

## The ECB's QE: Time to break the doom loop between banks and their governments

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### Key points

Banks in the euro area still hold large amounts of debt of their own governments, creating the so-called 'doom loop' between banks and their governments. In the discussions on how to break this loop, most argue that the own-funds charge should also apply to eurozone government debt, while the application of the large-exposure requirement would be more effective for these exposures that combine a low probability of default with a large loss given default.

The large-exposure rule limits exposure to any one debtor to 25% of the bank's capital to ensure that the bank can survive the insolvency of its largest debtors. Simulations of the application of this rule to government debt for the 109 systemic and largest banks in the eurozone shows that this might lead to problems in the allocation of government debt held by these banks. We therefore propose instead that the maximum exposure to any one sovereign should be limited to 50% of own capital. In this case it would be possible to allocate most of the existing sovereign exposure among these banks without creating tensions in the sovereign debt market. On the other hand, banks will still be able to hold sufficient government debt to fulfil the other regulatory requirements and market demands.

### Recommendations

- A **large exposure requirement of 50% of own funds** should gradually be introduced to restrict the exposures to government debt of individual eurozone countries.
- The expansion of the ECB's asset purchase programme **between March 2015 and September 2016** could be a natural moment to start the **implementation** of the large-exposure requirement.
- During the transition, **intense monitoring** will be required to allow for prompt action in case unintended side-effects or collisions with other measures erupt.
- The large exposure requirement should be reviewed regularly after implementation to **ensure that the underlying assumptions still hold**.

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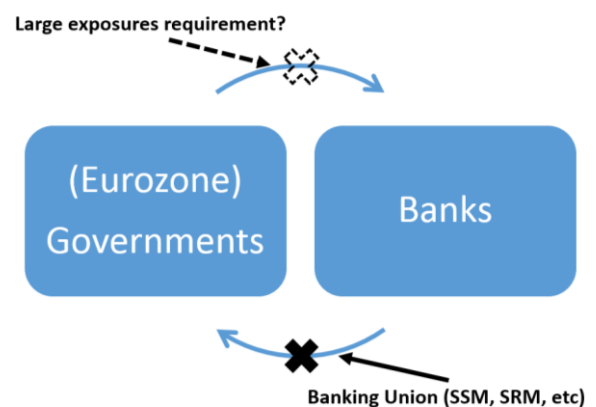
## Abstract

*The recent crises have shown that the eurozone countries' government debt is not immune to defaults. Applying a large-exposure requirement also to eurozone government debt would be a logical measure to help break the bank-government doom loop, given the low probability and high loss in the event of government default. But what would be the impact of a large-exposure requirement on the banking sector as well as on government funding? This Policy Brief performs a simulation exercise of the potential impact on 109 systemic eurozone banks, showing that their eurozone government debt portfolio would have to decrease by 3.2% or €63 billion if a 50% of own-funds cap would be applied on large exposures. The eurozone central banks' demand for sovereign bonds under the extended asset purchase programme further creates momentum to gradually start implementing the restriction.*

## Introduction

In the past couple of years important steps have been taken towards breaking the doom loop<sup>1</sup> between systemic banks and their governments (see Figure 1).<sup>2</sup> The impact of a sovereign default on the domestic banking sector, the other part of the doom-loop, have however not been addressed.<sup>3</sup> While the newly established European Stability Mechanism (ESM) responsible for more orderly restructuring in case of government distress reinforces the probability of write-downs on government debt by institutionalising burden-sharing with the private debtholders.

Figure 1. The doom loop between eurozone governments and banks and (possible) policy measures



Source: Author.

<sup>1</sup> Coined by the Bank of England in 2009, the expression 'doom loop' refers to the vicious cycle in which weak banks in Europe are dragging down their governments, while weak governments are dragging down their countries' banks.

<sup>2</sup> The global financial and consecutive eurozone economic crises have shown that there is still a strong relationship between banks and their domestic governments. On the one hand, governments had to support distressed systemic banks with capital and liquidity facilities; and on the other hand, banks suffered losses from fiscal pressures reducing the value of the government debt. The legislative overhaul in the aftermath of the crises is primarily intended to ensure that taxpayers' money will never again be required to bail-out banks. The new and amended legislation consists of a package that must reduce the likelihood that banks fail with more stringent capital and liquidity requirements as well as that they can be orderly resolved when they fail. Moreover, to avoid that the banking sector can break the Eurozone

apart, a Banking Union with single supervisory and resolution mechanisms was installed for the eurozone countries.

<sup>3</sup> The new legislative framework is still unlikely to be able to absorb the failure of a couple of systemic banks at the same time. Hence, the funds that are currently being collected would have been insufficient to provide the necessary capital support during the past crises. The estimated €180 billion that will be collected in the coming years in the single resolution fund (Lannoo, 2014), deposit guarantee funds and the funds available through the ESM do not weigh up to the over €450 billion that was made available in the form of public capital support and asset relief measures in the eurozone (Ayadi & De Groen, 2015). Although the bail-in facilities and more stringent capital requirements are likely to bring down the costs that are passed to the public mechanism in case of future systemic failures, the funds available for bailouts and recapitalisations remain limited.

