

Cash outflows in crisis scenarios

Do liquidity requirements and reporting obligations give the Single Resolution Fund sufficient time to react?

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Abstract

The large majority of the more than € 2.5 trillion of public and monetary support that euro area banks received between 2008 and 2016 was liquidity support. Liquidity has nevertheless been inadequately addressed in the legislative overhaul following the global financial crisis. This paper focuses on liquidity in resolution, the moment when the need for liquidity is most acute. Based on an assessment of the liquidity needs as well as the role and size of the central bank facilities and Single Resolution Fund, it draws the conclusion that a back-stop for the resolution fund, prompter corrective action and better information exchange between the authorities involved appear to be required in order to improve the functioning of the resolution mechanism.

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EXECUTIVE SUMMARY

The failure of several banks in Italy and Spain has proven that there are still some weaknesses in the single resolution mechanism. One of the main gaps that became apparent in the first resolution handled by the Single Resolution Board (SRB) is that liquidity in resolution is currently inadequately addressed. Despite the liquidity requirements of the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR), Spain's Banco Popular had insufficient liquidity at the moment resolution was triggered. In addition, for the bank being resolved, there is also a need for liquidity to use some of the resolution tools, especially the asset separation and bridge institution tools.

Currently, there are two main options for liquidity provisioning at the moment that market liquidity dries up – central bank liquidity and the resolution fund, but both have some clear limitations. The central bank instruments and facilities require resolved banks to have unencumbered assets that can be pledged as collateral for central bank liquidity and are only accessible for banks that are solvent. This constitutes an important limitation for the usage of central bank liquidity in resolution. Indeed, the failing bank cannot always provide the collateral required and regain solvency after resolution is triggered. Moreover, national central banks are not obliged to provide the funds to the banks under emergency liquidity assistance (ELA), which is the most flexible form of central bank liquidity with wider collateral requirements. Central bank liquidity is therefore only anticipated in the resolution planning where standard measures are concerned: main refinancing operations (MRO) and the marginal lending facility (MLF).

The Single Resolution Fund (SRF) has become the *de facto* lender of last resort under the resolution mechanism, but the SRF does not have the means to act as such. After the transition period up to 2023, the SRF will have about €76 billion in total funds (ex-ante and ex-post contributions) available for liquidity, capital and offsetting legal claims in resolution. This is substantially less than the roughly €100 billion that some individual large banks required during the global financial crisis and just a fraction of the total of about €1,100 billion in liquidity support that was injected in the financial system. The limited funds available might withhold or make it impossible for the SRB to act promptly and use the resolution tools appropriately, which might unnecessarily aggravate losses in resolution and produce negative spill over effects on the rest of the financial system and wider economy. The additional funds required might be raised via an increase of the target size of the fund, but there is no absolute need to raise these additional funds from banks since the liquidity support should be repaid. In order to ensure this, the liquidity support should be collateralised, receive a super senior creditor status and there should be a clear exit strategy from the start. The firepower of the SRF for liquidity purposes could be increased substantially with a credit facility provided by the European Stability Mechanism (ESM). Although the ESM does not have the unlimited capacity of independent central banks, it is, as the fiscal backstop for euro area countries, the most logical candidate to serve additionally as backstop for the SRF.

Since the backstop at euro area level is unlikely to be unlimited, the introduction of the credit facility should be accompanied with measures to reduce the liquidity required for banks in resolution. The authorities should intervene more promptly, which requires an improvement of the information exchange between national central banks, the European Central Bank (ECB), including the Single Supervisory Mechanism (SSM), and the SRB. Moreover, the structure could be simplified by moving the responsibility for ELA from the national central banks to the ECB. Moreover, the plans outlining the path to viability of the bank that is being resolved will have to be communicated promptly to regain confidence of market participants in the bank.

1 INTRODUCTION

The global financial crisis and the subsequent euro area debt crisis have triggered many bank failures. In order to avoid destabilisation of the financial system and the broader economy, national governments and central banks combined injected roughly €2.5 trillion into the financial systems. This support took various forms in order to improve either the capital position, liquidity position, or a combination of both. The large majority of the support, however, consisted of loans and guarantees to strengthen the liquidity position of the banks (approximately 80% of total support).

In the legislative overhaul in the aftermath of the crisis, the primary focus has been on addressing capital shortfalls. Indeed, on the one hand the probability of default has been reduced by strengthening capital requirements¹, while on the other hand the loss in case of default for the governments concerned has been reduced with the introduction of the resolution framework. The latter reduces the losses with several resolution tools, such as bail-in and sale of business, as well as the fact that the resolution funds can contribute to a recapitalisation.

