European Financial Infrastructure in the Face of New Challenges

Franklin Allen | Elena Carletti | Mitu Gulati | Jeromin Zettelmeyer

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PREFACE

The Florence School of Banking and Finance at the European University Institute's Robert Schuman Centre of Advanced Studies and the Brevan Howard Centre at Imperial College London, in cooperation with BAFFI CAREFIN at Bocconi University and with the kind support of the European Investment Bank Institute, organised on 25 April 2019 a conference discussing the 'European Financial Infrastructure in the Face of New Challenges'.

This event follows the tradition, established in 2011, to gather yearly in Florence leading economists, lawyers, political scientists and policy makers to discuss Europe's economic and financial governance, in the light of the most pressing policy priorities, challenges and future prospects. In particular, this year's conference was convened to gain a better understanding of the internal and external disruptions that may be putting Europe's financial system under stress, and to offer a way forward to address these many challenges.

The event was opened by a first panel looking at the challenges to European and international payment systems, in the context of rising US extra-territorial sanctions. Taking into account recent events worldwide, speakers discussed the current major challenges and the future possible scenarios in the development of international financial infrastructure, as well as assessed the evolution of enforcement practices. Furthermore, the debate focused on the international role of the euro and other regulatory actions for the European Union.

The second panel focused on sovereign debt restructuring, discussing what steps could mitigate the costs of sovereign debt crises and debt restructuring, without raising sovereign yields or exacerbating liquidity risks in the short run. Discussions in the panel and with the audience focused on the role of Collective Action Clauses, highlighting the past experiences in the euro area and analysing their legal and regulatory implications.

The final panel debated whether Europe needs a safe asset and how it could be designed. Panellists discussed the rationale for having a safe asset, emphasizing the necessity of reducing sovereign exposures and to truly break the bank-sovereign nexus (so called 'doom loop'). They developed different proposals on what forms a safe asset could take, assessing in particular Sovereign Bond-Backed Securities (SBBS), Eurobonds, Bunds and alternatives advanced in the current debate such as e-bonds, red-blue or purple bonds.

The event follows a 2018 conference entitled 'Institutions and the Crisis', a 2017 conference entitled 'The Changing Geography of Finance and Regulation in Europe', a 2016 conference entitled 'Filling the Gaps in Governance: The Case of Europe,' a 2015 conference entitled 'The New Financial Architecture in the Eurozone,' a 2014 conference entitled 'Bearing the Losses from Bank and Sovereign Default in the Eurozone', a 2013 conference 'Political, Fiscal and Banking Union in the Eurozone,' a 2012 conference, 'Governance for the Eurozone: Integration or Disintegration, and that of 2011, 'Life in the Eurozone With or Without Sovereign Default.'

As with all the previous conferences, the debate after each panel and was lively and thoughtful. We prefer not to take a stance here on any of the issues but simply provide in this book the contributions by individual speakers and let the reader draw his or her own conclusions.

KEYNOTE SPEECH
Sovereign Fragility

Lee C. Buchheit[1]

> *"Everything costs money," said Mma Potokwane. "That's why people borrow so much."*
> *Mma Ramotswe agreed that this was a problem. "And yet there are people who say that we shouldn't worry about borrowing," she said. "I do not understand how you can borrow to get out of debt."*
> *"You cannot," said Mma Potokwane. "You cannot get uphill by walking downhill."*
> *"Or downhill by walking uphill," suggested Mma Ramotswe.*
> *Mma Potokwane, whose mouth was full of cake at the time that this observation was made, simply nodded. There are times when it is better to concentrate on the cake in one's mouth than to contribute to a debate.*

We homo sapiens are a fragile species. We can survive without nourishment for only a few weeks, without water for a few days and without oxygen for a few minutes. Nothing can be done about these frailties, they are our birthright as remarkably delicate creatures. But discretionary dependencies are something else. When even a temporary interruption of substances like nicotine, caffeine, alcohol or internet access can trigger acute discomfort, we instinctively know that something is amiss.

Legal fictions like sovereigns do not need to breathe or eat. They too, however, have the capacity to develop discretionary dependencies.