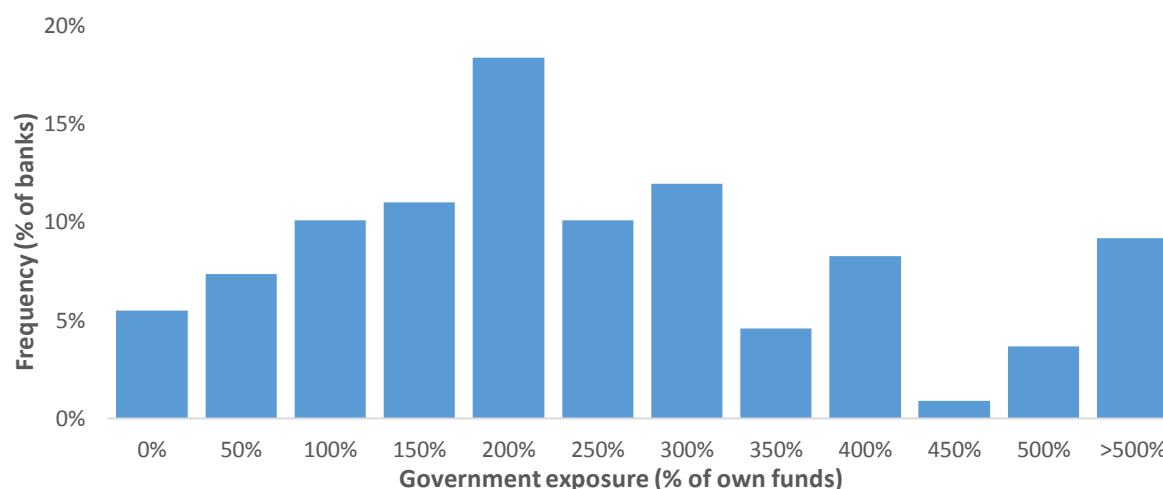
In fact, the private-sector involvement (PSI) will adopt a case-by-case approach, following the IMF's practices. The Greek debt restructuring in 2012 is the most recent case showing the impact of a eurozone government's default on the stability of the domestic banking sector according to the IMF's practices. As part of the debt restructuring, the majority of private investors in Greek government debt agreed to take a total 'voluntary' loss of over 50% on their debt holdings.<sup>4</sup> The domestic banks lost €38 billion, which wiped out the complete own funds of most of the banks.<sup>5</sup>

Despite the debt restructuring, there remain concerns over the sustainability of the Greek government's debt, as well as concerns about the banking sector. The four largest Greek banks in the ECB's 2014 comprehensive assessment still had domestic government debt equivalent to their total own funds at the end of 2013, which

means that a renewed sovereign write-down could once again wipe-out almost all of their own funds.

The Greek banks are no exception with respect to substantial government debt holdings. The 110 eurozone banking groups subject to the comprehensive assessment<sup>6</sup> held at the end of 2013 almost €2.5 trillion government debt, representing almost twice the total sum of own funds. Albeit the holdings are unequally divided across banks and countries. Almost a quarter of the banks have government debt portfolios equal to or less than their own funds (see Figure 2). About half of the banks hold government debt ranging between once and three times their own funds. The remaining quarter of the banks with larger government debt portfolios includes a small group of five banks with government portfolios ranging between 10 and 34 times their total own funds.

Figure 2. Distribution of government exposure across eurozone systemic banks (end 2013)



Note: The histogram shows the total exposure to governments (gross domestic long exposure - accounting value gross of provisions) as a share of the total own funds across different own funds bins. The values below the bars show the maximum values of each bin, which is the minimum value for the next bin. Hence, 18% of the banks had exposures to governments between 150% and 200% of the own funds. The distribution is based on data on 109 eurozone banking groups and subsidiaries of non-EU banks that were subject to the EBA and ECB 2014 stress tests, excluding the Co-operative Central Bank Ltd in Cyprus, which reported a negative own funds.

Source: Author's calculations based on ECB and EBA 2014 stress test data.

<sup>4</sup> The participation in these kinds of agreements will in the future be obligatory for all participants using the collective-action clauses that are included in the by-laws of all eurozone government bonds issued since 1 January 2013 (Xafa, 2014).

<sup>5</sup> The €38 billion was equivalent to about 170% of their core equity tier 1 capital before the PSI. The core tier 1 capital

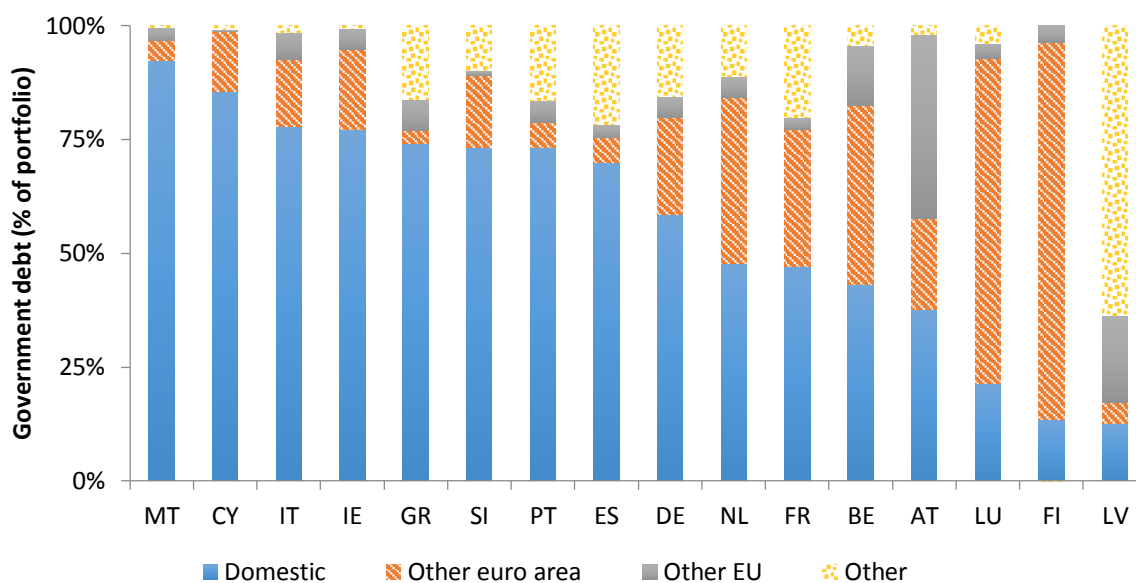
forms the most important part of the total own funds. The capital of the Greek banks subject to the 2014 stress tests consisted of 97% out of core tier 1 capital at the end of 2013 (Bank of Greece, 2012).

