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## About SAFE

The Research Center SAFE – “Sustainable Architecture for Finance in Europe” – is a cooperation of the Center for Financial Studies and Goethe University Frankfurt. It is funded by the LOEWE initiative of the State of Hessen (Landes-Offensive zur Entwicklung wissenschaftlich-ökonomischer Exzellenz). SAFE brings together more than 40 professors and just as many junior researchers who are all dedicated to conducting research in support of a sustainable financial architecture. The Center has two main pillars: the striving for excellent research on all important topics related to finance; and policy advice, including the dissemination of relevant research findings to European decision makers from the realms of politics, regulation and administration.

In order to promote a fruitful exchange with interested parties from politics, academia, business and the media, SAFE issues a newsletter on a quarterly basis. This aims to provide an overview of the Center’s ongoing research and policy activities. The SAFE Newsletter succeeds the House of Finance Newsletter, which was published between 2009 and 2012.

SAFE is based at Goethe University’s House of Finance, however extends beyond by drawing on scholars from other parts of Goethe University as well as from fellow research institutions. The Center builds on the reputation of the House of Finance institutions, serving as an interdisciplinary think tank on the issue of finance.

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# Building bridges between disciplines, and within: the new Leibniz Institute for Financial Research SAFE



Jan Pieter Krahnen  
Director, SAFE

„Everything is interconnected“ – without doubt, the view of the famous German scientist Alexander von Humboldt (1769-1859) on the interdependencies between the environment and human activities is more relevant than ever. Likewise, Finance as a discipline studies how people and institutions connect contractually across space and over time. Questions of allocational efficiency and intergenerational fairness, the vitality of banks and markets, the importance of innovation and capital formation, and the impact of monetary policy on interest rates, growth and wealth – those issues are all in the area of Finance, and they are also connected among each other.

As a Leibniz Institute from 2020 onwards, SAFE will provide academic support for such topics of high social and political relevance. The key research questions for the next years will cover the main fields in Europe’s financial

architecture, capital markets, and banking. We plan to work on savings and investment decisions, on pension politics, as well as bond markets and their relation to monetary policy. In the field of banking and regulation, we will look at supervision and resolution, and how to prepare for a resilient, innovative and competitive banking architecture.

Apart from research, SAFE will also engage in policy advice. The SAFE Policy Center aims to overcome the usual separation between academia and politics by exchanging perspectives and insights with governments, supervisory and legislative bodies at all levels, in Germany and throughout Europe. The general idea is to support high economic standards when questions of institutional design and regulatory framework are concerned, strengthening a sense of “Ordnungspolitik” in financial markets at large.

As an institute with staying power, we will have the privilege and the responsibility to address big questions and to initiate long-term projects which will help to improve the role research can play in our society. In this spirit, the Data Center, an infrastructure area within SAFE, will cooperate with partners in several countries, aiming for better European financial market data.

Besides having researchers from different disciplines – mainly economics, law and political science –, there is also a diversity of methods at SAFE, ranging from theory to empirical work, and laboratory experiments. Different fields and methods under one topical roof open the door widely for interdisciplinary research, and SAFE will make all efforts to foster such cross-fertilization. At the same time, we will be careful enough to preserve a strong research footprint in the main fields of our discipline.

Research-based, diverse and independent – these are basic principles underlying SAFE’s work, already practiced for the past seven years under the Hessian LOEWE program. This brings us back to another giant of German intellectual history, Gottfried Wilhelm Leibniz (1646-1716), the name patron of the Leibniz Association. Leibniz once said: “The more we act according to reason, the freer we are, and the more we are enslaved, the more we allow ourselves to be governed by passions.” For me, this is a fitting motto for starting the Leibniz Institute for Financial Research SAFE.

Kind regards,  
Jan Pieter Krahnen

# Regulating tail-risks: When and how prudential regulation should apply to shadow banking



Matthias Thiemann  
Sciences Po & SAFE



Tobias H. Tröger  
Goethe University & SAFE

In a new paper, we argue that supervisors should prevent non-bank financial intermediation (NBFI) only viable due to backing from public safety nets – coverage which these institutions do not earn by complying with prudential banking regulation. From this perspective, regulators should follow a normatively-charged approach, looking deeper into the transactional design of NBFI. If public safety nets carry tail-risks, prudential rules should apply to NBFI just as they would to regulated banks. Only supervisors engaged in intense regulatory dialogue with the industry and gatekeepers will be able to arrive at informed and socially beneficial decisions.

Shadow banking – now labeled NBFI by the Financial Stability Board – maneuvers outside of the realm of prudential banking regulation. NBFI entities often refinance themselves on wholesale markets in a way that leads to fragilities from leverage and liquidity/maturity transformation, just like in traditional banks. Therefore, NBFI also requires backstops, frequently

provided by the regulated banking sector and thus passing on tail-risks (i.e. very unlikely, but severe events with highly negative market effects) to banks and, ultimately, into public safety nets. Such access to public backstops distorts investors' incentives, dulls market discipline, and allows for risk-insensitive funding of shadow banking (see Adrian and Ashcraft, 2012). Therefore, it is crucial that financial intermediaries who benefit from (indirect) access to public safety nets also be subject to prudential regulation as a counterbalance.

## **Focusing on economic substance and risk structure**

It follows that regulators should analyze the allocation of tail-risks involved in the transactional structures of NBFI. For instance, banks pre-crisis carried the tail-risks of securitization transactions, but these transactions still provided relief from regulatory capital requirements inasmuch as the securitized loan portfolios were held by off-balance sheet vehicles and banks' liquidity facilities were treated as low risk-weight exposures. We argue for a normatively-charged approach to prudential banking

supervision which focuses on the economic substance and the risk structure of NBFI transactions, rather than on their specific legal form. In our view, the overarching policy objectives underpinning prudential banking regulation are the same as those which should drive regulatory intervention in NBFI: shadow banks which ultimately unload tail-risks onto public backstops should be regulated like banks, a change which would remove the undue competitive advantages they derive from a lighter regulatory burden. This approach would permit more efficient forms of financial intermediation, impeding regulatory arbitrage and thus enabling beneficial innovation.

