suffer a marked reduction of their capital, e.g. due to major losses on loans granted at the peak of a credit boom, they have two alternatives to re-establish the due ratio between net worth and assets: obtaining new capital or reducing the supply of credit. When losses occur in the mid of a systemic financial crisis, raising capital is extremely difficult and, as a result, banks usually curb their loan supply. This, in turn, harms the macro-economy burdening it with a credit crunch, defined by the Council of Economic Advisors (1991) as “a situation in which the supply of credit is restricted below the range usually identified with prevailing market interest rates and the profitability of investment projects”.

Many authors have studied this channel – from bank capital to bank lending – generally finding a significant negative causality, going from

increased bank capital requirement to less bank lending. In a seminal paper, Peek and Rosengren (1995) argue that banks, whose capital is not constraining the expansion of their assets, when receiving a negative shock to capital should intensify deposit taking to compensate for the drop in their liabilities implicit in the drop of capital. Thus, for not capital-constrained banks, one should expect a negative nexus between shocks to capital and deposit taking. On the contrary, they find a positive link between shocks to capital and the dynamics of deposits in 1990 for US banks. They conclude this evidence suggests the capital constraints for banks were pervasive as the Basle Committee ratios were phased in and, indeed, show that the impact is greater for banks with lower initial capital ratios. Berger and Udell (1994) concur that the expansion of loans was lower in 1990-92 for less-capitalized banks. Peek and Rosengren (2000) use geographical separation as their means of identifying supply shocks: Japanese banks lost capital as a result of NPLs in Japan. The authors then show that the withdrawal of these banks from lending to US real estate had strong dampening effects on US commercial real estate markets. Clearly, it is hard to attribute the fall in real activity to demand side effects. In turn, Chiuri et al. (2002) test for emerging economies the hypothesis that enforcing bank capital asset requirements (CARs) exerts a detrimental effect on loan supply. They find that Basel 1 CAR enforcement notably cut credit supply, particularly at less capitalized banks.

In turn, Van den Heuvel (2008), on US data, finds the welfare cost of current capital adequacy regulation to be equivalent to a permanent loss in consumption of between 0.1 to 1%. Gambacorta and Mistrulli (2004), study cross-sectional differences in the response of lending to monetary policy and GDP shocks owing to differences in bank capitalization, trying to disentangle the effects of the “bank lending channel” from those of the “bank capital channel.” The results, based on a sample of Italian banks, indicate that bank capital matters in the propagation of different types of shocks to lending, owing to the existence of regulatory capital constraints and imperfections in the market for bank fund-raising. Meh and Moran (2010) show that, following adverse shocks, economies whose banking sectors remain well-capitalized suffer smaller cuts in bank lending and less pronounced downturns. On US data from 2001 to 2011, Carlson et al. (2013) find that the relationship between capital ratios and bank lending was significant during and shortly following

the recent financial crisis. They also show that the relationship between capital ratios and loan growth is stronger for banks where loans are contracting, than where loans are expanding. Finally, they find that the elasticity of bank loans with respect to capital ratios is higher when capital ratios are relatively low, suggesting a non-linear effect of capital ratio on bank lending. Badarau-Semenescu and Levieuge (2010) verify the existence of the bank capital channel in Europe and its heterogeneity inside the union. Precisely, the channel is strongest in Germany and Italy, and weakest in Finland, France and Spain. Dell’Ariccia et al. (2008) note that banking crises usually lead drops in credit and growth and ask whether crises tend to take place during economic dips, or whether banking crises independently upset the economy. To answer this question, they study industrial sectors with differing financing needs. If banking crises exogenously dampen real activity, then sectors more dependent on external finance should perform relatively worse during banking crises. Their evidence supports this view. In addition, they show that sectors predominantly populated by typically bank dependent small firms perform relatively worse during banking crises, while the differential effects across sectors are stronger in developing countries, in countries with less access to foreign finance, and with more severe banking crises.