<sup>6</sup> The Co-operative Central Bank Ltd in Cyprus, which reported a negative own funds at the end of 2013, has been excluded in the simulation exercise of this Policy Brief.

Turning to the composition of the government-debt portfolios, they mostly consist of domestic government debt. The eurozone banks' government exposures consist, on average, of 58% domestic debt, ranging from a low of 12.5% in Latvia to a high of 92.3% in Malta (see Figure 3). The banks in CGIIPS,<sup>7</sup> which experienced the most severe fiscal sustainability problems during the eurozone government debt crisis, hold the largest shares of domestic debt. This

overrepresentation can be partially explained by the carry-trade opportunities available to these banks during the eurozone crisis. Hence, the returns on government debt during the recent periods of distress in some countries exceeded the banks' funding costs, thereby providing an incentive for banks to hold more government debt (Acharya & Steffen, 2012). These carry trades undermine financial stability (Gros, 2013).

Figure 3. Home bias in government-debt exposure of systemic banks in the eurozone (end 2013)



Note: The figure shows the share of country exposure as a share of the total government exposures (gross domestic long exposure - accounting value gross of provisions) of the 110 eurozone banking groups and subsidiaries of non-EU banks that were subject to the EBA and ECB 2014 stress tests.

Source: Author's calculations based on ECB and EBA 2014 stress test data.

## Simulation

The possibility of a eurozone government defaulting is low, but the share that is lost in the event of default is often very large. The application of large-exposure requirements could be a measure to limit the loss-given default. It would encourage banks to diversify their government-debt portfolios. The large-exposures requirements, as currently included in the capital requirements legislation, put a €150 million or 25% of own funds cap on exposures to a single debtor. Government debt denominated in national currency, however, is

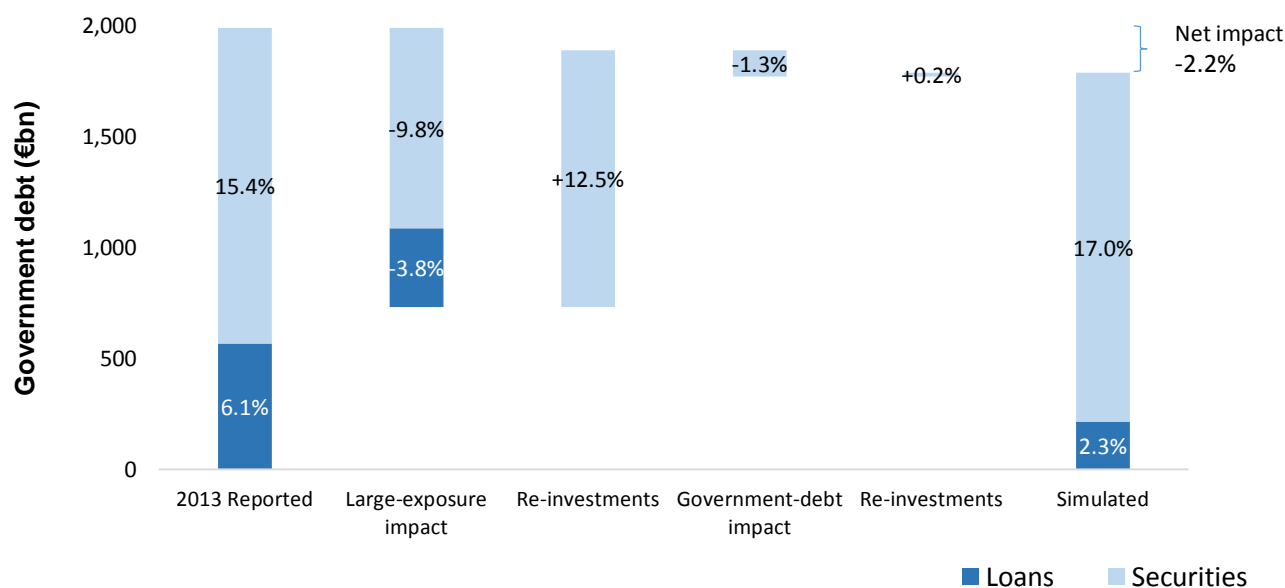
excluded from the scope of these requirements. The euro is considered as the national currency for the Eurozone countries, notwithstanding the fact that these countries do not control their own currency like non-eurozone countries do and are unable to *de facto* guarantee repayment like non-eurozone countries can with their national central banks. The eurozone government debt holdings should therefore also be treated differently, with a large exposures requirement to limit the loss given default.

<sup>7</sup> CGIIPS stands for Cyprus, Greece, Ireland, Italy, Portugal, and Spain.

To assess the potential impact of the application of large-exposures requirements, a simulation exercise was performed for this paper. At the end of 2013, about 63% of eurozone banks' government exposures were above the large-exposure thresholds (see Figure 4 and Table A1

in the Annex). These excess government holdings are primarily held in government debt of the four largest government debt issuers, i.e. France, Germany, Italy, and Spain, which account for almost 80% of the € 1.3 trillion excess holdings.