To understand the pivotal features of NBFI, i.e. the risk structure of financial innovation, we suggest multipolar regulatory dialogues. These dialogues would bring together regulators, market participants, and semi-public gatekeepers (lawyers, auditors, rating agencies). Efficient supervision of NBFI would require monitoring the production processes of financial innovation and, in particular, learning about how negotiating regulated market participants and semi-

public gatekeepers anticipate the regulatory treatment of new products.

We argue that, in determining whether NBFi implies tail-risks for public backstops, the burden of proof should be reversed. To escape prudential regulation, market participants would need to show that the risk structure of their transaction does not burden public backstops with tail-risks. Regulators, who lack in-depth understanding of recent advances in transactional practices, and regulated institutions, who lack certainty about the pending decisions

of the regulator's treatment of financial innovations, have strong incentives to communicate candidly about product developments.

### The important role of semi-public gatekeepers

Although respective gatekeepers are private businesses, their services directly affect public interests as they hedge regulatory compliance. They design financial innovations which, while formally compliant with the legal framework, still provide regulatory advantages. It therefore follows that regulators can gain a deeper understanding of relevant innovations from gatekeepers.

Clearly, incentives need to be aligned to ensure that gatekeepers voluntarily provide relevant input. To create adequate motivations, supervisors should help overcome the uncertainty in the regulatory treatment of specific forms of NBFi. Incentives aside, regulators must also hold gatekeepers accountable for the way in which they share information, excluding them from the interpretative community in case of misbehavior and depriving them of their ability to reduce uncertainty for their clients.

To illustrate the potential benefits of our

approach, we use the recent contractual innovations in European credit funds. Supervisors in the EU embraced the basic structure of these funds as an alternative channel for credit in 2015 (see figure 1). Over time, however, these funds have morphed to complex structures which use higher leverage ratios to increase the profitability of their business (see figure 2). Therefore, fewer assets are available to service more debt, which makes the sudden exit of investors more likely, thus increasing the risk of runs. To counter these fragilities, funds now establish relationships with banks, meaning that public backstops may now have taken on the tail-risks investors are unwilling to bear.

Supervisors who want to understand the financial stability implications of these developments and determine an adequate regulatory reaction need to scrutinize the allocation of tail-risks in a multipolar regulatory dialogue.

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The paper "It's the Tail-risk, Stupid!" was published as SAFE Working Paper No.260 and is available at: [www.safe-frankfurt.de/tail-risk](http://www.safe-frankfurt.de/tail-risk)

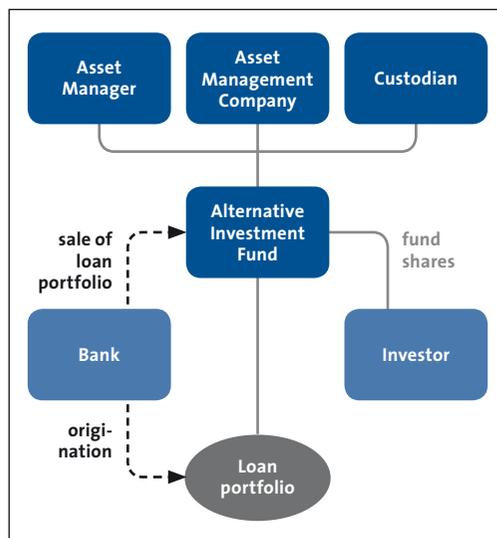


Figure 1: Basic transaction structure of European credit funds.

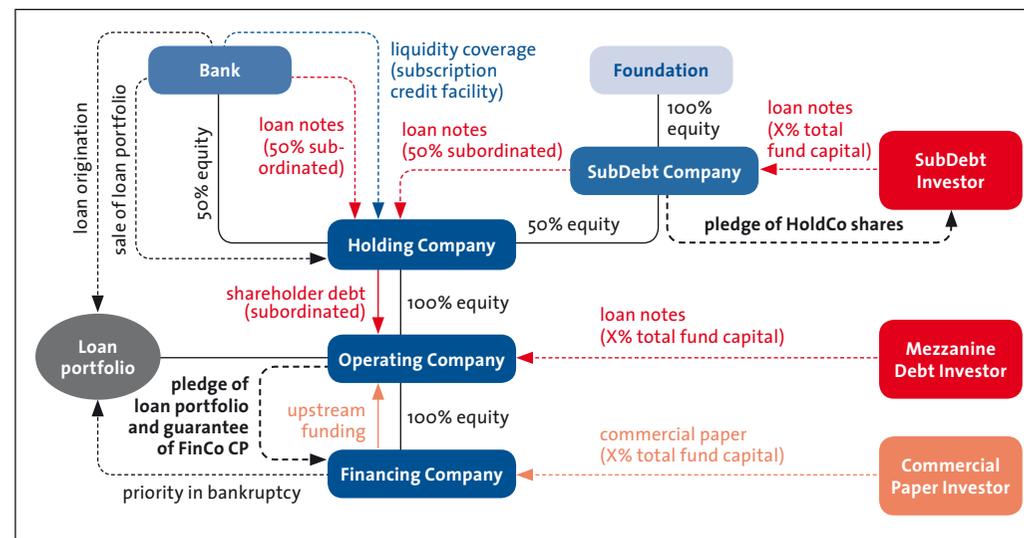


Figure 2: Advanced transaction structure of European credit funds illustrating the increasing complexity and incremental leverage not present in the funds' initial design depicted in figure 1.