Meanwhile, liquidity has received less attention in the legislative overhaul. The capital regulation was complemented with two liquidity ratios. First, the LCR to ensure that banks have sufficient high-quality liquid assets to cover at least 30 days of outflows in situations of acute stress (BCBS, 2013). Second, the NSFR to ensure that the amount of available stable funding is more than the required stable funding, considering capital and liabilities with an expected time horizon of more than one year as stable (BCBS, 2014). These new liquidity requirements should primarily avoid unexpected liquidity shortages at banks and an overreliance on short-term funding. In the resolution framework, the resolution funds can also provide liquidity to the resolved bank.

The limited attention to liquidity is understandable to some extent. Traditionally, pure liquidity problems are considered a concern for central banks, acting as lender of last resort. Moreover, liquidity shortfalls are often considered closely related to capital shortfalls, so addressing solvency issues should lead to less need to be concerned about liquidity. Discussion on whether capital shortfalls have been adequately addressed goes beyond the scope of this paper, but, especially in periods of severe stress, there can be uncertainty about the value of assets or viability of the business model of the bank. This can bring the perceived or anticipated value of the bank below regulatory capital requirements. The perceived value of the bank is thus not necessarily equal to the book or intrinsic value of the bank. In fact, during the financial and economic crisis there have been numerous financial assets, including government bonds of countries like Italy, Spain and others that lost value in the midst the crisis, but recovered fully afterwards. In particular, in stress situations, banks may experience problems in attracting new funds or selling assets at sufficiently high prices to reduce their liquidity needs, whereas they officially still comply with the regulatory requirements.

Although liquidity should be less of a concern than during the global financial and euro area debt crises, failing banks are expected to experience liquidity problems sooner or later. Liquidity risk is inherent to the maturity transformation of banks. Banks in general take on liquid liabilities such as deposits that they use to fund illiquid assets such as long-term loans. This inherent maturity mismatch

¹ The capital requirements have been increased with various buffers and the quality has been strengthened. Moreover, the risk-weighted capital ratio has been complemented with an unweighted leverage ratio.

means that banks are prone to market and funding risk. On the one hand, banks are exposed to market risks when they sell assets to obtain funds, i.e. they may not be able to obtain the book value. On the other hand, banks are sensitive to funding risks when they access liquid funds, i.e. they cannot obtain funding or only at a high cost (De Haan & Van den End, 2013).

This paper focuses on the liquidity needs of banks in resolution, when the liquidity needs are supposedly the largest. The data required to perform a comprehensive empirical assessment of the liquidity position of distressed euro area banks is not publicly available. The analysis in this report is therefore based primarily on the legislation in place, experiences with recent resolution cases as well as secondary literature on the liquidity needs of distressed banks in the euro area and other areas of the world. In this context, experiences in the US are maybe the most interesting, with the Federal Deposit Insurance Corporation (FDIC) having undertaken bank resolution on a recurring basis.

Section 2 of the paper examines situations in which liquidity is required for banks in resolution, followed by a discussion of the two facilities for liquidity support currently in place. Section 3 assesses the possibilities and limitations of the usage of central bank facilities and especially emergency liquidity assistance in resolution. In section 4, the potential role of the SRF is analysed in a similar manner. The fifth and final section offers conclusions and provides some policy recommendations to reduce the needs for liquidity support and close the gaps left by the existing liquidity facilities.

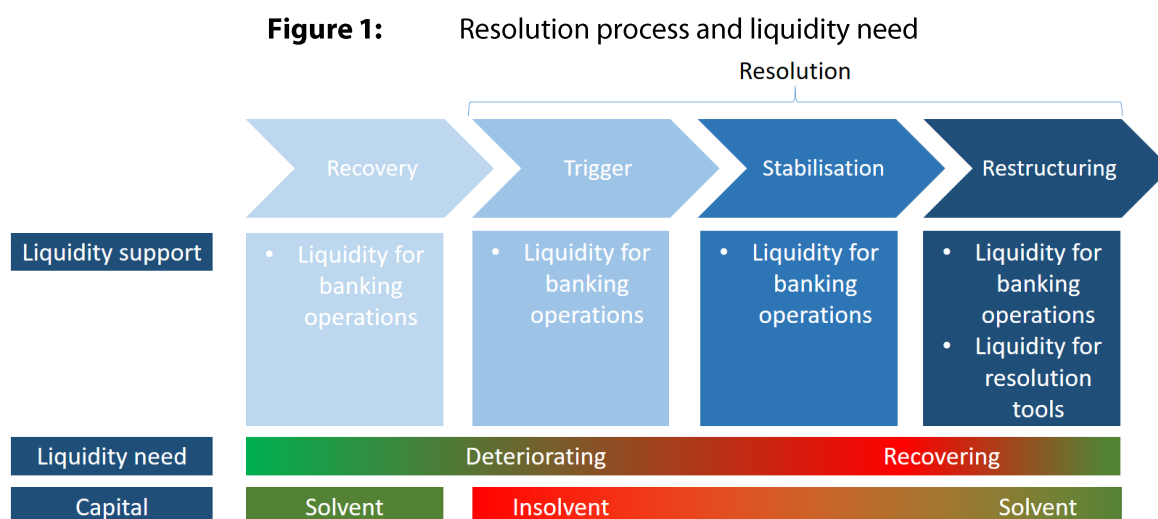
2 LIQUIDITY NEEDS IN BANK RESOLUTION

In a bank resolution, liquidity support can be necessary for both the entity that will continue undertaking the banking activities as well as for the resolution tools.