Figure 4. Simulation of the impact of the application of max 25% large-exposure requirement to government debt (% of eurozone government debt)



Notes: The figure shows the results of a simulation of the potential impact of the application of the large-exposure requirement to eurozone government debt, split between government loans and securities. In other words, individual banks cannot invest more than 25% of their own funds in the government debt of a eurozone country (i.e. large exposures impact). Moreover, the banks are assumed to try to keep the size of their total government-debt portfolio constant by re-investing the excesses in government-debt securities of other eurozone countries pro rata the share in total eurozone government debt (i.e. re-investment). The total exposure of all banks in the sample, however, never exceeds more than 60% of the total outstanding debt (i.e. government debt impact). The simulation is based on end 2013 data for the 109 systemic eurozone banking groups included in the ECB's Comprehensive Assessment.

Source: Author's calculations based on ECB, EBA and AMECO (2014).

The net impact on the banks' eurozone government debt portfolios is nevertheless likely to be much less, since most of the banks will re-invest most of the excess government debt holdings in other eurozone countries' government debt. Hence, most banks do not have the maximum exposures to each individual eurozone country, and the legislation as well as market practices still motivate banks to hold sizeable government debt portfolios. Just to

name a few of the government-debt preferences expressed in legislation and capital market practices, domestic currency government-debt benefits from a zero risk-weight under the standard approach;<sup>8</sup> government bonds are an important part of the high-quality liquid assets (HQLA) required to fulfil the liquidity requirements that are applicable from 2015 onwards; and a source of collateral to obtain central bank funds. In addition, government debt

<sup>8</sup> The Basel capital adequacy accords consider that domestic government debt denominated in national currency is riskless, since the country controls the currency. However, this is not the case for the eurozone, which is not controlled

by an individual member state. The zero risk weight for eurozone government debt is therefore not in the spirit of the Basel accords (Hannoun, 2011).

is also important to fulfil the margin calls in derivatives transactions and in securities repurchasing transactions that require highly liquid and low risky assets.

Assuming that the banks will try to reinvest all proceeds from selling the excess government debt in government debt of other eurozone countries, they could reallocate all but €102 billion of the €1.3 trillion excess without breaching the large-exposure requirements (see 'Reinvestments' in Figure 4). However, this would imply that the banks would hold the large majority or more than the available government debt of some of the governments, which is respectively highly unlikely or even impossible. The maximum share held by the sample banks in the simulation is assumed to be no more than 60% (see 'Government debt impact' in Figure 4). The government debt holdings after reinvestments in eight eurozone countries pass this threshold. After correcting for reinvestments of the excesses in the government debt of the remaining 11 eurozone countries, the net amount that could not be reinvested without breaching the large-exposure requirements would rise from €102 billion to €203 billion, which is equal to 10% of the government-debt holdings (see 'Simulated' in Figure 4).<sup>9</sup> The excess is divided across almost a quarter of the banks in the sample and more than half of all the exposures to the larger debt-issuing countries are equal to the large exposure requirement.

The 25% of own funds or €150 million threshold is restrictive for a large number of banks. It restricts the ability of a large number of banks to maintain a well-diversified and sizable eurozone government-debt portfolio. This will become even more important in the near future, with the implementation of liquidity requirements and changes in the market infrastructure. The European Banking Authority calculated in its

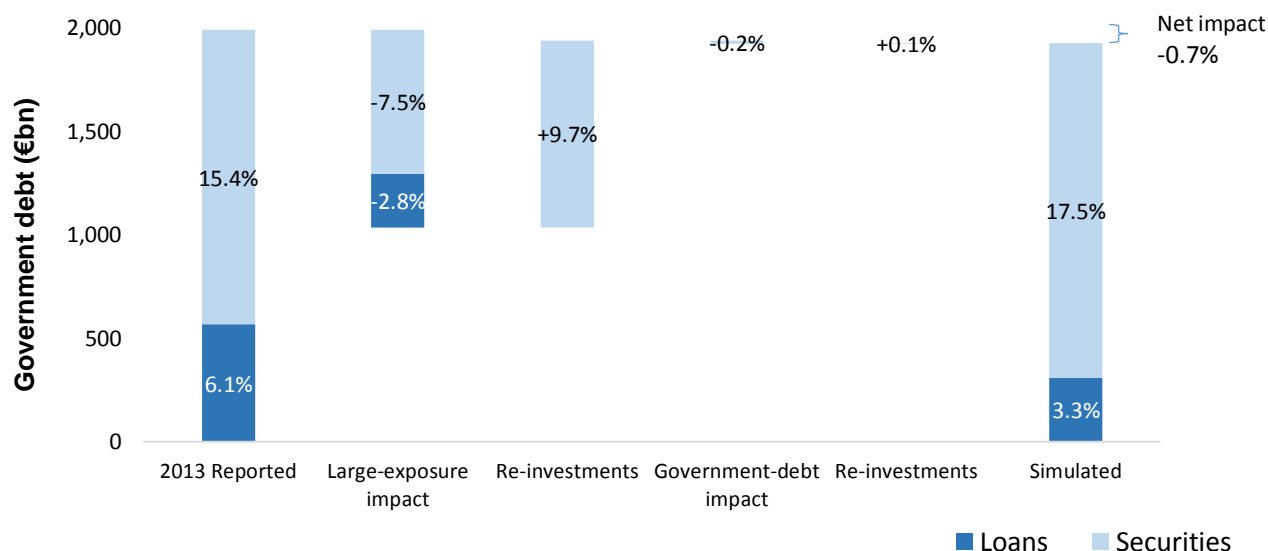
most recent Basel III monitor exercise that banks would on average still need extra HQLA equal to 0.6% of assets (approximately €136 billion) to comply with the fully implemented liquidity coverage ratio. In fact, using data from the EBA monitor, the total HQLA required by the banks included in the simulation would be between €1,485 billion and €2,388 billion, of which the majority is currently covered by bonds issued by sovereigns, central banks and public entities. Moreover, banks might also demand more government securities to comply with collateral requirements for transactions with central counterparties (CCPs), which are becoming obligatory for more and more derivatives transactions as well as for more stringent margin calls on OTC derivatives transactions. On the other hand, the extension of the current large-exposure requirement to the eurozone countries' debt is likely to disproportionately support the demand for government debt of smaller countries, reducing the need to observe to fiscal discipline.

