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Boot, A.; Carletti, E.; Kotz, H.-H.; Krahnert, J.P.; Pellizon, L.; Subrahmanyam, M.

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Arnoud Boot
Elena Carletti
Hans-Helmut Kotz
Jan Pieter Krahenen
Loriana Pelizzon
Marti Subrahmanyam

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Leibniz Institute for Financial Research SAFE
Sustainable Architecture for Finance in Europe

policy_center@safe-frankfurt.de | www.safe-frankfurt.de

Corona and banking - A financial crisis in slow motion? An evaluation of the policy options*

Arnoud Boot, University of Amsterdam

Elena Carletti, Bocconi University

Hans-Helmut Kotz, Harvard Center for European Studies and SAFE

Jan Pieter Krahnen, Goethe University Frankfurt and SAFE

Loriana Pelizzon, Goethe University Frankfurt and SAFE

Marti Subrahmanyam, NYU Stern Business School and NYU Shanghai

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Abstract

With the second wave of the Covid-19 pandemic in full swing, banks face a challenging environment. They will need to address disappointing results and adverse balance sheet restatements, the intensity of which depends on the evolution of the euro area economies. At the same time, vulnerable banks reinforce real economy deficiencies. The contribution of this paper is to provide a comparative assessment of the various policy responses to address a looming banking crisis. Such a crisis will fully materialize when non-performing assets drag down banks simultaneously, raising the specter of a full-blown systemic crisis. The policy responses available range from forbearance, recapitalization (with public or private resources), asset separation (bad banks, at national or EU level), to debt conversion schemes. We evaluate these responses according to a set of five criteria that define the efficacy of each. These responses are not mutually exclusive, in practice, as they have never been. They may also go hand in hand with other restructuring initiatives, including potential consolidation in the banking sector. Although we do not make a specific recommendation, we provide a framework for policymakers to guide them in their decision making.

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I. The Covid-19 pandemic: A potentially challenging scenario for banks

The Covid-19 pandemic will leave deep scars across the globe, particularly in the euro area: According to most recent assessments of the EU Commission (2020), euro area GDP is expected to shrink in 2020 by about 7.8 percent (year on year). This is unprecedented, together with the series of policy measures, including lockdowns and economic stimuli, as well as responses of households and firms. Unfortunately, the probability that events may unfold even worse is not negligible. The IMF's assessment of "a long and difficult ascent" for the global economy (IMF 2020) rings particularly true for Europe.

This is precisely the assessment that motivates our paper. Given that the health of banking systems is inextricably tied to the performance of the underlying economies, the substantial loss of output and the concurrent need for sectoral adjustments will be manifested in deteriorating credit quality. To be sure, in the wake of the 2007-9 global financial crisis (GFC), banks have been forced by regulators to build capital and liquidity buffers. They are today, therefore, generally better capitalized than hitherto, and can weather liquidity shortages. For example, the weighted average Common Equity Tier 1 (CET1) ratio increased from 9.0 percent in March 2010 (EBA 2013) to 14.6 percent in March 2020 (EBA 2020). The leverage ratio has slightly improved too; during the same period, it increased by around one percentage point to 5.3 percent in March 2020 (EBA 2020). The variation across banks and EU member states, however, is substantial. Moreover, in the present crisis, impairments and non-performing exposures will rise, inevitably, as the effects of the crisis slowly wear off. The question is how to respond. In any case, there is no room for complacency, and it would be prudent to plan ahead.

In line with this expectation of a looming crisis, banks around the world show rising shares of poorly performing loan books, with concurrent growth (and acceleration) of loss provisioning, suggesting (at least in principle) prompt remedial actions. Addressing non-performing loans (NPLs) is a policy consideration that is crucial for an economic recovery (Ari et al. 2020). So far, the largest provisioning has been observed in the US. For the first nine months of 2020, the 10-largest US banks have put aside around US\$ 82.8 billion to cover expected loan losses. For the same period, the provisioning among the 11-largest European banks shows a total of US\$ 48.4 billion (Comfort and Halftermeyer 2020). Alas, for European banks there is potential for substantially larger corrections in loan book values. For instance, Gropp et al. (2020) estimate that between 6.0 to 28.0 percent of German banks could become distressed from defaulting corporate borrowers, depending on the depth and duration of the

recession as well as the strength of the subsequent recovery.¹ For some euro area member states, pre-crisis output levels might only be reached in 2024, if not later. Against a background of such a high degree of forecasting uncertainty – the IMF’s “difficult ascent” – it is all too obvious that banks may become under heavy pressure soon.

