

Chasing unicorns: the European single safe asset project

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Abstract: for the past 20 years, EMU institutions have sought to engineer a single safe asset that would provide a credible store of value for capital market participants. Before 2008, the ECB used shadow banking to create a single safe asset that we term shadow money, and in doing so also erased borders between Euro area government bond markets. Lacking appropriate ECB support, shadow euros could not withstand the pressures of the global financial crisis, and brought down several periphery euro government bonds with them. Two new plans, the Capital Markets Union and the Sovereign Bond-Backed Securities, again turn to shadow banking, this time by using securitization to generate an entirely private safe asset or a public-private safe asset. Such plans cannot solve the enduring predicament of EMU's bond markets architecture: that Member States have competed for investors (liquidity) since the introduction of the Euro, betraying a deep hostility towards collective political solutions to the single safe asset problem. Technocratic-led, market-based initiatives need to persuade EMU states that there is little threat to their ability to issue debt in liquid markets. Without ECB interventions, market-based engineering of single safe assets runs the danger of repeatedly destabilizing national bond markets.

It is hard to see how a more symmetric monetary system could emerge from a situation where only a couple of countries have debt that would be considered safe.
Landau (2016)

The moneyness of safe assets is a good reason for central banks to care about safe assets.
Nowotny (2016)

..almost all human history can be written as the search for and the production of different forms of safe assets.
Gorton (2016, p2)

Introduction

In November 2016, the ECB's Benoit Cœuré (2016) made a remarkable speech on safe assets and sovereign debt in the Euroarea. This was not the often-repeated 'bank-sovereign diabolic loop' warning that banks' purchase of their home government bonds endangers financial stability by sanctioning fiscal indiscipline. Rather, Cœuré stressed that fiscal discipline alone would not translate into low, stable funding costs. Imperfect markets, he cautioned, played a critical role in the ratings downgrade experienced by several EMU countries since 2008. Wading into territory traditionally reserved to democratic politics, he warned that the (German) proposals for breaking the sovereign bank loop (caps and/or tougher risk rules on banks' holding of sovereign debt) threatened more volatility and less room for countercyclical fiscal policies.

Cœuré stressed the monetary role of sovereign debt. What bank money did for the real economy, Cœuré suggested, government bonds did for modern finance: 'we need public debt to be safe in the euro area. It is vital to the functioning of the financial system, analogous to the function of money in the real economy'. Sovereign debt has claims to 'moneyness', 'since safe assets are becoming increasingly important as both stores of values and media of exchange'. Echoing recent literature on the monetary role of government debt in market-based finance (see Pozsar 2014, Gabor 2016, Gabor and Vestergaard 2016), Cœuré argued that similar to bank deposits, the moneyness of sovereign debt could be threatened during financial crises and required central bank support. Committing to stabilize sovereign bond

markets, as Draghi did in the July 2012, was therefore within the ECB's mandate to manage money, rather than a violation of the monetary financing rule. But central banks' involvement should go beyond crisis, he concluded. Since EMU states (read Germany) seemed unwilling to take responsibility for meeting the growing demand for safe assets, the ECB could step in, either through a permanently larger balance sheet or by issuing its own bills¹.

A 2017 ESRB working paper went further. It cautioned that Germany's *de facto* position of safe asset issuer threatened EMU financial stability (van Riet 2017). Stability in a monetary union with freely flowing capital required a common safe asset that could be created by securitizing government debt (known as Sovereign-Bond Backed Securities, or SBBSies, see Brunnermeier et al 2011, 2016). Seemingly in agreement, the European Commission (2017) included a common safe asset in its White Paper on the future of the Euro, noting the potential of the SBBSies plans. In early 2018, a group of high-profile German and French economists reiterated calls for a safe asset as an important pillar of strategies to reconcile risk sharing and market discipline in the euroarea (Bénassy-Quéré A et al 2018).

Remarkably, this emerging supranational technocratic consensus has little support in EMU countries. For European technocrats, the absence of a common safe asset impairs monetary policy and reduces fiscal policy space in periphery countries, as market participants find safety up north during periods of financial fragility. France under President Macron broadly shares this assessment. In stark contrast, most Member States, Germany in particular, view risk-sharing as a double sin: against fiscal responsibility and against democracy, since voters demonstrated little appetite for further integration. For instance, the German Academic Advisory Council to the Finance Ministry protested in early 2017 that SBBSies constituted an ill-disguised attempt to 'introduce Eurobonds through the back door' (Handelsblatt 2017), attempt that may overturn Angela Merkel's 'over my

¹ A daring extension of this approach, proposed by Khartik Sankaran, of Eurasia Group, envisages that the ECB purchases EMU government bonds – subject to so strict framework to ensure that EMU governments do not abuse the monetizing powers of the central banks - and issues ECB bonds as corresponding liability. This would require a formal revision of the ECB mandate.

dead body' opposition (Matthijs and MacNamarra 2015). Rather, the German vision is to transform the European Stability Mechanism into a European Monetary Fund, with more firepower to be deployed during periods of market stress against strict conditionality (see Ban and Schmidt 2018).

What is at stake in the debate on European safe assets? The European studies literature offers little insight. While bonds feature heavily in accounts of EMU crisis, developments in sovereign bond markets are typically interpreted as outcomes of 'real' economy divergence feeding credit bubbles in periphery countries (Gros 2012, Copelovitch et al 2016); markets suddenly realizing the structural flaws of the Eurozone macro-architecture, worsened by a lack of solidarity (Chang and Leblond 2015) or 'sound money' ideas impeding the ECB's intervention (Holmes 2014, Braun 2016a). At most, these accounts suggest that fiscal transfers are necessary to even out differences in economic competitiveness, thus strengthening the monetary union (Howarth and Quaglia 2015). A notable exception, Jones (2016) rejects this common wisdom as distraction from the real challenge: a fully functioning Banking Union and a common risk-free asset.

In this paper, we unpack the political economy of the common, or single, safe asset project. We define the single safe asset as an asset issued supranationally, that is, divorced from the fundamentals of, or market perceptions about, any one Member State. It instead reflects views of risks pertaining to the EMU. This asset remains safe as long as it credibly stores value. For instance, money created by the ECB (central bank reserves or base money) is such a single safe asset, albeit only available to banks.

We depart from the prevailing view of bond markets as neutral signaling devices for broader political-economy developments (for international political economy) or vigilantes of fiscal discipline (for orthodox economics). Both fundamentally neglect how financialised globalization, increasingly organized around collateralized lending, has re-wired the relationship between (shadow) banks and sovereign debt (IMF 2012, Cœuré 2016). Rather, we take seriously Minsky's (1957) advice that money and the efficacy of central bank actions need to be re-examined during 'periods of rapid changes in the structure or in the mode of functioning of financial markets'. To do so, we develop a critical macro-finance approach that puts

sovereign bonds at the core of its analysis of modern financial systems. This approach (a) treats finance as a global phenomena, increasingly organized around securities markets (Gabor 2018) and (b) debt/money as balance sheet relationships between (c) actors with distinctive temporal orientations and investment models (Lindo 2013, Peer 2016) (d) who rarely find safety in traditional bank money (Pozsar 2014), instead looking for it across borders, following the rhythms of global financial cycles (Rey 2015). Safety in this world is contingent on complex interactions between issuers and holders of debt instruments, whose temporal orientation matters for the creation and destruction of safe assets. Theoretically, critical macro-finance draws on a long tradition of treating debt and money as balance sheet relationships, tradition that goes back to Keynes, Minsky, Wray, Bell-Kelton and Mehrling (see Gabor and Vestergaard 2016) to reach the research offices of the Bank of International Settlements (Shin 2017) and of private finance (Pozsar 2011, 2014).