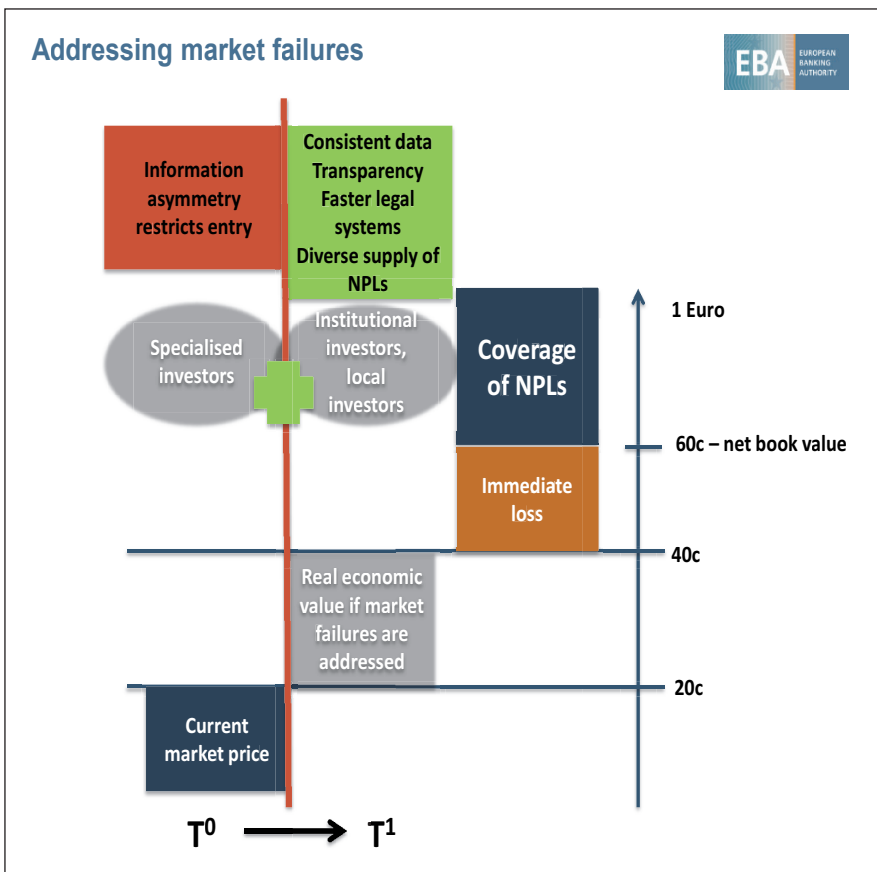
The ample evidence of a negative link between bank capital needs and bank lending suggests that the large accumulation of NPLs, by denting their capital, is pushing European banks to cut their loans. For instance, studying the credit crunch in Europe, Wehinger (2014) identifies one of the main factors in “the need for bank recapitalisation has reduced lending and further aggravated the crisis.” Clearly, then, in this systemic crisis scenario, measures limiting haircuts on NPLs would help soften the credit crunch.

On 30 January 2017, Andrea Enria, EBA’s chairman, called on Brussels policymakers to create a European AMC (we will call it Eurozone AMC, EZ-AMC) to buy billions of euros of toxic loans from lenders in order to break the vicious circle of falling profits, squeezed lending and weak economic growth (see also Haben and Quagliariello, 2017).¹⁴⁵ Enria noticed that the scale of the region’s bad debt problem has become urgent and actionable as lenders now hold more than €1tn of toxic loans. He proposes that the EU should create a

145. See also the arguments put forth by Beck (2017).

taxpayer-backed fund to buy bad loans from struggling lenders at their ‘real economic value’ – a level to be determined by the fund after doing due diligence on the loans. This would have the double benefit of increasing transparency around the true value of the vast piles of NPLs clogging up the balance sheets of many banks in the region and increase the size of the nascent market for such assets. The European Central Bank has also suggested that the creation of well-designed AMC should be carefully considered as part of plans to shore up the Eurozone’s financial stability.

Figure 1: Role of the Eurozone AMC as exemplified by EBA’s Chairman Enria



Source: Haben and Quagliariello (2017).

