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IN-DEPTH ANALYSIS

Precautionary recapitalisations: time for a review

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Provided at the request of the
Economic and Monetary Affairs Committee

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with the Chair of the Single Resolution Board
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Abstract

With the introduction of the Bank Recovery and Resolution Directive (BRRD), public capital contributions to insolvent banks should have become a thing of the past or at least an extremely unlikely eventuality. The supposedly exceptional precautionary recapitalisation of Banca Monte dei Paschi (MPS) seems to offer evidence of the contrary. Based on a review of the empirical literature and the recent resolution of Banco Popular and MPS, this paper argues that a precautionary recapitalisation facility can be in the taxpayers' interest, but only under very specific circumstances and conditions. The current rules on precautionary recapitalisation and guidelines for the supervisory exercises used to determine the shortfall should therefore be revised. On the one hand, the current requirements are too flexible, leaving room for public capital injections into de facto insolvent banks, while on the other hand, the requirements imposed on the recapitalisation amounts are too rigid to allow the realisation of maximum economic returns.

This paper was requested by the European Parliament's Economic and Monetary Affairs Committee.

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LIST OF ABBREVIATIONS

AMC	Asset Management Company
BRRD	Bank Recovery and Resolution Directive
EBA	European Banking Authority
ECB	European Central Bank
ESM	European Stability Mechanism
EU	European Union
IAS	International Accounting Standards
IFRS	International Financial Reporting Standards
MPS	Banca Monte dei Paschi di Siena
MREL	Minimum Requirement for own funds and Eligible Liabilities
NAMA	National Asset Management Agency
NPL	Non-Performing Loan
SOE	State Owned Enterprise
SRB	Single Resolution Board
SRF	Single Resolution Fund
SSM	Single Supervisory Mechanism
TARP	Troubled Asset Relief Program

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EXECUTIVE SUMMARY

One of the main aims of the reform of the financial legislative framework in the aftermath of the financial crisis was to reduce the need to draw on taxpayers' money to support banks. With the precautionary recapitalisation facility, there nevertheless remains the means for explicit government support in the Bank Recovery and Resolution Directive (BRRD). This analysis contains a brief review of the precautionary recapitalisation facility and puts forward a proposal intended to make it more efficient and targeted, i.e. reducing the chance that taxpayers will have to absorb private losses, while ensuring that good borrowers can continue to have access to loans in periods of distress.

History has shown that undercapitalised banks or so-called zombie banks form a drag on the economy without recapitalisation. These banks, characterised in general by tight capital buffers, are for example likely to lend relatively more to bad borrowers, postponing the recognition of the losses on these loans. This may, in particular during times of distress, imply that good borrowers will not receive the funds they need, creating less jobs and economic growth than would otherwise be possible. Moreover, the economies in which these banks are active often require more time to recover from a crisis, during which time solvent zombie banks do not receive public capital support nor do they have access to reasonable private alternatives.

The precautionary recapitalisation facility should target these solvent 'zombie' banks. In turn, the insolvent banks should be resolved or liquidated when no private solutions are available. The main difficulty, however, is in determining whether a bank is actually solvent or not. The valuations of illiquid assets in particular vary depending on the type of valuation and conditions used. More specifically, in stress situations the variation between book and regulatory values on the one hand and economic and market values on the other can be large and lead to uncertainty about the solvency of the bank, potentially resulting in liquidity problems. Banks can be considered actually solvent when both the regulatory and economic value (adjusted for regulatory capital ratios) are above the minimum regulatory capital requirements.

The supervisory exercise to determine whether a bank is eligible for a precautionary recapitalisation should consist of least two elements. The first one, an asset quality review, should assess whether the bank is actually solvent based on the economic value. The second element, a stress test, should assess whether the bank is also solvent in the longer-term as a going concern as well as whether it has sufficient capital when economic and financial conditions worsen and to enable it to fund the optimal level of loans. Only when a bank experiences a shortfall in regulatory capital and when the conditions worsen would it qualify for precautionary recapitalisation. This proposed exercise is more extensive than most regular supervisory exercises and exceeds the requirements according to the implementation guidelines, but is largely comparable to the ECB's Comprehensive Assessment as conducted in November 2014.

The shortfall in regulatory capital retrieved from the supervisory exercise should be considered the absolute minimum recapitalisation amount. This is fundamentally different from the current approach formulated in the State aid guidelines and precautionary recapitalisation rules that stipulate the shortfall the maximum for the public recapitalisation, which often led to several rounds of recapitalisation in the aftermath of the financial crisis. Keeping the recapitalisation relatively low, however, makes it more likely that the uncertainty about the valuation will persist and the bank will thus continue to operate like a zombie, i.e. lending insufficient sums to the economy.

The solvent zombie banks should not automatically receive precautionary recapitalisation. There should, for instance, be no reasonable private alternative for both bank and borrowers and sufficient fiscal capacity, to limit market distortions and costs for taxpayers. The fiscal costs condition might become obsolete at the moment that a collective facility such as the European Stability Mechanism or Single Resolution Fund would provide the capital instead of the individual Member States.

1. INTRODUCTION

This paper was requested by the European Parliament under the supervision of its Economic Governance Support Unit.

During the 2007-09 global financial crisis and the subsequent 2010-12 eurozone debt crisis, EU Member States injected vast amounts of taxpayers' money to stabilise the financial system.¹ The bank recovery and resolution mechanism introduced after these crises should, inter alia, ensure that taxpayers' money is never again required to bail-out banks. With precautionary recapitalisation, however, there remains one explicit possibility for member states to use taxpayers' money to intervene in banks that are not in resolution.²

The precautionary recapitalisation can only be granted under certain conditions as laid out in point (d), paragraph 4, Article 32 of the Bank Recovery and Resolution Directive (BRRD),³ which is reproduced in Annex 1 of this paper. Three different options are made available for precautionary government support with state guarantees for central bank facilities and newly issued liabilities as well as capital support.

Five main conditions are set out in the BRRD for banks to qualify for precautionary recapitalisation: i) the institution is solvent; ii) the capital support is not used to offset losses that the institution has incurred or is likely to incur in the near future iii) the funds are of a precautionary and temporary nature; iv) they are intended to resolve a serious economic disturbance of a Member State and preserve financial stability; and v) are approved under the State aid framework.