1 Thanks to Antonio Pietrantoni for research assistance. This paper is based on a May 16, 2018 lecture at the Lauterpacht Center at Cambridge University. Portions of it have appeared as Lee C. Buchheit, *Sovereign Debt in the 21st Century*, 27 J. Investing 30 (Fall 2018). Alexander McCall Smith, The Minor Adjustment Beauty Salon (No. 1 Ladies Detective Agency Series #14) (2013).

One of the most dangerous is a dependence on continual, uninterrupted access to capital markets in order to refinance large stocks of legacy debt.

A newspaper headline reading "The Republic of Ruritania Borrows $500 Million" conjures an image in the minds of most people of a Ruritania able to build roads, or hospitals, or fight wars or even just cover budget deficits, to the tune of a fresh $500 million. While that may be true, it probably isn't. In all likelihood, that $500 million will be used to repay a prior borrowing for $500 million, which in turn paid off a yet earlier loan that itself refinanced an even more remote debt incurred decades before to build a road, or a hospital, or cover an ancient budget deficit, or fight a war that no one can now even remember.

The Refinancing Assumption

In 1791, the first U.S. Treasury Secretary, Alexander Hamilton, told the United States Congress that he:

> ardently wishes to see it incorporated as a fundamental maxim in the system of public credit of the United States, that the creation of debt should always be accompanied with the means of extinguishment.[2]

Only such "funded" debts, Hamilton warned, could become a "national blessing". Unfunded debts (that is, debts incurred without specifying in advance the means by which they would be repaid), he said, were an invitation "to prodigality and liable to dangerous abuse."[3]

The notion that the United States would limit itself to incurring only funded debts today strikes us as charmingly quaint. When modern sovereigns borrow money, they do not do so with any expectation that they will generate the revenues required to repay those debts when they mature, nor do they normally set aside funds during the term of the loans to ease repayment at final maturity. They do so with the expectation that when the debts mature the sovereign will borrow money from someone else in order to repay the creditors of yesteryear. When that new debt matures in its turn, another loan will be contracted to repay it. And so forth and endlessly so on. In a word, modern sovereign finance is predicated on an assumption of the capacity to *refinance* maturing debts, in perpetuity.

2 Alexander Hamilton, "First Report on the Public Credit", *The Works of Alexander Hamilton*, vol. II, pages 227, 283 (Henry Cabot Lodge ed., 1904).

3 Ibid.

This, however, is a precarious predicate.

For many countries, a presumption of perpetual market access at tolerable interest rates is an act of blind faith. Sovereign debt markets are skittish and fickle. When the time comes for a loan be repaid, a sovereign debtor may find itself unable to borrow for any number of reasons, only some of which relate to the country's own financial position and prospects. An unsettling geopolitical development, rising interest rates in developed economies (which allow investors to earn attractive yields with less risk), a "Lehman moment" in global financial markets, the malfeasance or misfortune of a sovereign debtor elsewhere in the world, a natural disaster - any of these, and many others besides, can cause the markets to turn arthritic. It is fatuous to trust that a state of perpetual benignity will reign in the realms of politics, finance and the natural world. And when something does go wrong, a sovereign with large maturing debt obligations denominated in foreign currencies has only three choices:

