

An Evaluation of Sovereign-backed Securities (SBSs) Potentials, Risks and Political Relevance for EMU Reform

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Abstract

The EU Commission proposes establishing Sovereign-Backed Securities (SBSs) as a class of safe assets for the euro area. SBSs are generated by an issuing agency that would purchase a large diversified portfolio of national sovereign bonds, and finance the purchases by issuing (at least) two types of structured bonds: a risk-free senior SBSs tranche and a risky junior SBSs tranche. Overall, we recognise that the SBSs concept has the theoretical potential to improve financial stability and financial integration in the euro area, provided it is built on a sound framework that overcomes several potential technical and political problems. However, SBSs could pose the risk of eventually leading to unconditional debt mutualisation in times of severe crisis.

With regard to technical problems, it is not clear whether the SBSs concept represents a viable business model for a private entity, and whether senior and junior SBSs would find sufficient demand, particularly in times of crisis. If the market for the junior tranche broke down, the whole concept would collapse. In such instances, the political risk could arise that rescue measures are taken that, in contrast to existing rescue mechanisms (ESM and OMT), are not subject to sufficient controls by Member States, solvency tests and reform requirements (conditionality). Another political risk relates to the introduction of the SBSs concept, which is regarded here as one part of a political compromise. We foresee the danger that the second part – de-privileging national sovereign bonds in banking regulation to sever the sovereign-banking nexus – may not be followed through, due to political resistance and to sequencing problems with introducing SBSs. Other political problems concern possible market distortions even in non-crisis times (particularly in primary markets), and the potential irreversibility of the concept.

If the general political will is found to consider establishing SBSs after the German elections, the concept should only be introduced if a public consultation clearly showed that it was sufficiently promising. It is only in this instance that our suggestions for a sound rules-based SBSs framework become relevant: the SBS agency needs to be a private entity in order to prevent political interference and should buy national sovereign bonds only at market conditions to avoid distortions. Senior and junior SBSs tranches need to be created with a conservative tranching strategy to guarantee sufficient safety and demand. Banks should be able to hold junior SBSs only with risk-adequate capital requirements and strict volume limits. The de-privileging of national sovereign bonds can and must be guaranteed by a forward-looking but legally binding decision. In the meantime, privileges for SBSs must not go beyond those currently relevant for national sovereign bonds. Clear arrangements are needed *ex ante* for severe crises, to prevent unconditional rescues. However, it remains questionable whether such a framework can prove time-consistent.

1. Introduction

The European Commission has recently published a reflection paper on the future of the European Monetary Union (EMU) (EU Commission, 2017) in which it suggests the establishment of a market for Sovereign-Backed Securities (SBSs). This proposal goes back to a proposal by Brunnermeier et al. (2016), who name these assets European Safe Bonds (ESBies). The proposal for SBSs or ESBies is brought forward due to mainly two problems in the architecture of the EMU: first, that the EMU is prone to a bank-sovereign nexus or bank-sovereign doom loop, in which a banking crisis can trigger a sovereign debt crisis, while a sovereign debt crisis can also trigger a banking crisis. Second, that the sovereign-bank nexus contributes to capital flights from stressed countries to safe harbour countries, which can cause a fragmentation of the euro area's capital market along national lines, and which can hamper the transmission of the monetary policy of the European Central Bank (ECB).

In contrast to banks in the euro area, US banks are less exposed to the quality of their sovereign's balance sheet and the balance sheet of its states. Moreover, in times of state defaults like the ones in California or Puerto Rico, which has a monetary union with the US, there are no signs of capital flights. Possible reasons why the US financial system is more resilient in this dimension include:

- US banks hold equity capital against their exposures to sovereign bonds, while European banks are undercapitalised with respect to sovereign debt exposures.
- US banks can invest in US Treasuries, which are safe assets with respect to the quality of states' balance sheets, i.e. the value of US Treasuries will not deteriorate when California or Puerto Rico default on their debt. The euro area lacks a comparable safe asset.

The proponents suggest that the SBSs can mitigate these problems to a large extent. However, the SBSs concept meets with sizeable political resistance. For example, the German Ministry of Finance, the German Council of Economic Advisors and the Bundesbank oppose the proposals or are at least very hesitant, mainly because they fear that SBSs and ESBies will be used for debt mutualisation (Deutsche Bundesbank, 2016; SVR, 2016; BMF, 2017). The Italian government also appears to strongly resist such steps.

To the best of our knowledge, there is no thorough and detailed academic paper of neutral origin on the advantages and disadvantages of SBSs and ESBies available to date. We therefore aim to close this gap in academic literature, by finding answers to the following research questions:

- Does the establishment of a market for SBSs contribute to safeguarding financial stability and financial integration in the euro area, i.e. lessen the sovereign-bank nexus and significantly reduce capital flight?
- How far does the SBSs concept open the door to de-privileging sovereign bonds of euro area countries, which until now has been strongly resisted, particularly by highly indebted EMU countries?
- Which framework is needed for SBSs to fulfil these objectives?
- How large are the risks that SBSs will degenerate into a means of debt mutualisation?

After a short description of the SBSs proposal, we discuss the possible advantages and disadvantages of SBSs in light of our three research questions. We conclude with a list of policy measures that are needed for a sound framework for the SBSs market and discuss possible political pressures that this framework erodes over time.

2. The SBSs concept

The SBSs concept primarily intends to create safe assets based on the securitisation of government bonds. The increase in the volume of safe and diversified assets in the euro area should help to mitigate the sovereign-bank-nexus and reduce the fragmentation of financial markets in the euro area. In particular, the concept aims at reducing banks' flight to safety towards certain EMU countries in times of crisis.