The large-exposure requirement should find the right balance between reducing the loss-given sovereign default and allowing banks to build substantial and diverse pools of liquid assets to fulfil the requirements. In Table A3 in the Annex the simulated net impact for different levels of large-exposure requirements is shown. The simulation results suggest that a large-exposure requirement of 100% of own funds or higher is needed to substantially reduce the pressures on the smaller eurozone debt issuers. Although this would prevent the own funds of banks from being completely wiped out, as was the case for many Greek banks under the PSI, sovereign defaults could still cause systemic problems now that there are more banks with substantial holdings of a typical eurozone government debt that need to be recapitalised at the same time.

<sup>9</sup> The impact of the application of the large-exposure requirements is very diverse across countries. The demand for government debt issued by the four largest issuing countries is likely to decline considerably, between -€81 billion in French and -€248 billion in German government

debt. In turn the demand for the debt of smaller debt-issuing countries will rise considerably, between €1 billion in Estonian and €75 billion in Greek government debt.

Figure 5. Simulation of the impact of the application of max 50% large-exposure requirement to government debt (% of eurozone government debt)



Notes: The figure shows the results of a simulation of the potential impact of the application of a 50% of own funds large-exposure requirement to eurozone government debt. See the notes to Figure 4 for an explanation.

Source: Author's calculations based on ECB, EBA and AMECO (2014).

The application of a large-exposure requirement between 25% and 100% might be more appropriate. With a large-exposure requirement of 50%, on the one hand, the need for public recapitalisations in case of default is reduced, since the losses of the sovereign default are unlikely to let the total capital of a minimum of 8% fall below the core tier 1 level of 4.5%. On the other hand, the stimulation of disproportionate investment in the more illiquid debt of smaller debt-issuing countries is also restricted. In fact, banks could hold up to at least 5.5 times their own funds (i.e. 11 eurozone countries with relatively deep sovereign debt markets times the 50% large-exposure threshold) in eurozone sovereign debt. For 93% of the banks in the sample, this would be sufficient to leave the size of their eurozone sovereign-debt portfolio unchanged and prevent disproportionate demand for government debt from the smaller issuers. The remaining banks with 'excessive' eurozone government debt portfolios are primarily specialised financiers of local governments, central banks of cooperative networks and clearing institutions. These banks might need to increase their own funds, change their business model or divert the sovereign

securities holdings to non-eurozone sovereigns (Ayadi & De Groen, 2014).

Let us now look at the impact on the demand for sovereign debt. The share of three of the four largest eurozone debt issuers is likely to decrease in banks' portfolios (i.e. Germany, Italy, and Spain). In the simulation exercise, the aggregate share of the four largest debt issuers (also including France) is likely to decrease from 78% to 64%. The smaller government debt issuers benefit from the fact that the maximum large exposures represent a relatively larger share of their total debt issued and eurozone countries in which the banks own the lowest share of debt before the implementation of the large-exposure requirement are likely to benefit more since there is more room for re-investments (see also Table A2 in the Annex for the impact across countries).

## Momentum

The recently announced quantitative easing (QE) through an expansion of the asset purchase programme by the national central banks in the eurozone might serve as a natural moment to start reducing the maximum exposure of banks to single eurozone countries' government debt.

First, the €1,140 billion extension of the asset purchase programme will, among other things, generate a large stable demand during at least the 19 months' duration of the programme. This will allow the banks to offload the excess exposures in a rather short period of time against attractive rates. The asset purchase programme will especially generate demand for government-debt securities of the largest debt-issuing countries, of which banks have to offload the most. Hence, about three-quarters of the government debt that has to be sold or not rolled-over to fulfil the 50% of the own funds large-exposure requirement could be purchased by the central banks under the extended asset purchase programme. Of the almost €700 billion government debt securities that are in excess of the large exposure cap, almost 90% originated in one of the four largest eurozone government debt-issuing countries. These four will account for about 75% of the asset purchase programme that will be distributed according to the ECB capital key.

Second, the quantitative easing might worsen the debt sustainability and thus increase the probability of default. Hence, the growth of the government debt might exceed economic growth and the lower debt-maintenance cost would be only temporary. The aim of the expansion of the asset purchase programme is to stimulate inflation with low interest rates. This move aims to stimulate economic growth through more consumption/investment and depreciation of the euro, but the past has shown that this scenario is far from certain. For example Japan showed that quantitative easing might even have the opposite effect; people might start saving (pensions, etc.) more, instead of consuming/investments (Gros, 2014). On the other hand, the lower yields on government debt will not only temporarily reduce the funding costs of countries, but also reduce the pressure on government to exercise fiscal discipline. Once the central banks start unwinding after the asset purchase programme is completed in September 2016, the demand for government debt will fall

again, increasing the funding costs and the probability of default.

The immediate gradual introduction of the large-exposure requirement<sup>10</sup> could both limit the loss-given default for banks as well as correct the flawed fiscal discipline.