# How horizontal links between industries can help to predict stock returns



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It is well documented that vertical customer-supplier links between industries are the basis for strong cross-sectional stock return predictability. In a new study, we show that robust predictability also arises from horizontal links between industries – i.e. industries which are competitors or offer products which function as substitutes for one another. These horizontally-linked industries exhibit positively-correlated fundamentals. This has an impact on investment strategies, as informed investors take this information into account when they form their portfolios.

What does the stock return of one industry tell us about the return of another, related one? In this paper, we investigate the flow of information between related industries over time and the question of whether this transmission of information is also visible in financial market prices. Does it generate return predictability? We focus specifically on interdependencies between industries which are generated by economic links.

We consider industries to be related when they operate in similar business environments and are therefore likely to be exposed to similar kinds of economic shocks. Relative to the existing literature, we add a new dimension to the analysis of information flow between industries over time. We show empirically that it generates return predictability above and beyond that documented in previous studies. In earlier work (e.g., Menzly and Ozbas, 2010), the focus is on ‘vertical’ customer-supplier relationships between industries.

## A plausible channel for robust return predictability

We label the new direction of the connection between two industries ‘horizontal’. The basic idea is that firms in different industries can be competitors, or their products can be substitutes. Substitute industries can be closely related concerning the operating business. More precisely, equity prices in horizontally-related industries are driven by shocks to the demand of joint down-stream customers, to the cost of supply materials purchased from joint up-stream suppliers, and to generally important

macroeconomic quantities. As an example, security brokers are increasingly confronted with competition from other financial intermediaries, such as real estate agencies, insurance companies, or money market funds, which all provide certain types of financial services.

The fact that we find strong evidence in favor of horizontally-linked industries exhibiting positively-correlated fundamentals provides support for this notion of connectedness between industries. Based on our empirical analysis, we suggest that this horizontal relationship between industries is a plausible channel for robust return predictability not captured by other types of links. Concerning the underlying economic mechanism, we argue that there are at least two channels through which horizontal lead-lag relations between firms in different industries can arise. The first channel is related to product substitution. Even though firms belong to different industries, they may still produce goods which are seen as close enough substitutes by customers. However, it may take time until news regarding a given industry is finally also processed by investors of firms in the substitute

industry, meaning that a lagged return reaction may be observed in the substitute industry.

The second channel is related to what might be called ‘segment momentum’. Firms belonging to substitute industries will have their own distinct main business segments, but are also likely to have overlaps in segments of lesser importance. An item of news regarding the respective main segment may be processed very quickly by investors due to its pronounced relevance. On the other hand, it may take investors longer to incorporate the same piece of news into the

stock price of the firms in the substitute industry since, there, the news is only relevant for a less important business segment.

Technically, we generate our return predictor based on horizontal connectivity in two main steps. First, we compute what we call the combined predictor; then we regress this combined predictor on the vertical predictor, yielding the horizontal predictor as the residual. In our paper, we directly compute the combined predictive signal as a weighted sum of return-based quantities, where the weight is calculated using

Compustat segment data. More precisely, for a given industry, we count how often it is mentioned together with another industry in the Compustat segment reports for the firms in our sample (and then normalize this number appropriately).

#### Long-lasting economic effects

We find that horizontal return predictability is statistically and economically significant. Furthermore, the economic effects of horizontal predictability are long-lasting since we find that the returns of our associated portfolio strategy do not revert over horizons of up to twelve months (see figure).

Motivated by the analysis in Menzly and Ozbas (2010), we further investigate the role of informed investors since they form the group of market participants who presumably recognize the relevance of the predictive signal and form their portfolios accordingly. We find that, for firms with a very high degree of institutional ownership, the predictive signal becomes less important. Furthermore, the interaction term between the quintile dummy for institutional ownership and the predictor becomes insignificant for the 20 percent of firms with the highest degree of institutional ownership. This

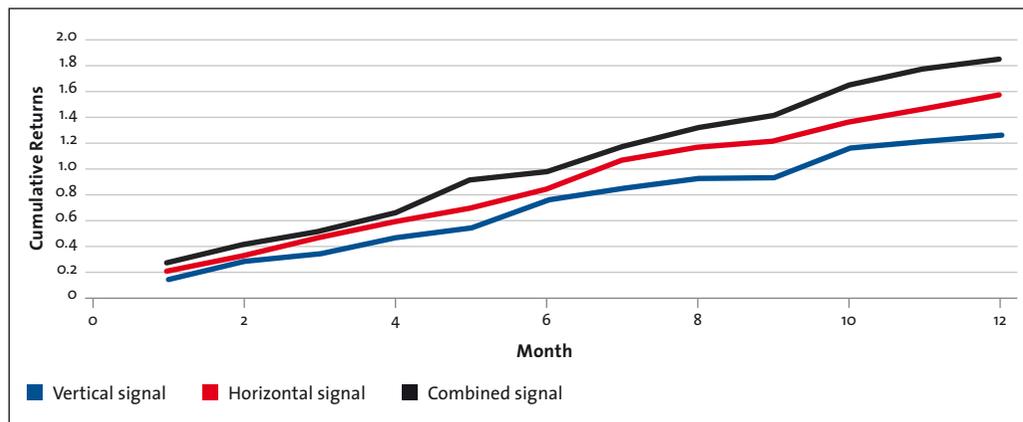
strongly suggests that the information contained in the signal is less valuable for firms with a larger share of informed investors in their ownership.