Enria proposed a graph (reported here as Figure 1) to exemplify how the presence of EZ-AMC would help address the current European NPL banking problem. In practice, the various market failures we outlined above (and that we will further address in section 4) are currently depressing the price of NPLs to 20c out of €1, well below the 40c that would be reached if market failures were removed. Enria argues that the unduly low NPL price – unduly high NPL haircut – depends on information asymmetry restricting entry as buyers only to specialist investors. He suggests that by releasing consistent data, raising transparency, speeding up legal systems, and diversifying the NPL supply, EZ-AMC could attract institutional investors and local investors and achieve an estimated doubling in price of NPL to 40c. Then, considering the average coverage ratio standing at 40c, NPL recognition would cost the average European bank an immediate loss of 20c, instead of the 40c loss suffered at the going (dysfunctional) market price. In essence, the EZ-AMC would be the catalyst for attracting institutional and local investors in NPLs, which would complement specialized investors.

Enria specifies that banks would transfer some agreed segments of their NPLs to the EZ-AMC at the real economic value:

- i. under EZ-AMC due diligence and accompanied by full data sets available to potential investors;
- ii. in the first instance existing shareholders would be hit at any transfer price below book value;
- iii. the difference between current market prices (20c in the example) and real economic value (40c) could be the theoretical extent of state aid under precautionary recap, but in this interim period, financed by EZ-AMC capital and private investors.

The EZ-AMC would also set a timeline (e.g. 3 years) to sell the assets at the real economic value:

- a) if that value were not achieved, the bank should take the full market price hit, and
- b) a recapitalisation would be exercised by the national government as state aid accompanied by full conditionality.

Finally, Enria clarifies that five possible objections to the EZ-AMC would be overcome:

- 1) existing shareholders are not safeguarded: they bear an immediate loss if the net book value is higher than the transfer price to the AMC (i.e. the real economic value) and are diluted if the eventual sale price is lower than the transfer price and a recapitalisation is necessary;
- 2) BRRD rules still apply under the EZ-AMC, in particular the concept of precautionary recap;
- 3) State aid rules are enforced: if the clawback clause is activated because the eventual sale price is lower than the transfer price to the EZ-AMC (i.e. the real economic value), the bank is recapitalised and State aid conditionality – including burden sharing – applies;
- 4) establishing EZ-AMC implies no risk of losing any EU money: since if the eventual sale price is lower than the transfer price to EZ-AMC (i.e. the real economic value) a clawback clause applies;
- 5) there is no burden sharing across EU countries: if the clawback clause is activated, it is the Member State which injects capital in the bank.

Independently, Avgouleas and Goodhart (2016) have argued that there is a danger of over-reliance on bail-ins – the prior participation of bank creditors in meeting the costs of bank recapitalisation before any form of public contribution is made. In the authors' view, bail-in regimes will not remove the need for public injection of funds, unless the risk is idiosyncratic. This suggestion raises concerns for banks on the periphery of the euro-area, which present very high levels of non-performing assets, crippling credit growth and economic recovery. To avoid pushing Eurozone banks with high NPL levels into bail-in centred recapitalisations, Avgouleas and Goodhart consider the benefits from, and legal obstacles to, the possible establishment of a euro-wide fund for NPLs that would enjoy an ESM guarantee. Long-term (capped) profit-loss sharing arrangements could bring the operation of the fund as close to a commercial operation as possible. Cleaning up bank balance sheets from NPLs would free up capital for new lending, boosting economic recovery in the periphery of the Eurozone.

Goodhart and Avgouleas seem to be in line with the EZ-AMC proposed by Chairman Enria. Two differences can be identified, however. First, Avgouleas

and Goodarht explicitly refer to an ESM guarantee supporting an EZ-AMC, something Enria is silent about. Second, they suggest that institutions selling NPLs to EZ-AMC should be subject to a structural conditionality, similar to that undertaken by the UK government in the context of the RBS rescue, while Enria doesn't mention such a possibility.