The maximum of the capital support is defined by the shortfall identified in an exercise conducted by the ECB, EBA or national authority. The features of the exercises have been elaborated in EBA guidelines (see Annex 2). The main features that the stress test, asset quality review or other types of exercises as called for in these guidelines are rather general and leave quite some discretion to the supervisory authorities. Regarding the common methodology, for example, the only requirement is that it is clear and detailed. Although the guidelines are not binding per se, all the competent authorities in the EU, except for Slovakia, have indicated that they are in compliance.

This analysis reviews the precautionary recapitalisation facility primarily based on empirical literature and the most recent resolution and precautionary recapitalisation cases. In fact, the approval for precautionary recapitalisation of Italy's Monte dei Paschi di Siena (MPS)⁴ and resolution of Spain's Banco Popular in June 2017 are assessed in greater detail. It seems that two additional banks were also considered for precautionary recapitalisation – Banca Popolare di Vicenza and Veneto Banca – but in the end the SRB, which was responsible for the resolution planning of all four banks, decided they could be liquidated (FT, 2017; ECB, 2017, SRB, 2017).

The remainder of this study is organised as follows: the second section assesses the economic motivations for precautionary recapitalisation, followed by a description of specific situations in which precautionary recapitalisation could be of value in the third section. The fourth section reviews the main conditions that should be applied to precautionary recapitalisation, and the amount that

¹ In total almost €5 trillion (34% of 2015 EU GDP) in public support was approved in the context of the financial and economic crisis (2008-15), of which almost €2 trillion was used. The majority of the public funds approved and used consisted of liquidity support (i.e. guarantees and loans), while €21 billion of the approved and €466 billion of the used public support was for recapitalisations (European Commission, 2016).

² With the Direct Recapitalisation Instrument (DRI) of the European Stability Mechanism and the Government Financial Stability Tools (GFSTs) as defined in Article 56 of BRRD.

³ Article 32, OJ L 173 of 12.6.2014

(<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0059&from=en>).

⁴ As of today, in addition, two other banks have received approval for precautionary recapitalisation since the BRRD entered into force in January 2015 with Greece's Piraeus Bank (November 2015) and the National Bank of Greece (December 2015).

should be granted is discussed in the fifth section. The sixth and final section draws the main conclusions and policy recommendations.

2. MOTIVATION FOR PRECAUTIONARY RECAPITALISATION

Legislators introduced precautionary recapitalisation in BRRD as an extraordinary public support measure to safeguard financial stability, address systemic liquidity shortages and allow solvent banks to strengthen their capital position in distressed markets without triggering resolution (Mesnard et al., 2017). In this section, the economic rationale for a precautionary facility is discussed based on the existing empirical literature on bank capital and public interventions.

2.1 More efficient financial intermediation

Stronger capitalisation is likely to contribute to more efficient allocation of loans. In fact, banks that have limited or no capital buffers are likely to roll over loans to ‘bad’ borrowers to avoid larger losses instead of granting loans to existing or new ‘good’ borrowers, in order to appear more solvent and attract funding at lower rates. Postponing the recognition of losses, however, means that funds are allocated less efficiently, which reduces the welfare gains (Homar and Van Wijnbergen, 2014).

Bank size is one of the factors determining the change in lending policy during crises. Small banks with higher capital levels are lending more in both normal and crises times. In turn, the medium-sized and large banks with higher capital levels lent relatively less during normal times, but lent more during crises. Bank ownership is another factor that has an effect on lending policies. Government ownership contributes to higher loan growth, while foreign-owned banks reported relatively lower loan growth during the global financial crisis (Kořak et al., 2015). The quality of bank capital is also an important factor explaining loan growth. The regulatory core capital (Tier 1) delivered a positive contribution to loan growth in both normal as well as during the financial crisis, whereas weaker forms of capital (Tier 2) contributed to loan growth during normal times but not during the crisis (Kořak et al., 2015).

The inefficient allocation and contraction in loans of undercapitalised banks in practice means that some, in particular good, borrowers are likely to be unable to obtain the required loans after all. It is difficult, especially in times of crisis, to switch banks (Homar, 2016). Research on syndicated loans in the US around the time of the global financial crisis, for instance, shows that firms with a weak bank leading their syndicate were often unable to offset the loss in loans from the weak bank with loans from stronger banks or only against a higher interest rate (Chodorow-Reich, 2014). In general potential alternative banks do not have the same information about the creditworthiness of the borrower, which banks partially determine based on information obtained from the interactions during the banking relationship. Moreover, banks are in general more restrictive in their lending policies during times of crisis.

2.2 Swifter economic recovery

The public recapitalisations of banks seem to deliver a positive contribution to the economy. When the funds are channelled to under-capitalised banks, however, it could also contribute to inefficient allocation of funds. Most of the empirical evidence available documents the US experience, which shows that the Capital Purchase Program under the Troubled Asset Relief Program (TARP) in 2008 and 2009 increased the loan supply of bailed-out banks (Homar, 2017). Hence, banks that participated in TARP approved relatively more mortgage loans with lower loan-to-income ratios, but did not increase the number of mortgage loans approvals (Duchin and Sosyura, 2014). The commercial and industrial loans issued by large banks that received TARP decreased, whereas the average riskiness increased (Black and Hazelwood, 2012). In response, the businesses borrowing from these banks had to cut jobs. In general, however, more employment was created and bankruptcies of both a personal and business character were avoided due to the TARP injections (Berger and Roman, 2015).

In thinking along these lines, one could suggest that public capital support for banks might avoid triggering a vicious circle in which deteriorating economic conditions increase the loan losses and incentives for banks to lend less and vice versa (Fujii and Kawai, 2010).

International research also found that countries have a significantly higher chance of recovery when banks are bailed-out. Both severe and less severe crises tend to persist for a much shorter duration when banks are recapitalised, although recapitalisations are more common in severe crises (Homar and Van Wijnbergen, 2014). Interestingly, research on the US experience also suggests that banks with closer ties to politicians and regulatory bodies were more likely to receive the capital injections (Li, 2013).

Overall, the recapitalising of undercapitalised banks seems to contribute to more efficient allocation of funds and swifter economic recovery.

Box 1. Resolution of Banco Popular

In June 2017, Spanish Banco Popular became the first bank to be resolved under the responsibility of the SRB. The SRB asked a third party to make an assessment of the economic value of Banco Popular around the time of the resolution, which makes it an interesting example of how the value of a bank can be different at various points in time.