The paper first engages the safe asset scholarship to single out the role that central banks play in drawing the contours of the safe asset universe, both by *supplying* safe assets and *protecting* privately-issued assets (Gourinchas and Jeanne 2012). It then argues that EMU needs a single, rather than a set of national, safe assets. This has posed complex political challenges since the inception of the euro. With little political appetite for a public single safe asset (Eurobonds), the only institution with epistemic authority to make the case for it in European capitals, the ECB, refused to do so. The grounds for central bank independence become shaky in a world where the case for a public single safe asset rests on the monetary power of sovereign debt. Instead, EMU saw several experiments of creating safe assets through markets, that is, of governing the complex monetary-fiscal-financial interactions through markets (see Braun et al *Introduction* to the special issue).

Before 2008, the ECB engineered a single safe asset via repo markets, encouraging the creation of shadow money backed by any EMU sovereign bonds as equivalent collateral. Shadow euros strengthened the bank-sovereign nexus, and planted the seeds of the sovereign debt crisis (Gabor and Ban 2016, Gabor 2016). The failure of shadow euros, in the absence of ECB support to support the monetary power of sovereign collateral, left Germany as *de facto* safe asset supplier, an exorbitant privilege ill-suited to its (ordoliberal) ‘black zero’ fiscal preferences (Matthijs 2015) or QE-

induced shortages. Since the crisis, the plans for a Capital Markets Union and for SBBSies turn again to shadow banking, this time using securitization to generate an entirely private safe asset (STS securitized instrument) or a public-private safe asset (SBBSies). Such plans, however, cannot solve the enduring predicament of the EMU bond markets architecture. Since the introduction of the Euro, Member States have betrayed a deep hostility towards a collective solution to the single safe asset problem, hostility rooted in concerns for the liquidity impact on sovereign bond markets.

Safe assets: a theoretical view

Safe assets are defined as those debt instruments that provide economic actors with a store of value throughout good and bad times (Caballero et al. 2017). Resilience to adverse systemic events is the elusive characteristic that marks out safe assets in the universe of debt instruments that includes cash, base money, bank deposits, tradable securities (sovereign and private), repurchase agreements and derivatives.

The growing financial economics literature on safe assets explains the global financial crisis as an imbalance between the supply and demand for safe assets. Since the 1997 East Asian crisis, emerging countries accumulated large foreign currency reserves through trade surpluses and capital inflows, surpluses held in safe assets issued by the US government (Bernanke 2005, Caballero et al 2008), and to a lesser extent, by European governments (Caballero et al 2017). Yet supply failed to keep pace with growing demand. The structural shortage of government bonds created incentives for US shadow banking to manufacture private assets with a strong claim to safety, such as AAA securitized instruments. It also encouraged ‘naïve’ investors to treat debt issued by ‘fiscally weak’ euro area states as assets similar in safety to German government bonds (Caballero et al 2016). These claims to safety unraveled first in the US and then in Europe (Brunnermeier et al 2016), prompting scholars to theorize the determinants of safe asset status.

Financial economics conventionally focuses on information sensitivity as the critical determinant of safety (Gorton 2016, Tri Vi Dang et al 2011). An asset is truly safe if new information about its characteristics does not change willingness to hold it, an attribute typically associated with (US)

government debt. Yet this approach assumes that safety is reliant on the characteristics of the issuer without specifying what exactly these characteristics should be - what Gelpern and Gerding (2016) term the ‘supercollider view of safe assets’, born in poorly understood natural processes. The supercollider view infers that due diligence would have prevented investors from deeming that asset safe in the first place. For instance, ‘naïve’ European investors suddenly realized that periphery sovereign debt was not safe (Caballero et al 2017).

The exception, Gourinchas and Jeanne (2012) stress that central bank backstops are needed to preserve safety. This ‘safety is engineered’ approach is shared by legal scholars, heterodox economists and monetary historians, for whom safety is a fiction maintained by states operating with legal and political constraints (Dow 1996, Goodhart 1999, Boy 2014, Gelpern and Gerding 2016) and in response to evolutionary changes in finance (Minsky 1957, Gabor and Vestergaard 2016). This view has recently found support in the world of central banking (Cœuré 2016, Potter 2018).

Since safety is not intrinsic but engineered, how do we understand the evolving boundaries of the safe asset universe? An important analytical step from a critical macro-finance angle is to distinguish between two closely related but not entirely overlapping concepts: (market) *liquidity* and *moneyness*. Present if under-theorised in the literature on safe assets (Golec and Perotti, 2017, van Riet 2017) and in central bank speeches (Potter 2018²), the distinction can be traced back to monetary theories that treat money as a claim (see Goodhart 1999) and financial systems as sets of hierarchical claims (Mehrling 2010, Pozsar 2014, Gabor and Vestergaard 2016). At the top of a hierarchy sit debt instruments that are used as means of payment (cash, bank deposits), supporting layers of assets of varying moneyness (Mehrling 2010).

² Potter (2018) distinguishes between money-like and safe assets. Safe assets ‘lack of actual and perceived exposure to risk’ (credit, counterparty, interest-rate, and market risk). In contrast, money-likeness ‘refers to an asset’s lack of information sensitivity, such that, when it is used in transactions, economic agents need not worry about its future value, at least in the short term and in most states of the world’. The information-sensitivity framing aside, the concept of ‘money-likeness’, similar to moneyness, captures the promise to preserve parity to cash.

Full moneyness captures the ability to convert an asset into higher money at par and on demand throughout financial cycles. In contrast, liquidity captures the ‘ability to buy or sell a product in a desired quantity and at a desired price and time without materially impacting the product’s price’³ (IOSCO 2017: 2), that is, to convert tradable assets into payment money, at par or not, throughout financial cycles. The distinction is important to account for assets that are not liquid but acquire moneyness (such as sale and repurchase contracts) through evolutionary changes in finance (Minsky 1957).

Consider bank deposits. Behind a demand deposit sits a promise to pay depositors *cash* at par on demand, that is, to convert bank promises to pay into state promises. The strength of bank promises – their *moneyness* – ultimately depends on the state (Chick 1996, Gabor and Vestergaard 2016, also Cœuré 2016). In part, this is a chartalist story where states confer moneyness to bank deposits by accepting these to settle tax liabilities (Ingham 2004). But this is not the entire story. Rather, banks’ promises become credible once the state creates legal and institutional mechanisms for preserving moneyness: a social contract to support par convertibility of bank deposits anchored in lender of last resort (LOLR) and deposit guarantees in exchange for banking regulation (Goodhart 1989, Chick 1993, Cœuré 2016). The need for bank regulation points to banks as creators of safe assets through lending activities – loans create deposits - rather than simple intermediaries of savings in the economy (Bank of England 2014). Regulation seeks to ensure that banks do not put their ability to issue safe assets in the service of excessive leverage.