The SBSs concept relates back to a proposal by Brunnermeier et al. (2011) to create European Safe Bonds (ESBies), which the European Systemic Risk Board (ESRB) has taken up. The ESRB created a High-Level Task Force on Safe Assets in September 2016 and has published a newer version of the ESBies proposal (Brunnermeier et al., 2016). However, the ESRB uses mainly the term SBSs.

SBSs are based on the following key features. A public or private agency purchases a certain amount of national sovereign bonds of euro area countries based on criteria that define the degree of diversification. For example, it could use the EMU countries' GDP shares of the euro area GDP as a portfolio weight. It then bundles the bonds into a portfolio and transfers this portfolio onto the balance sheet of a special purpose vehicle. The special purpose vehicle finances the purchase of the bonds from EMU countries by structuring the portfolio into safe senior and riskier junior bonds, which are then sold to investors. SBSs thus have a different risk profile than national sovereign bonds. The difference is generated by means of risk transfer. The special purpose vehicle redistributes incoming payments from the national government

bonds into different income streams of the senior and junior SBSs (or even more tranches).

Safe senior SBSs are generated from the pool (which also includes lower-rated sovereign bonds) by using the mechanism of diversification and tranching (structuring). Diversification is a well-known instrument for risk reduction if risks of individual items in a pool are largely uncorrelated. Tranching has the objective of creating a safe (senior) tranche and one (or more) less safe (junior) tranche(s). Thereby, the incoming payments (for interest or redemption) from the national sovereign bonds first serve to meet the payments of the senior bonds. Once all senior bondholders have received their payments, the rest of the national sovereign bonds payments are used for distribution to the junior bondholders. If one of the national sovereign bonds defaults and the incoming cash-flow to the special purpose vehicle is reduced, the senior bond holders can be served, while the junior bond holders receive fewer payments. As long as defaults are sufficiently seldom, small and uncorrelated, the senior tranche will be default-free. The tranching point between the senior and the junior tranche(s) should be chosen so that all losses resulting from a possible (but unlikely) sovereign default of one or more EMU countries end up with the junior tranche(s) and do not affect the senior tranche except in catastrophic scenarios. Brunnermeier et al. (2016), who define an asset as safe if its five-year expected loss rate is 0.5 per cent or less, use simulations to prove the effectiveness of diversification and tranching in creating safety. They tentatively suggest a tranching ratio of 70 per cent senior SBSs and 30 per cent junior SBSs.

From an investors' perspective, purchasing SBSs is different from buying euro area sovereign bonds. A sovereign bond is a claim against the issuing sovereign, while the SBS is a claim against the issuing agency that has claims against all euro area member sovereigns.

Additional important features to be decided include whether the SBS agency should be a private or a public entity – both options are considered in Brunnermeier et al. (2016). According to this paper, the share of individual EMU countries' sovereign bonds in the SBS portfolio should be determined on the basis of shares in GDP, similar to the determination of the ECB's capital. In this respect, it is important not to choose shares in public debt among EMU countries, because this would lower the incentive for fiscal soundness. Brunnermeier et al. (2016) suggest for illustrative purposes that the SBS agency should initially purchase sovereign bonds of each EMU country up to 60 per cent of GDP. It would also have to be decided how to proceed with the purchases over time. Moreover, regulatory changes are needed to render the senior tranche sufficiently attractive relative to national sovereign bonds.

Comparison to Eurobonds

SBSs differ from Eurobonds in important respects. Eurobonds are an early attempt to establish a market for a common European asset. Importantly, Eurobonds (in a pure version) entail joint and mutual liability among all participating countries. This debt mutualisation is the key reason for the resistance of Germany and other northern EMU countries to Eurobonds, because these countries rightly fear that incentives for sound fiscal policy would erode if the financial markets no longer priced national sovereign bonds based on the debt sustainability of the national sovereign but of the euro area as a whole. Moreover, some questions can be raised about the safety of Eurobonds: The joint liability could lead to contagion among EMU members in the event of default by several or major euro area countries. SBSs are different because they do not entail joint liability and debt mutualisation and derive their safety from the principles of tranching and diversification. However, the safety of the senior tranche could also be endangered in the event of major defaults (see Chapter 4.2)

Compared to Eurobonds, SBSs are meant to avoid debt mutualisation, because every EMU country remains responsible for servicing its own sovereign bonds so that there is no explicit risk sharing (for a critical discussion of this claim see Chapter 4.4). As the SBS agency purchases only part of the sovereign bonds, the remaining part is issued to private investors on the primary market and is still freely traded on the secondary market, so that it can be argued that financial market discipline on fiscal policy is upheld (see Chapters 3.4 and 4.6). Moreover, the SBS concept has the advantage over Eurobonds that it can very likely be implemented without treaty changes at European level.

3. Potential advantages

The SBS proposal should be analysed from the viewpoint of the stability of the euro area, which was threatened by the near-occurrence of sovereign defaults in recent years, mainly due to too close a connection between the balance sheet quality of banks and those of their sovereigns. The SBSs concept should be analysed with regard to its potential for safeguarding financial stability and financial integration in the euro area.

3.1 Reducing the sovereign-bank nexus

The SBS concept intends to address the sovereign-bank nexus. The secondary government bond market is of systemic importance to the financial stability of the euro area, since banks hold substantial amounts of government bonds, not just as a

source of revenue, but also as part of their liquidity management. In order to access short-term funding, they use sovereign bonds as collateral in refinancing operations with the ECB, or as transaction items for repurchase agreements in the money market. However, an important part of the high demand for sovereign bonds is also due to the regulatory treatment. In the EU's bank capital regulation, euro area sovereign debt can have zero risk weight in the calculation of banks' regulatory capital ratios, as long as the sovereign bonds are refinanced in euros. Thus, banks can purchase sovereign bonds without requiring equity capital, regardless of the sovereign bonds' expected default rate. A similar regulatory privilege can be found in banks' liquidity regulation. Euro area sovereign bonds are treated as more liquid than covered bonds, although covered bonds can also be used as collateral in refinancing operations with central banks.