As European firms are more bank-reliant in their external funding (Pagano et al. 2014), extra vigilance is warranted. In principle, this should imply a higher volume of provisioning.² Moreover, also the substantially lower profitability of banks in Europe may play a role; it could make banks more reluctant to provision appropriately. All this reflects the varying economic background conditions between the US and Europe, including different stances of fiscal and monetary policy as well as the industry structure of banking. For Europe, therefore, it seems plausible to expect a slow moving, quarter-by-quarter process of negative earnings reports and rising loan loss provisioning, closely correlated with the evolution of the pandemic and the fragile dynamics of the economic recovery process.

Given the prevailing fundamental uncertainty, it is imperative for policymakers to contemplate action directed at reinforcing banks’ balance sheets. This raises two crucial questions: What are the policy options to safeguard the integrity and functionality of the banking system? And what are the criteria defining the desired response? This paper will address both questions in the context of the European Union.

What makes the identification of a suitable policy response particularly difficult is the apparent overbanking in Europe. At the national level, banking sectors are highly concentrated in many member states (ECB 2020), and many institutions are considered too-big-to-fail. This might have contributed to excessive credit creation, a relatively high debt dependence of businesses, and a rather slow development of securities markets, reinforcing bank dominance (Langfield and Pagano 2016). The structurally low profitability of the European banking, endogenous to this landscape, makes this even more of a concern.

Policy responses should take these structural issues into consideration. In particular, the policy actions dealing with the pandemic crisis should neither reinforce the substantial reliance on banks, nor perpetuate a legacy banking architecture that is nation-centric and prone to a doom-loop between the fiscal state of national governments and the state of the banking system. An important issue is the

¹ As emphasized in a recent G30 report (G30, 2020) and our related work (Boot et al., 2020), strengthening the resilience of the business sector (including equity infusions) is important for the subsequent recovery and for limiting loan losses imposed on banks.

² Differences in provisioning could in part also reflect different accounting standards. Under the rule set as it existed up until the crisis, US-GAAP recognizes life-time expected losses, while IFRS considers loss expectations for the next 12 months for level-1 assets only, see ESRB (2019).

extent to which financial markets could or should play a more prominent role in the economy, bringing the agenda of a European capital market union to the fore.

If risks can be spread more widely by allocating them to (diversified) institutional investors in the capital market, away from the leveraged bank balance sheets, the resilience of the European banking system would improve. That said, we note without further discussion that the transfer of credit risk from banks to markets is anything but trivial – the meltdown of structured credit in the 2008/9 financial crisis testifies to this –, as attention has to be paid to information and incentive issues. In any case, banks will continue to play an important role, and their health is key for the economy at large.³

In this paper, we will discuss a variety of policy options that are considered in the current debate on how to deal with potential problems as they might arise for the weak state of the European banking industry as amplified by the Covid-19 crisis. These responses range from passive forbearance measures to more active proposals, including the outplacement of bank assets (creating a bad bank at the national or EU level), to the recapitalization of banks (private or public). We will evaluate these options relying on a set of criteria that, in our view, capture the effectiveness and credibility of a proper policy response.

The objective of the policy response is twofold: to safeguard the stability of the financial system, and to ensure the important role that the financial sector plays in society (i.e., its role in covering society's need for saving, investing, borrowing, and risk management and other financial services).

II. Evaluating policy options

Our methodology follows a three-step process: identifying the options, defining criteria, and appraising the options on the basis of these criteria.

The first step focus on the policy options proposed and discussed in the literature as well as in the public debate. A very basic policy option is to strengthen the resilience of banks by enforcing a higher capitalization. In fulfilment, banks may either retain earnings (which takes time) or raise equity, to buttress their capital buffers. While we are aware that it is difficult to induce banks to raise capital during times of crises, there is nevertheless surprisingly little discussion about this response which is why we include it as the basic option.

Apart from this basic option, we discuss the following five policy proposals: 1) forbearance, 2) recapitalizations via public money, 3) de-risking via, e.g., asset sales, reducing lending and deleverage 4) asset separation through an individual bad bank model, 5) asset separation through a general (EU-

³ We note in passing that the ongoing digital transformation of the financial services industry (and the fintech revolution in particular) adds to the banking industry's need for transformation.

wide) bad bank model, and 6) a loss-capping debt restructuring/conversion model. In fact, taxpayers should harbor no illusions, in most cases public support will play a role.