1. Option One: draw down on monetary reserves,

2. Option Two: borrow from a lender of last resort like the International Monetary Fund, or

3. Option Three: default and restructure.

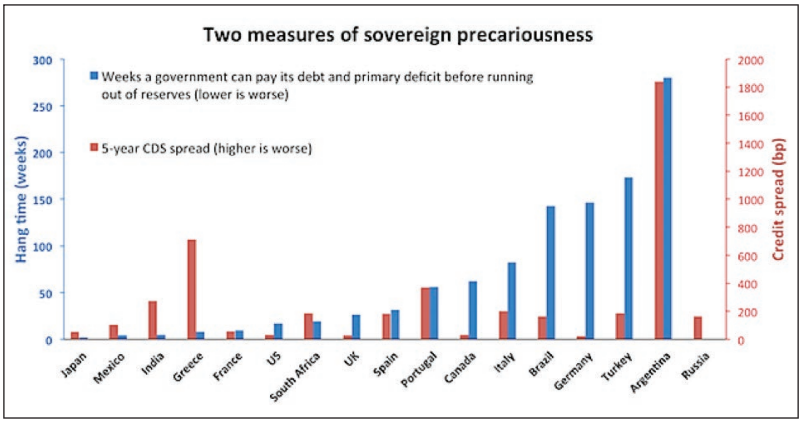
Assessing the Options

Reserve Drawdown. Politicians in the debtor country will naturally favor Option One - drawing down on reserves to bridge what they hope will be a temporary interruption of market access. There are two problems with this response. First, the interruption may not be as temporary as the politicians hope. If a debt restructuring eventually does become necessary, history teaches that entering the process with few (or negative) reserves significantly aggravates and prolongs the pain of recovery.

Second, the reserve positions of many countries will not allow for a very long bridge, even if the country is prepared to run the reserves dry. In November 2013, Felix Salmon of Reuters published a fascinating chart showing the number of weeks that 17 countries, developed and emerging, could last if they were totally shut off from the ability to borrow fresh funds and forced to use their reserves to cover debt service

and primary deficits.[4] Admittedly, it is a crude calculation and the result for any particular country could be altered by a number of factors. Countries that borrow in their own currency could print the money needed to repay maturing date (at an inflationary cost naturally). Sovereigns can always try to raise new revenue (taxes, privatization proceeds etc.) or cut expenditures to prolong the period before reserves run out. Nevertheless, Salmon's chart (reproduced here with his permission) is startling.

Assuming a dead lift (no market access or monetization of debt denominated in the issuer's own currency), the reserves of Japan would allow it to cover its primary deficit and debt service needs for about two weeks. Ditto India and Mexico. France about nine weeks. The United States 17 weeks. On the healthier side were Germany and Brazil which could each hang on for about three years if forced to suck air in the capital markets.



Mr. Salmon's thesis has been tested several times over the last eight years by the world's largest sovereign debtor, the United States of America. In May 2011, the U.S. Government reached its legislated "debt ceiling" and the U.S. Congress refused to raise the ceiling without a political commitment to certain fiscal measures. The U.S. Treasury Secretary at the time, Timothy Geithner, quickly announced that while emergency measures could stave off the day of reckoning for a while, the Government would

4 http://blogs.reuters.com/felix-salmon/2013/11/02/chart-of-the-day-sovereign-precariousness-edition/

begin to run out of money twelve weeks later, in August 2011.[5] The incident was repeated in May 2013 when the U.S. debt ceiling was once again reached, effectively preventing the U.S. Government from raising new debt financing to cover its colossal fiscal deficit. The new Treasury secretary, Jacob Lew, announced that emergency measures - such as delaying pension payments - could stretch available cash through the summer, but that the well would run dry by October.[6] In both instances, the emergency measures employed by Secretaries Geithner and Lew could have delayed a default only for a matter of weeks, just as Mr. Salmon's rough and ready calculation had predicted.[7]

The U.S. Treasury did not say whether such a default would bite debtholders, pensioners, government employees, suppliers or all creditors of the United States ratably. In both incidents, the U.S. debt ceiling was raised before zero hour arrived, so we must await a future crisis to learn

5 On May 16, 2011, Secretary Geithner sent a letter to Senate Majority Leader Harry Reid announcing that the statutory federal debt limit had been reached and declared a "debt suspension period," granting him authority to initiate a series of emergency measures extending the government's borrowing capacity until August 2, 2011. *See* Letter from Timothy Geithner, Sec'y of the Treasury, to Senator Harry Reid (D-NV) (May 16, 2011), *available at* http://www.treasury.gov/connect/blog/Pages/Geithner-Implements-Additional-Extraordinary-Measures-to-Allow-Continued-Funding-of-Government-Obligations.aspx