Overall, our arguments support the need to establish EZ-AMC. Regarding the possible involvement of the ESM as an external guarantor, that appears a natural evolution to us, given the ESM mandate extends to provide support to foster Eurozone banks stability, as exemplified through its backing of various macro adjustment programs and, especially, by the €100 billion it provided to recapitalise ailing banks in Spain.

Concerning the structural conditionality proviso for banks transferring NPLs to the EZ-AMC, we concur it could help tackle fears of reinforcing big banks and the Too-Big-To-Fail subsidy, while potentially opening up Eurozone banking markets to new contestants/entrants.

4. A case for the Eurozone AMC: theoretical justifications

As argued, carving out NPLs towards the successful restructuring of a bank hinges vitally on the valuation of those NPLs. Specifically, we consider two extreme cases. In an orderly situation, we are dealing with the crisis of a single non-systemic bank, and its carved NPLs will be valued at their fair (fundamental) value. Fair value calculations are based on historic recovery rates of bank NPLs in that country. But when the restructuring involves a systemic bank and/or materializes in a situation of systemic bank distress in the country, it is almost certain that the carved NPLs of a restructuring bank will be valued at a large discount below fundamental value. Such discount depends on the fact that bank NPLs in that country, at that time, have become highly illiquid assets. Since there are few potential buyers, market participants will develop expectations that NPL prices will be much lower than what historic recovery rates would imply. In turn, if there is no backstop supporting the price of the NPLs close to fair value, those assets will be sold in a fire-sale and market participants' expectations will be confirmed. In other words, lacking a backstop, investors' negative expectations will become a self-

fulfilling prophecy. Thus, the creation of EZ-AMC – or equivalent mechanism – would make a great difference and avoid two undesirable outcomes:

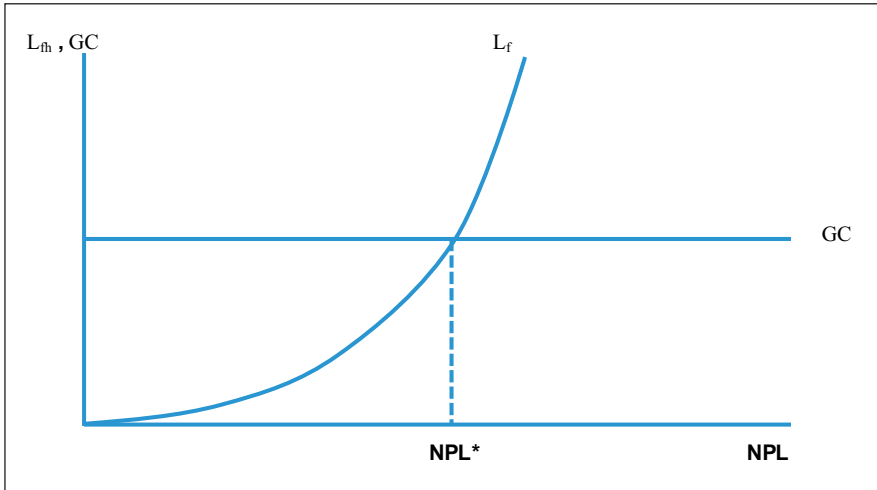
The first undesirable outcome is that some banks are forced into undeserved restructuring. A bank loaded with a certain amount of NPLs, which would still be sound enough if its NPLs were valued at fair value, might be triggered into restructuring, if its NPLs are heavily discounted along negative market expectations. Instead, the presence of EZ-AMC would provide a backstop to fair value of this bank's NPLs and prevent it enduring unjustified restructuring. The second undesirable outcome regards a bank that effectively needs to be restructured, even when its NPLs are valued correctly at fair value. In this case, restructuring is appropriate. However, if the carved out NPLs are valued with the heavy discount of illiquid markets, the haircut will be exaggerated with respect to fundamentals. In turn, investors who then buy those assets at extremely favourable prices will later on be able to reap extraordinary profits when either reselling the assets over time, or waiting for the historic recovery rates to kick in. In this case, the presence of EZ-AMC would also provide a backstop and prevent deserved restructurings from unduly penalizing distressed banks, while generating huge profits for investors. In all, in both cases – avoiding undeserved bank restructurings and avoiding excessive haircuts on the NPLs of appropriately restructured banks – the presence of EZ-AMC helps select the “good” equilibrium where, in a multiple equilibria set-up, the “bad” equilibrium would instead be selected by the market.