Yet bank money is ill-suited to meet the safety needs of financialised globalization. This is no longer a world populated by banks with long-term lending practices needing stable retail deposits but a world increasingly organized around securities and derivative markets, involving a plethora of market participants with varying time horizons and investment strategies. It is the world of (global) market-based banks with activities in securities and derivative markets, as proprietary traders and market-makers (Lindo 2013,

³ Note here that retail bank deposits offer funding but not market liquidity. A bank deposit is not tradable in that this is a debt relationship between two entities, the bank and the depositor. Once the depositor uses it to pay for goods and services, the relationship is dissolved, and the bank deposit disappears. In turn, a security (government bond) can change hands repeatedly.

Hardie et al 2013, Gabor 2015, Gabor and Ban 2016). Driven by evolutionary changes linked to increasing income inequality and the growing replacement of the welfare state with private provision for future uncertainties (pensions and insurance), this is also the world of institutional investors (pension funds, insurance companies and multinational corporations) and their asset managers (OFR 2013, Haldane 2014, Braun 2016b). For leveraged investors and institutional cash pools, bank deposits lose moneyness above the deposit guarantee. So they turn to seek safety in tradable securities and secured debt instruments (Pozsar 2011).

In this world, the distinction between moneyness and liquidity becomes apparent: investors are able to convert liquid securities into cash on demand, but not necessarily at par. The distinction matters less for a slowly dying breed in modern financial markets, that of patient investors that hold securities to maturity when they convert at par (unless the issuer defaults). In contrast, active investors (trading desks of universal banks, hedge funds, bond funds, other asset managers) need liquid securities that can be easily converted into cash to make profit from daily changes in the securities' price or to deal with sudden outflows. Investors particularly value liquidity when markets are volatile (Vayanos 2004).

Consider an asset manager whose daily cash flows reflect potential sudden redemptions and margin maintenance related to derivative trading across different currencies and asset classes. Wishing to avoid exposure to banks above the deposit guarantee and without access to central bank balance sheets, it looks for safety down the hierarchy of debt claims, where it has several options: short-term (shadow) debt, securities, and repurchase agreements (See Table 1).

Money market funds shares with constant net asset value (CNAV) constitute the closest substitute to bank deposits. CNAV MMF shares have no liquidity but high moneyness, supported by regulatory regimes and accounting rules that allow money market funds 'to quote their shares as stable net asset value' (Baklanova 2009, Gelper and Gerding 2016, p.13). This is a promise to investors that they can redeem shares at par. Without direct state support, this promise turned illusory in the wake of Lehman, prompting regulators to restrict the CNAV label to those funds that invest in government securities. Thus, the par promise of MMF shares ultimately

reflects the safety of the assets that MMFs invest in: bank deposits, securities and repos.

Table 1 Assets: determinants of liquidity, moneyness, safety

Asset	Market liquidity	Moneyness	Safety
Base money (central bank)	Traded in interbank markets	Full moneyness, only available to banks.	*Under pressure during balance of payment crises
Bank deposit	None (not tradable)	Convertibility into cash at par on demand (up to deposit guarantee cap)	*deposit guarantees and lender of last resort
Money market fund shares	None (not tradable)	Convertibility into cash at par on demand	* CNAV regulations
Government securities	A function of size, market infrastructure (market-making and repo markets), credit rating, regulatory treatment.	Limited (short-term government bills)	*Central bank direct support (market-maker of last resort) *‘Exorbitant’ privilege, regional curse
Private securities, including securitized instruments	A function of size, market infrastructure (market-making and repo markets), credit rating, regulatory treatment.	Little to none	*Central bank direct support
Repurchase agreements	None (not tradable)	Monetary power of collateral rests on collateral valuation	*Central bank direct support for market price of collateral *Central bank repo collateral practices

Tradable securities lie on a spectrum of liquidity. At one end are short-term government bonds, at the other, securitized instruments and high-yield

corporate bonds. In between lie private debt securities, ranging from corporate bonds to (asset-backed) commercial paper and covered bonds.

The finance literature treats short-term government debt as the safest tradable assets, endowed with both liquidity and moneyness. Short-term bills are issued as a discount to par, and do not pay coupon. Devoid of interest rate risk, T-bills offer ‘absolute security’ that the state will repay nominal return at maturity (Golec and Perotti 2017), offering institutional investors monetary services comparable to bank deposits (Greenwood, Hanson and Stein 2010, Golec and Perotti 2017). Yet a closer look at the Tbill market microstructure literature suggests that, paradoxically, not even T-bills of the *same maturity* but different age are equally liquid. For instance a 2 months security issued last month is typically less liquid than a two month security issued last week, as the newest issued security becomes the benchmark –known as *on the run* securities –for pricing in that maturity bucket (see Biais et al 2004 for European Tbills, Babbel et al 2006 and Clark and Mann 2016 for the US). Dealers have no obligation to quote the older, *off the run*, Tbills or bonds, and rarely trade them with each other (Musto et al 2017). Off-the-run securities are rarely traded, sitting instead in the portfolio of investors until maturity. The on-the-run premium is higher at longer maturities (see Fleming 2001), and increases during periods of market volatility (Musto et al 2017). Even investors deemed patient, such as insurance companies, prefer the safety provided by on-the-run securities during bad times.

These liquidity dynamics are exacerbated in smaller government markets. Intuitively, a government’s ability to issue debt at low and stable costs reflects its fiscal probity, and therefore safety should depend on the fundamentals of the issuer. For instance, lower-rated sovereigns cannot tap into the demand of institutional investors restricted by their mandates, even when regulation is designed to incentivize demand for government debt (think Basel III). Yet paradoxically, small states planning to balance budgets risk illiquidity by reducing volumes available to trade in secondary markets. Size breeds liquidity (IMF 2001).

The architecture of market-making also matters. Most securities enter financial life through the balance sheet of a handful of primary dealers, mostly banks that organize primary issuance, stand ready to buy and sell and thus provide e liquidity (Lindo 2013). In practice, primary dealers’

commitment to liquidity is neither crisis nor manipulation proof. For instance, during the early 1990s, Salomon Brothers in the US and Citibank in Italy abused their government securities market-making privileges to capture market share or increase profits (MacKenzie 2006, Gabor 2016). In crisis, market-makers can do little to reverse firesales of government bonds, since that have limited capacity to weather mark-to-market losses. Greece or Portugal in Europe, and many emerging countries are good examples of the limits to market-making.

Government debt remains safe as long as the central bank stands ready to intervene when market liquidity evaporates as market-makers of last resort (Buiter and Sibert 2007, Gourinchas and Jeanne 2012, Gabor 2016). The intervention requires careful balancing when it evolves into a full quantitative easing program, as QE risks depriving market participants of safe assets. The argument, often invoked by central banks (see Potter 2018), that QE swaps one safe asset, sovereign bonds, for another, central bank reserves, only holds for those few institutions (mainly banks) that have direct access to the central bank's reserves. Central bank reserves are safe assets for banks, government bonds for a larger set of financial institutions, including institutional cash pools.