Thus, the quality of national sovereign bonds determines banks' funding positions in money markets. On the short-term interbank debt market, banks engage in repurchasing agreements, also known as repo transactions. The bank in need of overnight liquidity thus sells sovereign bonds to investors with the obligation to buy the government bonds back the next day. When the solvency of a sovereign is threatened, the respective bonds lose value and thereby limit the banks' possibility of using these bonds for repo transactions, which can negatively affect a bank's liquidity position. When banks have fears concerning their funding positions, they tend to shift their demand for sovereign bonds towards safer bonds, such as the German bund. This feature can result in a flight to quality/safety across countries that can cause a fragmentation of money markets if a sovereign debt crisis is looming.

The money market is not the only part of the financial market that is closely connected to the sovereign bond market. Other channels also reinforce the sovereign-bank nexus. If sovereign bonds lose value, banks incur implicit or explicit losses on the balance sheet. Moreover, credit rating agencies see the rating of the sovereign as an upper cap for the rating of corporate bonds and covered bonds. Thus, when the sovereign is downgraded, corporate and covered bonds also lose ratings notches. An important rationale behind the rating downgrade is that distressed government finances signal future tax increases, which reduce *ceteris paribus* future profits of banks and non-financial corporations. The lower profitability then worsens their credit scoring. The rating downgrade then leads to more restricted access to bank loans because banks are more restrictive in their lending decisions, since they expect more defaults. As could be seen in the euro area sovereign debt crisis, when the risk premia on sovereign bonds increased, the funding positions of banks and non-financial corporations worsened.

The SBSs concept aims to stabilise banks' funding positions by making them more independent of the fiscal situation of the national sovereign. If banks hold the senior tranches of the SBSs, instead of the government bonds of their home sovereign, their funding position in money markets will not worsen when the sovereign gets into financial distress (as long as the value of the senior tranche is sufficiently independent of the state of national government finances). SBSs will not only strengthen the stability of banks' funding from a microprudential perspective, but can also mitigate the risk of capital flight and of fragmentation of the financial market in the euro area. For example, if Greek banks had held senior SBSs instead of national sovereign bonds, the losses resulting from the Greek default in 2012 would have been absorbed solely by the holder of the junior SBSs tranche. They would also have been able to retain refunding in money markets by using the senior SBSs as collateral. Thus, there would have been less capital flight from Greece.

However, while the stabilising effect of senior SBSs also extends to banks' balance sheets, it will not extend to non-financial firms. In case of a rating downgrade of the sovereign, banks and non-financial corporations will still face a rating downgrade, since the rating agencies expect higher future taxes and a lower future profitability. Thus, even under an SBSs regime there will be a nexus between the rating of the sovereign and the rating of firms. However, this connection might be somewhat mitigated, because the national sovereign will be less burdened by having to bail out banks that are failing due to the (mitigated) sovereign-bank nexus.

3.2 Generating a larger volume of safe assets

One of the key reasons why the proponents suggest establishing a market for SBSs is to increase the volume of safe assets in the euro area (Brunnermeier et al., 2016). However, the question remains whether there is a lack of safe assets in the euro area.

The proponents argue that formerly stressed economies in particular suffered from the fact that their sovereign bonds were no longer regarded as safe during the euro area debt crisis. It is true that from the viewpoint of the legislator all sovereign bonds of euro area countries are treated as risk-free. The zero risk weight in the bank capital requirements regulation assumes that all euro sovereigns are attentive to the soundness of their financial positions. Provided this is true, the volume of safe assets would be defined by the volume of euro area sovereign bonds. However, during the euro area sovereign debt crisis, sovereign bonds of stressed countries in particular lost considerable value and were downgraded, which has ex-post reduced the volume of safe assets in the euro area. Given that the soundness of government

finances cannot be taken for granted in view of the high level of sovereign debt, and taking into account that the volume of safe assets can shrink in times of crisis, the argument as to a safe asset shortage in the euro area cannot be easily discarded. However, statements by market participants have cast some doubt on this assumption (handelsblatt.com, 2017).

3.3 De-privileging sovereign bonds in banking regulation

Banks' proneness to tensions in sovereign debt markets is also due to the zero risk weight for this asset class in bank capital regulation. In this respect, SBSs can serve as part of a political compromise to de-privilege sovereign bonds in bank capital regulation. SBSs could potentially be used to cushion the effect the de-privileging might have on sovereign bond markets. Thereby, SBSs would also contribute indirectly to reducing the sovereign-bank nexus, which still is a threat to euro area financial stability.

On the other hand, de-privileging national sovereign bonds can facilitate the introduction of SBSs. For banks to prefer the senior tranche of the SBSs to national government bonds, the senior tranche of the SBSs would need to be credibly risk-free and it would need to obtain regulatory privileges over national sovereign bonds. This could be achieved by implementing risk-based capital requirements for holdings of national government bonds, while the senior tranche of the SBSs could obtain zero risk weight if it achieves and maintains an AAA rating. For the zero risk weight to be credible even in times of financial crisis, the senior tranche of the SBSs has to be seen as a safe asset also in the event of deep recessions and financial distress (see Chapter 4.2). Questionable is, however, whether the senior tranche of the SBSs can maintain a AAA-rating. While a sovereign bond is a claim against a sovereign, which can levy taxes on its citizens, the SBSs is a claim against the issuing agency, which only has interest payments on its assets as income.