The reasoning above may be represented though a model adjusted from the one proposed by Paul De Grauwe (2016) in his Chapter 5 “The Fragility of Incomplete Monetary Unions”. In essence, De Grauwe adjusts the second-generation model of exchange rate crisis to deal with the issue of the sovereign crises within a Monetary Union (MU) which is incomplete, in the sense that it lacks a Budgetary Union (BU). De Grauwe's argument runs as follows, starting from exchange rate crises. Over time, fixed exchange rate regimes (incomplete MUs) tend to disintegrate after speculative crises. The key reasons for the fragility of these regimes is the lack of credibility of the fixed exchange rate commitment and the international reserve (liquidity) constraint. On one hand, the “first generation model” of exchange crises predicts that these crises occur because the authorities follow domestic policies that are inconsistent with the fixing of the exchange rate. On the other hand, in the “second generation model” more than

one equilibrium is possible, whereby picking the equilibrium depends on speculators' expectations. In this model, speculation is self-fulfilling and can bring down the fixed exchange rate, even if the authorities behave well. At this point, De Grauwe argues that the Eurozone is an incomplete MU and is also fragile, much like a fixed exchange rate system. Thereby, multiple equilibria are possible. These can arise in a self-fulfilling way and depend only on the expectations (beliefs) of investors. These multiple equilibria arise because of the absence of a central bank willing to provide unlimited amounts of liquidity during speculative crises. Some countries can be pushed into a bad equilibrium, characterized by unsustainably high interest rates, recession and budgetary austerity. Countries that are pushed into a bad equilibrium also experience a banking crisis. Countries can also be pushed into a good equilibrium characterized by low interest rates, declining budget deficits and a boom in economic activity. These multiple equilibria arise because of a coordination failure in the market system.

We now adjust De Grauwe's model, taking it to the case of a single bank's restructuring in a situation of systemic crisis of the national banking system which the bank belongs to. But, before doing that, let us consider the simpler case in which the decision whether to restructure the banks is taken in a normal situation – i.e., the bank is non-systemic and its national banking system is not in a systemic crisis. We define a Loss curve (L_{fh}) that is an increasing function of the bank's NPLs, where NPLs are valued at the 'fair' haircut. We also define the Going-Concern line (GC) representing the value of the bank as a going concern – i.e. the bank's goodwill due to its good reputation, trained workforce, established and successful procedures, tested systems, operational equipment, and necessary licenses and permits – which will be horizontal since it doesn't change with the bank's NPL. Figure 2 puts together L_{fh} and GC. Since L_{fh} is an increasing function of the bank's NPL (starting from 0 when NPL=0) while GC stays constant, as we let NPL increase there will be a unique point at which L_{fh} crosses GC from below. Let's denote that point as NPL*. For any NPL value below NPL* the losses are lower than GC, implying that the bank should not be restructured, since its value as a going concern is more than the losses it is incurring. When NPL exactly equals NPL* we are in a situation of indifference, since the losses are just equal to GC. For any NPL greater than NPL* the bank should be restructured. Here, there is only one equilibrium.