2.1 Resolved banks

As mentioned, capital shortfalls are often the root cause of liquidity shortfalls. Indeed, at the moment that the bank has insufficient capital or at least among other market parties there is uncertainty about the ability of the bank to repay its creditors, most third parties will not be inclined to provide funding or only under very unattractive conditions (e.g. collateral requirements, interest rates).

There might be some exceptions, due to moral hazard. More specifically, research on FDIC-insured banks in the US found that in the days leading up to the failure of a bank, many accounts benefiting from deposit insurance are opened to take advantage, without any risk, of the higher interest rate that these banks often pay (Martin et al, 2017). In the US, these accounts were often opened via internet from destinations across the country, i.e. outside the bank's original operating area. Opening deposit accounts across borders in the euro area is currently not that straightforward, so this phenomenon is less likely. However, it might become more important within a couple of years owing to the increasing digitalisation of banking services (European Commission, 2016).



Source: Author's elaboration based on Huertas (2016)

Liquidity requirements are intended to avoid banks experiencing acute funding problems when they lose market access. The LCR should ensure that banks hold at least high-quality liquid assets to cover the expected outflows in the upcoming 30 days. US research has shown that the assumptions regarding the outflow of deposits under the LCR were in line with historic outflows in situations of acute stress (Martin et al, 2017). This still needs to be confirmed for euro area banks, for which the required data is not publicly available currently. In practice, most banks should even hold more than a 30-day margin in stress situations. De Haan and Van den End (2013) found, based on a sample of 62 Dutch banks that were subject to similar liquidity requirements as the LCR, that banks maintain a buffer of liquid assets on top of the legal requirement, with especially smaller and foreign-owned banks

holding higher buffers. These smaller banks are in general, however, less systemic and therefore also less likely to be resolved. Moreover, banks that are closer to default or have lower capital buffers are in general likely to hold higher liquidity buffers, though the difference with banks with higher capital buffers is less apparent in crisis times.

Despite the liquidity requirements, banks might still find themselves in resolution with less than 30 days or no liquidity buffers (see Figure 1).² The breaching of the LCR requirement does not have to coincide with the moment that banks are declared to be failing or likely to fail, which triggers resolution when it is deemed in the public interest and there are no reasonable private sector alternatives (De Groen, 2017a). In fact, particularly when the condition of a bank is slower to worsen and the recovery period lasts longer, it is likely that there is more time between the moment LCR are breached and when resolution is triggered. This also gives creditors more time to withdraw their funds, which is likely to result in larger outflows and a worse liquidity position in resolution.

Additional important factors that might affect outflows are the sophistication of creditors and their reliance on the accounts. More specifically, Martin et al. (2017) have found that in the US, more sophisticated deposit holders such as institutions, but also the holders of time-deposits are more likely to withdraw their funds from the bank than households and holders of direct deposits. Holders of current accounts are less likely to withdraw their funds than holders of savings accounts, while customers with a longer relation with the bank are less inclined to withdraw their deposits. There are no particular reasons to assume that the results for the euro area would be very different. In fact, based on the sensitivity analysis of interest rate risk that the ECB conducted in 2017 on 111 significant institutions, the results might be very similar for the euro area. According to the sensitivity analysis online accounts are most responsive, followed by time-deposits, wholesale deposits and savings/current accounts (ECB, 2017a).

Banks might thus experience liquidity shortages before entering resolution, which are not necessarily immediately resolved when the resolution is triggered. Market participants are unlikely to be immediately convinced about banks in resolution, which therefore might see its liquidity position further deteriorate before recovering. The time required before the confidence of the market in resolved banks is restored will differ across cases. Transparency about plans to make the bank viable again, as well as the carving out of bad assets, are among the measures that can contribute to a swift recovery of market confidence (De Groen, 2017b).

2.2 Resolution tools

Even when the banks themselves do not require liquidity in resolution, liquidity might be required for the use of the resolution tools. Table 1 provides an overview of the four tools the SRB can use in case of resolution.