Finally, we also investigate if institutional investors take the relatedness between firms into account when it comes to portfolio rebalancing. We find that the presumably better-informed investors indeed adjust their holdings of a certain stock by either the contemporaneous change of their holdings in the signal-producing firms (i.e., the firms in the related industries) or the contemporaneous signals based on factor model residuals (and after controlling for other return predictors). Moreover, the effect is more pronounced for horizontally than for vertically-related firms.

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*The paper “Horizontal Industry Relationships and Return Predictability” was published in the Journal of Empirical Finance, Vol. 53, September 2019, pp. 310-330.*



**Average cumulative returns of long-short portfolio strategies over the long horizon:** Average cumulative returns for the long-short portfolio strategies based on the vertical, horizontal, or combined residual signal, for 1 month to 12 months after portfolio formation. Long-short strategy denotes the portfolio long the quintile of stocks with the highest signal value and short the quintile of stocks with the lowest signal value.

# “Inside the Libra ecosystem, other financial products could arise”



Maik Schmeling  
Goethe University  
& SAFE

## Facebook is planning to introduce a global digital currency in 2020. How does Libra differ from other blockchain-based payment methods, such as Bitcoin?

As a stablecoin version of a blockchain currency, Libra is intended to hold the value of a coin stable in relation to a benchmark: Libra would be an electronic means of payment whose value would be kept stable against a basket of currencies, although we do not yet know exactly how the basket will be structured. The other difference is that Bitcoin is decentralized while Libra will be managed by a group of big companies. There are already other stablecoins such as Tether, for example: the idea is that for every Tether created, one dollar is held in a reserve to back it; this should serve to keep the price of one Tether equal to one dollar. Where the idea behind Libra diverges is that the currency will be stable against a basket of various currencies – i.e. one Libra will be equivalent to the value of these other currencies.

**In SAFE Policy Letter No. 76, you compare Libra with a currency board. What are the similarities and differences?**

Similar to a central bank, a currency board issues domestic currencies; where it differs from a central bank, however, is that for each unit of domestic currency, a certain amount of another currency is put into a reserve and can be paid out if necessary. Hong Kong is a good example: If the Hong Kong Monetary Authority creates 7.8 Hong Kong dollars (HKD), one US dollar is put in the reserve. Thus, a currency board can guarantee that the exchange rate between the US dollar and the Hong Kong dollar always remains 7.8. If the value of the HKD falls below the fixed exchange rate, you can buy HKD and exchange them for US dollars at the higher rate and make a profit. The Libra idea is similar. The biggest difference would be that there is a currency basket. The reserve contains several currencies – but this does not guarantee a fixed exchange rate to any particular currency. At this point, it is also not clear whether the composition of the reserve can change over time.

**Would Libra’s stability also depend on Facebook’s reputation?**

According to the proposals, the Libra Foundation will be independent of Facebook; many compa-

nies support the project and are part of the foundation, and the Libra reserve is not subject to access by Facebook. A run on the currency by Libra investors as a result of Facebook encountering difficulties would probably be more the result of a psychological effect than of anything else. However, the details of the system are not yet clear, so it is hard to say how influential Facebook will be.

**What opportunities does the project offer?**

I expect Libra to be attractive for users in certain countries, especially those with unstable currencies. In these countries, it might be attractive to switch to Libra and thereby hold a basket of foreign, stable currencies. Holding a share of one’s assets in safe currencies, such as US dollars or Swiss francs, for example, is not uncommon nowadays and Libra would be a relatively easy way to hold such foreign currencies, especially for smaller investors – and use these assets as a means of payment, too.

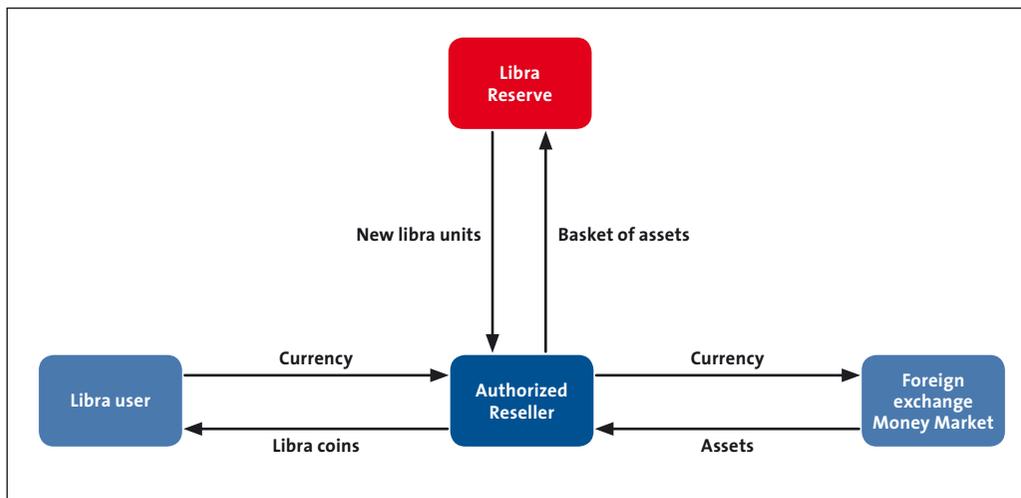
**What would Libra mean for banks?**

If Libra is used extensively, banks’ payment

In this interview about Facebook’s planned digital currency Libra, Maik Schmeling looks at its possible implications for monetary policy and the banking system. A professor at Goethe University since 2018, Schmeling holds the chair for Finance. The focus of his research lies on empirical asset pricing, international finance, and monetary policy.

transaction business would diminish. For example, a bank that grants consumer credits and manages customer accounts learns a lot about its customers from observing payments. Banks would lose this source of information and, in addition, parts of their cheapest funding. If customers withdraw money from banks and convert it to Libra, banks would have to rely more on other sources of funding, which tend to be more expensive. Inside the Libra ecosystem, other financial products could arise. If many end-users rely on Libra for payments, for instance, consumer or supplier credits will likely

become important as a way of avoiding exchange rate risks. Credit products such as loans are also needed to construct derivatives against exchange rate risks; in short, if Libra were adopted to a significant extent, there would be a great demand for (credit) products not yet planned. Problems would arise, however, because no one would be responsible for those products: as it will be a global currency, which is only subject to varying national sets of regulation, there is no single natural regulator – no central bank to provide liquidity in the event of a crisis, for example.