The second step identifies the criteria (to be presented in the next subsection). What we have done is to carefully distill the requirements that a desirable policy response preferably would meet in light of the objectives of the policy intervention (as stated already: the stability of the banking system and the ability of the banking system to fulfill its important role in society).

Subsequently, as the third and final step, we apply the criteria to the policy options already presented. We will attribute, for all policy proposals, a value for each criterium, based on a traffic lights model: green–yellow–red, or: yes–medium–no. In our commentary, we briefly justify our assessment (based on our experience as academics and policymakers in the field).

While sometimes an absolute preference ordering is possible (strict dominance of one policy proposal over another), typically it is not feasible. Rather, the outcome of the evaluation should provide for an assessment of the pros and cons of the various policy options. The options are not necessarily mutually exclusive (e.g., recapitalization and de-risking might go hand in hand), in fact, in practice, i.e., former crises, they have been applied in various combinations. And from there, a more informed discussion on banking policy becomes possible. This is what we aim for in this paper.

II.1. Assessment criteria

To assess the different options in a tractable manner, we define five criteria according to which we evaluate the different options with a medium-long term perspective in mind. In a loose sense, we derive these five criteria from the two objectives just mentioned, namely safeguarding financial stability, and ensuring an adequate provision of financial services to society. The first two criteria – effectiveness and feasibility – are necessary conditions for a proposal to make sense. Without effectiveness and feasibility, the option should not be considered. The five criteria are:

1. **Effectiveness:** Can the overall objectives be achieved? Does the option deal effectively with the problem at hand? Does the implemented model make a difference?
2. **Feasibility:** Is the option feasible in a broad sense? We consider various dimensions regarding feasibility:
 - a. Is the option feasible (e.g., not rejected out of hand by the legislative process, by the treasuries involved, etc.)?
 - b. Is a political mandate for the option possible?
 - c. Are policymakers and regulators able to execute the policy?
 - d. Is the option viable in a narrow sense, i.e. not too complex?
3. **Credibility of the policy:** If put in place, can it be carried through over time?

- a. Is the problem of regulatory capture addressed?
 - b. Is the option resilient to the too-many-to-fail-problem of policymaking?
 - c. Is the policy time consistent, in the sense that incentives to re-adjust are kept at bay, so that ex-post credibility can be ensured?
4. **Alignment with incentives of private players:** Does the (public) intervention leave ex ante the right incentives and initiative for banks and firms? This question includes the following aspects:
- a. Does the option prevent zombification of firms and/or banks?
 - b. Can regulatory arbitrage be contained?
 - c. Does the option allow for private initiatives to deal with problems at hand, i.e., there is no crowding out of private initiative (e.g., weakening restructuring incentives)?
 - d. Is the flow of credit to firms, in particular SMEs (almost by definition with no direct access to capital markets) sustained?
5. **Structural impact at the bank level:** This criterion assesses the impact of the policy on the longer-term challenges of the banking industry, as briefly alluded to in our introduction. The following questions are considered:
- a. Does the option respond to the overbanking issue?
 - b. Does the option limit the market power of established institutions?
 - c. Is this fostering positive innovations and limiting negative regressions in the financial system?
 - d. Does it strengthen the role of capital markets in Europe?

II.2. Evaluation

The ECB (2017) and EBA (2018) frameworks provide guidelines on how to deal with NPLs and culminated in EU 2019 legislation.⁴ However, not accounting for systemic or macro effects, such measures might not deal adequately (or not at all) with the ramifications of systemic NPL problems. Particularly, these measures might be insufficient because they are too slow, and do not lead to the necessary “[...] deeper restructuring of the banking sector” (Enria 2020). The COVID-19 crisis has made these considerations palpably evident: in immediate response to the Covid-19 crisis, regulators and supervisors have provided capital, liquidity, and operational relief (which came on top of very substantial fiscal policy stabilization efforts, indirectly beneficial for creditors also, as were the diverse moratoria, tax deferrals etc.). Moreover, the EBA as well as the ECB and ESMA have given guidance on how to account for the crisis, including, most importantly, the implementation of accounting standards

⁴ Regulation (EU) 2019/630 amending Regulation (EU) No 575/2013 as regards minimum loss coverage for non-performing exposures

so that procyclicality can be prevented and the European Commission has set up a roundtable with public and private stakeholders on tackling NPLs in the aftermath of the Covid-19 pandemic.⁵

The basic option to improve the resilience of a single bank is to have it strengthen its capital base on its own (**Private recapitalization - option 0**), which would allow the bank to deal with the problems at hand on its own (e.g., raise equity and manage NPLs and restructure the debtors behind it). For a listed bank, we could envision a seasoned equity offering. Such private sector initiative seems first best, if circumstances permit. A privately recapitalized bank would take full control over its own destiny and have the right incentives for making appropriate business decisions. What we have seen in severe downturns of the economy, however, is a difficulty for banks to raise simultaneously equity from the market. This raises concerns about systemic risks emerging in a situation of downturns.