The resolution tools can take many different forms and can be used on a stand-alone basis or in combination. Their overall impact on liquidity might therefore vary between individual cases,

² In particular, when the crisis lasts longer than 12 months, liquidity shortages might be aggravated since banks in general do not manage their liquidity position beyond one year (De Haan & Van den End, 2013; ECB, 2002).

depending on how they are applied. The general impact of resolution tools on the liquidity position is discussed below:

Sale of business: The resolution authority can decide to sell part of or entire failed banks to other entities. When the entire bank is sold, shareholders will reap the gains or, as is most likely in the large majority of the cases, incur the resultant losses. In cases where the entire bank is sold, the funding and capital are in principle a concern of the acquiring entity. However, at the moment that the bank is sold to another party in a distressed market the price is likely to be relatively low, which implies higher losses on shareholders and creditors than under most of the other tools. Higher losses also increase the risks of contagion effects on the rest of the financial system and the wider economy. Nevertheless, a bank under the wings of a strong institution might be able to return to viability and regain market access more swiftly.

When only a part of the activities of the bank are sold to another bank or investor, the acquirer is in principle responsible for the funding and capital, which is particularly important when the acquired part remains a bank. The implications in terms of liquidity support are thus fairly similar for the part sold.

The remaining parts of the bank can continue operating as a bank or be used to resolve some of the bad or legacy assets. In case of the latter, it is likely that the remaining entity will lose its banking license, either immediately or after a period of time. The resolved entity would in that case no longer need capital to comply with capital requirements, but only to cover the resulting losses. Moreover, the entity might require some temporary liquidity to avoid the need for fire sales, and the heavier losses that would result. The remainder of the resolved bank could be treated in a fairly similar manner as an asset management company (AMC) that is created with the asset separation tool.

In turn, the remainder of the resolved bank can also remain a bank, which means that it still requires capital and liquidity even if liquidity and capital requirements are likely to be reduced due to the deleveraging effect and proceeds from the sale.³ However, since the bank needs to be re-capitalised, more equity and debt securities will have to be written down or capital support from the resolution fund provided.

Bridge institution: The resolution authority can also decide to move good or bad assets to a new separate institution. This bridge institution tool has been used in most cases in the past to move good assets to a new viable bank (De Groen, 2017b). The bridge bank requires both capital and liquidity, whereas the remaining entity is likely to lose their banking license since it is no longer viable and potentially needs capital to cover losses and temporary liquidity to achieve an orderly resolution of assets. As losses should be covered by the creditors of the remaining institution, it would therefore resemble an AMC.

Asset separation: Another tool that can be used to resolve bad or legacy assets is to transfer them to an AMC. This non-banking entity will need liquidity to avoid additional losses and capital should be provided in the form of a fair transfer price. The losses are borne by the remaining bank. As for the

³ The bank will not have to take care of the liquidity of the sold assets and the capital position might improve even when the sales price is below book value. For this, the book loss on the sale needs to be below the capital contribution so long as the loss is below the capital contribution it makes to a strengthening of the capital position.

bridge institution and partial sale of business, using this tool requires less capital for the remaining bank as well as reducing the uncertainty around it. During the crisis, asset separation proved to be effective in reducing losses and contributed to financial stability. Liquidity was in most cases provided by national governments (Medina-Cas & Peresa, 2016).

Bail-in: The losses of the resolved banks are in principle passed on to its creditors. The bail-in tool is used to write down and convert equity and liability instruments, which contributes to an improvement in the capital position and reduces liquidity needs (lower interest payments and debt repayments). However, a bail-in might cause some contagion effects on the rest of the financial system and the wider economy.

Table 1: Expected effectiveness of resolution tools

| Resolution tool | Sale of business | Bridge institution | Asset separation | Bail-in |
|---|--|---|---|---|
| Description | Bank assets are sold to other bank or investor | Selected assets and liabilities are transferred to new bank | Legacy assets are transferred to asset management company | Writing down or conversion of equity/debt |
| Type of institution | Bank | Bank | Non-bank | Bank |
| Long-term viability | Improves | Improves | Improves | Improves |
| Economic and financial stability | Improves/ Deteriorates | Improves | Improves/ Deteriorates | Improves/ Deteriorates |
| Expected loss for shareholders and creditors | High | Low | Medium | Low |
| Capital required | Yes/No | Yes | Yes/No | No |
| Liquidity | Improves | Improves/ Deteriorates | Deteriorates | Improves |

Note: The table above is based on experiences with state aid cases in the past. The main assumptions for long-term viability are that the market value of the bad or legacy assets are and will remain below the economic and book value as well as that the transfer value in the case of an asset separation is taking place at the real economic value.

Source: Author's elaboration based on De Groen (2017b).

3 EMERGENCY LIQUIDITY ASSISTANCE AND OTHER CENTRAL BANK LIQUIDITY

The central bank is traditionally considered the lender of last resort for banks. It provides liquidity under the monetary policy framework as well as ELA, which banks can only use under certain conditions. This section focuses on the existing monetary policy operations of the Eurosystem and euro area national central banks (NCBs), to which all of the 135 banks under the remit of the SRB can have access. However, more than a quarter of the banks could potentially also have access to liquidity facilities of one or more central banks outside the euro area (De Groen, 2016).