3.4 Strengthening market discipline and the no-bailout clause

As mentioned above, one of the key advantages of the SBSs concept compared to Eurobonds would consist of retaining the market discipline that is needed to discourage excessive public spending and sovereign debt. This feature is achieved mainly because a significant share of the national sovereign bonds of each euro area country would remain in the market and thus be priced by investors under market conditions. Marginal debt would thus have to be issued at market conditions. However, for market discipline to work, the public or private agency that purchases

the national government bonds in order to securitise them to SBS must not be allowed to dominate the market for government bonds (see Chapter 4.6).

Market discipline on sovereigns could even be strengthened further. Firstly, this could be achieved by de-privileging national sovereign bonds, as suggested in Chapter 3.3. If risk-appropriate regulatory capital and liquidity requirements are introduced, demand for securities with lower credit ratings should decrease (and risk spreads increase). This is because holding lower-rated sovereign bonds will become more costly for investors. Banks and insurance companies will have to put aside capital to meet the new risk-adequate capital requirements. Moreover, all investors active on the ECB's refinancing market (and the commercial repo market) will tend to receive less credit for providing lower-rated sovereign bonds as collateral, as more risk-adequate haircuts (deductions according to credit ratings) would be required. On top of this, restricting the use of sovereign bonds to meet banks' regulatory liquidity requirements will also reduce demand. Banks in particular will be less active as buyers of national sovereign bonds – which is the key objective of this reform measure. However, higher risk premia for lower-rated sovereign bonds must not be seen as a new distortion, but as a correction of an existing distortion, which is due to the disproportional regulatory privilege of national sovereign bonds in the euro area.

Secondly, the no-bailout rule could also be made considerably more credible. Sovereign defaults have proven to be nearly impossible in the euro area, because of the close connection between the balance sheet quality of sovereigns and banks. Due to the zero risk weight on sovereign bonds in bank capital regulation, banks are overexposed and undercapitalised regarding national sovereign bonds. Thus, they tend to be unable to cover the losses resulting from a default of their national sovereign, which endangers their solvency.

For example, Greece's default in 2012 has proven to be more complicated when compared to the near-default of Puerto Rico, which has a comparable debt-to-GDP-ratio and a comparable per-capita GDP to Greece, and which is also part of a (US-dollar) monetary union. A Puerto Rican default would not be a major problem for US banks because they hold equity capital against their exposures to Puerto Rico, and because they can use US Treasuries as safe assets in their refinancing operations, the value of which is independent of the state of finances in Puerto Rico. The comparison to the US indicates that the no-bailout rule can be strengthened in the euro area by the introduction of risk-based bank capital regulation for sovereign debt and the establishment of senior SBSs as safe assets. However, an inevitable requirement for SBSs to contribute to strengthening the no-bailout rules is that senior SBSs are as safe and as liquid as US Treasuries (see Chapter 4.2).

3.5 Monetary policy normalisation

SBSs could facilitate the ECB's exit strategy from quantitative easing. Due to the large-scale asset purchases of the ECB during the Public Sector Purchase Program (PSPP), markets lost liquidity. This implies the danger that the ECB's exit from the PSPP could potentially lead to a disruption of the euro area's sovereign bond market.

The SBSs concept could limit this danger. The ECB could potentially sell the government bonds it purchased during its PSPP to the SBSs agency. This would mean the ECB could get rid of the national sovereign bonds without disrupting the markets.

One could even go one step further: instead of obtaining money from the SBSs agency, the ECB could receive senior and junior SBSs in return. The ECB could then sell the senior and junior SBSs to banks in exchange for reducing their reserves at the ECB. This would be another step towards the normalisation of monetary policy.

4. Potential problems and drawbacks

Given that there are advantages of increasing the volume of safe assets by establishing SBSs, these advantages will only materialise if SBSs are introduced while respecting certain criteria. In Chapter 4 we analyse which problems and drawbacks can occur when establishing SBS. These problems could undermine the effectiveness of the SBSs or cause unintended side effects. Based on this analysis, we derive criteria for a sound SBSs framework in Chapter 5.

4.1 Viability of the SBSs business model

It cannot be taken for granted that a private agency issuing SBSs would be able to establish a viable business model. Importantly, it is not clear a priori that the agency can cover its capital, labour and administrative costs.

More precisely, it can be questioned whether the revenues coming from the interest payments of the national governments on the sovereign bond portfolio the agency has bought are sufficiently large to cover the agency's interest payments for the SBSs tranches it sells to the market (DZ Bank, 2017). In particular, the interest payments on the junior tranches could be so sizeable that they exceed the agency's revenues. These revenues are derived from the interest rate spread between the low-interest senior SBSs tranche and the average interest rate on the sovereign bond

portfolio. To explain: the SBSs agency receives the interest payments on the purchased bond portfolio from the national sovereigns. As safe senior SBSs carry low interest payments, they only generate few expenses for the agency. Thus, the larger the spread between both interest rates, the higher the agency's remaining revenue that is available to cover the interest payments for junior SBSs and the labour and administrative expenses.

The problem that the spread could be too low is particularly relevant in the current low interest rate environment. Thus, the de-privileging of national sovereign bonds is also necessary from this point of view in order for the spreads to increase.

4.2 Demand for senior SBSs questionable

With regards to the question of concept viability, the question arises whether the senior tranche of SBSs will be regarded as sufficiently safe and risk-free to obtain an AAA rating. Investors will buy safe senior SBSs (or risky junior SBSs) depending on their risk appetite. Normally, when investors intend to purchase risk-free bonds, they prefer German bunds or other sovereign bonds with an AAA rating (while investors with a greater risk appetite choose Italian or Greek government bonds, for example). However, while the German bund is a claim against the German sovereign, the senior SBSs is a claim against the special purpose vehicle, which has claims against all euro area member sovereigns. This can make a big difference in terms of investors' safety assessment, at least as long as the issuing agency has established a sufficiently sound reputation.