## Conclusion

The recent crises have shown that eurozone government debt is not immune to default and that the new legislative framework can ease debt restructuring with private-sector burden-sharing in the future. Applying the large-exposure requirement would be a welcome addition, limiting the potential losses in the event of a sovereign default. Given the paramount importance of government debt for banks and the limited availability of government debt of smaller issuing countries, the applied large exposure required could be gradually reduced to only 50%, instead of the 25% that applies to most other debtors. The higher cap would still substantially reduce the potential losses for individual banks, while still allowing banks to build up the sizable government debt portfolios that are needed to fulfil the other requirements (liquidity ratios, collateral demands, etc.).

The extended asset purchase programme initiated by the ECB might serve as an opportune moment to introduce the large-exposure requirement. The asset purchases provide a vast demand for government debt securities for a longer period, especially for the larger debt-issuing countries, which account for most of the debt that will need to be offloaded. Moreover, the asset purchases might increase the probability of government default in the long run.

The transition process will require intense monitoring to allow prompt action in the event that unintended side-effects or collisions with other measures, like the new liquidity requirements and monetary policy, erupt.

The proposed application of the large-exposure requirement on government debt is an effective

<sup>10</sup> A separation should be made between the transition of debt securities and loans. The transition period for the

legacy loans should be longer in order to take account of the absence of a well-functioning secondary market.



solution as long as sovereign defaults remain rare and largely uncorrelated events and the liquidity requirements remain untouched. As soon as these conditions appear likely to change, alternative measures might be needed. In the meantime the large-exposure requirement should be reviewed regularly.

Finally, more research is required to identify other potential financial sectors (e.g. insurance, pensions, CCPs, etc.) that should be subject to similar measures to break the doom loop between eurozone governments and financial institutions.

## References

- Acharya, V. and S. Steffen (2012), "The 'Greatest' Carry Trade Ever? Understanding Eurozone Bank Risks", University of Virginia, November.
- Ayadi, R. and W.P. de Groen (2014), *Banking Business Models Monitor 2014: Europe*, Paperback jointly published by Centre for European Policy Studies (CEPS), Brussels and International Observatory on Financial Service Cooperatives (IOFSC), Montreal.
- Ayadi, R. and W.P. de Groen (2015), "State aid to banks and credit for SMEs: Is there a need for conditionality?", study prepared for the European Parliament, Brussels (forthcoming).
- Bank of Greece (2012), "Report on the recapitalisation and restructuring of the Greek banking sector", Bank of Greece, Athens, December.
- EBA (2014), "Basel III monitoring exercise: Results based on data as of 31 December 2013", European Banking Authority, September.
- Gros, D. (2013), "Banking Union with a Sovereign Virus: The self-serving regulatory treatment of sovereign debt in the euro area", CEPS Policy Brief, Centre for European Policy Studies, Brussels, December.
- Gros, D. (2014), "Quantitative Easing and Deflation in a Creditor Economy, in Think Tank 20: Growth, Convergence and Income Distribution: The Road from the Brisbane G-20 Summit", Brookings, Washington, D.C.
- Hannoun, H. (2011), "Sovereign risk in bank regulation and supervision: Where do we stand?", Bank for International Settlements (BIS), speech at Financial Stability Institute High-Level Meeting, Abu Dhabi, UAE, 26 October.
- Lannoo, K. (2014), *ECB Banking Supervision and beyond*, CEPS Task Force report, Centre for European Policy Studies, Brussels, December.
- Xafa, M. (2014), "Lessons from the 2012 Greek debt restructuring", VOXeu, London, June.

## Annex

Table A1. Simulation impact of applying large exposure requirement to eurozone government debt (max. 25% of own funds and 60% of government debt)