3.1 Monetary policy framework

The ECB has repeatedly stressed that the provisioning of liquidity in resolution should not be taken as being automatic. More specifically, it insists resolution planning should consider contributions from shareholders, creditors, and governments instead of from the central bank. This is also in order to respect the independent position of the ECB and NCBs in relation to national governments and other institutions such as the SRB. Nevertheless, when a bank in resolution meets the conditions for central bank liquidity, it could obtain these funds (Mersch, 2018). The SRB acts in line with the statement of the ECB in the drafting of resolution plans for the banks under its remit. Resolution plans covering systemic and cross-border banks in the euro area include a section dedicated to liquidity and funding, which does not assume that non-standard central bank facilities such as ELA can be obtained. At the same time, the resolution plan contains an analysis of the potential for the use of regular central bank facilities and a description of the unencumbered assets that are eligible for these facilities (SRB, 2016).

Focusing on the monetary policy framework, the main objective of the Eurosystem remains ensuring price stability, for which it traditionally steers short-term interest rates close to its main policy rate. The interest rate targets are transmitted to the real economy via the banking system. This transmission occurs in principle through the MROs under which the Eurosystem provides short-term liquidity to the banking system, for which banks can bid once a week. The total amount of liquidity provided can be fixed or open to the demand from banks, depending on the tender procedure applied. The tenders are open to all solvent credit institutions in the euro area with adequate unencumbered assets to pledge as collateral. In addition, there is also the possibility for solvent banks that have sufficient eligible assets to obtain overnight liquidity under the MLF, for which a higher interest rate is charged.

The past has shown that the Eurosystem is ready to take additional measures in systemic crises to ensure smooth transmission of monetary policy. For example, during the global financial and euro area debt crisis, the Eurosystem launched more open tenders that allowed banks to obtain an unlimited amount of liquidity as well as taking some non-standard monetary policy measures. First, it issued tenders with a substantially longer maturity of one to four years under, respectively, the longer-term refinancing operations (LTRO) and targeted longer-term refinancing operations (TLTROs). Second, it started buying large amounts of assets under the asset purchases programme (APP) in response to prolonged low inflation. These non-standard measures on the one hand allowed banks to ensure their funding for a longer period and, on the other, to offload some of their assets and see some of the prices of their assets recover. It is likely that the Eurosystem will undertake similar measures if the euro area is again confronted with a systemic crisis.

3.2 Emergency liquidity assistance

The purpose of ELA is to provide temporary liquidity to solvent banks that are confronted with short-term liquidity problems with the objective of preserving financial stability.⁴ ELA is currently provided outside normal monetary measures by individual NCBs or a group of NCBs when banks are active in several Euro countries. These NCBs also bear the costs and risks concerned with ELA.

Whether banks are solvent is determined by the responsible supervisor, which is the ECB for the large majority of the banks under the remit of the SRB. Banks are considered solvent when they meet minimum capital requirements or at least there is a credible prospect of recapitalisation within 24 weeks. The latter is also important for banks in resolution, which in principle are insolvent when declared failing or likely to fail.

ELA is more flexible than standard monetary policy measures. It can provide overnight liquidity with national central banks defining the ways in which the operations are carried out and the assets they wish to take from the ELA recipient as collateral if the ELA operations take the form of a lending operation. Higher haircuts can be applied to ensure that the ELA can be repaid under all circumstances. The ELA is at least 1.00% more expensive than the MLF, which is in turn more expensive than MROs (currently 0.25%).

The intensity of the information NCBs are required to provide to the ECB depends on the amount of ELA involved. NCBs are in all cases obliged to inform the ECB of every ELA operation within two business days. They have at least to inform the ECB about the amount of ELA and the assets accepted as collateral, but also a solvency assessment and liquidity position according to the competent authority. If the ELA is expected to exceed €500 million, the ECB must be informed at the earliest possible time prior to the execution of the operation. If the envisaged ELA is expected to exceed €2,000 million, the Governing Council can, with a two-thirds majority, object to the execution of the operation when it interferes with the tasks and objectives of the Eurosystem.

Banks receiving ELA must provide a funding plan within two months after receiving the first liquidity and update this plan quarterly thereafter. Moreover, they must also provide information about their capital position (capital, leverage and liquidity) on a monthly basis (ECB, 2017b).

When a bank in receipt of ELA is declared insolvent, the ELA is likely in the first instance to be frozen. This means that the bank will be able to retain the same level of ELA as long as it has sufficient collateral.

3.3 Limitations

Looking more closely at monetary policy framework and ELA, there are some clear limitations for their use in resolution. In addition to the independence mentioned above that means that central banks cannot be ordered to provide liquidity in resolution, there are six important limitations.

First, central bank liquidity is only accessible to banks, which means that some of the non-bank entities that can be created via the resolution tools are unable to obtain liquidity directly from the central bank (Mersch, 2018). Notwithstanding liquidity that is channelled through from the resolved bank, asset management companies cannot obtain liquidity directly from central banks.