The recent paper by the ESRB proposing ESBies assesses the safety of senior SBSs (Brunnermeier et al., 2016) relies extensively on model-based simulations of default risk under different assumptions for the supposed aggregate state of the euro area. The authors conclude that ESBies would be slightly safer than the German bund with a tranching ratio of 70 per cent senior SBSs and 30 per cent junior SBSs, even assuming considerable positive cross-country correlations in times of crisis.

However, some doubts can be raised regarding the reliability of this result. It is true that the simulation relies, realistically, on historical data when assuming a 5 per cent probability of a severe recession, when default risks are set "very high for all nation states" (p. 9). Nevertheless, it can be criticised that the sovereign credit ratings (as the basis for default probabilities) are taken from December 2015. At that time, the ratings can be assumed to reflect a relatively decent shape of the euro area. The economy had been growing for 2 ½ years at a moderate pace and the ECB had been buying sovereign bonds since March 2015 (depressing risk premia). Even if it can be

argued that sovereign credit ratings are sticky and thus still reflected the legacy of the crisis period between 2010 and 2012, the question arises whether using the reference period of December 2015 might not lead the authors to underestimate the aggregate default risk of the euro area.

Eventually it will be decided by the rating agencies whether senior SBSs receive an AAA rating. In this respect, two opposing tendencies can be considered. On the one hand, rating agencies might exercise a large degree of caution, since they do not have any experience with this new asset class. Especially, because the SBSs are no claims against sovereigns, but claims against the issuing agency. On the other hand, there might be considerable political pressure on them to issue an AAA rating.

Even if senior SBSs receive an AAA rating, the demand from euro area banks might depend on the country of their residence. Banks in the formerly stressed EMU countries that faced restricted access to liquidity because of deteriorating government bond prices will quite likely buy a certain amount of senior SBSs in order to better stabilise their funding position in times of a future sovereign debt crisis. But what about financial institutions from countries with an AAA rating? Taking the example of Germany, German banks might tend to favour German bunds as safe assets over a new and untested asset class that SBSs will be at the time of introduction. Thus, it cannot be taken for granted that there will be sufficient demand for senior SBSs.

4.3 Vulnerability of junior SBSs in times of crisis

Will the market for junior SBSs also be sufficiently stable in times of crisis? Or will private investors shy away from buying those junior bonds due to fears of contagion among stressed euro area countries, which could lead to a breakdown of this market? The relevance of these questions extends far beyond the viability of the SBSs agency's business model and highlights a key issue regarding the viability of the overall concept of SBSs.

In fact, the construction of junior SBSs entails major differences compared to standard structured asset backed securities (ABS), e.g. mortgage-backed securities (MBS) or collateralised bond obligations (CBO). First, the number of asset types in the underlying portfolio is much smaller in the case of the junior tranche, so that the potential for risk-minimisation through diversification is significantly more limited (DZ Bank, 2017). While ABSs typically contain a very large number of individual assets of small volumes, the SBSs portfolio contains a maximum of 19 types of national sovereign bonds (of different maturity). As sovereign bonds of large countries such

as Germany, France, Italy, and Spain will account for a relatively large share of the portfolio, the diversification potential is also hampered due to the additional problem of risk concentration. Second, in standard ABSs the risk correlation among the individual assets in the portfolio is ideally rather low. The national sovereign bonds in the SBSs portfolio, however, could suffer from sizeable contagion effects (as seen during the period 2010 to 2012), so that cross-correlations could become significant.

In fact, the ESRB paper by Brunnermeier et al. (2016) does consider the scenario of an adverse crisis and assumes considerable cross-country correlations (for details, see page 15–17 of the paper). The simulated five-year expected loss rate of EJBies (at a 30 per cent tranching level) is estimated to reach 11.81 per cent (compared to 9.1 per cent in the benchmark (crisis) case). To assess the relevance of these loss rates, they are compared to the loss rates of national sovereign bonds as calculated by Brunnermeier et al. (2016), based on credit ratings of December 2015. Their focus is on the comparison to a weighted aggregate of sovereign bonds of Spain, Italy, Cyprus and Greece, which amounts to 9.3 per cent (including an expected loss rate for Greece of 34 per cent). They implicitly conclude that EJBies do not appear overly risky so that – as for low-rated national sovereign bonds – a viable market should be available for the junior tranche, in their view.

However, this conclusion might appear overly hasty, because the five-year expected loss rates of 4.9 per cent for Spain and 5.6 per cent for Italy are considerably lower than the estimated loss rates for EJBies (of between 9 and nearly 12 per cent). Even when considering that the loss rates of Spanish and Italian sovereign bonds might be higher at other times than December 2015, the expected loss rates of EJBies appear relatively elevated (at a tranching level of 30 per cent). Thus, it might be questioned whether there would be sufficient demand in the market for the junior tranche. This is particularly relevant in times of crisis, because demand for Italian or Spanish bonds was dangerously low at certain times in the recent past.

However, if the market for the junior SBSs tranche broke down in times of crisis and potentially high contagion across stressed euro area countries, the SBSs concept would collapse. Without a viable market for junior SBSs, the agency would no longer be able to buy national sovereign bonds, so that these markets would also be extremely stressed.

4.4 Risk of mutualisation of sovereign debt in times of crisis

The question arises as to what would happen if the SBSs concept did break down in times of crisis. More particular, it must be asked whether the SBSs framework might

be bent or even changed in order to rescue individual stressed EMU member countries that are excluded from the financial market. Related to this, it also should be assessed whether mutualisation of sovereign debt would become more likely.