According to the latest available audited financial statements, the bank was still solvent at the end of 2016 (see Table 1). The book value of the listed shares was €1.1 billion. The regulatory capital (€7.8 billion) was already substantially lower due to various deductions, including intangible assets. Nevertheless, the bank was also still meeting the capital requirements, which would not be the case based on the market value of the bank, which, at €3.9 billion, was about €1 billion below the minimum regulatory capital and only about a third of the book value. These figures could be interpreted as a sign that the bank is potentially insolvent.

Table 1: Book, regulatory, market value of Banco Popular (€bn, end 2016)

Book – Total equity	11.1
Regulatory – CET1	7.8
Regulatory – Minimum*	4.9
Market – Stock exchange	3.9

Note: The minimum regulatory capital requirement is 7.61% CET1. This was the most binding capital requirement for Banco Popular (CET1, TIER1, Total Capital Ratio, Leverage ratio). The adjustment is to make it comparable to the regulatory capital and total equity. Source: Author's elaboration based on Banco Popular's annual report and Bolsa de Madrid.

By turning to the valuations around the time of the resolution, the differences become even more striking (see Table 2). The bank was put in resolution and was after conversion of subordinated debt sold to Banco Santander for just €1. Since the bank had not disclosed any new audited figures since the end of 2016, the equivalent book value was still €3 billion and the regulatory value of €9.8 billion. This means that the bank was officially still solvent based on the regulatory capital ratios, whereas, according to the estimations from a third party requested by the SRB, the economic value was close to zero or negative (between €0.0 and €6.2 billion after the bail-in of subordinated creditors). Indeed, there was a difference of about €9.2 billion between the book value and the value in the most pessimistic economic scenario.

Table 2: Regulatory, market and economic value of Banco Popular (€bn, June 2017)

Book – Equity and subordinated*	13.0
Regulatory – TCR*	9.8
Regulatory – Minimum**/**	6.0
Market – Santander	0.0
Economic – Baseline***	0.0
Economic – Adverse***	-6.2

*According to latest audited financial statement at end-2016.

**The minimum regulatory capital requirement is 9.25% total capital ratio (TCR) based on the latest published annual report and higher required capital conservation buffer. The adjustment is made to make it comparable to the market value of the shares that Banco Santander obtained.

***Adjusted for bail-in of subordinated debt holders.

Source: Author's elaboration based on Banco Popular's annual report and FROB (2017).

Even though Banco Santander only pays €1, it expects to need a much higher amount to make the bank viable again. Hence, Santander raised an extra €7 billion to strengthen the capital and take additional provisions for losses. The bank expects to make a return on investment of around 13-14% by 2020, which is well above the current market average. It primarily expects to make this return due to cost synergies (€0.5 billion a year by 2020) between its own operations and those of Banco Popular in Spain and Portugal (Santander, 2017).

3. SPECIFIC SITUATIONS FOR PRECAUTIONARY RECAPITALISATION

Taking into account that banks that are failing or likely to fail should be liquidated or resolved under the BRRD, precautionary recapitalisation should be reserved only for some solvent banks.

3.1 Zombie banks

Precautionary recapitalisation could be applied to solvent zombie banks. These banks are still in operation, but are not able to provide all the loans that are deemed worthy. More specifically, these are banks that meet the capital requirements based on the book value, and even adjusted for economic value, but would have insufficient buffers to withstand economic worsening and/or lend to good borrowers. This definition is in line with the definition used by Gandrud and Hallerberg (2017), but different than the definition used in most academic literature, which considers as zombie banks those banks with negative tangible capital or market value (e.g. Kroszner and Strahan, 1996). This and not the negative equity or regulatory capital has been used as the definition because banks that are under the current regulatory framework *de facto* already are unable to function when their capital falls below the minimum capital requirements. Breaching the regulatory capital requirements is a trigger for resolution, which after the reforms introduced in the aftermath of the crisis, is already likely to cause some exacerbated losses like in default.

The inefficient loan intermediation makes zombie banks a cost to society (Homar and Van Wijnbergen, 2014). In particular, the lending to distressed borrowers is continued because of regulatory forbearance (Homar, 2016), which puts a serious strain on economic growth.⁵ Recapitalisations of banks in general and zombie banks in particular make it more likely that they will also increase their lending.⁶

Zombie banks often suffer from relatively high non-performing loans, which affects their lending in three different ways: i) non-performing loans deliver less revenues to the bank and present higher loan losses than performing loans, lowering the profitability; ii) uncertainty about the value of the assets motivates investors to demand a higher return, increasing the funding costs; and iii) higher risk weights for non-performing loans reduce the freely available capital (Gaffeo and Maxxocchi, 2017).

3.2 Valuation of bank assets

Zombie banks are often the consequence of uncertainty about the value of the banks' asset. More specifically, the value of some assets is relatively difficult to determine and depends on the circumstances, which leads to variation between book, regulatory, economic and market value.

The differences between the various valuations can be substantial. The difference between the book and economic value in the adverse scenario for Spanish Banco Popular was, for instance, about €19.2 billion or about 13% of total assets (see also Box 1). The ongoing issues with non-performing loans in countries like Cyprus, Greece, Italy, Portugal and Slovenia are another recent example of a situation with large variations in values. In this specific case the market values of the loan portfolios, the largest portfolio for most banks, are below the economic and book values.

The difference between the book and economic values is also primarily due to accounting rules. Loans can be recorded at amortised costs (historic costs) or available for sale (market value) and securities as held to maturity and held for trading, respectively. In practise, most loans are currently recorded at amortised costs, which under IFRS IAS39 standards only recognises historical losses based on past events and current conditions. The loan losses in the financial statements of banks are therefore

⁵ See Caballero et al (2008) and Peek and Rosengren (2005).

⁶ See Calomiris et al. (2013) and Mariathasan and Merrouche (2012).

currently often understated. Bank supervisors also prefer the expected loss approach, which will be followed under the new IFRS9 standards and are already to some extent used for provisions.⁷

The difference between the market and economic value is primarily due to the higher rate of return required by investors (Ciavolillo et al., 2016). There is the classical asymmetric information and intertemporal pricing problem, with the sellers (banks), which have better information on the portfolio than the buyers (investors), and the lack of activity in the secondary market not providing a reference price (Enria, 2017). Aside from the higher uncertainty, investors demand a higher compensation from banks for the higher equity costs and the management fees that need to be paid up front. The latter is one of the other differences attributable to accounting practises. Banks incur the costs related to the management of distressed loans (legal fees, etc.) in the year that they are made, whereas the investors will account for these costs up front, i.e. at the moment that they acquire the loans (Ciavolillo et al., 2016).