6 On May 20, 2013, Secretary Lew sent a letter to the Speaker of the House, John Boehner, acknowledging that the debt limit had been reached and initiated emergency measures to extend the country's borrowing capacity. Given uncertainties regarding certain payments owed to the Treasury, Lew projected that the emergency measures could last until Labor Day weekend. A subsequent letter to Congress on September 25, 2013, announced that the Treasury's ability to borrow would be exhausted "no later than October 17, 2013." *See* Letter from Jacob Lew, Sec'y of the Treasury, to Speaker of the House John A. Boehner (R-OH) (May 20, 2013), *available at* http://www.treasury.gov/initiatives/Documents/Debt%20Limit%20Letter%202%20Boehner%20May%2020%202013.pdf; Letter from Jacob Lew, Sec'y of the Treasury, to Speaker of the House John A. Boehner (R-OH) (Sept. 25, 2013), *available at* http://www.treasury.gov/Documents/Debt%20Limit%2020130925%20Boehner.pdf.

7 The U.S. Treasury never released official estimates on when cash would run out. However, because the United States runs a large deficit, on any given day available cash may not have been enough to meet outstanding obligations once the cash reserves were exhausted. Some market analysts predicted that the United States would default by August 10th during the 2011 crisis, a little over a week after emergency measures were exhausted. *See* Binyamin Appelbaum, *U.S. May Have Way to Cover Bills After Deadline, for Week,* N.Y. TIMES, Jul. 26, 2011, available at http://www.nytimes.com/2011/07/27/us/politics/27date.html. During the 2013 crisis, analysts predicted that U.S. would default on October 24th, a week after emergency measures ran their course. *See* Christopher Matthews, *When Will U.S. Actually Run Out of Time on the Debt Ceiling?,* TIME, Oct. 8, 2013, available at http://business.time.com/2013/10/08/when-will-u-s-actually-hit-the-debt-ceiling/.

how Uncle Sam will behave if it is forced to wear the scarlet D of a sovereign defaulter.

The United States again hit its debt ceiling last month (March 2019) and, true to form, the U.S. Treasury Secretary warned Congress that "emergency measures" would forestall a default only until early fall this year.[8]

What made this situation so poignant was that the United Sates was not shut off from market access; plenty of people all over the world were more than happy to continue lending money to the land of the free and the home of the brave. In this case, the borrowing would have ceased as a result of an internal, politically-driven constraint on incurring additional indebtedness. The result, however, would have been the same; when the cash runs out, default looms.

Lender of last resort. Option Two would have the debtor country turn to a lender of last resort when market access is lost and reserves begin to sputter out. Very recent history suggests that geopolitically important countries may find such a lender in the form of concerned bilateral partners or multilateral financial institutions such as the IMF. The response of the European Union members to the debt crises in Greece, Ireland, Portugal and Cyprus showed an extraordinary willingness to lend those countries (together with the IMF) all of the money they needed to continue full servicing of their debts for years (the belated Greek debt restructuring of 2012 being the sole exception). What made this policy even more remarkable was the presence of an express provision in the treaty establishing the European Union forbidding collective bailouts of member countries. The repeated public assurances from European leaders to the effect that the 2012 Greek debt restructuring was a "unique and exceptional" event are tantamount to a promise that no member of the Eurozone will ever again be forced, or even allowed, to restructure its debt.

Ukraine, not a member of the European Union, has also been receiving a full bailout from the IMF and anxious bilateral partners although, as in Greece, a mid-stream correction of this policy is already in progress. The lesson that markets seem to be taking from this recent history is that geopolitically important countries will be shielded by the official sector from experiencing a debt crisis, or at least from the necessity of dealing with such a crisis through the disagreeable chore of restructuring outstanding obligations.

This belief - that an implicit official sector guarantee has quietly set-

8 See Kate Davidson, *Congress Faces Fall Deadline to Deal With Debt Ceiling*, WALL ST J. (March 2-3, 2019).

tled over every sovereign debt instrument issued by every geopolitically significant country on the planet - is a fallacy. The moral hazard implications of allowing this idea to prosper are obvious. More importantly, the official sector lacks the resources to make good on such an implicit guarantee, even if it wanted to do so. Well before the Eurozone debt crisis began to recede, a political backlash had begun to develop in some of the donor countries against pouring into their weaker cousins limitless amounts of money, most of which promptly bled out to repay commercial lenders in full.