Market-maker of last resort may not be necessary for those sovereign bonds that are targeted by flight to safety, as financial institutions that abandon volatile asset markets need to herd *somewhere*. Yet the exorbitant privilege of being safe asset issuer for the rest of the world may come with trade-offs. Gourinchas and Rey (2016) introduce the 'curse of the regional safe asset provider' to capture a trade-off for smaller countries between validating the foreign demand for safe assets via a larger external balance sheet (with potential valuation losses from global shocks) or restricting the supply of safe assets at the cost of exchange rate appreciations. While the curse shows up in data for Switzerland, the paper documents how Germany's EMU membership allowed it to escape the curse altogether.

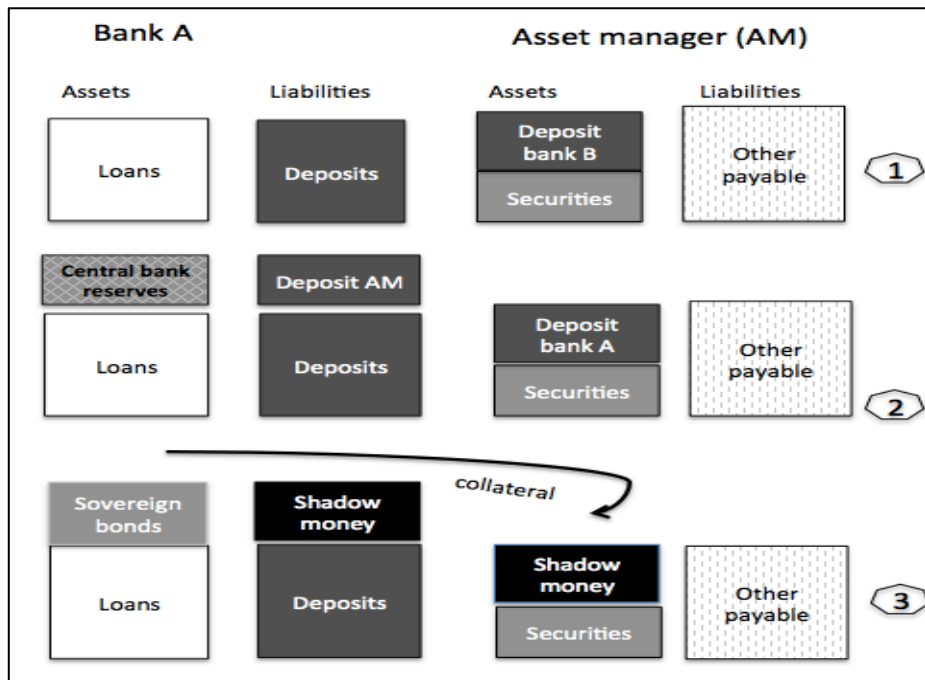
For many asset managers, the monetary services provided by repos are often preferable to those of government bonds (BIS 2017). Asset managers often treat repos as 'cash accounts' whose maturity can be dovetailed to planned cash outflows. Repo is the money of shadow-banking, of financial systems organized around securities and derivative markets, populated by institutions whose business models rely on daily variation in the price of

securities/derivative contracts (Gabor 2018, see Moreira and Savov 2014, Ricks 2016, Murrau 2017 for a broader definition). While repos are not tradable, their issuers have perfected a mechanism for constructing moneyness that revolves around collateral valuation (Gabor and Vestergaard 2016).

Repos are conventionally portrayed, in both orthodox (see Moreira and Savov 2017) and alternative accounts (Murrau 2017), as contracts that involve the sale and promise to repurchase of tradable securities known as collateral. For instance, bank A sells a portfolio of securities to an asset manager, with a promise to buy these back at a further point in time. But this framing essentially neglects to engage a monetary role for repos. Why this matters becomes immediately apparent when treating repos as balance sheet relationships.

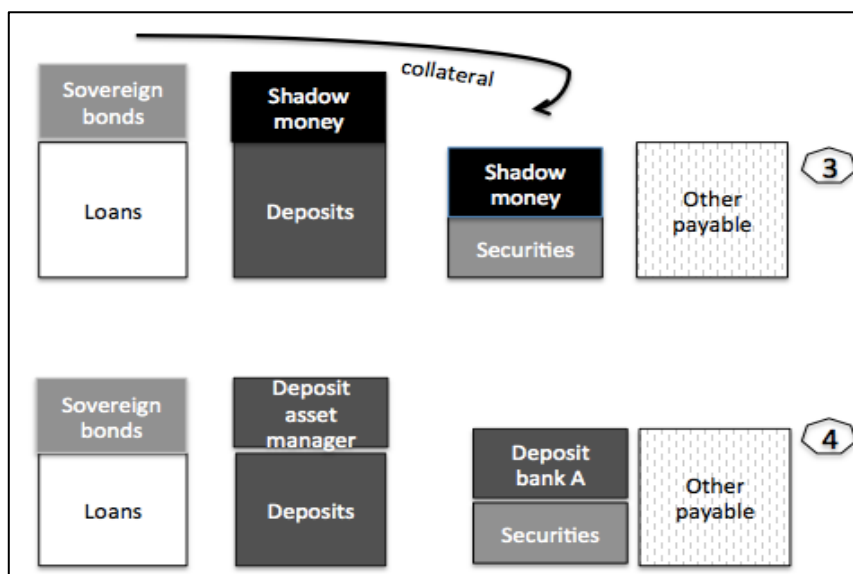
Again, Bank A seeks leverage by purchasing a portfolio of sovereign bonds, for proprietary trading or for market-making (see Figure 1). To fund this portfolio, it finds an asset manager that holds her cash in a deposit with Bank B, but is worried about the unsecured exposure above the deposit guarantee. Shadow money creation simultaneously solves the leverage and safety demands. The asset manager moves her deposit from Bank B to Bank A. Bank A accepts a new liability (the bank deposit) and a new asset (central bank reserves) from bank B, using the latter to purchase sovereign bonds (Step 2). Next, the asset manager's bank deposit is converted into shadow money (step 3). Bank A replaces the unsecured promise to pay (the bank deposit) with a promise to pay secured by collateral (repo deposit). Bank A grows its balance sheet by funding new assets with a shadow deposit issued to the asset manager, on which it pays interest. The asset manager does not, in Minsky's (1957) words 'earn the interest accruals on the "purchased" debt instruments, ...rather a stated contractual interest' (p. 176) on the shadow deposit it holds with Bank A.

Figure 1 Shadow money creation



When the repo matures, bank A makes good on its promise to convert shadow money back into the bank deposit, by repurchasing collateral securities (Figure 2, step 4). If those securities have not matured, the bank and the asset manager can agree to roll-over the repo. Bank A can trade securities without traditional money creation, and the asset manager provides credit via the shadow deposit without trading the securities.

Figure 2 Shadow money at maturity



Moneyness is created via two mechanisms: the legal treatment of collateral and the valuation of collateral. Thus, shadow money *separates* legal and economic ownership of collateral. The asset manager becomes legal owner so it can liquidate collateral in crisis when bank A can no longer make good on its promise to convert shadow money into bank money. The bank remains the economic owner entitled to the interest payments on collateral securities.