In any case, private recapitalization would rank high on all criteria, the benchmark case under more normal circumstances. We therefore strongly encourage banks and policymakers to be much more focused on such a private sector solution. We find it surprising that – particularly in Europe – equity issuances are not even considered as a potential way to augment the resilience of banks.

We will now consider the six other options. Again, we would like to emphasize that these options are not mutually exclusive. For example, the asset separation options are most likely to leave a hole in banks' balance sheets, the size of which depends on the agreed level of the transfer price. This typically comes with an equity infusion of taxpayers' money.

We evaluate the options along the criteria defined above. Each criterion summarizes the answers to several questions. In many cases, the answers to the questions may be rather complex, depending on different factors and a variety of assumptions. A thorough analysis of each single question, therefore, goes beyond the scope of this policy letter. Again, our assessment aims mainly at illustrating the pros and cons of the different options and inform the debate on these options. As stated, we give direction to our assessment based on a three point-scale: Yes (green), medium (yellow) and no (red). Table 1 summarizes the results of the evaluation of the various options.

Forbearance (Option 1)

The forbearance we focus on aims at giving banks some leeway in meeting regulatory requirements. Regulators and supervisors around the globe have provided flexibility to help banks absorbing the impact of credit risk developments and its procyclicality as well as to maintain the accurate

⁵ See European Banking Authority (2020): Guidelines on legislative and non-legislative moratoria on loan repayments applied in the light of the COVID-19 crisis (EBA/GL/2020/02, April 2, 2020, amended by EBA/GL/2020/15, December 2, 2020); also SSM (2020): Identification and measurement of credit risk in the context of the coronavirus (Covid-19) pandemic, SSM-2020-0744: COM2020 822: Tackling non-performing loans in the aftermath of the COVID-19 pandemic.

identification and management of risks. In particular, banking supervisors have stressed their willingness to accept temporary breaches of regulatory capital requirements if the shortfall is due to pandemic-related provisioning.

The actions taken include deactivating surcharges for systemically important banks, lowering risk weights, excluding assets when calculating the leverage ratio and temporarily suspending newly introduced accounting rules (IFRS 9), which called for provisioning on the basis of expected loan losses.⁶ Rather mechanically, this also implies a lengthening of the period over which NPLs must be booked (Kleinnijenhuis et al., 2020). Such forbearance distorts the informational value of accounts to a degree, and it may create “cliff effects”, when the forbearance tapers off. Other examples of eased regulatory standards refer to the liquidity coverage ratio, which, since mid-March, the ECB allowed to breach until further notice. In fact, using buffers in stressed situations is, as the ECB rightly argues, in line with the LCR concept.

However, while there is a situation-dependent logic in having banks “use” their capital, and thus temporarily fall below capital standards in a situation of exogenous and widespread distress as the one caused by the pandemic, this is only a stop-gap measure, not the final solution.⁷ When circumstances improve, it should hence be followed by raising new capital, market conditions allowing. However, we evaluate option 1 under the assumption that it is the only measure taken by authorities, i.e., forbearance as a stand-alone instrument. What is then our evaluation?

Effectiveness: NO – This policy alone would not be effective because it does not contribute to the overall stability of the financial system in the medium term. Indeed, what concerns ‘accounting’ forbearance, this is like a cover-up, leaving outside investors guessing about the “true value” of expected losses. Moreover, option 1 may have counterproductive effects as well: healthy firms with low provisioning levels would no longer be able to signal their superior loan book quality, so that a negative systemic spill-over effect may arise.

Feasibility: YES – The option is easy to implement.