| Debtor      | 2013 reported |               | Impact of large exposures threshold (25% of own funds) |               | Impact of re-investments of large exposure excesses |               | Impact of government debt threshold (60% of government debt) |               | Impact of re-investment of government debt excesses |               | Simulated exposures |               | Net impact  |               |
|-------------|---------------|---------------|--|---------------|---|---------------|--|---------------|---|---------------|---------------------|---------------|-------------|---------------|
|             | (€bn)         | (% gov. debt) | (€bn)  | (% gov. debt) | (€bn)   | (% gov. debt) | (€bn)  | (% gov. debt) | (€bn)   | (% gov. debt) | (€bn)               | (% gov. debt) | (€bn)       | (% gov. debt) |
| AT          | 67            | 25            | -20.8  | -8            | 69.8  | 27            | 0.0  | 0             | 1.7   | 0             | 117                 | 44            | 51          | 19            |
| BE          | 119           | 29            | -56.2  | -14           | 90.5  | 22            | 0.0  | 0             | 1.9   | 0             | 156                 | 37            | 36          | 8             |
| CY          | 3             | 19            | -2.4   | -13           | 25.5  | 138           | -15.5  | -83           | 0.0   | 0             | 11                  | 60            | 8           | 41            |
| DE          | 495           | 23            | -351.2   | -16           | 103.2   | 5             | 0.0  | 0             | 0.5   | 0             | 247                 | 11            | -248        | -11           |
| EE          | 0             | 1             | 0.0  | 0             | 8.7   | 461           | -7.6   | -402          | 0.0   | 0             | 1                   | 60            | 1           | 59            |
| ES          | 303           | 31            | -218.2   | -23           | 111.6   | 12            | 0.0  | 0             | 0.9   | 0             | 197                 | 20            | -106        | -11           |
| FI          | 9             | 8             | -0.2   | 0             | 50.0  | 44            | 0.0  | 0             | 1.6   | 0             | 61                  | 52            | 51          | 44            |
| FR          | 341           | 18            | -210.8   | -11           | 129.6   | 7             | 0.0  | 0             | 0.3   | 0             | 260                 | 13            | -81         | -4            |
| GR          | 21            | 7             | -15.7  | -5            | 88.6  | 28            | 0.0  | 0             | 2.1   | 0             | 96                  | 30            | 75          | 23            |
| IE          | 21            | 10            | -12.4  | -6            | 71.1  | 33            | 0.0  | 0             | 2.1   | 0             | 82                  | 37            | 61          | 27            |
| IT          | 414           | 20            | -268.7   | -13           | 104.5   | 5             | 0.0  | 0             | 0.4   | 0             | 251                 | 12            | -164        | -8            |
| LT          | 1             | 5             | 0.0  | 0             | 21.6  | 158           | -14.1  | -103          | 0.0   | 0             | 8                   | 60            | 8           | 55            |
| LU          | 5             | 48            | -1.9   | -18           | 18.3  | 171           | -15.1  | -141          | 0.0   | 0             | 6                   | 60            | 1           | 12            |
| LV          | 1             | 10            | 0.0  | 0             | 17.3  | 195           | -12.9  | -145          | 0.0   | 0             | 5                   | 60            | 4           | 50            |
| MT          | 1             | 20            | -0.7   | -14           | 13.6  | 260           | -10.8  | -206          | 0.0   | 0             | 3                   | 60            | 2           | 40            |
| NL          | 132           | 30            | -75.6  | -17           | 100.0   | 23            | 0.0  | 0             | 2.0   | 0             | 159                 | 36            | 26          | 6             |
| PT          | 35            | 16            | -19.2  | -9            | 68.9  | 31            | 0.0  | 0             | 1.9   | 0             | 86                  | 38            | 52          | 23            |
| SI          | 5             | 21            | -2.3   | -9            | 29.2  | 115           | -17.0  | -67           | 0.0   | 0             | 15                  | 60            | 10          | 39            |
| SK          | 16            | 39            | -2.3   | -6            | 35.1  | 87            | -24.3  | -61           | 0.0   | 0             | 24                  | 60            | 8           | 21            |
| <b>EURO</b> | <b>1,990</b>  | <b>22</b>     | <b>-1,259</b>  | <b>-14</b>    | <b>1,157</b>  | <b>13</b>     | <b>-117.2</b>  | <b>-1</b>     | <b>15.3</b>   | <b>0</b>      | <b>1,787</b>        | <b>19</b>     | <b>-203</b> | <b>-2</b>     |

Source: Author's calculations based on ECB, EBA and AMECO (2014).

Table A2. Simulation impact of applying large exposure requirement to eurozone government debt (max. 50% of own funds and 60% of government debt)

| Debtor      | 2013 reported |               | Impact of large exposures threshold (25% of own funds) |               | Impact of re-investments of large exposure excesses |               | Impact of government debt threshold (60% of government debt) |               | Impact of re-investment of government debt excesses |               | Simulated exposures |               | Net impact |               |
|-------------|---------------|---------------|--|---------------|---|---------------|--|---------------|---|---------------|---------------------|---------------|------------|---------------|
|             | (€bn)         | (% gov. debt) | (€bn)  | (% gov. debt) | (€bn)   | (% gov. debt) | (€bn)  | (% gov. debt) | (€bn)   | (% gov. debt) | (€bn)               | (% gov. debt) | (€bn)      | (% gov. debt) |
| AT          | 67            | 25            | -12.5  | -5            | 45.6  | 17            | 0.0  | 0             | 0.4   | 0             | 100                 | 44            | 33         | 38            |
| BE          | 119           | 29            | -43.3  | -10           | 65.3  | 16            | 0.0  | 0             | 0.4   | 0             | 142                 | 37            | 22         | 34            |
| CY          | 3             | 19            | -1.9   | -10           | 8.5   | 46            | 0.0  | 0             | 0.2   | 0             | 10                  | 60            | 7          | 55            |
| DE          | 495           | 23            | -268.0   | -12           | 109.6   | 5             | 0.0  | 0             | 0.3   | 0             | 336                 | 11            | -158       | 16            |
| EE          | 0             | 1             | 0.0  | 0             | 4.5   | 238           | -3.4   | -179          | 0.0   | 0             | 1                   | 60            | 1          | 60            |
| ES          | 303           | 31            | -168.1   | -17           | 98.4  | 10            | 0.0  | 0             | 0.3   | 0             | 233                 | 20            | -69        | 24            |
| FI          | 9             | 8             | 0.0  | 0             | 24.2  | 21            | 0.0  | 0             | 0.2   | 0             | 34                  | 52            | 24         | 30            |
| FR          | 341           | 18            | -149.1   | -8            | 157.1   | 8             | 0.0  | 0             | 0.3   | 0             | 350                 | 13            | 8          | 18            |
| GR          | 21            | 7             | -11.4  | -4            | 58.4  | 18            | 0.0  | 0             | 0.6   | 0             | 69                  | 30            | 48         | 21            |
| IE          | 21            | 10            | -7.9   | -4            | 41.4  | 19            | 0.0  | 0             | 0.4   | 0             | 55                  | 37            | 34         | 25            |
| IT          | 414           | 20            | -218.9   | -11           | 124.3   | 6             | 0.0  | 0             | 0.2   | 0             | 320                 | 12            | -94        | 15            |
| LT          | 1             | 5             | 0.0  | 0             | 7.5   | 55            | 0.0  | 0             | 0.3   | 0             | 8                   | 60            | 8          | 60            |
| LU          | 5             | 48            | -1.3   | -12           | 6.8   | 64            | -4.2   | -39           | 0.0   | 0             | 6                   | 60            | 1          | 60            |
| LV          | 1             | 10            | 0.0  | 0             | 6.5   | 73            | -2.1   | -24           | 0.0   | 0             | 5                   | 60            | 4          | 60            |
| MT          | 1             | 20            | -0.6   | -12           | 5.5   | 106           | -2.8   | -54           | 0.0   | 0             | 3                   | 60            | 2          | 60            |
| NL          | 132           | 30            | -53.1  | -12           | 74.6  | 17            | 0.0  | 0             | 0.5   | 0             | 154                 | 36            | 22         | 35            |
| PT          | 35            | 16            | -15.3  | -7            | 41.6  | 19            | 0.0  | 0             | 0.4   | 0             | 61                  | 38            | 27         | 28            |
| SI          | 5             | 21            | -2.0   | -8            | 9.8   | 39            | 0.0  | 0             | 0.1   | 0             | 13                  | 60            | 8          | 52            |
| SK          | 16            | 39            | 0.0  | 0             | 12.3  | 31            | -3.9   | -10           | 0.0   | 0             | 24                  | 60            | 8          | 60            |
| <b>EURO</b> | <b>1,990</b>  | <b>22</b>     | <b>-953</b>  | <b>-10</b>    | <b>902</b>  | <b>10</b>     | <b>-16.3</b>   | <b>0</b>      | <b>4.7</b>  | <b>0</b>      | <b>1,927</b>        | <b>19</b>     | <b>-63</b> | <b>21</b>     |