Default and restructure. Which leaves Option Three – default and restructure. Much intellectual effort has been devoted in recent years to making sovereign debt restructurings more efficient and less susceptible to exploitation by holdout creditors, particularly in the wake of the Argentina experience. But nothing will ever make such undertakings pleasant or easy. They inevitably inflict bitter hardships on the citizens of the debtor country, losses on creditors and bruises to the international financial system generally.

The Reasons Why

The solvency of a sovereign debtor in the 21st century is therefore implicitly understood not as the capacity to *pay* debts as they mature; it is understood as the capacity to *refinance* debts as they mature. It follows that a creditworthy sovereign is one that the investor community and credit rating agencies conclude is likely to have access in the future to some market from which to raise the money needed to roll over its existing stock of debt. The virtue of fiscal rectitude, and the sin of fiscal recklessness, are relevant only to the extent that they either nurture or erode the confidence of the future lenders who will be required to keep the machinery of refinancing functioning. As discussed above, if it breaks down - even for short periods - the consequences can be grave.

This image of sovereign finance as a colossal, well-oiled hamster wheel is a relatively new phenomenon. It did not exist, certainly not for developing countries, even 50 years ago. The principal reasons for its emergence are:

- **Liquid Markets.** Debt markets today are much deeper and more liquid than they were a half century ago. A 21st century sovereign with an appetite to borrow is confronted with an array of options that would have bewildered a mid-20th century finance minister.

It can raise money in the public markets, the Eurobond market, the 144A market, the private placement market, the commercial bank market. Debt can be denominated in almost any convertible currency. Increasingly, lenders are willing to buy paper denominated in a sovereign's own currency. And if you don't like the currency in which you have borrowed, or want to switch from a fixed rate to a floating rate of interest, there are dozens of institutions who will be happy (for a fee) to arrange a swap. Nothing like this range of options was available 50 years ago. The existence of such deep and liquid markets has supported the assumption that refinancing from *some* source of capital will always be available in the future.

- **Bullet repayments.** Once upon a time lenders to emerging market sovereigns did not structure their advances so that the full principal amount fell due on a single maturity date (a "bullet" repayment). Why? Because a bullet maturity that exceeded the sovereign's capacity to pay out of current revenues amounted to a gamble that the sovereign would be able to refinance that payment when it fell due. That was not a gamble prudent lenders would take.

  One solution was to structure the loan so that principal was repaid in installments over the life of the loan (an "amortizing" loan). Another was to require the borrower to make periodic contributions to a sinking fund held by an agent of the lender. Accumulated amounts in the sinking fund would then be used to retire principal at maturity. A third solution applicable was to force the debtor to redeem a specified number of its bonds in each year leading up to the final maturity.

  Modern financial markets, particularly the bond markets where most sovereigns raise money today, have lost their taste for amortizing loans, sinking fund arrangements or periodic mandatory redemptions. Bullet maturities are now the norm. Bullet maturity bonds are just easier to price and trade. This preference is both evidence of the market's assumption that refinancing will always be possible and a major contributor to the necessity for such refinancing.
- **Fathomless confidence.** Liquid markets give investors the ability to dispose of financial instruments quickly and easily. Unlike lenders in more primitive eras, investors in today's environ-

ment need not worry about whether the borrower will be able to repay (or refinance) a liability on its maturity date. They need only worry about whether they will perceive the risk of a future default earlier than the rest of the market, allowing for a sale of the instrument before its market value begins to decline. And if there is one trait that every money manager shares in common with every other money manager, it is a fathomless confidence that they are smarter than all the others. In practical terms this means that the risk of a sovereign borrower being unable to refinance a bullet payment when it falls due is, for the initial crop of investors in that instrument, no risk at all. They don't expect to be around when the risk materializes or even when the broader market begins to fret about the risk materializing.