How money is made: Potential mechanism for Libra creation. Adapted from Lettau and Madhavan (2018).

### In your assessment, how severe are the potential risks to the financial system?

Libra could become an extremely large cash pool which contains a lot of short-term government securities and be able to negotiate the terms of investments with large banks on equal terms. This would put pressure on banks' margins, yet if there were a run on Libra, large sums could then be withdrawn at short notice. This state of affairs would, of course, have implications for the financial markets. There would be a whole array of unregulated credit products, for instance, because, even if there were tight regulation in place, these areas often migrate into shadow systems – to countries with fewer regulations, for instance. It was a similar development which led to the creation of the Euro-dollar market, so if Libra were adopted on a large scale, a kind of shadow Libra system might form.

### How should financial supervision react? And what does Libra mean for central banks and the effectiveness of the monetary policy?

Depending on which legislation is applied, its use as a means of payment can be prohibited.

How Libra is classified seems to depend very much on the country: is it considered an electronic currency, a means of payment, or a type of security? The latter would be subject to different regulations, so it is hard to say at the moment how Libra will be regulated. A fast and cheap global payment system would have advantages, of course, but a key question is who would be responsible for regulating this system. Central banks would no longer have direct influence on a key part of the payment system, leading to a weakening of their control over the financial system. If a high volume of transactions takes place in a currency that is not controlled, this can become a problem for the transmission and the conduct of monetary policy.

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The paper "What is Libra? Understanding Facebook's Currency" was published as SAFE Policy Letter No. 76 and is available at: [www.safe-frankfurt.de/understanding-libra](http://www.safe-frankfurt.de/understanding-libra)

# The long-term viability of sovereign bond-backed securities



Jan Pieter Krahen  
Goethe University & SAFE

backed by a portfolio of government bonds. We argue that a relatively large junior bond, a minimum free-float of sovereign bonds, and a limit on total SBBS volume, are key for ensuring the long-term viability of the proposed safe asset regime. Moreover, governance rules need to be credible to achieve acceptance in the market.



Christian Wilde  
Goethe University & SAFE

The severity of the European debt crisis between 2008 and 2012 is widely attributed to the doom loop between the sovereign debt of a country and the stability of its banks, which was fuelled by banks holding own sovereign debt instead of safe assets. Safe assets play an important role in modern financial markets: they are used as collateral in derivative markets, for repurchase agreement transactions in interbank markets, and in transactions with the lender of last resort.

German government bonds are the preferred collateral asset class in Europe, while US treasury bills play a similar role worldwide. A shortage of safe assets in the markets is widely seen

as a risk for financial stability. The relative scarcity of safe assets in the Eurozone is believed to worsen if the volume of outstanding government debt is decreasing, like in the case of Germany or the Netherlands, now at or below 60 percent and 50 percent of GDP, respectively. This trend has reinforced the search for safe assets.

## “Eurobonds” never really took off

The first generation of policy proposals championed “Eurobonds”. Those bonds have a fiscal backstop underwritten by all issuer governments jointly. However, the idea never really took off since some countries, including Germany, rejected Eurobonds as a path to debt mutualization in Europe, because of moral hazard concerns (Kotz et.al., 2011).

Brunnermeier et.al. (2011) propose a private market solution to safe asset scarcity by suggesting a way to create senior financial instruments, based on the pooling and subsequent tranching of Euro area government bonds. Their proposal for Sovereign Bond-Backed Securities (SBBS) has caught considerable attention from policymakers. The European Parliament, taking

up this proposal, recently has issued its version of SBBS securities in a proposal for a regulation (European Parliament, 2019). In the SBBS model, the pooling and tranching of a portfolio of government bonds generate two new asset classes, one safe – the senior bond – and the other risky – the junior bond. The attractive and perhaps surprising feature of it is that, due to the technique of securitization, the safe bond does not need a government backing, nor an explicit risk-sharing among participating countries. The authors of the SBBS proposal argue that SBBS do not imply debt mutualization, neither directly nor indirectly.

Our paper focuses on the potential for moral hazard in these new instruments, and on design features that may mitigate these unwelcome risks. The first important design element is the credit enhancement condition, describing a minimum size of the subordinate, first loss part of the SBBS scheme. The junior SBBS bonds will absorb almost all losses that may accrue in the underlying portfolio of sovereign bonds ensuring AAA-rating quality for senior SBBS bonds at issuance. Figure 1 shows how an increase in the

In a new SAFE White Paper, we discuss sovereign bond-backed securities (SBBS) recently proposed by the European Parliament. SBBS are intended to mitigate a shortage of safe assets in Europe, thereby enhancing financial stability. The proposal suggests issuing a new type of securities with different levels of seniority,

size of the junior bond reduces the remaining default risk of the senior bond. However, absorption of expected losses per se may not be enough to preserve the AAA-status of a safe asset at all times, particularly if large losses ‘bite’ into the junior bond. This would preliminarily leave the senior bond untouched, but with an increased default expectation, endangering its AAA-status. Therefore, the calibration of the size of the junior SBBS tranche needs to consider dynamic safety, i.e. ensure the ongoing AAA-status of senior SBBS tranches which is the basis for its use as a safe asset.