Credibility of the policy: NO – Forbearance may beg for more forbearance, as it often happens. Financial institutions will learn the lesson that tough regulatory rules will be bent whenever the risk outlook is gloomy enough, and the risk has a system-wide character. To be sure and realistic, this is, of course,

⁶ In a letter of April 1, 2020 (on IFRS 9 in the context of the coronavirus (COVID-19) pandemic), “(i)n order to mitigate volatility in institutions’ regulatory capital and financial statements stemming from IFRS 9 accounting practices” the ECB gave guidance on “i) the collective assessment of the significant increase in credit risk (SICR); ii) the use of long-term macroeconomic forecasts; and iii) the use of macroeconomic forecasts for specific years”

⁷ This practice, breaks with Goodhart’s critique of capital standards, epitomized in his famous last taxi-example, by assigning a buffer role not only to excess capital, but also to capital itself (see also Beck, 2020, and Kleinnijenhuis et al., 2020).

what happens when push comes to shove. In a sense, forbearance is kicking the can down the road, betting on a quick recovery, and more importantly, introduces severe moral hazard incentives into financial sector regulation⁸.

Alignment of private players: NO – As a sole measure (e.g., one not followed by raising new equity), forbearance, differentially applied, could entail substantial elements of the banking union to be suspended. It may be difficult to bring it back any time soon, and to re-build the credibility of the rules and measures that it involves. There is also the risk of crowding out private initiative. Without a doubt, this would lead to sclerosis (sometime called zombification) of banks. The option seems to encourage continued lending to sclerotic firms, hence postponing the restructuring of firms.

Structural impact at the bank level: NO – The option would neither reduce overbanking, nor increase the stability of the banking system.

Recapitalization via public money (Option 2)

Recapitalization by governments refers to precautionary recapitalizations, mandatory for all major banks, as suggested by Schularick et al. (2020). They rightly argue that the post-pandemic economic recovery would be impeded if loan growth were held back by low capital levels at banks. Bank capital, in turn, is expected to erode during the crisis due a substantial increase in NPLs. For European banks, the authors estimate a capital shortfall between € 60bn and € 600bn, depending on the pandemic scenario. Institutionally, they suggest creating a European precautionary recapitalization fund, funded with resources from the European Stability Mechanism, that would buy equity stakes in all (major) European banks.

The acceptance of such publicly financed equity infusion would be compulsory, conditional on not passing a stress test. Hence, this alternative could build on the previously discussed basic option if recapitalizing via private money cannot be accomplished. Instead, banks would be recapitalized with public resources through equity-like instruments that can be ‘bought back’. The capital injection would come with strict conditions attached, such as a pre-defined repayment schedule and restrictions on executive compensation.

Overall, the recapitalization with public resources can be assessed as follows:

Effectiveness: YES – If large enough, the equity infusions would be effective in assuring the stability of the financial system.

⁸ Beck et al. (2020) propose a “strictly defined financial stability exemption for bail-in rules during periods of systemic distress” that potentially counteract some of the credibility issues of forbearance.

Feasibility: MEDIUM – The strategy is feasible, but it will encounter resistance as it involves public money. Though, in deep crises, it has, of course, been applied regularly.

Credibility of the policy: YES – We assume strict conditions attached: it is effectively a bail-out like intervention, and that might induce moral hazard (anticipation of future bailouts) unless credible strict conditions are attached. (In the case of vulnerable public finances, it will not work.)

Alignment of private players: MEDIUM – This option provides moral hazard incentives, contingent on or mitigated by the severity of conditions attached. Thus, if moral hazard incentives deriving from anticipated future bailouts are contained, banks would be well incentivized to write down bad loans and force firms to restructure. This could prevent the zombification of firms and banks, if conditions attached force banks to restructure, which is not completely assured.

Structural impact at bank level: MEDIUM – This option almost unavoidably cements the pre-existing landscape of the banking industry. Not necessarily so, but that is what has been borne out in Europe after the 2008/9 financial crisis. Overbanking would be perpetuated that way, rather than being reduced. It may also accentuate moral hazard, as banks might surmise that public authorities will inevitably come to their rescue. To contain this risk, it is key to enforce bank restructuring and attach strong conditions to the public infusion of capital. Both restructuring and appropriate conditionalities are reflected by this rating.

De-risking via asset sales (Option 3)

In case a bank is unwilling or unable to raise new equity, it may seek to improve its capitalization ratio by selling assets, reducing lending, deleveraging or more generally, by de-risking.⁹ What banks typically try to accomplish is increase their capital ratios not by increasing capital (Option 0) but by reducing their risk weighted assets. This can lead to fire sales, producing systemic risk. Deleveraging is also tantamount to a reluctance of banks to engage in lending (to SMEs in particular).

Effectiveness: NO – With a sufficient probability, the option implies fire sales, threatening financial stability. Moreover, banks would have a strong incentive to substantially cut back on lending.

Feasibility: YES – This option is implementable, or better it could happen by accident, policymakers resting on the sideline.