The Cost of the Refinancing Assumption

An assumption that all sovereigns will at all times have the capacity to refinance all maturing debts injects considerable fragility and perversity into the global financial system.

The principal inhibition on incurring excessive sovereign debts in the past was the realization that they would one day have to be repaid. The refinancing assumption has eliminated this tiresome constraint. Debts no longer have to be repaid, they only have to be refinanced. And the moral repugnance that our forefathers felt at the prospect of incurring debts that their children and grandchildren would need to repay no longer disturbs our consciences. If the assumption of perpetual refinancing is indeed sound, then our children too, when their time comes, will be able to refinance the legacy of debts that we will bequeath to them. Indeed, they may elect to add to the corpus of these liabilities before passing them on to the next generation, like a snail crawling along with a shell that grows larger with every yard.

This is, of course, madness. Eventually the snail will be crushed by the weight of that shell. It is only a question of when. The relentless accretion of sovereign debt stocks premised on the assumption that sovereign debts never need to be repaid, only refinanced, is a dangerous illusion.

A good object lesson in how this illusion can distort sensible policy making can be found in the official sector's response to the Eurozone debt crisis in 2010. Greece in the spring of 2010 defined the phrase "insolvent sovereign". By every conventional measure the country's debt needed to

be restructured. Greece's European partners, however, forbade any talk of a restructuring; a position they would later also adopt in Ireland, Portugal and Cyprus. *Not* restructuring Greece's debt, however, meant that the official sector had to use its taxpayer money to repay private sector lenders in full and on time, thus taking the liabilities, at par, upon their own shoulders.

To be sure, one explanation for this generosity lay in the fact that most Greek, Irish and Portuguese bonds were at the time owned by commercial banks located in northern Europe. A restructuring of those instruments would thus have inflicted a balance sheet trauma on the donors' own banks. But this wasn't the only, or for that matter the principal, motivation for the bailout of peripheral Europe. What the other Eurozone countries feared, and what the European Central Bank positively dreaded, was contagion. If one Eurozone member restructured its debt, might the markets not begin to question the bedrock assumption of the capacity of all other members perpetually to refinance their own debt loads, which on average exceeded 90% of gross domestic product? And that worm of doubt, they feared, if allowed to slither into the skulls of the investor community, could trigger a continent-wide withdrawal of credit. The alternative, if necessary, of monetizing every sovereign debt instrument south of the Rhine River seemed a better alternative.

In short, to preserve the illusion that the sovereign debts of developed countries can *always* be refinanced, the official sector spent tens of billions of Euros effectively buying those debts at par once it became clear that the debts could *not* in fact be refinanced. The latest demonstration of this fear is the ECB's public commitment in 2012 to buy, in unlimited quantities, the bonds of a member country in the secondary market in order to permit such a country to retain market access at precisely the point when genuine market access dries up.

This policy of buying the claims of private creditors did not discharge the debts; it merely allowed the claims to migrate out of the hands of bondholders and onto the shoulders of the official sector lenders. Eventually, the economic, political, social and moral costs of attempting to carry an unsustainable debt load will cause the citizens of the debtor country to begin clamoring for some part of that suffocating debt to be written off. The problem, of course, is that when such demands follow, rather than precede, the purchase of the claims by the official sector at par, it sets up a stark political clash - the taxpayers of the debtor country asking that the taxpayers of the creditor countries forgive a portion of the debt.

DINNER SPEECH
European Financial Architecture and The European Safe Asset

Vítor Constâncio

I will concentrate on the problems connected with national sovereign debt in a monetary union. As we all know this issue is at the centre of potential difficulties in forming a monetary union among heterogeneous and previously sovereign States.