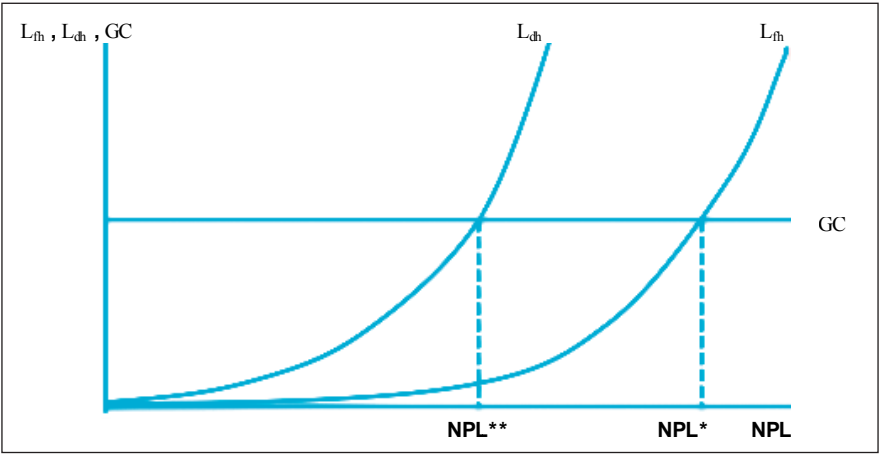
Figure 2: Bank restructuring in a non-systemic crisis with fair NPL haircut



Let us now consider what happens in a systemic crisis, when we also allow for a heavy 'discount' haircut of the NPL, as represented along a second Loss curve (L_{dh}). In Figure 3, for any NPL level L_{dh} lies to the left of L_{fh} . Now, depending on whether the fair discount applies – in which case we are along L_{fh} – or the heavy discount applies – in which case we are along L_{dh} – we will have two different thresholds: NPL^* , identified by L_{fh} crossing GC , lies to the right while NPL^{**} , identified by L_{dh} crossing GC , lies to the left. At one extreme, any bank whose NPL is below NPL^{**} will not undergo restructuring. At the other extreme, any bank whose NPL is above NPL^* will need restructuring. However, for all the banks whose NPL is above NPL^{**} but below NPL^* there is no need of restructuring applying the fair haircut, whereas they will have to undergo restructuring if the heavy discount haircut applies. In other words, for all these banks there are two possible equilibria. In the good equilibrium they will not be restructured, whereas they will need restructuring if the bad equilibrium prevails. This shows how EZ-AMC would greatly improve the outcome. Since EZ-AMC would apply the fair haircut and would be willing to buy unlimited amounts of carved NPLs, its presence would provide unlimited liquidity and a backstop able to anchor the market to the good equilibrium. In practice, analogously to what happened with the Outright Monetary Transactions (OMT), it might suffice to announce the existence of EZ-AMC, to

rule out the bad equilibrium. Indeed, even though the OMT was never used, its very announcement was enough for markets to rule out the bad equilibrium triggering undeserved sovereign debt crises of euro member countries. In analogy, here, all banks with $NPL^{**} < NPL < NPL^*$ would be spared unneeded restructuring, with the related costs for those banks and with the possible negative spillovers to other banks from the same country.

Figure 3: Bank restructuring in systemic crises with fair vs discount NPL haircuts



Furthermore, the presence of EZ-AMC would also generate positive effects for those banks that need restructuring when evaluated with fair haircut. These positive effects would descend from the fact that, in any case, EZ-AMC would anchor the solution to the good equilibrium and allow these banks' NPLs to be valued at much higher prices than in cases where the bad equilibrium was to prevail. The only damage would be for speculators who would no longer be able to make extraordinary profits by exploiting the fire-sale of European banks' NPLs. However, in our opinion, those exaggerated profits were the signals of a malfunctioning market that EZ-AMC would help to solve.¹⁴⁶

146. An example here is the case of how NPLs were valued in the resolution of four non-systemic banks in November 2015 in Italy. Through negotiations with the European Commission, the valuation was set at 17.6c, well below the historical record of NPL recovery rates in the order of 40c. In practice, it seems that this valuation was forced by adverse market conditions for disposing NPLs and not by true changes

5. Conclusions

We have argued that dealing effectively and efficiently with legacy NPLs carved out from banks under restructuring may be achieved via private sector or state supported initiatives, depending on the situation at hand. While in the case of non-systemic bank restructuring, private sector initiatives might prove successful, state support is needed when restructurings have to be dealt with in systemic crises.

