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Can a Reliable Framework for Sovereign-Backed Securities Be Established?

The European Commission has proposed the introduction of 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 representative portfolio of national sovereign bonds from the euro area. Purchases are financed by issuing (at least) two types of structured bonds: a risk-free senior SBS tranche and a risky junior SBS tranche. Overall, we recognise that the SBS concept has the potential to improve financial stability and financial integration in the euro area. However, we highlight several potentially severe technical and political problems. Most important for the SBS concept to function properly are the de-privileging of national sovereign bonds in bank regulation, rules to ensure conditionality in times of crisis and measures to prevent disincentives for national public finances. If such conditions remain elusive, we advise against the introduction of SBSs.

The European Commission's reflection paper on the future of the European Economic and Monetary Union (EMU) recommends, among other measures, the establishment of a market for sovereign-backed securities (SBSs).[1] SBSs were first proposed under the name European Safe Bonds (ESBies) by Brunnermeier et al. in 2011.[2] In contrast to Eurobonds, the SBS proposal does not aim at solving the sovereign debt problem, but aims to reduce the financial stability risks in the banking sector that can be caused by sovereign debt crises. The rationale is that if a safe asset can be created, banks could hold this asset and better shield themselves from sovereign risk. In particular, they could use the safe asset as collateral in their refinancing operations. With stable collateral, the risk of liquidity shortages during sovereign debt crises can be reduced. Two significant remaining problems in the architecture of the EMU can potentially be addressed through SBSs. First, the EMU is still prone to a bank-sovereign doom loop and thus potentially severe financial stability risks. Second, the sovereign-bank nexus can contribute to capital flight from stressed countries to "safe harbour" countries. This disruption can cause a fragmentation of the euro area's capital market along national lines that might hamper the transmission mechanisms of monetary policy in the euro area.

The advantages of the availability of a safe asset for financial stability can be seen from a juxtaposition of the euro area with the United States. In contrast to banks in the euro area, US banks are less exposed to the quality of their respective state sovereign's balance sheet. Moreover, in times when state defaults are a plausible threat, as was the case in California in 2009, there are no signs of significant capital flights. One possible reason the US financial system is more resilient to potential sovereign defaults is that US banks hold equity capital against their exposures to state and local government debt in the US, while European banks are undercapitalised with respect to national sovereign debt exposures. Another is that US banks can invest in US Treasury bills, which are safe assets with re-

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1 European Commission: Reflection paper on the deepening of the economic and monetary union, COM(2017) 291, 31 May 2017.

2 M. Brunnermeier, L. Garicano, P. Lane, M. Pagano, R. Reis, T. Santos, S. van Nieuwerburgh, D. Vayanos: European Safe Bonds (ESBies), The euro-nomics group 2011, available at http://personal.lse.ac.uk/vayanos/Euronomics/ESBies.pdf; M. Brunnermeier, S. Langfield, M. Pagano, R. Reis, S. van Nieuwerburgh, D. Vajanos: ESBies: Safety in the tranches, European Systemic Risk Board (ESRB), Working Paper Series No. 21, September 2016.

spect to the quality of the states' balance sheets. The euro area lacks a comparable safe asset. The proponents of the SBS concept have suggested an asset class that is meant to have a comparable level of safety and liquidity as US Treasury bills. Thus, with SBSs a larger volume of safe assets could be created in the euro area.

The SBS concept was sceptically received by the German Ministry of Finance, the German Council of Economic Advisors and by the Deutsche Bundesbank.[3] In contrast to this criticism, we see potential advantages in a soundly implemented SBS concept. Most importantly, market discipline could be strengthened in several ways:

- The SBS concept is explicitly intended to maintain market discipline, as a significant share of national sovereign bonds should continue to be issued in primary markets.
- Market discipline can be further enhanced by de-privileging national sovereign bonds in banking regulation and by strengthening the "no-bailout clause".

In our view, the introduction of SBSs needs to be closely tied to this de-privileging.[4] This reform, which might otherwise be unattainable, could potentially be facilitated by the introduction of SBSs as part of a political compromise. In this case, market discipline for fiscal policy would be strengthened.