In principle, it cannot be precluded that the SBSs concept would be used to open new short-cuts for rescuing individual Member States on top of the newly-established crisis mechanisms of the ESM and the OMT of the ECB. All of the following (non-exclusive) options would most likely involve the explicit or implicit mutualisation of sovereign debts in the euro area:

- The ESM and/or the ECB could intervene in the market for the junior SBSs tranche in order to keep it viable so that the SBSs agency could continue its usual business.
- The SBSs agency could receive direct support or guarantees from the euro area governments so that it could continue to buy sovereign bonds of stressed member states.
- In addition to one of these options, the SBSs agency could be allowed to buy disproportionate amounts of bonds of stressed countries and to buy at non-market conditions on the primary market at higher prices and with lower risk premia.

Even if these new options might not be envisaged a priori in the SBSs concept, they might be used in times of a severe crisis on an extraordinary basis. However, when evaluating this possible danger of nearly uncontrolled debt mutualisation in times of crisis, it should be kept in mind that the existing crisis mechanisms (mainly the ESM and the OMT) also involve debt mutualisation. Moreover, it is unclear if the financial capacity of the ESM would suffice for a sovereign debt crisis of a large EMU country, particularly if possible contagion effects are also taken into account. In such a crisis, also in the current framework (without SBSs) it cannot be precluded that additional unconventional rescue measures are taken that might involve debt mutualisation that could be difficult to control. In fact, a major crisis is the reference scenario to which the SBSs proposal should be compared.

At first glance, the SBSs concept could be seen to provide a welcome additional rescue mechanism – with the potential to reduce speculative attacks on sovereign bond markets of stressed countries. However, such an approach would entail major disadvantages.

- The no-bailout clause could be broken because a sufficiently large SBSs-related intervention could prevent any sovereign default from happening. In contrast, in the current crisis prevention framework, an intervention by the ESM is based on a

debt sustainability analysis (DSA) and can only happen if the respective country can be deemed solvent. Even if the assumptions of a DSA can be manipulated to some degree, the decision on an ESM programme must still be taken by the ESM's Board of Directors by mutual agreement.

- The conditionality principle could be endangered. While a financial support programme by the ESM (or the OMT) can only be provided if the respective country agrees to a reform programme, SBSs-related interventions could occur without this precondition, especially when interventions in the market for the SBSs junior tranche is concerned.
- In contrast to an ordinary ESM programme, it could be more difficult to control the amount of explicit or implicit financial support provided via the SBSs concept.
- If the ECB were to intervene on a large scale in the SBSs junior tranche market, this would not only imply debt mutualisation but also debt monetisation.
- If financial markets anticipate that the above options are likely to be taken in times of crisis, the risk premia of national sovereign bonds would be distorted.

In view of these potential risks, the key question arises whether the legal framework of the SBSs concept can be made sufficiently watertight (see Chapter 5).

4.5 Danger of not de-privileging sovereign bonds

The introduction process of SBSs could lead to a situation where the above-mentioned political compromise might not be fully implemented. This would be the case if SBSs were introduced but national sovereign bonds were not de-privileged in banking regulation. It is true that the latter reform is a clearly stated objective of Brunnermeier et al. (2016). However, it is highly unpopular with governments particularly of formerly stressed and highly indebted EMU countries. Therefore, plans for the introduction of SBSs should explicitly consider the risk that this unpopular step may not be taken.

In fact, the introduction of SBSs is no panacea, because two contrasting preconditions play an important role in view of the objective of breaking the sovereign-bank nexus. On the one hand, the substitution of national sovereign bonds by senior SBSs in banks' balance sheets can only be effected when the SBSs market is sufficiently large, as Brunnermeier et al. (2016) also suggest when arguing for a certain threshold of SBSs market volume. On the other hand, SBSs need to be sufficiently attractive for investors. Thus, low-yielding senior SBSs need to be privileged by regulation relative to high-yielding (attractive) national sovereign bonds of potentially stressed countries that are risky but also very cheap to hold, due to their regulatory privileges in the status quo. The regulatory advantage of SBSs

should be achieved by de-privileging national sovereign bonds, as foreseen in the political compromise. Thus, a kind of paradox arises in terms of sequencing: while eliminating the regulatory privileges of national sovereign bonds is a precondition for the viability of SBSs, it can only be done if the SBSs market is sufficiently established, because banks need a substantial volume of SBSs to substitute for national sovereign bonds.

This constellation could open the door to a highly problematic development. In order to establish a viable and large SBSs market, an alternative approach could be considered by the proponents. Senior SBSs might be granted regulatory privileges that exceed those of national sovereign bonds. However, if the SBSs market was up and running under these conditions, it can be questioned whether national sovereign bonds would really be de-privileged. If this part of the political compromise was not followed through, the sovereign-bank nexus would very likely not be sufficiently eliminated because banks would probably hold senior SBSs alongside higher yielding national sovereign bonds.

Again, clear rules for the introduction of the SBSs concept need to be found and reliably agreed to ensure that national sovereign bonds are de-privileged.

4.6 Distortions in national sovereign bond markets?

As the SBSs agency would be a significant player in the market for national sovereign bonds, the question arises whether risk premia would be distorted in non-crisis periods. Of particular concern would be the distortions towards risk premia that are too low that would occur if the demand for national sovereign bonds exceeded a “normal” level (which is, however, very difficult to estimate). This would reduce the disciplining force of the financial market (see Chapter 3.4).