Furthermore, moneyness is not simply a question of the type of collateral, as Moreira and Savov (2014) assume when identifying repos collateralised with sovereign bonds as money. What matters is *how collateral is managed*. Moneyness rests on collateral valuation practices: for repos beyond overnight, the two parties check daily that the market value of collateral preserves parity to the shadow deposit. Should the market price of collateral increase above the shadow deposit, as it occurs during asset bubbles, the bank makes a margin call to recover the difference in cash (or collateral). It can use that collateral to expand leverage further by issuing new shadow money. Collateral valuation aims to ensure that the repo deposit can be converted into cash at par at maturity or when the borrower defaults and the asset manager sells collateral. Through valuation, collateral is critical to repo moneyness, and therefore safety.

Therein lies the monetary power of collateral securities: liquid collateral requires *less* effort to preserve moneyness since lower price volatility reduces need for margin calls. The monetary power of collateral erodes with collateral illiquidity, since it requires issuers of shadow money to find additional collateral/cash to preserve moneyness.

Thus, shadow deposit creation inextricably entangles moneyness and collateral liquidity. The more shadow deposits issued during good times, the higher the demand for, and therefore liquidity, of collateral securities (ECB 2002, Gabor 2016⁴). In turn, falling asset prices test the monetary power of collateral. The architecture of moneyness – collateral valuation – simultaneously depends on and cannibalizes liquidity in crisis. If collateral securities fall in price, bank A above needs to find additional collateral or cash to preserve parity between the shadow deposit and the bank deposit promised. If it cannot, it has to fire sale assets, in turn eroding market liquidity and triggering further margin calls in what Brunnermeier and Pedersen (2009) termed liquidity spirals. Safety is threatened in crisis through a second mechanism: banks take refuge in highest quality collateral to preserve funding via shadow deposits (Gabor and Ban 2016, Gabor and Vestergaard 2016).

Since collateral liquidity relies on central bank interventions, it becomes clear that even repos secured by government bonds have no strong claim to safety without appropriate central bank support, despite claims to the contrary (Perotti and Golec 2017). But the *type* of central bank support matters. Not all crisis interventions have stabilizing effects on the entangled relationship between shadow money and securities markets. Paradoxically, lender of last resort interventions can erode the monetary power of collateral, and therefore the safety of shadow money. The mechanics works as follows: if banks issue shadow money to get access to emergency central bank reserves, then the terms on which the central bank accepts and manages collateral become critical. If central banks seek safety via collateral valuation, they will call margins when collateral prices fall, thus increasing banks' funding pressure and firesales (Gabor and Ban 2016, Gabor 2016).

⁴ It was this repo/collateral liquidity nexus that central bankers cited when encouraging repo markets before Lehman (CGFS 1999). Repos would turn the fiction of safety into reality in core bond markets, a market-based solution that placed the onus of preserving safety in global financial markets on market-making banks (Gabor 2016).

Thus, central banks' collateral policies can impair collateral securities' liquidity (Barthelmy et al 2017). In financial systems organized around securities/derivative markets, lender of last resort only works *in conjunction with* dealer/market-maker of last resort interventions in core collateral markets (Buitert and Sibert 2007, Mehrling 2010) to support market prices (Gabor 2016). Market maker of last resort simultaneously provides liquidity to sovereign securities and moneyness to shadow deposits.

The entanglement between shadow money and sovereign bonds poses complex challenges in polities with narrow interpretations of central bank independence, where interventions are subject to complex political pressures. These pressures reflect the (monetarist) separation between the state institutions that are central to the issuance and preservation of safe assets: the central bank and the Ministry of Finance/Treasury. That this need not create insurmountable political difficulties is clear from the example of the Bank of England, that has adopted formally market-maker of last resort without any political opposition (Gabor 2016). In contrast, nowhere have these pressures been stronger, or more destabilizing, than in the EMU.

National vs single safe assets

Even before the creation of the euro, European technocrats took the question of safe assets seriously. They hoped the Euro would accelerate the transition to a securities-based financial system, viewed as the crucial ingredient of the impressive US productivity growth in the 1990s. Baron Lamfalussy, the president of the European Monetary Institute, forerunner to ECB, noted the critical role that liquid sovereign securities would play in anchoring financial stability:

‘We've seen an accelerated move to a market-centric system from the bank-centric system that has tended to prevail in Europe," Lamfalussy said in London last month. "I have no doubt that a market-centric system is more efficient, but there's a question whether it is stable." The key to stability, he concludes - for the pricing of corporate as well as public debt - is a liquid and transparent government debt market.’ *Euromoney, 1999*

While European technocrats discussed the market-driven integration of government bond markets, Member States had good reasons to fight over the challenges that EMU posed for their debt's safe asset (Keating 1996, McCauley and White 1997). Issuing debt jointly, however structurally necessary, turned out politically impossible. Instead, with currency risk removed, states faced the harsh reality of having to compete for investors, competition that took them beyond traditional clients, the local banking system. The first Member State to acquire the prized status of benchmark for pricing private euro securities would derive important liquidity benefits and become de facto safe asset issuer (Keating 1996). 'It would be a mistake to underestimate the power of the particular interests engaged in the ultimate structure of the euro area government bond market', noted McCauley (1999, p12).

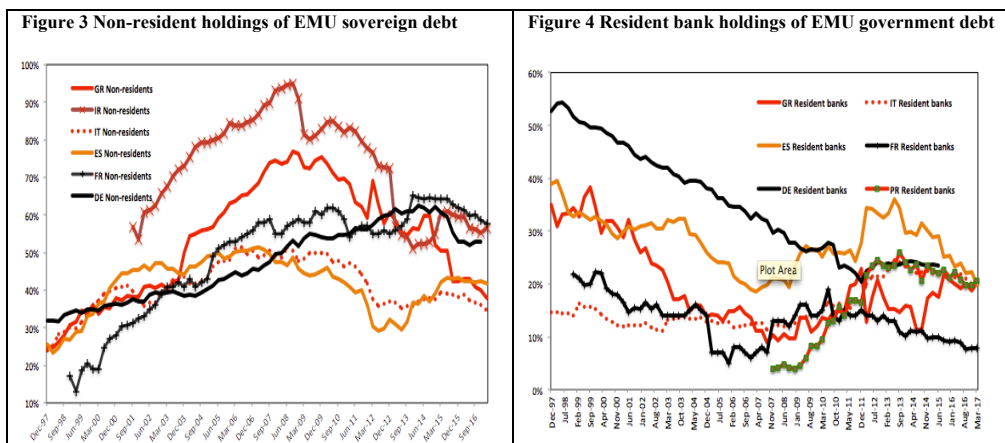
France made the first claim for the safe asset issuer crown. Having lost the battle to impose its more Keynesian view of monetary policy to the German view of sound money, France announced that it would model its sovereign debt market after the US. It would redenominate old and newly issued sovereign bonds into Euros, introduce auction calendars and liberalise the creation of shadow euros against French securities collateral. At first, Germany did not respond. A Bundesbank mistrustful of short-term finance refused to issue short-term government debt, while maintaining an unpredictable auction calendar and a tight rein on shadow money creation backed by bunds (Trampusch 2015; Gabor 2016).