The differences in values also motivates banks to postpone the recognition of losses or the sale of these assets that could deteriorate their capital position. Banks are in particular not inclined to unwind illiquid asset portfolios (Cornett et al., 2011). The lower market than book value means that banks will be confronted with additional losses at the moment they have to sell the non-performing loans (Gangeri et al., 2017). The losses are likely to be higher at the moment that there is a higher urgency to sell.

⁷ Specific provisions for identified losses and general provisions for expected losses.
PE 602.091

Box 2. Public funds for loss reduction tools

Direct recapitalisation might be an effective tool to ensure that banks continue lending to businesses with viable plans in crisis periods. It is not necessarily the most efficient approach to clean the balances of zombie banks. Recapitalisation provides the opportunity to address the legacy issues on balance sheets, which means that the large losses that are common in the case of fire sales are avoided. The legacy assets, however, will still require the attention of management and the recovery value might be relatively low. Carving-out and pooling of legacy assets in bridge banks or asset management companies (AMCs) could increase the recovery values and thus reduce the losses. When the expected losses are lower, the required capital for recapitalisation could be decreased or even become obsolete.

The creation of a bridge bank allows the bank to separate the management of the good and bad businesses. Either the good or bad assets of the bank are transferred to a different entity with a banking license. The latter gives the advantage of access to bank funding, such as deposits and central bank liquidity, while the main disadvantage is that the bridge bank needs to be capitalised. The required capital can be reduced when the good assets are transferred to the good bank and the old bank becomes an AMC instead. During the financial and economic crises, a bridge bank was used for about 15 of the 79 euro area banks that received capital support (De Groen, 2017).

The creation of AMCs could be attractive too. During the financial and economic crises, the assets of about 28 of the 79 euro area banks that received capital support were transferred to asset management companies to clean the bank balances (De Groen, 2017). For example the NPLs of banks were transferred to these kind of entities to be resolved. Experiences in countries such as Ireland (NAMA), Spain (Sareb) and Germany (FMS Wertmanagement) show that these asset management companies can contribute to the stabilisation of the banking sector and help reduce the losses (Medina-Cas and Peresa, 2016). Asset management companies can increase the recovery values of the NPLs with more specialised knowledge and exploiting scale-advantages. There are also some (potential) disadvantage, however. The AMC can, for instance, not be able to obtain bank funding, which might mean that the government has to provide guarantees or loans (De Groen, 2017). Moreover, AMCs do not have the same information and connections to the borrower (Ingves et al., 2004).

The recent ad-hoc proposal of EBA Chairperson Andrea Enria to create a single EU AMC to acquire a large share of the NPLs of banks in various EU member states with high NPL-levels against economic value would then, for example, no longer be necessary. The main difference, however, could be that not a single EU AMC would be created but various AMCs in the member states that provide the funding for these facilities.

Overall, the measures should increase capital levels, which is more effective than other types of support. Research suggests that liquidity support in the form of guarantees or loans is not significantly less effective than direct recapitalisations (Homar and Van Wijnbergen, 2014). Nevertheless, liquidity support can improve the chances of survival (Richardson and Troost, 2009).

4. CONDITIONS FOR PRECAUTIONARY RECAPITALISATION

Solvent zombie banks should receive precautionary recapitalisations on economic grounds only under certain conditions. Since the past has shown that bank recapitalisation can become very political, it is important to have very strict conditions and procedures in place to avoid situations in which the governments are forced to absorb private losses. The conditions discussed in this section are largely in line with the existing rules.

4.1 Long-term viability

Precautionary recapitalisation should not be used for banks that are or could be resolved using the resolution tools including bail-in to strengthen the capital position. This means that banks that are failing or likely to fail should be excluded from precautionary recapitalisation. In general, these are banks that are likely to be unable to meet the capital requirements at some point in time in the foreseeable future.

An exception could be made for banks where the breach of the capital requirements is temporary in nature. This is the case at the moment that the capital ratios are falling below the capital requirement because of an increase in the minimum requirements and buffers. This can also include the capital increases in response to supervisory exercises.

The long-term viability requirement is a combination of two conditions: i) the bank receiving precautionary recapitalisation must be solvent and ii) the injected capital should not be used to cover losses.

4.2 Recovery of capital

Precautionary recapitalisation as proposed in this paper aims primarily to ensure that systemically important solvent banks continue to provide loans to good borrowers in periods of distress. Afterwards the capital should be recovered, either through repayment by the bank or via the sale of the shares. Although a swift winding down of the state interventions is preferred in order to limit the market distortion, some patience might lead to better results in some situations,

In case of repayment of shares, the bank should have sufficient buffers to sustain lending afterwards. For the sale of shares, in particular, market conditions play an important role. It takes often quite some time for the share price of the bank to recover, in particular during the distress period.

The government should receive the principle amount of the capital injection, plus remuneration for the use of taxpayers' money. This should at least cover the costs related to the intervention, funding costs as well as an appropriate risk premium.

This condition is comparable to the temporary nature and coverage of losses that is currently in the legislation and State aid practises. Nevertheless, the restructuring plans that also indicate the exit strategy for the government are formulated at the moment that the support is provided. Although DG Competition has granted extensions for the sale of shares in banks, it might still push governments to sell against lower prices in poor market conditions.

4.3 No private alternative

There should also not be a reasonable market alternative available. In the first instance, banks should try to strengthen their capital by internally converting debt or raising it externally. The possibility to convert debt at higher regulatory capital levels has historically been limited. It remains to be seen

whether this will change with the debt instruments that are issued to fulfil the bail-in enable funds requirements (MREL).

It is often difficult to raise external capital when crises erupt. The experiences during the crises and the recent NPL problems show that there is often large uncertainty in these situations about the value of bank assets, resulting in large differences in the price that banks ask and investors bid. Investors, for instance, are demanding very high returns on the Italian NPLs (Ciavoliello et al., 2016). These high returns need to be paid by the banks, whose losses in turn are passed on to their staff, creditors and borrowers (Avgouleas and Goodhart, 2014). These wider implications for the markets and for society are that losses should be best minimised, avoiding fire sales.

Moreover, not all banks have direct access to capital markets (e.g. savings, cooperative and public banks) and the markets for some bank assets such as for NPLs are underdeveloped. These markets can be developed, but this will take time and even then banks are still motivated to postpone loss recognition and markets might dry up in cases of crisis situations.

This condition is comparable to the current State aid practises.