Credibility of the policy: NO – This option is not credible because it may contribute to systemic risk in the economy, which, in turn, may make subsequent bailouts more rather than less likely.

⁹ In fact, banks were actively following this type of behavior between 2012 and 2018 (see Haselmann et al. 2019).

Alignment of private players: MEDIUM – This option is likely to cause a disruption of the financial system because it is damaging for banks and adds uncertainty to firms, whose continued funding becomes unreliable. Overall stress increases, potentially disorienting all players. The option would, however, limit zombification and contain moral hazard – at a price.

Structural impact at bank level: YES – Banks will shrink, which reduces overbanking, and, in the long(er) run, may provide for a healthier financial industry. The crucial question however is, at what price for economic activity?

Asset separation through an individual bad bank model at the national level (Option 4)

Creating a bad bank is a way to prevent fire sales. Bad banks, often called asset restructuring or asset management companies (ARCs, AMCs), have been used in the past to resolve calamities in banking. Sweden, when faced with a mortgage crisis in the early 1990s, is an interesting case in point. Also Germany, where authorities established two asset management companies in 2009 and 2010: FMS-Wertmanagement (FMS-WM) to unwind high-risk portfolios of Hypo Real Estate, a mortgage bank which had to be nationalized, as well as Erste Abwicklungsanstalt (EAA), to handle West LB, a failed public sector Landesbank. In both cases, the positions to be unwound were largely identical (structured products, vulnerable residential and commercial real estate, mostly US-related, as well as sovereign debt).¹⁰

In the current case, with Covid-19 as an exogenous trigger, the creation of a bad bank would have to extract poorly performing segments of one or several commercial banks' loan books. If the transfers of loans between the commercial banks and the bad bank happened at market prices, there would be no relief for the commercial banks and, therefore, loans would not be transferred. A bad bank approach cannot work without substantial support by the government because the price offered by the bad bank on an expected value basis for any loan would typically be substantially lower than the book value of the same loan if it remained on the commercial bank's balance sheet. There are, however, good reasons to believe that a bad bank finds political acceptance as it addresses the problem of NPLs due to the COVID-19 crisis, a truly exogenous shock.

In this option, a bad bank would be carved-out from a bank that expects severe asset losses (NPLs) and, thus, requires a capital injection. In such a case, part of the bank's assets – those performing poorly – are being transferred to the newly created bad bank, which can be a private entity or a public entity. In the latter case, the public pays a relatively high price for injecting capital into the bank selling

¹⁰ The management and oversight of both was assigned to a new agency, the FMSA (Financial Market Stabilization Agency). In 2018, FMSA was integrated in Finanzagentur, the Debt Management Agency of the Ministry of Finance (see Finanzagentur 2020). For the wind-down agency FMSA, see FMSA (2020).

the NPLs and effectively does a bailout, barely disguised. In the former case, the privately paid price will be probably rather low, as low as investors in distressed debt typically bid, and the bank would be left with a hole on the asset side of its balance sheet that reflects the capital loss implicit in the NPLs. In both cases, taxpayers' money will be needed to make the scheme fly.

Creating a bad bank tends to face challenges that relate to the nature of the assets transferred. What is a fair price of a particular loan? How to ensure that the private information owned by the bank is shared with the management of the bad bank? How can the bad bank optimally manage the assets and maximize recovery? Such information-sensitive assets cannot easily be transferred. Moreover, information might get lost during the transfer. This may lead to an extra loss in value. Also, for this reason, substantial input of taxpayer resources will be critical.

Another key issue is the management of the bad bank. There need to be clear incentives to maximize the value of recovery. In our evaluation below, we will assume that the bad bank can be managed and incentivized in the right way. It is also crucial that the bad bank has access to the same essential information on (former) borrowers like the bank itself, although this may be a challenge to ensure.

Effectiveness: YES – After the equity infusion, the bank is left with a healthy balance sheet. The bad bank will (in part by assumption) incentivize correctly and, being carved-out from just one bank, might have easier access to all essential information (compared to Option 5, to be discussed). However, it may not sufficiently internalize externalities, e.g., it may try to get rid of assets too soon without considering system-wide repercussions. The cases of EAA and FMS-WM, both still running, are rather reassuring, not confirming these concerns.

The fire sale effect - a hasty liquidation by the bad bank - is now much less of a risk than when the loans were sitting on the balance sheet of the different banks, since the consequences of fire sales, i.e. excessively low prices and liquidations, will now be internalized by the bad bank¹¹.

Feasibility: MEDIUM – This option is complex and requires public money and managing such a public bad bank might be difficult.