This is all the more true, as SBSs could strengthen the no-bailout clause by rendering sovereign defaults possible without severely affecting national banking systems. Moreover, the SBS concept could contribute to facilitating the ECB's exit from the quantitative easing programme, as the ECB could potentially sell the national sovereign bonds it purchased to the SBS agency.

To the best of our knowledge, our previous paper on this subject is the only thorough and detailed academic paper of neutral origin on the advantages and disadvantages of SBSs available to date.[5] In this shortened version, we will focus on the problems of the SBS concept and suggest remedies for fixing these problems.

3 See Federal Ministry of Finance: Letter from the Federal Ministry of Finance's Advisory Board to Federal Minister of Finance Dr. Wolfgang Schäuble, 20 January 2017, 2017; Deutsche Bundesbank: Ansatzpunkte zur Bewältigung der Staatsschuldenkrise im Euroraum, in: Monthly Report, July 2016, pp. 43-64; Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung: Zeit für Reformen, Jahresgutachten 2016/17, 2016.

4 This connection has also been suggested principally by M. Brunnermeier et al.: ESBies: Safety..., op. cit.

5 See M. Demary, J. Matthes, op. cit.

Potential problems and remedies

In the earlier paper, we identified several potentially severe problems in the SBS concept with regard to (1) the profitability of the issuing agency, (2) a lack of demand for senior SBSs, (3) the vulnerability of junior SBSs to stress in sovereign debt markets, (4) the possibility of unintended risk mutualisation in times of crisis, (5) the danger of not de-privileging sovereign bonds in financial regulation and (6) distortions in sovereign debt markets.[6]

Profitability of the issuing agency

The supply side of the market for SBSs consists of a monopolistic issuer that purchases sovereign bonds from euro area sovereigns and uses the cash flows from these bonds (mainly interest payments) in order to finance the coupon payments on the senior and junior bonds it issues to the public. The issuing agency thereby services the senior and junior bonds through a cascade model such that the senior bonds should be default-free (safe assets). In contrast, the junior bonds (or different classes of junior bonds) would cover the risks of the portfolio of national sovereign bonds by receiving all potential losses (payment shortfalls) in case of the sovereign default of individual countries. If a tranching point of 70% senior SBSs and 30% junior SBSs is chosen (as suggested by the proponents), the senior tranche would remain safe as long as no more than 30% of the sovereign bonds in the underlying SBS portfolio were in default status at any point in time.

For the supply of SBSs to be stable over time, the SBS business model has to be profitable, or at least loss avoiding. It cannot be taken for granted that the private issuer of SBSs would be able to establish a viable business model and that the agency would be able to cover its capital, labour and administrative costs. In particular, the required interest payments on the junior tranches could be so sizeable that they consume too large a share of the agency's revenues.[7] Moreover, the agency's profits might be too low. This profitability gap could result from too small a difference between the average interest rate revenue obtained from the national sovereign bond portfolio and the interest rate the agency would have to pay on the senior SBSs tranche. This problem is particularly relevant in the current low interest rate environment. Therefore, the spread (difference) between the average yield on the sovereign bond portfolio and the interest rate on senior SBSs has to be sufficiently large. To ensure this condition and thus the SBS business model, national sovereign bonds

6 Ibid.

7 See DZ Bank: ABS & Structured Credits, 13 March 2017.

would need to lose their preferential treatment in financial regulation. Thus, the de-privileging of national sovereign bonds is a prerequisite for the supply of SBSs to be stable.

Demand for senior SBSs

The demand for senior SBSs will only emerge when these assets are credibly safe assets that can achieve and maintain a AAA-rating. This raises the question whether credit rating agencies will regard the senior tranche of SBSs as sufficiently safe and risk-free to provide a AAA-rating. S&P was sceptical in a trial assessment and recommended a "BBB-" for the senior tranche.[8] This point is crucial, because investors have a choice between senior SBSs and national sovereign bonds with a AAA-rating, like the German Bund. However, the legal difference between the German Bund and senior SBSs might be a legitimate reason for a denial of a AAA-rating for senior SBSs, because the German Bund is a claim against the German sovereign, while senior SBSs are claims against the SBS issuer, who lacks a similar reputation.