A distortive effect leading to lower interest rates may occur, if the SBSs agency purchases national sovereign bonds on the primary market in a particular manner. The recent paper favouring ESBies (Brunnermeier et al., 2016) suggests that purchases could be executed on the primary and/or the secondary market. To explain the difference: on the primary market, new sovereign bonds are issued by governments by way of auctions. Private investors tend to offer prices, which are closely referenced to the current prices of the respective sovereign bonds on the secondary market. Here, where usually only private investors trade among themselves, a liquid market with many actors on both sides tends to guarantee an unbiased pricing process. When purchasing on the primary market, the SBSs agency might offer higher prices than on the secondary market (implying lower interest rates)

either in an auction or by going for an over-the-counter deal directly with the government. How large is the risk of such a strategy, which would weaken the financial market discipline? If the SBSs agency was a private commercial actor, offering higher prices would not be very likely, because this would reduce profits. However, if the SBSs agency was a public entity (or a private entity with significant public influence), such a strategy could not be ruled out.

Moreover, distortions are particularly likely for countries with a public debt ratio below 60 per cent of GDP. The ESBies proposal foresees that in such instances not all bonds would be bought by the SBSs agency (Brunnermeier et al., 2016). However, the supply of national sovereign bonds remaining on the market would still be significantly reduced. Distortions in different directions can result. Interest rates could increase somewhat, due to higher trading costs because of reduced market liquidity and higher volatility. However, there is also the potential of lower interest rates. As finding market prices can become difficult, due to tight liquidity conditions, there is a considerable potential for the SBSs agency to offer higher prices (lower interest rates) than “normal”, particularly when purchasing on the primary market.

More generally, the impact of the SBSs agency acting as an additional buyer in the secondary and primary national sovereign bond markets should be evaluated. At first glance, this could be seen to increase demand for national sovereign bonds. However, there is also an opposite effect, since SBSs are a competing security, meaning demand will be diverted away from national sovereign bonds. Examined more closely, the SBSs agency acts as a kind of intermediary between investors and the national sovereign bond markets. This implies that investors in SBSs are no longer active to the same degree in the national sovereign bond markets but tend to be substituted by the SBSs agency. Thus, it needs to be questioned how large the demand from investors for SBSs would be, compared to the demand in the status quo for the share of national sovereign bonds, which would now be bought by the SBSs agency. In other words, does the fixed-share demand of the SBSs agency exceed the “normal” demand? The answer depends, inter alia, on the risk-return preferences of investors and thus on the absolute and relative size of their demand for the senior and for the junior tranche – all of which are difficult to determine a priori. Thus, the following comments are illustrative:

- Demand for lower-rated national sovereign bonds might increase above “normal” levels because the SBSs agency provides these bond markets indirectly with access to demand for safe (SBSs) assets, which is passed on to the national sovereign bond market. This would hardly be possible under normal circumstances.

- Another criterion to judge a possible distortive effect refers to the degree of substitution. The more (less) intense the degree of substitution (and thus competition) between the different SBSs tranches and the risk profile of national sovereign bonds of individual EMU countries, the more (less) the demand for these national bonds would decrease. For example, if the SBSs senior tranche was regarded a close substitute for German Bunds, demand for German Bunds would probably decline so that the interest rate could increase to a certain degree. However, this will not be the case (or less so) if the demand for safe assets is very large and cannot be completely satisfied in the current framework without SBSs. Whether the senior SBSs tranche is considered a close substitute for German bunds depends on the rating of the former and also on the regulatory treatment of both assets. If senior SBSs were provided with the regulatory privilege of a zero risk weight, and if German bunds were assigned a positive risk weight (but had similar default probability), demand for senior SBSs would probably be artificially elevated at the expense of demand for German bunds. A less distortionary way of establishing a market for SBSs would be to maintain zero risk weight for AAA sovereign bonds.
- The establishment of a market for SBSs will probably have different effects from the establishment of a market for simple, transparent, and standardised (STS) securitisations, which are in principle assets backed by loans. In case of a low demand for STS securitisations, banks will refrain from issuing them and thus also from buying the underlying loans. However, the case may be different for SBSs, since the SBSs agency buys sovereign bonds on a systemically important financial market. Should investors' asset demand barely switch from sovereign bonds to SBSs, the demand for sovereign bonds stays high, while the agency will be one additional large buyer of these bonds, thereby putting an upward pressure on bond prices, which will reduce their risk premia. If this scenario materialised, the introduction of SBSs would have comparable effects on sovereign bond yields to the introduction of quantitative easing.

Overall, the above theoretical considerations necessarily remain somewhat elusive. Only empirics will provide more clarity.

5. Conclusion and recommendations

The evaluation of the SBSs proposal has yielded mixed results. On the one hand, there are relevant theoretical advantages. Severing the sovereign-bank nexus is a key reform that is yet to be accomplished and, in our view, de-privileging sovereign bonds is a key component that is still missing in this respect. This reform should be

implemented ideally for its own sake. However, it appears this may be too difficult politically. Indeed, the political balance in the EMU architecture could require a certain increase in risk sharing to be taken in parallel as a political compromise. If SBSs helped to open the otherwise closed door to the de-privileging of sovereign bonds, much would be gained in terms of limiting systemic risks in the euro area. Moreover, financial integration could be fostered by SBSs and a larger volume of safe assets could be generated.

On the other hand, from a practical and political point of view, significant drawbacks must also be noted. Technically, it is not sufficiently clear whether the SBSs concept represents a viable business model for a private entity and whether senior SBSs would receive an AAA rating as a precondition for finding sufficient demand. Moreover, the junior tranche could be perceived by investors as being too risky to attract sufficient demand, particularly in times of crisis. If this happened, the whole concept would collapse.