4.4 Systemic crisis

The risk of a credit crunch is more apparent during times of crisis. In normal times, the reduction in the lending of one bank should be mitigated by the lending of other banks, and precautionary recapitalisation would not be necessary. This means that the market share as well as lending policies of the other banks active in a market should be used to assess the likely lending conditions with and without precautionary recapitalisation.

This goes beyond the current practises. In the current decisions of DG Competition the focus is understandably on the position of the bank that receives State aid and limited attention is paid to the banks that could take over the position of the distressed bank in the market. Large banks with higher Tier 1 capital ratios, for example, lent on average more during the global financial crisis when their competitors had a weak capital position (Kořak et al., 2015).

Precautionary recapitalisation should also be limited to exceptional situations in which the competitors are unlikely to take over the lending of the zombie bank. These limitations are intended to reduce moral hazard, fiscal costs and distortion of the competition.

Higher capital levels make it more likely that a bank survives the crisis and allow it to increase the market share (Berger and Bouwman, 2013). Public recapitalisation of solvent zombie banks should not lead to the crowding out of other healthy banks (Claessens, 2009). Moreover, there is plenty of evidence that banks increase risk-taking when receiving government support, i.e. creating moral hazard.⁸ Government support that causes the moral hazard consists of capital, but also the existence of a deposit insurance scheme increases the risk-taking (Hovakimian and Kane, 2000).

This condition is more specific than the general condition in BRRD that the capital can only be provided in case of a serious economic disturbance and to preserve financial stability.

4.5 Fiscal implications

Turning now to the impact on the fiscal position of the member state concerned, the recapitalisation of banks will at least in the short-run deteriorate the financial position of the government that provides the funds. The global financial and subsequent eurozone economic crises showed that both

⁸ See Carletti (2008) and Gropp et al. (2010).

governments and banks can get into a fatal embrace in which they can drag each other down due to (implicit) cross-exposures.

Governments that provide the funds incur pressure on their financial position due to the capital and liquidity that they supply to banks, which in turn suffer losses due to the deterioration of the value of government bonds and economic downturn (De Groen, 2015). Although the chances of getting trapped in a doom-loop, such as Greece experienced during the past crises, have been reduced with a lower likelihood that the measure will cover losses, the fiscal capacity of the national governments is still limited, particularly in times of systemic crisis. The fiscal costs of bail-outs are in general high (Honohan and Klingebiel, 2003).

The precautionary recapitalisation by national governments should therefore also take their fiscal position into account (e.g. debt sustainability and funding costs). This condition is not included in the rules or guidelines but it is implicit, since the member state needs to provide the capital.

4.6 Level playing field

Somewhat related to the fiscal implications is the importance of maintaining a level playing field. The precautionary recapitalisation is currently granted at member state level, which means that the banks depend on the fiscal and political situation of their government for a recapitalisation. This might create inequalities between banks in a similar situation that would receive capital support in one member state and not in the other.

Aside from the harm it inflicts on the functioning of the EU single market, which is at the heart of the EU state aid rules, it is not unlikely that this means that the banks in the member states that would benefit the most from precautionary recapitalisations are not receiving them because of a peculiar fiscal position of the government.

Given the positive contribution that precautionary recapitalisation can have on economic recovery, one could consider borrowing from available common funds such as the bank-funded Single Resolution Fund (SRF) and the government-funded European Stability Mechanism (ESM). When doing so, one should take into account that the normal use of these funds might be correlated or linked with the need for precautionary recapitalisations. The size of these funds in such cases might no longer be sufficient.

4.7 Restructuring

The banks might start taking more risk at the moment they know that they will be bailed-out under certain circumstances. Precautionary recapitalisation should therefore also be somewhat punitive for the banks and their management to reduce this risk of moral hazard. This punitive character is to a large extent safeguarded by making the precautionary recapitalisation subject to the State aid requirements, which already include burden-sharing, avoiding distortion of competition and making the bank viable in the longer-term.

requirements when accounting for the differences with economic value. When the bank fails this review or would not be able to fulfil the capital requirements taking the impact of the exercise into account, it should be liquidated or resolved under the standard resolution provisions, when there are no private alternatives.

Second element. A stress test would need to be conducted with two scenarios: a baseline scenario indicating the impact of expected economic and financial developments on the regulatory requirements and an adverse scenario estimating the impact of worsening of the economic and financial conditions on regulatory capital. If the bank fails based on the baseline scenario, it would have to attract private funds or otherwise be liquidated or resolved. But if the bank fails on the adverse scenario it could qualify for precautionary recapitalisation.

5.1.2 Balance sheet assumptions

In EU- or euro area-wide stress tests, supervisors in general assume static balance sheets, i.e. the exposures of the bank remain the same for the duration of the exercise. In some cases, however, supervisors have made an exception for banks that were in the midst of a restructuring after a public recapitalisation and deleveraging was foreseen. This static balance sheet assumption means that the bank is assumed to keep the total size and composition of the loan portfolio unchanged, whereas the economy might demand more or different capital intense lending.

In order to take these demands into account the adverse scenario should be complemented with a dynamic balance sheet element in which the capital impact of lending at an estimated optimal level for the bank is assumed.

The banks that would pass under the static balance sheet assumption but fail under the dynamic balance sheet assumption could also qualify for precautionary recapitalisation.

5.2 Determining the recapitalisation amount

A key objective in the 2013 Banking Communication that sets out the conditions for State aid is to minimise the aid. This in practice often means that the capital injection is held to the minimum necessary to meet the solvency requirements in the short to medium run, but provides limited to no room to absorb setbacks occurring beyond the not immediately expected but at the same time not impossible adverse scenario. Indeed, for precautionary recapitalisation the shortfall calculated in the supervisory test forms the maximum amount of recapitalisation. This ‘minimal’ approach to the capitalisation amount was also apparent during the financial and economic crises in which many banks were bailed-out multiple times. In fact, almost half of the 72 bailed-out banks in the euro area received several capital injections between 2007-14 (De Groen and Gros, 2015).

Let us look again at the supervisory exercises used to determine the shortfall. Both the baseline and adverse scenarios in the stress tests have a heavy weight in the decision concerning public support. Hence, the baseline is used to determine whether a bank is solvent and the adverse scenario whether it is potentially eligible for precautionary recapitalisation. The outcomes of both scenarios depend primarily on the assumptions regarding economic and financial developments. Since the assumptions are related to developments in the future, it is not impossible that the actual losses are higher than foreseen in the scenarios. This risk can be reduced using more pessimistic scenarios, formalising and standardising the procedures to obtain outcomes within a certain confidence interval and building some margin in the recapitalisation. In particular the latter seems to be effective in reviving zombie banks.