Proponents' assessment of the safety of senior SBSs comes to the conclusion that senior SBSs would be slightly safer than the German Bund, under the assumption of a tranching ratio of 70% senior SBSs and 30% junior SBSs.[9] However, this evaluation can be criticised in two respects.

Firstly, the underlying simulations might be too optimistic, as they rely on credit ratings dating from December 2015. At that time, the ratings can be assumed to reflect a euro area that was in relatively decent shape. The eurozone economy had been growing continuously at a moderate pace for two and a half years and the ECB had been buying sovereign bonds since March 2015, thus 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 could have caused the authors to underestimate the aggregate default risk of the euro area.

Secondly, whether senior SBSs receive a AAA-rating by the credit rating agencies will depend not only on the probability of default but also on the loss size of the given default, which depends on the legal definition of SBSs. The loss, given default of SBSs, can be higher compared to sovereign bonds because SBSs are not claims against a sovereign but against a private issuer. This problem has to be addressed in the SBS framework in order to achieve a credibly safe asset class for the euro area. Otherwise, banks from Germany, for example, might tend to favour German Bunds as safe assets over a new and untested asset class, which SBSs will be at the time of introduction.

Vulnerability of junior SBSs

For the SBS concept to contribute to financial stability and financial integration, the value of the senior SBSs has to be sufficiently stable even in times of stress in national sovereign debt markets. However, there is the risk that investors will get nervous in crisis periods and that disruptions in the market for junior bonds will spill over to the market for senior bonds. Thus, sufficient stability in the market for junior SBSs in times of crisis will be a prerequisite for the senior SBSs to be a safe asset class.

It has to be kept in mind that the construction of SBSs entails major differences compared to standard structured asset-backed securities (ABS), e.g. mortgage-backed securities or collateralised bond obligations.

First, the number of asset types in the underlying portfolio is much smaller, so that the potential for risk-minimisation through diversification is significantly more limited.[10] While ABSs typically contain a very large number of individual assets of small volumes, the SBS portfolio contains a maximum of 19 types of national sovereign bonds (of different maturities). 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, the risk correlation among the individual assets in the portfolio of standard ABSs is ideally rather low. The national sovereign bonds in the SBS 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 original ESRB paper on SBSs does consider the scenario of an adverse crisis and assumes considerable cross-country correlations.[11] The simulated five-year expected loss rate of the junior tranche (at a 30% tranching level) is estimated to reach 11.8%, compared to 9.1%

8 S&P Global Ratings: How S&P Global Ratings Would Assess European "Safe" Bonds (ESBies), RatingsDirect, 25 April 2017.

9 See M. Brunnermeier et al.: European..., op. cit.; and M. Brunnermeier et al.: ESBies: Safety..., op. cit.

10 See DZ Bank, op. cit.; and S&P Global Ratings, op. cit.

11 M. Brunnermeier et al.: ESBies: Safety..., op. cit.; see pp. 15-17 for details.

in the benchmark (crisis) case.[12] 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., based on credit ratings from December 2015. Their focus is on the comparison to a weighted aggregate of sovereign bonds from Spain, Italy, Cyprus and Greece, which amounts to 9.3% (including an expected loss rate for Greece of 34%). They implicitly conclude that the bonds of the junior tranche are not overly risky and that a viable market should be available for the junior tranche, similar to the one for low-rated national sovereign bonds.

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

The SBS concept will collapse if the market for the junior SBS tranche breaks down in times of crisis. Without a stable market for junior SBSs, the agency would no longer be able to buy national sovereign bonds, and this would cause these markets to become extremely stressed. This problem is serious and must be addressed in the SBS framework.