Eventually, the appeal of safe asset status proved irresistible. By 1997, Bundesbank entered the race, describing 'an increasing level of competition between sovereign issuers and between leading financial centers in Europe for the favor of international investors', so 'the answer will be determined not only by the financial policies of the countries participating in the monetary union... a much more central role will be played by each nation's debt management' as 'international investors will favor the markets that offer them a complete selection of maturities and sufficient liquidity in each issue' (Euromoney, 1997). In this debate, Germany accepted that liquidity mattered more than fiscal probity for safe asset status.

Italy aside, other Member States had smaller government bond markets where liquidity could prove challenging once they joined the monetary union. Yet up to 2008, such worries did not materialise. EMU countries,

small and large, saw their sovereign debt increasingly held by non-residents (Figure 3). Thereafter, everything changed in EMU government bond markets. Between Lehman's collapse and the September 2012 'whatever it takes' commitment, non-residents reduce their demand for periphery sovereign debt, even of those countries that maintained investment grade (Spain and Italy), moving to the safety of German and French assets. In turn, Member States relied less on home banks to generate demand (Figure 4). Their share fell until 2008, to recover since, particular for 'periphery' Member States, prompting a wave of public concerns about, and demands to subdue, the 'sovereign-bank loop'. Yet it should be noticed that banks demand for home bonds is not simply a matter of moral suasion from governments reluctant to subject themselves to the discipline of the market. As the crisis demonstrated, and Cœuré noted, imperfect markets are poor enforcers of discipline. Rather, banks' demand for the home sovereign should be understood as a combination of pragmatic geopolitics (the sovereign remains the true lender of last resort should the Euro collapse) and profit-seeking.

The picture became more complicated once the ECB adopted negative interest rates and announced QE in February 2015. By 2016, the sovereign debt of large countries (Germany, France, Italy) was trading at negative yields, and market participants decried the scarcity of Bunds inflicted by QE (later remedied by Bundesbank via bund lending). It is important to note that although negative yields suggest that investors pay Member States for the privilege of lending them money, this is only the case for those holding to maturity. Investors can make profit if they hold negative yielding securities for a few days, selling when price increases.



The crisis illustrated powerfully that the sum is greater than its parts in EMU macrofinance. A collection of national safe assets does not make a single safe asset. EMU entered the banking crisis with eight AAA rated sovereigns, and exited the sovereign debt crisis with three (Coere 2016). The following section explores the role played by the ECB's attempts to create a single safe asset via shadow banking (see Table 2).

Table 2 Governing through markets: the single safe asset case

	How	Problems
Shadow euros <i>public-private</i>	*ECB accepts shadow euros issued on equal terms against <i>any</i> EMU sovereign collateral. Markets to follow suit.	* ECB collateral valuation for shadow euros * Shadow euros fragility without appropriate ECB support (OMT) *Strengthens bund safe asset role
STS securities via Capital Markets Union <i>fully private</i>	*rules for simple, transparent and standardized (STS) securitization *preferential regulatory treatment and ECB support (collateral framework)	*small market *illusive market liquidity without ECB support
Sovereign-Bond Backed Securities (SBBSies)	*bundle EMU sovereign debt, issue senior safe and junior tranche	* joint liability *sovereign-bank loop *liquidity impact on (periphery) sovereigns

The shadow euro – a fragile single safe asset

The Euro was born during a period of significant structural change and fragility in global finance. The Committee for Global Financial System diagnosed the 1998 LTCM/Russian crises as crises of financial systems increasingly organised around securities and derivatives markets (CGFS 1999). Central banks running the Committee called for policies to cement the safe asset status of government bonds. Reluctant to contemplate direct interventions undermining their independence, central banks turned to shadow money (Gabor 2016). Shadow money creation would increase demand for quality collateral, allowing market-making banks to fund positions easily and arbitrageurs to short. All these would increase securities' liquidity and safety.

ECB saw in shadow euros a pragmatic solution to the faults in the EMU architecture. Until (if ever) EMU states agreed on joint liabilities, shadow euros would increase the liquidity and safety of sovereign bonds issued nationally. The ECB worried little about the conditions under which the safety of the single repo asset would come under pressure. Rather, it framed shadow euros as a mere vehicle for improving the liquidity – hence the safety – of national government bonds.

How could shadow euros achieve what politics failed to do? The ECB (2002) proposed to harness the special nature of repo, connecting securities markets with money markets, derivatives and swap markets. Private financial institutions would create shadow euros against a general collateral basket that included all EMU sovereign debt, of different liquidity and underlying fiscal positions, *on equal terms*. Shadow euros would increase demand, and liquidity for government collateral. The ambition was for say a German pension fund to find safety into a shadow deposit secured by Greek sovereign collateral (see Gabor and Ban 2016). The European Commission put its law-making powers in the service of the shadow euro project (Giovannini Report 1999). Member States would benefit, the technocratic consensus suggested, should shadow money issued nationally become a true shadow euro created through a single repo market. Euros and shadow euros came into being simultaneously.

The ECB (2002) used its monetary policy framework to support private shadow euro creation. It decided to implement monetary policy by asking banks to issue shadow money in order to borrow central bank reserves. In doing so, it broke with the tradition of Member State central banks, which did use collateral valuation practices that render shadow money fragile. The ECB's repo collateral framework treated all Euro sovereign debt equally, and private repo markets followed where the ECB led (see Gabor and Ban 2016). By 2008, this approach saw the single safe asset issued mainly by large European banks to fund aggressive expansion through dealer and market-making activities, brokerage services, and own account trading (Liikanen Report 2012). Shadow euro creation tripled in volumes by 2008 to EUR 8 trillion, with issuance concentrated in the hands of large European banks. Banks used home and foreign sovereign collateral to fund leverage via shadow euro, just as the ECB had envisaged. This is an often-underappreciated aspect of the sovereign-bank loop: the widespread belief that the debt of euro area sovereigns was interchangeable was in no small measure *the outcome* of market-based approaches to create a single safe asset.

Yet the importance of an appropriate framework to support shadow money became painfully visible in the global financial crisis. First, the collapse of Lehman Brothers triggered a run on repo deposits (shadow dollars) created to fund leveraged positions in US shadow banking (Gorton and Metrick 2012). The crisis of shadow money spread to EMU via the balance sheet of European banks. As European banks' dollar funding problems travelled to Europe, both issuers and holders of shadow euros ran to the safety of the most liquid collateral. Holders of shadow deposits began discriminating between German and 'periphery' sovereign collateral (Hordahl and King 2008). One after the other, the European clearinghouses that intermediated the bulk of shadow euro creation stopped accepting periphery sovereign collateral (Bank of England 2011). The single safe asset morphed into a core safe asset by middle of 2011.

For readers familiar with the ECB's crisis interventions, it would appear that the central bank did everything to defend both euros and shadow euros. The central bank stepped up the creation of its own safe asset by loosening LOLR terms. Banks could access central bank reserves by issuing shadow money against a broader set of collateral. This, to its critics, undermines

market discipline (Nyborg 2017). To its many supporters, the ECB offered banks an important lifeline given stress in wholesale funding markets, including repo markets (BIS 2013, Bindseil et al 2017). Yet scholars of ECB would do well to heed Minsky's (1957) warning that the effectiveness of central bank actions needs to be judged by carefully examining evolutionary changes in finance. For European and foreign investors looking for safety in shadow euros rather than traditional bank deposits, the ECB's treatment of shadow euros was not simply a matter of broader collateral. The ECM may have eased collateral acceptability rules (Greece aside) but it simultaneously *abandoned* the single approach that treated all EMU sovereign debt as equal collateral in shadow money creation (Gabor and Ban 2016). Its most important crisis tool, long-term refinancing operations (LTROs), followed pro-cyclical credit ratings and retained the collateral valuation practices that eroded the monetary power of periphery sovereign securities and rendered shadow money fragile. In providing extraordinary liquidity via runnable shadow money, the ECB could not defend the safety of private shadow euros. Rather, it reinforced the hierarchy of safety in the Eurozone.