Keeping the capital injection relatively low is understandable in light of the immediate fiscal costs, but it is questionable when also the indirect economic as well as fiscal consequences are considered.

Research on Japanese banks, for example, has shown that banks with a too low recapitalisations are more likely to extend loans to bad borrowers, whereas properly capitalised banks are likely to increase lending to good borrowers (Giannetti and Simonov, 2013). The Polish restructuring in the 1990s is an interesting example as well, with banks being properly recapitalised and encouraged to support the restructuring of the poorly performing state-owned enterprises (SOEs). The revenues from the sale of both the recapitalised banks and restructured SOEs were significantly higher than initially foreseen (Van Wijnbergen, 1997).

Also the difference was striking in the EU during the 2007-09 financial crisis. The banks that received a large capitalisation increased their loan portfolio, whereas there was contraction in the loan books of banks that received small recapitalisations. The size of the recapitalisation seems not to have had a significant impact on the impairments, but banks that receive small recapitalisations tend to provision less for loan losses in the year after receiving the capital injection (Homar, 2016).

When a bank is eligible for precautionary recapitalisation, the amount of capital injected should thus be higher than the estimated shortfall. This is especially the case knowing that there is always some uncertainty about whether the adverse scenario is extreme enough.

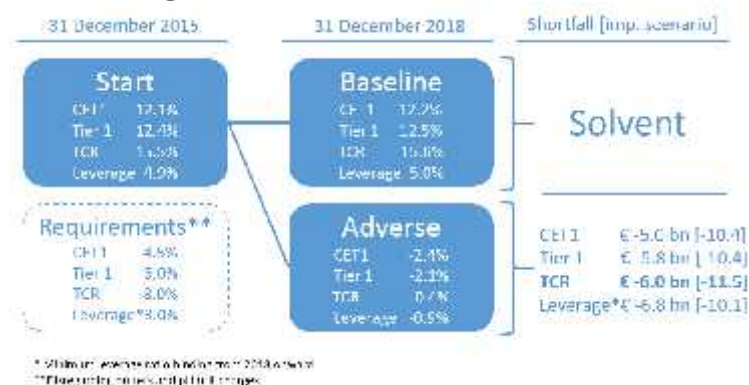
Box 3. Precautionary recapitalisation of MPS

Italian MPS is currently the only bank under the direct responsibility of the SSM/SRB for which precautionary recapitalisation has been approved. The EBA 2016 EU-wide stress test was used as the main validation for the bank’s solvency and recapitalisation amount.

“State aid in this context can only be granted as a precaution (to prepare for possible capital needs of a bank that would materialise if economic conditions were to worsen) and does not trigger resolution” (European Commission, 2017).

The results of the stress test contained two scenarios: the baseline scenario in which the economic and financial situation will develop as expected between 2015 and 2018 and the adverse scenario in which these conditions worsen during the same time period, according to the Commission statement. The results for the stress test suggest that the bank was solvent in the baseline scenario and had a shortfall in the adverse scenario (see Figure 2). The shortfall ranged between minus €5.0 and €6.8 billion, depending on which regulatory capital requirement is used.⁹

Figure 2: EBA stress test results MPS



Source: EBA (2016).

It is questionable, however, whether the economic circumstances indeed need to worsen for a scenario to materialise that is closer to the adverse scenario. An analysis of the results for the 51 banking groups included in the test revealed that *not* economic growth but primarily exposure to both non-performing loans (NPLs) and to governments and corporates seems the main explanatory factor for the impact of the adverse scenario. This finding signals that the adverse scenario primarily addresses risks that already exist (De Groen, 2016b).

Moreover, MPS also performed poorly in the previous supervisory exercises. In fact, it failed or nearly failed almost all EU-wide supervisory exercises undertaken in the aftermath of the crisis. But it managed to attract just sufficient capital, including two infusions of capital support from the Italian government (€3.9 bn), to bridge the shortfalls exposed in the exercises. The bank thus seems to be an example of a zombie bank that lived on the edge (De Groen, 2016a). The long drag of the problems in particular with MPS’ NPLs is a clear sign of regulatory forbearance (see section 3.2).

If a more pessimistic scenario or even the adverse scenario materialises, the precautionary capital might be used to cover previous losses, which means that the bank is *de facto* insolvent and the precautionary recapitalisation facility is misused to cover private losses.

⁹ There was no official threshold applied in this stress test, like was the case with a CET1 requirement above the regulatory requirements in most tests.

6. CONCLUSIONS AND POLICY RECOMMENDATIONS

Although the intention of the EU bank recovery and resolution framework is to minimise the direct fiscal costs, there is a sensible argument to make for a precautionary recapitalisation facility. The facility that is currently in the BRRD, has however insufficient safeguards to ensure that only banks for which it is in the public interest receive the capital and it is not used to cover private losses.

There is a category of banks that are solvent based on various criteria, but are not able to provide loans to good borrowers. These banks can, particularly in periods of distress, cause credit crunches, which are harmful to the economy and job creation.

These zombie banks are partially the result of differences in the valuation of bank assets, which to some extent depend on the conditions and regime. Indeed, a bank can be solvent based on book and regulatory values and have a shortfall based on economic and market values, as in the case of Banco Popular. The adaptation of the accounting standard that values loan losses based on expected instead of incurred losses, might reduce this valuation problem. But the incentive remains to reduce lending and postpone recognition of losses when a bank approaches the solvency levels.

The precautionary recapitalisation should not automatically be granted. Specific preconditions must be met: banks receiving public support should be long-term viable; the aid should be repaid; the banks should not have a private alternative; the aid should only be granted when borrowers have no good alternatives available; the intervening state can bear the fiscal implications; and the banks should be restructured. These conditions primarily aim at avoiding market distortions and minimising taxpayers' contributions as much as possible. Since most of the conditions are qualitative, they provide some room for interpretation. The current disclosure concerning the measures, compliance with the restructuring plans, capital interventions and repayment, however, are insufficient to allow a comprehensive assessment of the application of the preconditions to State aid. This paper recommends enhanced disclosure on State aid cases, particularly those related to recapitalisations in the financial sector.