Risk mutualisation in times of crisis

The question arises as to what would happen if the SBS concept did break down in times of crisis. More particularly, it must be asked whether there would be political pressure to bend or change the SBS framework in order to rescue individual stressed EMU members that were 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 SBS concept would be used to open new short cuts for rescuing individual member states on top of the newly established crisis mechanisms of the European Stability Mechanism (ESM) and the ECB's Outright Monetary Transactions (OMT) programme. Even if such steps might not be envisaged a priori in the SBS concept, they could be used in times of a severe crisis on an extraordinary basis. All of the following (non-exclusive) possibilities would most likely involve the explicit or implicit mutualisation of sovereign debts in the euro area:

- The ECB and/or the ESM could intervene in the market for the junior tranche of SBSs in order to keep it viable so that the SBS agency could continue its usual business.

- The SBS agency could receive direct support or guarantees from a potential euro area fiscal capacity so that it could continue to buy the sovereign bonds of stressed member states.

- In addition to these possibilities, the SBS agency could be allowed to buy disproportionate amounts of bonds of stressed countries and to buy at non-market conditions on the primary market, i.e. at higher prices and with lower risk premia.

At first glance, these options could be seen to contribute to financial stability and financial integration – with the potential to supplement the existing rescue mechanisms and thus to reduce the likelihood of speculative attacks on the sovereign bond markets of highly indebted and potentially stressed countries. However, such an approach would entail major risks and disadvantages:

- The no-bailout clause could be violated, as a sufficiently large SBS-related intervention could prevent any sovereign default from happening. In contrast, in the current crisis resolution framework, an intervention by the ESM is based on a debt sustainability analysis (DSA) and can only be implemented if the respective country is 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 (and the OMTs by the ECB) can only be provided if the respective country agrees to a reform programme, SBS-related interventions could occur without this precondition, especially when interventions in the market for the SBS junior tranche are 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 SBS concept.

12 Ibid.

- If the ECB were to intervene on a large scale in the SBS junior tranche market, this would not only imply debt mutualisation but also debt monetisation.
- If financial markets anticipate that the above actions are likely to be taken in times of crisis, the risk premia of national sovereign bonds will be distorted.

In view of these potential risks, the key question arises whether the legal framework of the SBS concept can be made sufficiently watertight.

Danger of not de-privileging sovereign bonds

The SBS introduction process could lead to a situation in which the previously 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 the original SBS paper.[13] However, it is highly unpopular with governments, particularly with 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 if the SBS market is sufficiently large.[14] On the other hand, SBSs need to be sufficiently attractive for investors. Thus, regulation needs to privilege low-yielding senior SBSs relative to the high-yielding (attractive) national sovereign bonds of potentially stressed countries that are risky but also very cheap to hold, due to their current regulatory privileges. 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 SBS market is sufficiently established, because banks need a substantial volume of SBSs to substitute for national sovereign bonds.

This constellation of issues could open the door to a highly problematic development. In order to establish a viable and large SBS market, an alternative approach could be considered, whereby senior SBSs might be granted regulatory privileges that exceed those of national sovereign bonds. However, if the SBS market was up and running under these conditions, it could be questioned whether national sovereign bonds would really be de-privileged. If this part of the political compromise was neglected, the sovereign-bank nexus would very likely endure, because banks would probably hold senior SBSs alongside higher yielding national sovereign bonds.

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

Distortions in national sovereign bond markets

As the SBS agency would be a significant player in the market for national sovereign bonds, the question arises whether risk premia on national sovereign bonds would be distorted in non-crisis periods. Of particular concern would be overly low risk premia, because this would reduce the disciplining force of the financial market.

A distortive effect leading to lower interest rates may occur if the SBS agency purchases national sovereign bonds on the primary market in a particular manner. Brunnermeier et al. suggest that purchases could be executed on the primary and/or the secondary market.[15] When purchasing on the primary market, the SBS 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. If the SBS agency were a private commercial actor, it would be unlikely to offer higher prices, because this would reduce its profits. However, if the SBS agency were a public entity (or a private entity with significant public influence), such a strategy could not be ruled out.

More generally, the introduction of SBSs implies that the SBS agency acts as an additional buyer in national sovereign bond markets. At first glance, this could be seen to increase demand for national sovereign bonds. However, there is also an opposite effect, as SBSs are a competing security that will divert demand away from national sovereign bonds. Looking closer, the SBS agency acts as a kind of intermediary between investors and the national sovereign bond markets. Thus, one would have to determine the level of investor demand for SBSs compared to the current demand for the share of national sovereign bonds, which would then be bought by the SBS agency. The answer depends on the risk-return preferences of

13 Ibid.
14 Ibid.
15 Ibid.

investors and on the size of their demand for the senior tranche (safe assets) and the junior tranche – all of which are difficult to determine a priori.