The second important design element we are stressing is the impact an SBBS portfolio may exert on the pricing of sovereign bonds in the secondary market. The free-float of these bonds needs to be large enough to allow for unbiased pricing of each of them, despite their reduced circulation due to SBBS issuance. Figure 2 illustrates the relationship between free-float and the informativeness of market prices. Price informativeness is essential for the proper functioning of market discipline, reducing moral hazard and keeping debt levels of sovereigns in check. As a consequence, the minimum market size of free-floating securities is needed to ensure the viability of the concept.

The proposal of the European Parliament addresses this issue indirectly by setting a minimum standard for liquidity in secondary bond

markets, and by calling in ESMA to define suitable standards and to monitor subsequently. While liquidity is related to informativeness, the two concepts are not identical.

A further moral hazard situation may arise when senior SBBS tranches become the dominant collateral-type used in financial markets. To see how moral hazard can creep in through the use of SBBS safe assets, imagine a default of one larger country’s sovereign debt. Because of the expected negative consequences on the rating of all senior SBBS tranches other countries

may need to bail out the insolvent sovereign to stabilize the safe asset status of the senior bonds. A size limitation on the total SBBS market is an appropriate way to mitigate the risk of bailouts and hold-up situations.

### Policy discussion

The SBBS regime, as envisaged by the Commission and the European Parliament, will require coordination by a designated public authority, e.g. ESMA. The challenges for the mandated authority will be to operationalize solid SBBS construction rules containing three minimum

conditions: sufficient credit enhancement, minimum free-float, and an upper limit for the size of SBBS schemes altogether. On top of this, the long-term viability of SBBS as safe assets will require appropriate SBBS governance, including a type of self-commitment of all participants to leave the rules governing SBBS construction untouched, even in financially difficult times.

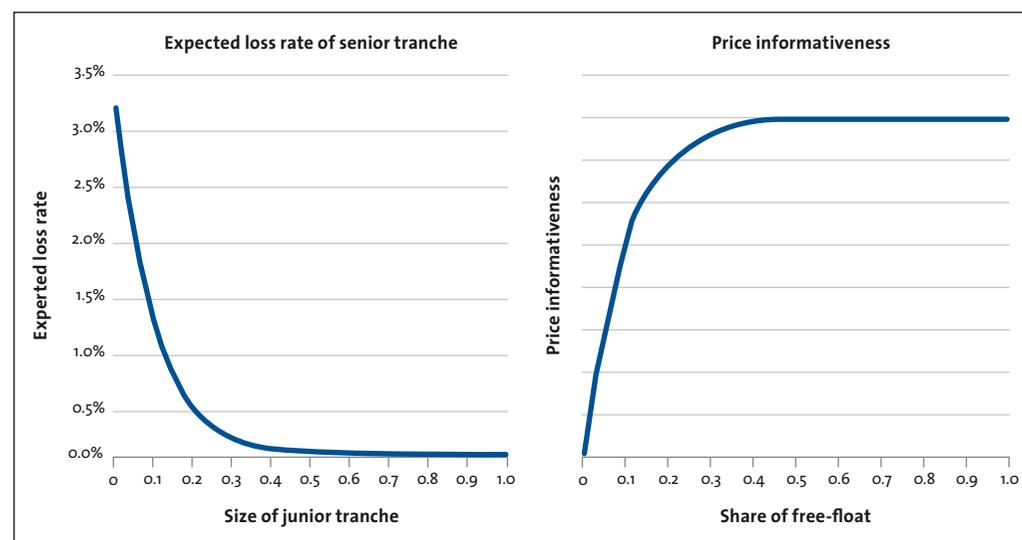
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*The paper “The long-term viability of Sovereign Bond-Backed Securities” will be published as SAFE White Paper No. 64.*



**Credit enhancement and free-float:** Figure 1 on the left depicts graphically how the 5-year expected loss rate of the senior SBBS tranche depends on the size of the junior SBBS (credit enhancement). The numbers on the expected loss rate base on a portfolio of Euro-area sovereign bonds to be included in the SBBS scheme. Figure 2 on the right displays the positive relationship between the size of the secondary market (measured by free-float to total issue volume, x-axis) and the level of price informativeness (y-axis).

# News

## Experts from the House of Finance appointed to advisory bodies

Nicola Fuchs-Schündeln has been appointed to the new Franco-German Council of Economic Experts; the new body was launched at the end of September in Paris. A Professor of Macroeconomics and Development at Goethe University Frankfurt since 2009, Fuchs-Schündeln is also a principal investigator at SAFE. Furthermore, Peter Altmaier, the Federal Minister for Economic Affairs and Energy, has appointed Christine Zulehner as a new member of the Scientific Advisory Board of the Federal Ministry. Zulehner has held a professorship at the Department of Economics of the University of Vienna since 2017; from 2013 to 2017, she held the SAFE Professorship for Industrial Organization and Financial Markets at Goethe University.

## Klaus Regling: Need for further reforms in the European Monetary Union



At a SAFE Policy Panel in September, Klaus Regling, the first Managing Director of the European Stability Mechanism (ESM), reviewed the beginnings and necessity of the European backstop institution. With Benoît Cœuré, Member of the Executive Board of the European Central Bank (ECB), and SAFE Director Jan Krahnert, Regling discussed the future role of the ESM. In his view, the ESM has been crucial to stabilizing the European Monetary Union (EMU) in the financial crisis. Although the ESM is planned to be extended 2020, Regling sees the need for further reforms, advocating more fiscal risk-sharing among the member states; national governments have lost both monetary and exchange rate policy as an instrument to respond to macroeconomic shocks, he argued. Cœuré recommended integrating the ESM into the community framework to make it formally accountable to the European Parliament.