Historical experience – briefly analysed above – suggests the need of a centralised solution, or a comprehensive programme to deal with legacy NPLs when the crises are systemic. This is evidenced by the failures in Japan in the 1990s (the ‘lost decade’), and the successes of Sweden in the 1990s, Spain more recently (with the creation of FROB and SAREB and the provision of European funds), and the US, both during the S&L episode that led to the establishment of RTC and during the GFC, with the creation of TARP and the adoption of stringent stress tests.

Considering that banking crises throughout Europe have been prevalently systemic in nature, we have summarized in this paper the basics of the credit channel literature and presented a simple model, describing how bank restructurings in systemic crises may feature a ‘bad’ equilibrium (triggering excessive restructurings and haircuts) along with a ‘good’ equilibrium (with appropriate restructurings and fair haircuts).

Drawing on historical experience, theory and empirical evidence, we support the proposal – already put forward by some scholars and policy-makers – to establish a Eurozone level AMC (EZ-AMC).

In our view, introducing EZ-AMC would provide six main benefits:

- 1) Having a clear view on the magnitude of the legacy assets problem in the Eurozone;
- 2) Avoiding some false positives (i.e., some banks that would otherwise be forced into resolution because of excessive fire-sale haircuts induced by speculation, would be spared resolution and this would reduce the cost of depleting goodwill in EZ banking);

in recovery rates. In fact, Carpinelli et al. (2016) document that recovery rates for NPL liquidations in Italy in the years 2011-2014 were still slightly above 40c. Alas, for months after the resolution 17.6c became the reference to value NPLs for the country’s banking system, possibly dragging down the market value of many Italian banks through contagion.

- 3) maximizing the recovery rate on NPLs (a careful, long-term-oriented and broad-shouldered EZ-AMC would minimize the risk of devaluing NPLs via forced fire sales);
- 4) by accomplishing (2) and (3), the EZ-AMC would also act as a macro-economic stabilizer, since it would reduce procyclicality in banking and the credit supply to the economy;
- 5) EZ-AMC would also greatly promote transparency in a market segment that tends to suffer extreme opaqueness and where it is difficult to tell whether opaqueness is just a fundamental variable of the problem, or whether it is artificially inflated by speculators who will ultimately benefit from fire sales of the disposed assets;
- 6) finally, but no less important, the EZ-AMC would promote accountability, since its profits (that are likely to be quite high based on past historical records of similar experiences throughout the world) would be channelled back to the European people, possibly helping to fill the so far not totally funded Resolution Fund, which would avoid relying on taxpayers money in the event of a major shock occurrence.

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Annex 1: State aid in the European banking sector (2008-2014)

TYPE OF STATE AID	COMMITTED AID (IN EUR BILLION, % OF EU 2014 GDP)	EFFECTIVELY USED (IN EUR BILLION, % OF EU 2014 GDP)	EFFECTIVELY USED AS SHARE OF COMMITTED AID (%)
Capital measures (cumulative from 2008 to 2014)			
Re-capitalisation	802.1 (5.75 %)	453.3 (3.25 %)	56.51 %
Support for bad asset schemes	603.3 (4.32 %)	188.5 (1.35 %)	31.24 %
Liquidity measures (cumulative from 2008 to 2014)			
Debt guarantee schemes	3,249.0 (23.28 %)	1,188.1 (8.51 %)	22.92 %
Liquidity support other than guarantees	229.7 (1.65 %)	105.0 (0.75 %)	32.41 %
TOTAL	4,884.1 (34.99 %)	1,934.9 (13.86 %)	39.61 %

Note: The figures do not include the revenues obtained by governments from these support schemes.

Source: European Commission (2017), http://ec.europa.eu/competition/state_aid/scoreboard/financial_economic_crisis_aid_en.html.

The EU Member States committed from 2008 up to 2014 in total EUR 4.9 trillion (35 % of EU GDP in 2014), of which EUR 1.9 trillion (13.9 % of GDP) has been effectively used.

ISSN 2421-6917

PUBLISHED BY
Europeye srl
via Gregorio VII 368 - 00165 Roma
t. 06 3700556 - www.europeye.com