Conclusion and recommendations

The establishment of a market for SBSs has the potential to make banks less prone to disturbances in sovereign debt markets. Severing the sovereign-bank nexus is a key reform that has 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 an additional increase in risk sharing in order to enact this reform as part of a political compromise. If SBSs helped to open the door to the de-privileging of sovereign bonds, much would be gained in terms of limiting systemic risks in the euro area. Moreover, SBSs could foster financial integration and generate a larger volume of safe assets.

However, from a practical and political point of view, significant drawbacks must also be noted. Technically, it is not sufficiently clear whether the SBS concept represents a viable business model for a private entity and whether senior SBSs would receive a AAA-rating as a precondition for finding sufficient demand. Moreover, investors could regard the junior tranche as too risky and consequently fail to provide sufficient demand, particularly in times of crisis. If this happened, the volatility in the market for junior SBSs would probably spill over to the market for senior SBSs, threatening their safety.

Notwithstanding the potential advantages of SBSs, the European Commission should launch a public consultation in order to gather more information on investors' views on the pros and cons of the SBS concept. It should refrain from introducing this asset class if the collected views prove too unfavourable.

Presuming the technical and political viability of SBSs, we offer a number of recommendations for a sound SBS framework.

First, the SBS agency should be a private entity with firewalls to the public sector to prevent political interference, particularly in times of crisis.

Second, 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.

Third, a market for SBSs can only be established if the safety of the senior tranche is fully credible and if credit rating agencies assign a AAA-rating. Several measures should address this problem:

- 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 in times of crisis.

- In addition, the SBS agency needs to be sufficiently capitalised and profitable in order to establish a reputation rivalling that of national sovereigns. Moreover, the agency has to be able to exclude bonds from severely distressed sovereigns from its ongoing purchases to prevent its portfolio of national sovereign bonds from becoming too risky.

- The SBS agency should publish reports and data on a regular basis so that investors can easily determine the degree of safety of the senior tranche and the riskiness of the junior tranche.

Fourth, 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 ensure that both steps are taken simultaneously, despite the sequencing problems mentioned above. A possible solution could be to take the binding decision to de-privilege national sovereign bonds 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 de-privileged. In addition, a gradual de-privileging and SBS introduction is possible if 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 currently relevant for national sovereign bonds should not be provided.

Fifth, precautions should be taken for the unlikely event that the junior SBS market breaks down in a severe crisis. It would probably be sufficient to have the ESM and possibly OMTs target the stressed countries directly with a normal support and reform programme. If this failed to make the junior SBS market viable again, an intervention by the ESM or the ECB could be allowed as a last resort. 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 better to establish strict rules a priori in order to avoid the perception that urgent interventions by the ESM and ECB are indispensable during a severe crisis and then allowing them to make up the rules as they go. The SBS agency should in any case not be allowed to privilege the national sovereign bonds of stressed countries in its purchases.

Sixth, in order to avoid a distortion of interest rates and resulting disincentives for fiscal policy in non-crisis times, 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. Therefore, the activity of the SBS agency in the secondary market should not be permanent. There should be daily purchasing limits to prevent the agency from distorting the prices of securities. Issuer limits should be developed that should be similar to the rules of the ECB's Public Sector Purchase Programme. Moreover, the European Securities and Markets Authority should conduct frequent analyses of the markets for national sovereign bonds and SBSs in order to identify possible distortions. These analyses should be reported to the public on a quarterly basis.

Finally, an additional step to ensure sound fiscal policies is possible. Access to the SBS concept could be restricted to countries that adhere to the Stability and Growth Pact. Since the smooth functioning of the SBS market depends on the full credibility of their safety, restrictions based on the participating member countries' fiscal sustainability would be useful. Conditional participation implies, however, that the degree of diversification could be reduced to some extent.

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