⁴ Short-term can in the context of ELA in some circumstances be interpreted quite broadly. For example, the ELA for some of the Greek banks lasted several years.

Second, central banks cannot provide liquidity to insolvent institutions. This would interfere with their policy that requires banks to be active in the monetary policy transmission mechanism to obtain liquidity. Moreover, central banks cannot directly or indirectly finance governments. Indeed, when banks receive ELA, central banks are not supposed to conduct a government task. Although central banks cannot finance insolvent banks in resolution or resolve banks, central banks can still be involved in the administration of resolution measures (Mersch, 2018).

Third, banks that are declared failing or likely to fail are in principle insolvent⁵. Monetary policy operations will therefore be frozen. In order to regain access to monetary policy measures the resolved bank or a bridge institution will have to be declared solvent by the competent authority. To be assessed as solvent, the bank needs to comply with capital requirements (capital and leverage) and have a sound business plan at the moment of resolution. The latter proved to be less than straightforward in the first resolution conducted by the SRB: it took several months before the business plan for Banco Popular was finalised. Meanwhile, the bank had to rely on liquidity and capital provided by Banco Santander, which had acquired it. Moreover, bridge institutions also have to comply with liquidity requirements.

Fourth, central banks can only provide liquidity when they are protected against the risk it might entail. This means in practice that banks should have sufficient collateral that can be easily obtained and swiftly liquidated. Government guarantees that were provided on some assets during the global financial crisis are only considered a solution for liquidity when they improve the credit quality of assets and can be readily sold against market price, i.e. risks for the NCBs are mitigated (Mersch, 2018).

Fifth, just possessing unencumbered assets is insufficient for banks that seek central bank funding. On the one hand, banks need to be able to present the required information on the unencumbered assets instantly and mobilise the assets when necessary. On the other, central banks need to be ready to assess the quality of the assets presented as collateral rapidly. Neither is currently always the case.

Sixth, ELA is currently a responsibility of NCBs, which can lead to a distortion of the level playing field. As decisions are taken case-by-case, judgments whether banks are eligible for ELA and what collateral requirements should apply might vary between NCBs and even between banks in the same country. For example, some NCBs might be more inclined to provide government-owned banks access to ELA than privately owned institutions.

Overall, the contribution of central bank facilities in resolution should not be considered self-evident. The main issues are the additional liquidity required after the resolution is triggered until the bank is considered solvent again, i.e. its recapitalisation plan is accepted. Moreover, monetary facilities are currently not appropriate for some of the resolution tools, i.e. asset separation and bridge banks.

⁵ In exceptional cases banks can fail due to lack of liquidity.

4 SINGLE RESOLUTION FUND

The SRF was established to provide the required funds in liquidity that cannot be obtained from shareholders and creditors. It has therefore become the new lender of last resort for resolved banks, but it does not have the virtually unlimited resources of central banks.

4.1 Mission

The SRF can be used for recapitalisation, liquidity support and compensation of shareholders and creditors that seek damages under the 'no creditor worse off' condition.⁶ The liquidity measures can be guarantees on the assets or liabilities of banks in resolution, but also for the resolution tools (asset separation and bridge institution). But the fund can also provide loans to the banks in resolution or to the resolution tools as well as to purchase certain assets of the bank in resolution.

4.2 Size

The SRF will ultimately have a size equal to 1% of covered deposits of euro area banks. According to estimates of the European Commission, this is equivalent to about €55 billion. The fund was established in 2016 and will reach this level, after a transition period, at the end of 2023, if it is not used before. In the meantime, all banks in the euro area need to pay an annual risk-adjusted premium to constitute the required funds. Besides the ex-ante contributions collected, the fund can require banks to contribute up to three times the 0.125% of covered deposits, which increases the potential size of the fund to €76 billion. During the transition, the funds available for a single bank are, however, restricted due to national compartments that are gradually being mutualised.

The own resources of the fund might be complemented by alternative funds (Zavvos and Kaltsouni, 2015). Table 2 shows an estimate of the total funds the SRF could potentially mobilise under the current legislation during the transition period⁷. In fact, the alternative funds could potentially double the firepower of the fund to €141 billion. It remains, however, questionable whether these funds can actually be attracted and used for resolution. Third parties are for instance unlikely to lend funds beyond the capacity of the fund to raise funds from the banks. Other resolution schemes in the EU, but outside the Banking Union, may not be particularly inclined to provide funds for the SRF, as they might want to have the funds at their disposal for a potential resolution in their home country. Moreover, the amount available may well drop substantially when the UK leaves the EU in 2019. The same might hold for contributions from national deposit guarantee schemes in the euro area. The establishment of a single or re-insurance scheme integrated in the SRF that pools the resources of the national deposit insurance funds at euro area level could potentially increase the size of the fund by a substantial degree (Gros, 2013). However, bank failures are often concentrated in time. Hence, at the moment, the funds of the single resolution scheme are needed, there is also a considerable chance of requests for funds to cover losses on insured deposits.