Credibility of the policy: MEDIUM – There might be enormous pressure to help national champions among banks and (non-performing) firms, preventing the progress towards a banking union. Effectively, this is a bail-out with built-in restructuring. However, depending on institutional arrangements, the moral hazard might be contained.

Alignment of private players: YES – The incentives are largely right. The risk of moral is limited. However, there are still risks concerning national champions.

¹¹ Again, EAA and FMS-WM have not confirmed this concern.

Structural impact at bank level: MEDIUM – There could be a significant restructuring of the national banking system. However, national banking champions might be preserved, or created. In fact, the latter seems to have been the outcome in Sweden, where the ARC was used to consolidate the market substantially.

Asset separation through an EU-wide bad bank model (Option 5)

A variation on the nationally focused option 4 is to set up an EU-wide bad bank – the irrevocable transfer of NPLs by banks to a supranational asset management company (EU-wide bad bank). Such considerations map - to a significant degree – into those of option 4, with two important distinctions however: EAA and FMS-WM were based on one failed bank each. And, secondly and more importantly, option 4 only has one nation state behind, i.e., only debates about transfers within domestic borders.

Such an EU-wide bad bank, collecting NPLs from across the single market, could, from a technical point of view, potentially operate more efficiently and objectively than national vehicles. The banks involved might feel more pressure from a pan-European body than from national authorities. However, multi-country involvement creates substantial complexity for information exchange because of a lack of standardization across national borders. Also, given substantial differences in legacy positions across EU member states, it creates mutualization of debt, on some readings of the European Treaties prohibited. Conflicts of interest are inherent to such an EU-wide solution might manifest themselves, in addition to an array of technical and legal issues. On the positive side, the supranational solution may trigger standardization, incentivize the creation of a market for distressed assets, and ultimately help the development of the Capital Markets Union (Beck 2017). [For other considerations, see the assessments of option 4.]

Effectiveness: YES – Compared to the national bad bank option, the EU-wide bad bank internalizes more of the consequences of its actions and might be set-up in a more technocratic way, shielding it to a degree from politics. However, substantial information-transfer issues and a lack of standardization of claims across countries may pose difficulties.

Feasibility: MEDIUM or NO – The complexity, the frictions between member states and concerns about mutualization raise substantial hurdles for the feasibility of this option. Acceptance of EU-wide decision-making would be a challenge as well.

Credibility of the policy: YES – Europeanizing reduces the risk of capturing by national champions. Credibility of the EU decision making might be an issue though, but lower than for option 4.

Alignment of private players: YES – Incentives are largely right, and moral hazard is even more contained (we envision less moral hazard in the case of using public funds at the European level, and moral hazard incentives associated with national champions are more remote).

Structural impact at bank level: YES – Restructuring is built in, potentially.

Loss capping through debt restructuring/conversion (Option 6)

A different approach to tackling NPLs is a partial, not a total, transfer of the default risk on each bank loan from a bank's balance sheet to the balance sheet of (typically) a public authority. This could be a fund, or a development bank¹².

The incompleteness of the risk transfer serves the purpose of keeping the monitoring and workout incentives of the bank that originated the loan intact and preserve the information about the debtor in its possession. A partial risk transfer can be realized in many ways. One avenue is via a targeted insurance scheme that offers coverage for realized losses exceeding a threshold level. Another avenue is a scheme where the public body refinances existing bank loans, where these new loans have limited recourse on the bank involved; in the case of Germany, Kreditanstalt für Wiederaufbau (KfW) is the public body and assumes most of the risk, but not all.

With such an approach, a bank effectively swaps a loan on which it bears all the risk for one with limited exposure. Such a loan swap from the bank to the public body frees up funds at the bank level, which allows extending new loans to other firms.

Note that for the scheme to work and truly strengthen the bank's balance sheet, a subsidy, most probably a substantial, is needed, i.e., effectively, there is a capital infusion by the government since the bank receives more than the distressed value of the loan. Keeping the monitoring incentives of the bank intact, may reduce the value loss on the loans.

Effectiveness: YES – Compared to the bad bank option, debt conversion leaves incentives more aligned, preserves the informational advantage of bank relationships, and entails a liquidity effect. However, compared to a bad bank it might have weaker collection incentives.

Feasibility: MEDIUM – A well working state-owned (development) bank, or a similarly established institution, is needed to carry out a temporary loan program. This might make this option feasible in some countries, like Germany, and more difficult in countries lacking a sophisticated state bank model.