The amount of precautionary recapitalisation will be determined based on supervisory exercises. The conditions for these exercises are currently quite open with various types of exercises and flexibility in the methodology that supervisors can apply. This should be tightened in order to reduce the likelihood that *de facto* insolvent banks receive precautionary recapitalisation, as seems to be the case for MPS. The exercise should to some extent mimic the comprehensive assessment performed by the ECB at the start of the SSM in November 2014, which included an asset quality review and a stress test to ensure the accuracy of the figures as well as the robustness of the banks. For precautionary recapitalisation the exercise should be extended with an element to account for the additional capital required to reach the optimal level of lending to the economy.

The shortfall resulting from the exercise described above should be the absolute minimum of capital injected, instead of the maximum of public capital support, as is currently the case. The State aid guidelines as well as the precautionary recapitalisation facility in BRRD seek to minimise the immediate fiscal costs, which is somewhat short-sighted. This minimum approach makes it more likely that the bank continues to operate like a zombie, i.e. lending insufficiently to the economy. Instead, the recapitalisation should be larger than strictly necessary to ensure that the bank does not feel the need for credit rationing or several rounds of recapitalisation, as in the aftermath of the financial crisis.

Individual member states provide the funds for precautionary recapitalisation of banks. This makes the banks reliant on the willingness and capacity of their home government to provide the precautionary funds. Aside from distorting the level playing field, it also might have as an unintended consequence that the member states that would benefit the most from the recapitalisations (distressed markets) are unable to provide the required funds because of fiscal limitations. In the euro area in

particular, where bank supervision and resolution are centralised, consideration should be given to allowing the use of, for instance, ESM or SRF funds for precautionary recapitalisation. Additional work might need to be undertaken to determine whether the (envisaged) size of the current funds would be sufficient.

Moreover, precautionary recapitalisation is focused on individual banks, but in times of crisis one could consider further decreasing the uncertainty surrounding the value of banks and the need for recapitalisation, by carving out distressed assets at system level (see also Box 2). More specifically, the resolution authorities currently only have the option to use the resolution tools in case of resolution, whereas these tools could also be helpful to clean up the balance sheet of one or multiple banks at an earlier stage. The pooling of distressed entities can increase the recovery values and reduces the uncertainty about the valuation of the banks' assets, limiting the amount of precautionary capital required. The usage of the resolution tools appropriate for loss reduction (i.e. asset separation and bridge bank facilities) would therefore also be worth exploring.

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ANNEX 1: ARTICLE 32 BRRD - CONDITIONS FOR RESOLUTION¹⁰

1. Member States shall ensure that resolution authorities shall take a resolution action in relation to an institution referred to in point (a) of Article 1(1) only if the resolution authority considers that all of the following conditions are met:
 - (a) **the determination that the institution is failing or is likely to fail has been made by the competent authority**, after consulting the resolution authority or,; subject to the conditions laid down in paragraph 2, by the resolution authority after consulting the competent authority;
 - (b) having regard to timing and other relevant circumstances, **there is no reasonable prospect that any alternative private sector measures**, including measures by an IPS, or supervisory action, including early intervention measures or the write down or conversion of relevant capital instruments in accordance with Article 59(2) taken in respect of the institution, would prevent the failure of the institution within a reasonable timeframe;
 - (c) a resolution action is necessary in the **public interest** pursuant to paragraph 5.
2. Member States may provide that, in addition to the competent authority, the determination that the institution is failing or likely to fail under point (a) of paragraph 1 **can be made by the resolution authority**, after consulting the competent authority, where resolution authorities under national law have the necessary tools for making such a determination including, in particular, adequate access to the relevant information. The competent authority shall provide the resolution authority with any relevant information that the latter requests in order to perform its assessment without delay
3. The previous adoption of an early intervention measure according to Article 27 is not a condition for taking a resolution action.
4. For the purposes of point (a) of paragraph 1, an institution shall be deemed to be failing or likely to fail in one or more of the following circumstances:
 - (a) the institution infringes or there are objective elements to support a determination that the institution **will, in the near future, infringe the requirements for continuing authorisation** in a way that would justify the withdrawal of the authorisation by the competent authority including but not limited to because the institution has incurred or is likely to incur losses that will deplete all or a significant amount of its own funds;
 - (b) the assets of the institution are or there are objective elements to support a determination that the **assets of the institution will, in the near future, be less than its liabilities**;
 - (c) the institution is or there are objective elements to support a determination that the institution will, in the near future, be **unable to pay its debts or other liabilities** as they fall due;
 - (d) **extraordinary public financial support** is required except when, in order to remedy a serious disturbance in the economy of a Member State and preserve financial stability, the extraordinary public financial support takes any of the following forms:
 - (i) a **State guarantee to back liquidity facilities** provided by central banks according to the central banks' conditions;
 - (ii) a **State guarantee of newly issued liabilities**; or
 - (iii) an **injection of own funds or purchase of capital instruments** at prices and on terms that do not confer an advantage upon the institution, where neither the circumstances referred to in point (a), (b) or (c) of this paragraph nor the

¹⁰ Article 32, OJ L 173 of 12.6.2014 (<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0059&from=en>).

circumstances referred to in Article 59(3) are present at the time the public support is granted.

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

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

EBA shall, by 3 January 2015, issue guidelines in accordance with Article 16 of Regulation (EU) No 1093/2010 on the type of tests, reviews or exercises referred to above which may lead to such support.

By 31 December 2015, the Commission shall review whether there is a continuing need for allowing the support measures under point (d)(iii) of the first subparagraph and the conditions that need to be met in the case of continuation and report thereon to the European Parliament and to the Council. If appropriate, that report shall be accompanied by a legislative proposal.

5. For the purposes of point (c) of paragraph 1 of this Article, a **resolution action shall be treated as in the public interest** if it is necessary for the achievement of and is proportionate to one or more of the resolution objectives referred to in Article 31 and winding up of the institution under normal insolvency proceedings would not meet those resolution objectives to the same extent.
6. EBA shall, by 3 July 2015, issue guidelines in accordance with Article 16 of Regulation (EU) No 1093/2010 to promote the convergence of supervisory and resolution practices regarding the interpretation of the different circumstances when an institution shall be considered to be failing or likely to fail.