⁶ Article 76, 225 of 15.7.2014 (<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0806&from=EN>).

⁷ See De Groen & Gros (2015) for a discussion of the estimations.

Table 2: Estimated funds available for single resolution fund (€ billion, 2016-2023)

| Measures | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|----------------------|----------------------|----------------------|
| Ex-ante contributions | 11.7 | 17.9 | 24.1 | 30.3 | 36.4 | 42.6 | 48.8 | 55.0 |
| Ex-post contributions | 20.6 | 20.6 | 20.6 | 20.6 | 20.6 | 20.6 | 20.6 | 20.6 |
| Total SRF | 32.3 | 38.5 | 44.7 | 50.9 | 57 | 63.2 | 69.4 | 75.6 |
| Borrowing from third parties | 20.6 | 20.6 | 20.6 | 20.6 | 20.6 | 20.6 | 20.6 | 20.6 |
| Borrowing from other resolution schemes | 3.6 | 5.4 | 7.2 | 9.0 | 10.8 | 12.6 | 14.4 | 16.2 |
| Deposit Guarantee Schemes | 0.0-3.3 (12) | 0.0-4.4 (17) | 0.0-5.6 (22) | 0.0-6.8 (27) | 0.0-8.3 (32) | 0.0- 10.0 (36) | 0.0- 11.6 (40) | 0.0- 13.3 (44) |
| Total | 68.5 | 81.5 | 94.5 | 107.5 | 120.4 | 132.4 | 144.4 | 156.4 |

Note: The table shows the maximum amounts that could be available to the resolution fund in any giving year during the transition period. Due to the gradual mutualisation of the ex-ante funds available to the SRF, these funds will thus only be partially available for the resolution of a single bank. The range indicated for the deposit guarantee schemes is the amount expected to be available to the national DGS and the aggregate amounts are indicated between brackets. See De Groen & Gros (2015) for a more extensive discussion of the assumptions underlying the estimation.

Source: Author's calibrations based on De Groen & Gros (2015), BBVA (2014), JRC (2014) and Single Resolution Fund regulation (1093/2010/EC)⁸.

4.3 Liquidity needs

In its resolution plans, the SRB assesses the expected liquidity needs of banks. This is not straightforward since liquidity needs are strongly time-dependent. The liquidity needs of banks are likely to increase substantially around the time of the failure while collateral requirements are also likely to increase due to more severe haircuts. Estimations for liquidity needs are based on the preferred resolution strategy and assume adverse economic scenarios in estimating liquidity and funding needs in the short and medium terms. The SRB will make liquidity assessments on the basis of the recovery plans, LCR reports, NSFR reports and asset encumbrance reports as well as the sections in the resolution plan on strategic business and preferred resolution strategy. The liquidity estimations will not take into consideration potential public financial support or central bank liquidity provided under non-standard

⁸ OJ L 225 of 15.7.2014 (<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0806&from=EN>).

terms. Estimations of liquidity needs constitute the basis for the liquidity and funding plans included in the resolution plans.

The liquidity and funding plans assess not only the internal and external private liquidity sources available, but also public sources in cases where the private sources are insufficient. The liquidity and funding plans also address how banks can maintain or regain access to standard central bank facilities (MLF) as well as describing the assets that might qualify. The use of the resolution fund could be considered in this context. Around the time of a potential resolution, the bank needs to be able to provide resolution teams continuously with information about its short and medium term liquidity and funding position (SRB, 2017).

Based on publicly available information, it is very difficult to make reliable estimates of the maximum the SRF would in fact require for liquidity support. First, there is very limited public information available on the liquidity position of individual banks around the time of failure. In particular, there is no granular information on the liquidity position of failing euro area banks under the revised legislative framework. Second, the amount of liquidity required will largely depend on the moment at which resolution is triggered and market conditions at the time of the intervention. Third, the preferred resolution strategies, including the resolution tools that will be used, are not at present disclosed publicly. Fourth, several banks might fail around the same time, meaning information about the extent to which the failures might coincide (timing and repayment schedule) would be necessary.

However, experience during the global financial crisis and euro area debt crisis indicates that substantial amounts of liquidity support might be required. Euro area governments provided a maximum of almost €900 billion in guarantees, around €150 billion in impaired asset measures and a maximum of almost €70 billion of other liquidity measures in the period between 2008 and 2016 (European Commission, 2017). In fact, even some individual banks needed liquidity support in excess of the funds available to the SRF. For example, Dexia in Belgium and Hypo Real Estate in Germany received around €100 billion each in guarantees. These amounts, however, do not reflect the legislative changes (resolution mechanism, liquidity requirements, etc.) that occurred in the aftermath of the financial crisis and the global financial and euro area debt crises were exceptional in magnitude. Therefore, the liquidity support needed in a new crisis might well be less.