This is where the political and other risks materialise:

- In the event of an impending collapse of the SBSs market, the question arises whether the rescue measures illustrated in Chapter 4.4 would be taken and what the impact on debt mutualisation and financial market discipline would be. However, it should be borne in mind that the actions taken in such a severe crisis have to be compared to an intervention of the ESM and of the ECB with the OMT. While the latter measures also involve debt mutualisation, they are subject to the conditionality principle, to a debt sustainability analysis and to relatively strict decision-making procedures in the ESM. In contrast, potential rescue measures in the context of the SBS concept might go without sufficient solvency tests and reform requirements, and are likely to be more difficult to control.
- Even though de-privileging national sovereign bonds features as a key part of the political compromise portrayed here, political resistance to this reform remains significant, because it would probably increase the refinancing costs of euro area governments, particularly of those with high public debt burdens. This constellation poses the danger that SBSs are introduced by providing them with even larger regulatory privileges to establish a market for SBSs, but that there is no follow-through with de-privileging national sovereign bonds.
- There are concerns relating to potential market distortions (possibly due to political interference with the SBS concept) even in non-crisis times. The SBSs agency – particularly when purchasing national sovereign bonds on the primary market – could offer overly high prices in order to reduce interest rates. This could permanently reduce the disciplining function of the financial market.

- The SBSs could prove irreversible politically, even if it did not to meet expectations.

In view of these considerable risks, northern EMU countries are likely to oppose the SBSs concept due to fears that even rules that were initially appropriate could eventually be bent which would lead to unintended debt mutualisation and fiscal disincentives would result. At the same time, many EMU countries (and particularly those with high public debt ratios) will probably strongly resent the de-privileging of national sovereign debt.

However, difficult political compromises to improve the architecture of EMU are more likely after the recent and upcoming elections in France and Germany. Moreover, the EU Commission supports SBSs and mentioned the concept in the EMU reflection paper. The ESRB's High-Level Task Force on Safe Assets may also eventually come out in favour of the SBSs concept, as the group is led by one of the proponents of SBSs.

Notwithstanding this potentially favourable constellation, the Commission should launch a public consultation in order to gather more information on investors' views on the pros and cons of the SBSs concept and should refrain from introducing this asset class if the collected views are too unfavourable.

Presuming the technical and political viability of such steps, recommendations for a sound SBS framework are provided as follows:

- The SBS agency should be a private entity unconnected to the public sector, to prevent political interference, particularly in times of crisis. An alternative would be an independent public entity with a clear mission statement. The agency should publish reports and data on a regular basis, so that the market participants can correctly determine the degree of safety of the senior tranche and the riskiness of the junior tranche. The framework and rules for the SBS agency need, however, to be established at political level. This framework should include the following aspects.
- Banks in the euro area should be able to hold junior SBSs solely with risk-adequate capital requirements and strict volume limits in order to prevent the sovereign-bank nexus from being perpetuated via this channel (see SVR, 2016) for the proposal that banks should not be allowed to hold junior SBSs at all).
- In order to avoid a distortion of interest rates and resulting disincentives for fiscal policy, purchases of national sovereign bonds by the SBS agency on the primary and secondary market should be strictly aligned to prices in the secondary market, which result without the actions of the SBS agency. Therefore, the activity

of the SBS agency should not be permanent on the secondary market. There should be daily purchasing limits so that the agency will not distort securities prices. Issuer limits should be developed that should be similar to the rules of the ECB's PSPP.

- The viability of the SBS concept can be better ensured when the tranching point between junior and senior tranches is chosen more conservatively. A 60/40 (or even a 50/50) split would make both tranches safer than the proposed 70/30 ratio. This would come at the price of creating a smaller volume of safe senior SBS securities. But this price is clearly worth paying, particularly in order to ensure that the SBS concept does not collapse even in times of crisis. A market for SBSs can only be established if the safety of the senior tranche is fully credible.
- An additional step to ensure sound fiscal policies is possible. Access to the SBSs concept could be restricted to countries that adhere to the Stability and Growth Pact. Since the smooth functioning of the market for SBSs depends on the full credibility of their safety, restrictions on the participating member country's fiscal sustainability would be useful. Conditioning participation implies, however, that the degree of diversification could be reduced to some extent.
- Both parts of the envisaged political compromise must be implemented. Alongside the introduction of SBSs, national sovereign bonds must be de-privileged. A clear guarantee is indispensable to ensuring that both steps are taken in one step, despite the sequencing problems mentioned above (Chapter 4.5). A possible solution could be to take the definite and binding decision to de-privilege national sovereign bonds and starting at a pre-defined time in the near future. The time leading up to this date can be used to introduce SBSs – particularly focused on longer maturities that extend into the phase when national sovereign bonds are already de-privileged. In addition, a gradual de-privileging and SBSs introduction is possible when only new issues (rather than the existing stock) of national sovereign bonds lose the privileges. Apart from these suggestions for mitigating the sequencing problems, privileges for SBSs that go beyond those for national sovereign bonds should not be provided.
- The question arises whether any precautions should be taken for the unlikely event that in a severe crisis the junior SBSs market broke down. It is probably sufficient to have the ESM and possibly the OMT target the stressed countries directly with a normal support and reform programme. If this does not prove sufficient to make the junior SBS market viable again, an intervention by the ESM or the ECB in this market could be allowed as *ultima ratio*. However, the rules for this intervention would have to be very strict, ensuring full political control as well as a sound debt sustainability analysis and adherence to the conditionality principle for the countries in question. It is potentially better to establish strict rules a priori, in order to avoid urgent interventions by the ESM and ECB being

regarded as indispensable at a time of severe crisis, despite the fact that no clear rules exist.

Overall, it appears possible to establish a sound framework for SBSs that can maximise their benefits and go a long way to avoid debt mutualisation. However, the question remains whether this framework can survive the political process without being weakened in times of crisis under severe political pressures. Thus, the problem of time inconsistency cannot be ruled out. The key danger lies in the fact that the SBSs concept would open the door to potentially unconditional debt mutualisation. Thus, one must weigh up the benefits of breaking the bank-sovereign nexus against the political risks of establishing SBSs.

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