In one of the few ECB papers that confront this question, Bindseil et al (2017) reject Gabor and Ban (2016)'s claim that its collateral valuation increased market pressures on periphery sovereign bonds and diminished their monetary power. The ECB's extended collateral framework, the argument goes, meant that *in the aggregate* banks had sufficient collateral to meet the ECB's margin calls and haircut increase on periphery government debt collateral following credit downgrades. Put differently, banks had enough collateral to accommodate the fragile moneyness of shadow euros issued to the ECB. But what stands at aggregate level may be different at individual bank level, a point forcefully made by research from Banque de France:

'collateral constraints may have been binding at the bank level. In June 2012 [...], 11% of the banks in our database had a utilization rate of their collateral pool greater than 90%, while 20% had a utilization rate greater than 80%. ...moreover, eligibility criteria may matter even for banks that are over-collateralised. The eligibility of certain assets as collateral is likely to impact their relative degree of liquidity compared with non-eligible assets and hence to alter the incentives to hold them' (Barthélémy et al 2017).

The monetary power of periphery sovereign collateral also diminished. The discrimination in the ECB's collateral framework between higher and lower-rated sovereigns (via haircuts and collateral valuation) reinforced the safe asset status of the former (bunds) to the detriment of the latter. Markets followed where the ECB led. In 2010, LCH Clearnet, the largest clearer of shadow money in Europe, introduced a sovereign risk framework whereby the cost of funding with government bond collateral would increase as that bond yield went above Germany's by more than 450 basis points (4.5%). For example, as yields on Irish government bonds increased in late 2010, LCH raised the costs of providing repo funding against Irish bond collateral, forcing banks to turn to lower-yielding bonds. It is no coincidence that Outright Monetary Transactions turned out to be the most effective tool to reinstate financial stability. OMTs are in effect a market-making commitment to collateral market liquidity that supports safe asset status for periphery sovereign bonds and the moneyness of shadow euros.

In sum, a safe asset lens changes dramatically the narrative of the EMU crisis. This is not simply a tale of fiscal irresponsibility and naïve investors. It is also a tale of global (shadow) banks extracting profit from daily variation in securities and derivatives prices, funded via runnable shadow money. Without appropriate support from the ECB through direct and immediate interventions to provide secure the monetary role of collateral, the shadow money solution to the single safe asset challenge failed.

Could the ECB have done more given the constraints of its formal mandate and the reluctance in European capitals towards market-maker of last resort? While this question requires further research, it is important to note that although the ECB has the epistemic authority to shape the collective understanding of what went wrong in the European crisis, it has been reluctant to use it in order to clarify the role of the single repo market project. In contrast, the US Federal Reserve has produced a sizeable body of research and policy speeches on fragile repo (Gabor 2016, Murrau 2017). Rather, the ECB turned to deploy its epistemic authority on new market-based solutions to the single safe asset challenge.

The STS solution

Since the crisis, European technocrats have sought to engineer new single safe assets. The Capital Market Union project prioritized the creation of a market for Simple, Transparent and Standardized (STS) securitization. Ostensibly, CMU aimed learning the lessons from the global financial crisis to revive European securitization markets. Working together, Bank of England and the ECB (2014) recognized that securitization markets played a critical role in the subprime mortgage market crisis and then the US financial crisis. The lesson the two central banks drew was not that securitization was *fragile* per se, but that incentives need to be aligned to remove the opacity and complexity that had caught investors by surprise, and to ensure that banks packaging illiquid loans had skin in the game.

The timing, technologies and political economy of the STS process are critically examined in this special issue (Engelen and Glasmacher 2018; Braun and Hubner 2018, both in this issue). Through a single safe asset angle, the STS process raises two important questions: could the STS generate sufficient volumes to become a meaningful contender for single safe asset status, and what would it take to make it safe?

Both market participants and scholars have given skeptical answers to the first question. On the supply side, it will take a long time to establish a truly European securitisation market (see Thiemann and Lepoutre 2017). Barriers to pooling loans across borders need to be removed before German SME loans and Greek SME loans share the same STS security. Although European institutions framed the STS process as a lifeline for credit-starved SMEs, the ECB's surveys show that SMEs in Europe are more concerned about finding demand for their products, and less about financing. Furthermore, SMEs perform better in countries with a large number of small banks, such as cooperative banks, so that old boring banking rather than capital markets will continue to be, in the medium to long term, the answer to SME financing needs. The plans to recruit public development banks to the task by encouraging them to securitise SME/infrastructure loans may increase supply, but at the risk of chipping away at the very logic of development banking (see Mertens and Thiemann this issue). If past experience offers any guidance, then securitization will most likely rely on mortgage or consumer lending, yet again threatening bubbles. It will be paradoxical if STS rules will need to allow bubble-prone underlying assets to fill the gap left by Germany's 'black zero' views on fiscal policy.

To stimulate demand, central banks pledged to treat STS securities as high-quality collateral. This would assist banks in their STS market-making role, allowing them to tap central bank funding by issuing shadow euros against STS collateral. But the failure of shadow euros after Lehman clearly suggests that the monetary power of collateral is not simply a question of preferential inclusion in central banks collateral frameworks. Should STS be downgraded, or experience price volatility, the ECB's collateral valuation would immediately affect the liquidity of STS collateral (see Gabor and Ban 2016, Barthélémy et al, 2017). The only way to make STS safe is through direct central bank interventions to support STS market liquidity.

Yet European technocrats appear unwilling to learn this valuable lesson from the pre-crisis shadow euro experiment. Rather, the European Commission's (2015) Green paper, and the Bank of England and the ECB (2014), suggest that institutional investors would be the ultimate stabilizing force. Investors with low leverage and little dependency on short-term funding, and with 'buy to hold' strategies, would make STS safe. Treating STS securities as 'High Quality Liquid Assets (HQLA)' in Basel III rules would also improve its claim to safe asset. Yet a critical macro-finance lens throws doubt on this narrative. Institutional investors look for safety into STS securities that trade in liquid markets, particularly if accounting rules require assets to be valued at market prices. Accounting rules create incentives for insurance companies and pension funds to buy during good times and sell during bad times (Haldane 2014).