Overall though, based on past experience, the fund appears largely insufficient to address the liquidity needs of a large bank failure or a systemic crisis with multiple banks failing around the same time.

5 CONCLUSIONS AND RECOMMENDATIONS

Although undercapitalisation is the root-cause of most liquidity problems, stronger capital does not mean liquidity requirements are no longer a concern. In fact, when banks fail to meet liquidity requirements, this does not automatically trigger resolution. The competent authority can still provide banks some time to recover via deleveraging and use of central bank liquidity and private funds. This is not necessarily problematic so long as the NCB, ECB and SRB are continuously informed about the bank's liquidity position, allowing the SRB to make the necessary preparatory measures for when the bank might fail.⁹ The liquidity position is likely to deteriorate further and substantially around the time of resolution and this deterioration is likely to continue until there is no longer any uncertainty about the viability of the resolved bank among market participants.

Despite all the liquidity requirements, banks can therefore still experience liquidity shortfalls around the time of resolution as well as for the use of resolution tools. It will be difficult for banks in resolution to continue having access to central bank liquidity, even when they have sufficient unencumbered assets to pledge as collateral. At the moment when banks are declared failing or likely to fail they are deemed insolvent and lose access to all central bank liquidity. Resolved banks could potentially regain access fairly quickly once the competent authority begins to expect that it will be able to meet capital requirements within a period of up to six months. The latter requires that the resolution authority swiftly executes the resolution plan, which requires the post-resolution business plan to be prepared in resolution planning. This business plan should also be communicated to market participants in order to swiftly restore trust.

If there is insufficient eligible collateral available, the SRF could provide the additional liquidity needed or the bank could be sold. In this case, the acquirer would need to ensure the liquidity position. The main advantage of this is that there is no credit risk for the SRF, though there may be the disadvantage that losses for the creditors of the resolved banks might worsen and trigger contagion effects. The SRF might also need to step in when there is insufficient funding for two of the resolution tools, i.e. asset management companies and bridge institutions. The asset management company has, as a non-bank, no access to any central bank liquidity and the bridge institution requires a new banking license, which requires that it first meets capital requirements (capital, leverage and liquidity).

The introduction of the resolution mechanism has made the SRF the *de facto* new lender of last resort. However, it does not have the quasi-unlimited resources of a central bank. Currently there is insufficient information publicly available to make accurate estimates of the potential funds that the SRF would need to withstand a financial crisis involving the failure of multiple banks around the same time. Based on the experience of the global financial crisis, it is likely that substantially more liquidity will be needed than the approximately €76 billion that will be available after the transition period in 2023. Since the funds will be primarily used for liquidity purposes, there is no immediate need to increase the size of the fund with more prepaid funds. The SRF would require a large credit facility (backstop) instead. The ESM, in its role as fiscal backstop for euro area governments and with its lending capacity of €500 billion, would for example appear to be the most appropriate institution to provide this credit facility.

⁹ ELA is currently provided by national central banks, which potentially creates differences in treatment between banks and complicates the information in an acute stress situation. In order to level the playing-field and simplify communication, the provisioning of ELA could be centralised, as was also argued by ECB President Draghi (2018).

The idea of a credit facility is fairly similar to the system already in place in the US, where the FDIC is a combined deposit guarantee and resolution fund with a size equal to 2.0% of the designated reserve ratio and a credit line with the US Treasury of about \$100 billion (€81 billion) (Ellis, 2013). In order to ensure that liquidity support is repaid, assets should be pledged as collateral, the SRF should obtain a super senior creditor status and it should only be used for this purpose after all private sources have been exhausted. Moreover, there should be a clear exit strategy.

Measures should be taken in parallel to reduce the amount of liquidity required. Indeed, the ESM and the SRF combined have funds equal to only about half of the liquidity that was injected into the euro area financial system at the height of the crisis. The liquidity required in resolution can be reduced by earlier intervention of the competent authorities. This requires that more forward looking exercises are taken into account in the assessment of whether a bank is failing or likely to fail. Moreover, strengthening the SRF with a credit facility could also contribute to this, because it would reduce the dependence of the SRB on central banks and in particular on the ECB, which is a combination of both the monetary authority approving ELA and the supervisory authority. With less reliance on the central bank for liquidity, it might also become easier for the SRB to make the 'failing or likely to fail' call. For this, the information exchange between the ECB and SRB might have to be improved. The single market for financial services should also be improved – the research in the US indicates that their single market mitigates the outflow in times of severe distress.

Finally, there is a need for more granular and frequent data on both the liquidity and capital of failed banks before, during and after resolution. This reporting is vital for assessing and monitoring whether liquidity requirements and resolution provisions are working as intended. Moreover, it could also contribute to determining the size of the credit facility, preparation of the resolution plans and review of the calibration of liquidity ratios.

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