This stems from the demotion of national sovereign debts, since countries no longer have their own central bank to ultimately assist them in case of liquidity stress in the market for bonds denominated in their own currency. Notice the two provisos in that sentence: last resort intervention and naturally only for debt denominated in national currency. This means that for vulnerable small countries, significantly indebted in foreign currencies, outside a monetary union, having their own central bank would not solve their predicament in case of severe market pressures. In any case, in a monetary union the uncertainty about whether the single central bank would intervene or not is enough to increase the fragility of members´ sovereign debt. In a monetary union this is compounded by the fact that investors can move from a member´s country debt to the debt of another member without incurring additional exchange rate risk. All these circumstances open the possibility of pure liquidity squeezes, sudden-stops, speculative attacks and contagion that create redenomination risk or, without any euphemism, the threat of countries leaving the monetary union. Allowing prices and yields progress to levels not justified by fundamentals without a response, may put into question the whole monetary union. These market reactions are well-illustrated in

several models of sovereign debt with default risk[1] in particular those that allow multiple equilibria[2]. Any significant crisis may trigger these problems.

Charles Goodhart had already warned back in 1998 in his classic paper on the two concepts of money and optimal currency areas[3]: Paul de Grauwe (2011a, 2001b, 2011c) and Willem Buiter (2012)[4] talked about a fragile euro area and called for the creation of a lender of last resort that could deal with sudden liquidity crisis in the markets of national sovereign bonds.

After the Deauville episode[5] and the early talk about the Greek debt restructuring, financial markets attacked Italian and Spanish sovereign bonds in 2001 without any change in their fundamentals, showing the outcome of a domino effect that threatened to ultimately reach some core countries as a result of widespread contagion.

This reality of contagion beyond data fundamentals illustrates well

1 See Corsetti, G., L. Dedola, M. Jarocinsky, B. Mackowiak and S. Schmidt (2016), "Macroeconomic stabilization, monetary-fiscal interactions and Europe's monetary union", ECB Working Paper 1988; Corsetti, G. and L. Dedola (2016), "The mystery of the printing press, monetary policy and self-fulfilling debt crisis", *Journal of the European Economic Association,* 14(6): 1329-1371; Lorenzoni G. and I. Werning (2013), "Slow moving debt crises", National Bureau of Economic Research Working Paper 19228.

2 See Jarocinski, M. and B. Mackowiak (2017), "Monetary-fiscal interactions and the euro area's malaise", European Central Bank Working Paper 2072. The authors show that "when monetary and fiscal policy are conducted as in the euro area, output, inflation, and government bond default premia are indeterminate according to a standard general equilibrium model with sticky prices extended to include defaultable public debt. ... We specify an alternative configuration of monetary and fiscal policy, with a non-defaultable eurobond. If this policy arrangement had been in place since the onset of the Great Recession, output could have been much higher than in the data with inflation in line with the ECB's objective."

3 Goodhart, C. (1998), "The two concepts of money: implications for the analysis of optimal currency areas" *European Journal of Political Economy* 14 (3): 407-432. See also Constâncio, Vitor (2018) " Completing the Odyssean journey of the European monetary union" at https://www.ecb.europa.eu/press/key/date/2018/html/ecb.sp180517.en.html

4 See de Grauwe, P. (2011), "The Governance of a Fragile Eurozone", CEPS Working Document No. 346, May; de Grauwe, P. and Y. Ji (2013),"Self-Fulfilling Crises in the Eurozone: An Empirical Test", *Journal of International Money and Finance,* 34: 15-36; Grauwe, P.(2011), "The European Central Bank: lenders of last resort in the Government bond markets?", CESiFO Working Paper 3569, September; Buiter W. and E. Rahbari (2012), "The ECB as lender of last resort for sovereigns in the Euro Area" CEPR Discussion Paper 8974.

5 The Deauville episode refers to the French-German agreement to organize Greek debt restructuring held by the private sector, announced 1n October 2010 after a meeting between the German Chancellor and the French President.

how a monetary union is a joint endeavour that must have a robust framework, which entails collective responsibility and some forms of risk sharing or collective insurance. This points to an important misconception in the initial design of our monetary union, corresponding to the notion that it would be enough to create a single currency and a fiscal brake to ensure a smooth functioning of the new currency area, provided authorities in each member country would behave responsibly. The financial crisis cruelly exposed this misconception of thinking about monetary union as a sort of vast currency board with many peripheral countries. In turn, this was inspired by wrong macroeconomic views. **First**, the idea that monetary policy, if exclusively dedicated to inflation control, is enough to ensure both economic and financial stability, therefore dispensing fiscal or any other type of macroeconomic policy. **Second**, that the financial sector is not capable of generating fluctuations in the real economy. **Third**, that only public debt can destabilise the system whereas private debt cannot, as the private sector economy is self-equilibrating.[6]