Recognizing the importance of exposure to daily volatility in the market price of (STS) securities, market participants stressed that only central banks can make STS securities truly safe by market-making (purchasing) of last resort. As the Association for Financial Markets in Europe (AFME), one of the key lobby groups in the CMU process, put it:

...an ABS purchase program for qualifying securitisations with the Central Banks acting as "purchasers of last resort", could underpin banks' market making activities, sending a powerful message to encourage more active participation in the market. After all, the bulk of losses on European securitisation incurred during 2007-08 were due to mark-to-market requirements rather than actual credit losses. (AFME 2014, p. 9)

Less bound by EMU politics, Bank of England could have fulfilled AFME's vision via its new market-maker of last resort commitment for core assets. This liquidity guarantee, it was argued above, preserves the safe asset status of *both* those assets and shadow money issued against them. Brexit puts the burden of STS safety on the ECB's shoulders, leaving it alone to confront complex questions of distribution underpinning market-maker of last resort. The ESM as a European Monetary Fund solution promoted by Germany is equally problematic. In a world where safety is time-critical, that is, it can be destroyed in a matter of minutes, hours and at most days, an EMF intervention subject to complex conditionality and political negotiations can do little to prevent private or sovereign assets from losing their safe status. At best, the EMF will function to *restore* safe asset status while inflicting painful austerity on countries whose sovereign bonds may have lost their monetary power with little contribution from the underlying fiscal position.

The SBBSies solution

In contrast to the STS process, the SBBSies solution puts sovereign bonds back at the core of the single safe asset debate. It identifies joint guarantees as the critical political obstacle to Eurobonds, and proposes to overcome it by the magic of financial engineering (Brunnermeier et al 2011, 2016, van den Riet 2017). A supranational vehicle would buy government bonds, package and securitise them into two distinctive tranches. The larger senior tranche, amounting to 70% of the portfolio, would become the single safe asset, the synthetic Eurobond. The junior tranche, offering higher yield for higher risks, would take the first losses. Senior bond holders would be exposed to credit risk only once losses reach more than 30% would (Minnenna 2017⁵). Thus, sovereign bonds with different risk profiles (say German and Greek) would be bundled together to generate a safe asset via a market process. This is a revival of the pre-crisis approach. Securitization markets replace shadow money in the private-public partnership to generate the single safe asset.

⁵ <https://ftalphaville.ft.com/2017/04/25/2187829/guest-post-why-esbies-wont-solve-the-euro-areas-problems/>

While the SBBSies process has been powered from Frankfurt with support in Brussels, the engine was the European Systemic Risk Board rather than the ECB⁶. The European Commission's (2017) White Paper on deepening the EMU frames the urgency of SBBSies as follows. The EMU state's individual ability to use fiscal policy is greatly limited by two factors. The sovereign-bank loop exposes public finances to the misfortunes of home banks and vice-versa. Furthermore, uncertain market access limits the ability of Member States to use fiscal policy in a counter-cyclical fashion, 'a major explanation behind the severe dent in the recovery in the years 2011-2013' (p.13). Belatedly accepting the contractionary effects of austerity that it pushed as part of the Troika, the Commission urged the completion of the Banking and Capital Markets Union, together with a 'very innovative' instrument, the SBBSies. The financial stability benefits of gradually neutering the sovereign-bank loop would solve the political impasse delaying the Banking Union (Braun 2018).

Why would Germany accept the structured version of Eurobonds that, if successful, could wrest away the bund's privileged position in the Eurozone financial architecture? The European Commission (2017) indicates to the politics of German's position towards synthetic Eurobonds. For Germany, the critical flaw in the Banking Union plans, and the reason for its reluctance to agree to a common Deposit Guarantee (EDIS), remains the sovereign-bank nexus. To break it, Germany requires risk weights on sovereign debt or a ceiling on banks' holding of home sovereign debt. Yet Member States who have seen the monetary power of their sovereign bonds suffer in crisis have opposed such measures, well aware that the current EMU architecture exposes them to time-critical fragilities that the ECB, or the European Stability Mechanism, would address only with conditionalities attached. According to the Commission (2017), SBBSies can reconcile the two. Changes in the regulatory treatment of sovereign bonds would not be necessary because banks would shift some of their portfolio from home sovereign into SBBSies.

The shadow euro's brief history as single safe asset provides important lessons. Shadow euros generated broad political support before 2008 because of a double promise: moneyness for shadow money and liquidity

⁶ It is important to note that some Eurosystem central bank governors have been important figures in the ESRB's Safe Asset Working Group.

for the underlying (sovereign) collateral. SBBSies do not engender this (cyclically-valid) claim. Italy, a vocal opponent of SBBSies, illustrates the predicament. The more periphery sovereign bonds the SBBS process locks away in securitization vehicles, the less secondary market trading, and liquidity. According to estimates, SBBSies would nearly eliminate secondary markets for some sovereign issuers with small markets (Minnenna 2017). Furthermore and paradoxically, the stronger the safe asset status of the SBBSs – eventually with the ECB backstopping it - the less collateral-related demand for Italian bonds. The SBBSies alone cannot resolve the trade-off between a market-engineered single safe asset and the liquidity of individual sovereign bond markets. Only a political solution for the ECB will.

Conclusion

Three plans constitute the post-crisis vision that the European Commission has launched to address the weaknesses of the EMU governance architecture: completion of the banking union, launch of a capital markets union (CMU), and issuance of Sovereign Bond Backed Securities (SSBSies). At the core of these plans, is the notion that a pan-European “single safe asset” – widely held to be necessary to anchor European finance as well as to enable the transmission of monetary policy across the Eurozone – can be created in and through new forms of securitization in European shadow banking. The role of European authorities in facilitating the creation of a single safe asset varies across the initiatives. In the CMU, which envisages the engineering of safe assets through the creation of a market for Simple, Transparent and Standardized securitization, public authorities would offer preferential regulatory treatment, facilitate the process through various standardizing and transparency enhancing initiatives, while the central bank would put its collateral framework in service of the process. In the case of SBBSies, the project is to create a public-private safe asset, involving central banks actively in the process. In both cases, the presumption of the Commission, and the majority of the scholarly literature, is that the ECB will not be required backstop the safeness of these assets.

Through a critical macro-finance approach, we argue the contrary to be true. Ultimately, a safe asset is only safe to the extent that it enjoys backstopping

support from a central bank, in the form of market-maker of last resort interventions. Only such interventions can simultaneously provide liquidity to sovereign securities and moneyness to shadow deposits, both of which are crucial prerequisites of financial stability. By failing to learn this valuable lesson from the European sovereign debt crisis – which only abated once the ECB committed to backstopping the collateral values of all Eurozone sovereign debt, in and through the OMT programme – the technocratic vision for future Euro governance remain mired in the same contradictions and denials that has haunted it since the late 1990s. There can be no integration of European finance and smooth transmission of monetary policy, without a genuinely pan-European Central Bank, that is prepared to guarantee the safety of a single European safe asset, by formally and fully adopting a mandate for market-making in safe assets.

The efforts to create a single safe asset for the EMU have been so far unsuccessful. Relying on market discipline is not a solution since ‘market discipline has destroyed safe assets more than it has created them’ (Cœuré 2016). A national solution to the single safe asset problem reduces room for countercyclical fiscal policies where needed, and increases it where countries are reluctant to use them. The burden of adjustment should fall on the ECB: to first ensure that EMU returns to a safe shadow euro again and second, to follow Bank of England in the formal adoption of a market-maker of last resort function. It remains for future scholars to explore the extent to which these new functions entrench moral hazard and the political power of the ECB. Structurally, EMU financial markets require a single safe asset.

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