Source: Author's calculations based on ECB, EBA and AMECO (2014).

Table A3. Simulation impact of applying different levels of large exposures requirements (LE) to eurozone government debt (max. 0-200% of own funds and 60% of government debt)

| Debtor      | 2013 reported |               | Net impact<br>(LE 25% of own funds) |               | Net impact<br>(LE 50% of own funds) |               | Net impact<br>(LE 75% of own funds) |               | Net impact<br>(LE 100% of own funds) |               | Net impact<br>(LE 200% of own funds) |               |
|-------------|---------------|---------------|-------------------------------------|---------------|-------------------------------------|---------------|-------------------------------------|---------------|--------------------------------------|---------------|--------------------------------------|---------------|
|             | (€bn)         | (% gov. debt) | (€bn)                               | (% gov. debt) | (€bn)                               | (% gov. debt) | (€bn)                               | (% gov. debt) | (€bn)                                | (% gov. debt) | (€bn)                                | (% gov. debt) |
| AT          | 67            | 25            | 51                                  | 19            | 33                                  | 13            | 25                                  | 9             | 21                                   | 8             | 10                                   | 4             |
| BE          | 119           | 29            | 36                                  | 8             | 22                                  | 5             | 9                                   | 2             | 6                                    | 2             | 2                                    | 0             |
| CY          | 3             | 19            | 8                                   | 41            | 7                                   | 36            | 6                                   | 30            | 4                                    | 20            | 3                                    | 18            |
| DE          | 495           | 23            | -248                                | -11           | -158                                | -7            | -127                                | -6            | -115                                 | -5            | -38                                  | -2            |
| EE          | 0             | 1             | 1                                   | 59            | 1                                   | 59            | 1                                   | 59            | 1                                    | 59            | 0                                    | 18            |
| ES          | 303           | 31            | -106                                | -11           | -69                                 | -7            | -45                                 | -5            | -32                                  | -3            | -12                                  | -1            |
| FI          | 9             | 8             | 51                                  | 44            | 24                                  | 21            | 18                                  | 16            | 14                                   | 13            | 7                                    | 6             |
| FR          | 341           | 18            | -81                                 | -4            | 8                                   | 0             | 38                                  | 2             | 34                                   | 2             | 6                                    | 0             |
| GR          | 21            | 7             | 75                                  | 23            | 48                                  | 15            | 30                                  | 9             | 24                                   | 8             | 13                                   | 4             |
| IE          | 21            | 10            | 61                                  | 27            | 34                                  | 16            | 25                                  | 12            | 23                                   | 11            | 10                                   | 5             |
| IT          | 414           | 20            | -164                                | -8            | -94                                 | -5            | -60                                 | -3            | -32                                  | -2            | -1                                   | 0             |
| LT          | 1             | 5             | 8                                   | 55            | 8                                   | 55            | 6                                   | 46            | 4                                    | 28            | 3                                    | 18            |
| LU          | 5             | 48            | 1                                   | 12            | 1                                   | 12            | 1                                   | 12            | 1                                    | 12            | 1                                    | 12            |
| LV          | 1             | 10            | 4                                   | 50            | 4                                   | 50            | 4                                   | 50            | 3                                    | 34            | 2                                    | 18            |
| MT          | 1             | 20            | 2                                   | 40            | 2                                   | 40            | 2                                   | 40            | 2                                    | 38            | 1                                    | 18            |
| NL          | 132           | 30            | 26                                  | 6             | 22                                  | 5             | 1                                   | 0             | -8                                   | -2            | -25                                  | -6            |
| PT          | 35            | 16            | 52                                  | 23            | 27                                  | 12            | 17                                  | 8             | 16                                   | 7             | 10                                   | 5             |
| SI          | 5             | 21            | 10                                  | 39            | 8                                   | 31            | 7                                   | 25            | 5                                    | 18            | 4                                    | 15            |
| SK          | 16            | 39            | 8                                   | 21            | 8                                   | 21            | 8                                   | 21            | 8                                    | 20            | 4                                    | 11            |
| <b>EURO</b> | <b>1,990</b>  | <b>22</b>     | <b>-203</b>                         | <b>-2</b>     | <b>-63</b>                          | <b>-1</b>     | <b>-33</b>                          | <b>0</b>      | <b>-20</b>                           | <b>0</b>      | <b>0</b>                             | <b>0</b>      |

Source: Author's calculations based on ECB, EBA and AMECO (2014).



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