## Simone Wies receives DFG funding for a new research project



SAFE researcher Simone Wies has received a positive funding decision for her new research project from the German Research Foundation (Deutsche Forschungsgemeinschaft, DFG). The title of her research project is “Combating the Wall Street Curse on Firm Product Innovation”. The DFG will fund the project over the next three years. In her project, Wies will be dealing with the interplay between firms floating on the

stock exchange and their innovation efforts; specifically, she will examine whether there are companies which continue to introduce innovations after IPO and, if so, which factors are decisive. Wies has held the SAFE Junior Professorship for Marketing and Finance at Goethe University Frankfurt since 2014. Previously, she was a post-doctoral researcher at the Fuqua School of Business at Duke University in Durham. Wies’ research interests lie in the interactions between capital markets and management decisions.

## 7<sup>th</sup> Frankfurt Conference on Financial Market Policy: European Banking – Too much competition?



In mid-November, academics, market participants, and regulators discussed what impact competition in the banking market has on both financial stability and banks’ profitability. Member of the Supervisory Board of the Single Supervisory Mechanism, Kerstin af Jochnick, said in her keynote that a sustainably stable financial market can only be reached by harmonizing regulation and completing the Banking Union; in her view, progress on the third pillar, a common deposit insurance, is particularly necessary.

Three panels addressed different aspects of the question of whether the European banking market is overbanked. The panelists such as Ignazio Angeloni (Single Resolution Board), Jan Krahnert (Goethe University and SAFE), and Isabel Schnabel (University of Bonn) agreed that since the financial crisis of 2008, instabilities at the financial market have declined. They also addressed issues such as continued low profitability, the digitization of financial services, and new competitors as current challenges for supervision.

# Selected Publications

**Baums, T.** (2019)

“Ein neuer Schleichweg? Zur Auslegung des § 38 WpHG”,  
Begmann, A., Hoffmann-Becking, M. and U. Noack (eds.), Recht und Gesetz. Festschrift für Ulrich Seibert, pp. 31-44.

**Blaseg, D., Schulze, C. and B. Skiera** (2019)

“Consumer Protection on Kickstarter”,  
forthcoming in Marketing Science.

**D’Hoir, J. and K. Langenbucher** (2019)

“Regulation of digital assets – How France and Germany are paving the way for an EU reform”,  
Revue Trimestrielle de Droit Financier.

**Clapham, B., Siering, M. and P. Gomber** (2019)

“Popular News Are Relevant News!  
How Investor Attention Affects Algorithmic  
Decision-Making and Decision Support in  
Financial Markets”,  
forthcoming in Information Systems Frontiers.

**Schlag, C. and K. Zeng** (2019)

“Horizontal Industry Relationships and Return  
Predictability”,  
Journal of Empirical Finance, Vol. 53, pp. 310-330.

**Tröger, T.** (2019)

“Toward a Better Bail-in Tool: Observations  
from a European Perspective”,  
in: Arner, D., Avgouleas, E., Busch, D. and S.  
Schwarcz (eds.), Systemic Risk in the Financial  
Sector: Ten Years After the Great Crash,  
McGill-Queen’s University Press.

## Recent SAFE Working Papers

**Ai, H., Li, J. E., Li, K. and C. Schlag** (2019)

“The Collateralizability Premium”,  
SAFE Working Paper No. 264.

**Horneff, V., Liebler, D., Maurer, R.  
and O. S. Mitchell** (2019)

“Implications of Money-Back Guarantees  
for Individual Retirement Accounts:  
Protection Then and Now”,  
SAFE Working Paper No. 263.

**Bedin, A., Billio, M., Costola, M.  
and L. Pelizzon** (2019)

“Credit Scoring in SME Asset-Backed  
Securities: An Italian Case Study”,  
SAFE Working Paper No. 262.

**Billio, M., Costola, M., Pelizzon, L.  
and M. Riedel** (2019)

“Buildings’ Energy Efficiency and the  
Probability of Mortgage Default:  
The Dutch Case”,  
SAFE Working Paper No. 261.

**Thiemann, M. and T. Tröger** (2019)

“It’s the Tail-Risk, Stupid!”,  
SAFE Working Paper No. 260.

**Aldasoro, I., Balke, F., Barth, A. and  
E. Eren** (2019)

“Spillovers of Funding Dry-ups”,  
SAFE Working Paper No. 259.

**Grajales-Olarte, A., Uras, B. and  
N. Vellekoop** (2019)

“Rigid Wages and Contracts:  
Time- versus State-Dependent Wages  
in the Netherlands”,  
SAFE Working Paper No. 258.

**Massenot, B. and G. Nghiem** (2019)

“Depressed Demand and Supply”,  
SAFE Working Paper No. 257.

The SAFE Working Papers can be downloaded at <http://safe-frankfurt.de/working-papers>

# Do leveraged loans herald the next financial crisis?



**Claudio Borio**  
Head of the  
Monetary and Economic  
Department  
at the Bank of  
International Settlements

Since the 2008 financial crisis, the leveraged loan market has doubled in size to about 1.4 trillion dollars. The rapid growth was fuelled in part by collateralized loan obligations (CLOs), a type of securitization which accounts for about 50 percent of outstanding leveraged loans, as well as by declining lending standards.

The role CLOs have played in sustaining the growth of risky debt has drawn the attention of regulators and policymakers alike, not least because it echoes developments in the US

subprime mortgage market in the lead-up to the crisis. Then, collateralized debt obligations (CDOs) were the focus. Both are asset-backed securities which transform illiquid assets into marketable securities. Both are structured in tranches of different seniority, with the more junior tranches earning the highest yields, but being the first to absorb credit losses. Conversely, the most senior tranche receives the lowest yield, but is the last to absorb losses.