ANNEX 2: EBA GUIDELINES ON THE TYPES OF TESTS, REVIEWS OR EXERCISES THAT MAY LEAD TO SUPPORT MEASURES UNDER ARTICLE 32(4)(D)(III) OF THE BANK RECOVERY AND RESOLUTION DIRECTIVE¹¹

Status of these guidelines

1. This document contains guidelines issued pursuant to Article 16 of Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC as subsequently amended by Regulation (EU) No 1022/2013 (the ‘EBA Regulation’). In accordance with Article 16(3) of the EBA Regulation, competent authorities, resolution authorities and financial institutions must make every effort to comply with these guidelines.
2. **Guidelines set out the EBA’s view of appropriate supervisory practices within the European System of Financial Supervision or of how Union law should be applied in a particular area.** The EBA therefore expects all competent authorities, resolution authorities and financial institutions to which guidelines are addressed to comply with guidelines. Competent authorities and resolution authorities to which guidelines apply should comply by incorporating them into their supervisory practices as appropriate (e.g. by amending their legal framework or their supervisory processes), including where guidelines are directed primarily at institutions.

Reporting requirements

3. In accordance with Article 16(3) of the EBA Regulation, competent authorities and resolution authorities must notify the EBA as to whether they comply or intend to comply with these guidelines, or otherwise provide reasons for non-compliance, by 01.12.2014. In the absence of any notification by this deadline, competent authorities and resolution authorities will be considered by the EBA to be non-compliant. Notifications should be sent by submitting the form provided in Section 5 to compliance@eba.europa.eu with the reference ‘EBA/GL/2014/09’. Notifications should be submitted by persons with appropriate authority to report compliance on behalf of their competent authorities and resolution authorities.
4. Notifications will be published on the EBA website, in line with Article 16(3).¹²

Subject matter

5. Pursuant to Article 32(4) of Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms¹ (‘Directive 2014/59/EU’), **these Guidelines specify the types of tests, reviews or exercises that may lead to capital shortfalls that may be eligible to be covered by public recapitalisation not triggering resolution referred to**, as an exception, in Article 32(4), letter (d), (iii) of the Directive 2014/59/EU — provided that all other conditions specified in that Article are met.

Definitions

6. For the purpose of these Guidelines, the following definitions apply:
 - a) ‘tests’ means **stress tests** that are tools, coordinated at the national, Single Supervisory Mechanism (‘SSM’) or Union level, designed to **assess the resilience of a group of institutions against hypothetical adverse market developments**.

¹¹ <https://www.eba.europa.eu/regulation-and-policy/recovery-and-resolution/guidelines-on-the-types-of-tests-reviews-or-exercises-that-may-lead-to-support-measures/-/regulatory-activity/press-release;jsessionid=78180B60E9BD21FC27AA5668FAA9163C>

¹² All EU member states except for Slovakia are currently in compliance with the guidelines. The Slovakian competent authority is currently partially compliant though estimates to become fully compliant by the end of 2017 when legislation is expected to be adopted. This according to the updated version (7 April 2017) of the compliance table.

b) ‘reviews’ means **asset quality reviews** consisting in assessments, coordinated at the national, SSM or Union level, of the **quality of the accounting or prudential framework applied by a group of institutions**, including an assessment of the risk management framework, loan classification, collateral valuation and loan origination and arrears management.

c) ‘**exercises**’ means **tests or reviews coordinated at Union level and conducted on a population of institutions over multiple jurisdictions**. The assessment carried out in these exercises is based on the consistency, transparency and comparability of the outcomes across institutions.

d) ‘competent authorities’ are authorities identified as competent authorities in Article 4(1)(a) and 4(1)(d) of the EBA Regulation.

Scope and level of application

7. These Guidelines are addressed to competent authorities to establish consistent, efficient and effective supervisory practices within the European System of Financial Supervision, and to ensure the common, uniform and consistent application of the third subparagraph of Article 32(4), letter (d) of Directive 2014/59/EU.
8. These Guidelines do not affect nor prejudice in any way the competent authorities’ obligation to verify on a continuous basis whether an institution is deemed failing or likely to fail pursuant to the remaining paragraphs of Article 32(4) of Directive 2014/59/EU.

Main features of a test or review

9. The main features of a test or a review should be a **timeline, a scope, a time horizon and reference date, a quality review process, a common methodology and, where relevant, a macro-economic scenario and hurdle rates, as well as a timeframe to address the shortfall**.
10. A test or review should have a **precise timeline, including a launch date and a deadline for the institutions** subject to the test or review to provide their results to the relevant competent authorities. It should also include a deadline for the communication (publication) of the results of the test or review by the relevant competent authority or the coordinator of the exercise. For exercises, the coordinator should be clearly identified and the coordination process with all the competent authorities and the institutions involved should be clearly defined and understood ahead of the performance of the test or review.
11. A test or review should have a **predefined scope. The sample of institutions subject to the test or review should be clearly defined. It should cover a material sample of institutions in terms of risks and assets**. An explanation of the macroeconomic and/or prudential reasons for determining the sample should also be provided. This explanation can be based on absolute or relative qualitative figures and support the materiality of the sample defined.
12. A test or review should have a **time horizon and/or reference date. A test or review should be carried out on the basis of financial statements and supervisory figures with reference to a predefined date**. The purpose of the time horizon is to establish the length of time over which the scenarios will be applied, i.e. over a specified number of years. The time horizon and the reference date for the test or review should be clearly identified in the test or review’s common methodology and should influence the timeframe required to implement measures. The time horizon and the timeframe required to implement measures may depend on the risk characteristics of the analysed exposures and on whether a test (dynamic and long-term perspective) or review (point in time and short-term approach) is conducted.
13. A test or review should have a **deadline for the competent authorities** to conduct their quality review process and assessment and to provide the results of the institutions concerned to the coordinator in an exercise. Banks’ figures, approaches and projections should be subject to thorough plausibility checks in the quality assurance analysis, including a comparison against relevant benchmarks. This may lead to requests for revisions to banks’ figures and projections in the context of the quality assurance process.

14. A test or review should be supported by a **clear and detailed common methodology. Tests should also be supported by one or more macro-economic scenarios.** The methodology, without necessarily being a pass/fail test approach, **should also include a range of hurdle rates or indicators that represent the quantitative references used to help assess the appropriate supervisory reaction function, including additional capital needs.** When the test or review is concluded, institutions should be positioned according to the hurdle(s) rate(s) defined in the test or review methodology. **This assessment may identify the need for institutions to fill a capital shortfall depending on different hurdle rates. When a capital shortfall is identified, competent authorities should request institutions to address this shortfall by private means.** Institutions should address this shortfall through private capital increases or other measures to be taken by the institution within a specific timeframe, which should be defined in the exercise or pursuant to the criteria indicated in the exercise.

These Guidelines should be implemented in national supervisory practices by competent authorities by 1st January 2015.



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