Credibility of the policy: MEDIUM – Credibility depends not just on the effectiveness of a state bank model, but also on the political strength to deal with too-big-to-fail and moral hazard (see option 4).

Alignment of private players: YES – Incentives are largely right, and moral hazard contained. Still some concern about preserving national champions.

¹² An example at the EU-level is the European Bank for Reconstruction and Development (EBRD). At the national level, examples include the Banque Publique d'Investissement or Caisse des Dépôts in France, the Italian Cassa di Risparmio di Roma and the German Kreditanstalt für Wiederaufbau.

Structural impact at bank level: MEDIUM – The restructuring consequences of the scheme are there, but merely indirect, as its use by banks depends on the individual loans in their loan portfolio, and not on the overall profitability at the bank level. The risk of preserving national champions still exists.

Table 1: Overview - criteria-based assessment of selected options

	Option 0: Basic option	Option 1 Forbearance of bank regulation	Option 2 Re-capitalization via public money	Option 3 De-risking via asset sales	Option 4 Asset separation through an individual national bad bank model	Option 5 Asset separation through an EU-wide bad bank model	Option 6 Loss capping through debt restructuring/ conversion
Effectiveness	Green	Red	Green	Red	Green	Green	Green
Feasibility	Yellow/Red	Green	Yellow	Green	Yellow	Yellow/Red	Yellow
Credibility of the policy	Green	Red	Green	Red	Yellow	Green	Yellow
Alignment of private players	Green	Red	Yellow	Yellow	Green	Green	Green
Structural impact at bank level	Green	Red	Yellow	Green	Yellow	Green	Yellow

III. Conclusion

In this policy note, we have highlighted and assessed several policy options that aim at improving the resilience of European banks in light of the NPL problem that the pandemic poses. Since Europe has a large banking system and is heavily bank-reliant, safeguarding the viability of the European banking system is an acute concern. We postulate two objectives that the policy options should meet. First, the proposed action should safeguard the stability of the financial system. Second, it should ensure the essential role of the financial sector for the financing needs of society, including firms as well as households.

As a basic option (option 0) we emphasize the importance of private recapitalizations, if possible. For a listed bank, we could envision a seasoned equity offering. Such private sector initiative would be first best, though very demanding in current circumstances. Still, a privately recapitalized bank could take full control over its own destiny and have the right incentives for making business decisions and dealing with NPLs.

The other policy options range from forbearance, public recapitalization, asset sales/de-risking to asset separation (bad bank at national or EU level) and loan conversion by state banks. We have evaluated

each along a list of five criteria that should define the desired response: effectiveness, feasibility, credibility of policy, alignment with private incentives (mitigating moral hazard), and structural impact on the industry.

In addition to the recapitalization option, our assessment indicates that asset separation and loan conversion may be crucial for the viability of the European banking system, particularly in a severe Covid-19 scenario, as these options dominate the other three (forbearance, public re-capitalization and de-risking). Among the preferred options (bad bank at national or EU level and loan conversion), we point to the benefits that an EU-wide bad bank might bring (option 5). Such EU-wide bad bank, collecting NPLs from across the single market, could potentially operate more efficiently and should be less prone to non-technical interference than national vehicles. Also, the banks involved might be exposed to greater pressure to restructure from a European body.

On the downside, a EU-bad bank loses some or all of the informational advantages embedded in the long-term bank-firm relationships, as the loans are transferred operationally to the bad bank. This loss of information can be avoided in a debt conversion scheme (option 6), and possibly also in a national bad bank (option 4).

When it comes to feasibility, the national bad bank and/or debt conversion options might have a benefit, but have a disadvantage if it comes to the credibility of the policy. National authorities might still find themselves exposed to heavy lobbying, getting “captured” by domestic banks. In both cases, equity infusions are needed to cover the losses on transferred assets and the assumed risks in the debt conversion, respectively.

In this assessment, we have taken no stance on whether an infusion of public money is easy to accomplish at the national or at the European level (this would affect the ‘feasibility’ rating). We also have not attached a value to the risk transfer to the European level with the pan-European bad bank. It could improve risk diversification (this would affect the ‘effectiveness’ rating). But, for sure, it would come with a debate about mutualization of debt. The NextGeneration EU Fund has shown that such an effort is not beyond reach, though it has its substantial limits.

To conclude, we emphasize the importance of preparing a measured response for the expected NPL-surge. We have assessed several policy options that aim at improving the resilience of European banks. Although we do not make a specific recommendation, we provide a framework for policymakers to guide them in their decision making.

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