Concerns have increased over the complexity and funding arrangements of CLOs, as well as the direct and indirect exposure of banks and other financial intermediaries. In particular, can all these features interact in ways which would magnify financial distress?

CDOs were very complex structures, investing mainly in subprime mortgage-backed securities. Investors' appetite for subprime mortgage exposure outpaced actual issuance in the early 2000s. In response, CDO portfolio managers increasingly invested in other CDOs, or even credit default swaps, which replicated the pay-off of securitized mortgages. The cost was a loss of

diversification, as an increasing volume of invested capital was exposed to a relatively narrow set of assets. Moreover, CDO complexity made it difficult to gauge the risk that the underlying assets could default in quick succession. When the housing market faced a downturn, investors panicked over mounting and synchronized credit losses, amplifying financial stress.

Banks suffered significant losses because they held large amounts of CDOs, sometimes through off-balance sheet vehicles which masked their exposure. Often, those vehicles funded themselves in the wholesale short-term markets, making them and their sponsoring banks vulnerable to liquidity squeezes; despite the fact that banks held mostly senior CDO tranches, credit losses occurred because the CDO portfolios were very poorly diversified.

In comparison, CLOs are typically backed by relatively well diversified pools of leveraged loans. Currently, they largely avoid investing in credit default swaps and other securitizations, and funding by short-term borrowing is not as prevalent as it was for CDOs. In principle, the simpler

structure should make it easier to assess the risk of losses and their timing. Moreover, larger junior tranches mean senior CLO tranches are better insulated from losses.

A key difference between pre-crisis CDOs and current CLOs is that direct bank exposure is now more visible, not least owing to regulatory changes. That said, holdings tend to be concentrated in a few institutions and the indirect, more opaque exposures could still create vulnerabilities. Banks provide large amounts of credit to leveraged investors in CLOs, like hedge funds. A significant share of this lending takes place through "synthetic prime brokerage", which involves heavy use of derivatives. Derivatives reintroduce an element of complexity which could muddle the assessment of indirect bank exposure to CLO losses.

Improved post-crisis practices and regulations mean that CLOs only partly resemble CDOs. Nonetheless, the opaque links between banks and leveraged CLO investors mean that CLOs could still turn into the Achilles heel of the financial system.

# Events

## December

- 16 December **CFS Lecture with IBF**  
**Der deutsche Wohnungsmarkt in Geschichte und Gegenwart: eine historisch-vergleichende Perspektive**  
 Speaker: Sebastian Kohl, Max Planck Institut für Gesellschaftsforschung
- 16 December **CFS Book Presentation**  
**The Long Journey of Central Bank Communication**  
 Speaker: Otmar Issing, CFS
- 17 December **Finance Seminar – Joint with SAFE**  
 Speaker: Giorgia Piacentino, Columbia Business School
- 17 December **Frankfurt Macro Seminar – Joint with SAFE**  
**Marriage Market and Labor Market Sorting**  
 Speaker: Ilse Lindenlaub, Yale University
- 18 December **Finance Brown Bag Seminar**  
 Speaker: Sigurd Anders Muus Steffensen, Aarhus University

## January

- 14 January **Finance Seminar – Joint with SAFE**  
 12.00 am – 1.15 pm Speaker: Martin Brown, University of St. Gallen
- 14 January **Frankfurt Macro Seminar – Joint with SAFE**  
 2.15 – 3.45 pm Speaker: Vincent Sterk, University College London
- 15 January **Finance Brown Bag Seminar**  
**The “Google Effect”: Linking Organic Search Visibility to Shareholder Value**  
 Speaker: Gabriela Alves Werb, Goethe University
- 21 January **Finance Seminar – Joint with SAFE**  
 12.00 am – 1.15 pm Speaker: Hugues Langlois, HEC Paris
- 22 January **Finance Brown Bag Seminar**  
**Econlinguistics**  
 Speaker: Sasan Mansouri, Goethe University
- 23 January **ICIR Talks on Insurance and Regulation**  
**Liquidity Risk in Insurance: Academic, Industry and Regulatory Perspectives**
- 28 January **Finance Seminar – Joint with SAFE**  
 12.00 am – 1.15 pm Speaker: Thorsten Beck, Cass Business School
- 28 January **Frankfurt Macro Seminar – Joint with SAFE**  
**Investment slumps during financial crises: The real effects of credit supply**  
 Speaker: Plutarchos Sakellaris, Athens University of Economics and Business

- 29 January **Finance Brown Bag Seminar**  
 2.00 – 3.00 pm Speaker: Christine Laudenschach, Goethe University
- 29 January **CFS Lecture with IBF**  
 5.30 – 7.00 pm Speaker: Matthias Morys, University of York

## February

- 04 February **Finance Seminar – Joint with SAFE**  
 12.00 am – 1.15 pm Speaker: Doron Avramov, Hebrew University of Jerusalem
- 04 February **Frankfurt Macro Seminar – Joint with SAFE**  
 2.15 – 3.45 pm Speaker: Alexander Chudik, Federal Reserve Bank of Dallas
- 11 February **Finance Seminar – Joint with SAFE**  
 12.00 am – 1.15 pm Speaker: Svetlana Bryzgalova, London Business School
- 11 February **Frankfurt Macro Seminar – Joint with SAFE**  
 2.15 – 3.45 pm Speaker: Philipp Harms, University of Mainz
- 12 February **Finance Brown Bag Seminar**  
**Counterparty Exposures and Collateral Requirements under Bilateral and Central Clearing**  
 Speaker: Xu Liu, Goethe University

## March

- 12 March **CFS Conference**  
**Management of non-financial risk**





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