In spite of all the important institutional reforms introduced on the wake of the crisis, it is easy to see that our monetary union is still incomplete without an overall fiscal stabilisation tool implying a certain degree of fiscal union; that the banking union is also incomplete without a European deposit guarantee scheme and with the existing ring fencing regarding circulation of bank capital or liquidity; and, finally, that a Capital Markets Union /CMU) is inexistent and not seriously pursued.

These three are the more important missing elements in the monetary union´s infrastructures: a stabilisation function treating the single monetary territory as a single economic space, which requires an adequate macro policy mix; a full functioning banking union and a deeply integrated capital market.

Naturally, the absence of these conditions should not preclude the necessary consideration of the problem of potential sovereign debt fragility that was my starting point. The difficulty in addressing it lies in creating mechanisms that, first, defend the monetary union against imbalances, liquidity squeezes, speculation and contagion and, second, achieve that goal without allowing free-riding by country members.

6 On the contrary, history of past financial crises in advanced economies finds that "private credit booms, not public borrowing or the level of public data, tend to be the main precursors of financial instability in industrial countries" See Jordá, O., M. Schularick, and A. Taylor (2016), "Sovereigns versus banks: credit, crises and consequences", *Journal of the European Economics*, 14 (1):45-79; Schularick, M. and A. Taylor (2012), "Credit booms gone bust: Monetary policy, leverage cycles, and financial crises, 1870—2008", *American Economic Review, 102(2), 1029—1061*.

The first problem would ultimately be solved by a fiscal union and/or Eurobonds with mutualisation of debts, both requiring completing monetary union with a higher degree of political union. While the latter is not possible, the alternative of conditional financial assistance by a crisis mechanism like the European Stability Mechanism (ESM) may confront the possible difficulty of the vulnerable country being too big for the resources available to the lending entity.

Dealing with the second problem of avoiding free-riding by member states, requires a fiscal rule, financial assistance with conditionality and, ultimately, the possibility of debt restructuring. These three conditions already exist in the Euro Area and have all been used with varied degrees of success. However, for some countries the debt restructuring element needed to be further reinforced or facilitated. They obtained two significant changes in the 2018 December Summit. First, the introduction of single limb clauses in sovereign debt issuance which is a simple improvement that had consensual support. The second one was a surprising change in the regime regarding the debt sustainability analysis before any ESM programme, from being the sole responsibility of the independent EU Commission to becoming a cooperative exercise with the ESM, a pure intergovernmental body and, as such, an unavoidably more politicised one. What was avoided in the end were proposals to introduce any sort of automatism with threshold indicators or a formal Sovereign Debt Restructuring Mechanism (SDRM), which would be quite destabilising, contributing to aggravate potential redenomination risks that would be detrimental to banking union and capital markets union. In any case, the main obstacle to applying a debt restructuring as a disciplinary device is the excessive concentration of some banking sectors' portfolio on domestic sovereign debt. The consequences for banks of a debt restructuring could be devastating and huge public recapitalisations would be required as it happened in the case of Greece, implying additional debt. By now, after many discussions and several papers it should be clear that the only solution to this problem that avoids major turbulence in national debt markets is the introduction of a European safe asset, which can be used to substitute those domestic bonds in banks' portfolios.

The encouraging thing about this conclusion is that the creation of such European safe asset would also be important for several other relevant objectives of the European financial architecture. Emphatically, I think we can say that:

1. Without a European safe asset, there will not be a solution to the question of the banks-sovereign nexus, important for the stability and robustness of the European banking system;
2. Without a European safe asset, the scarcity of secure assets will increase the temptation for the private sector to create pseudo-safe assets as it happened before the crisis, potentially endangering financial stability and the real economy;
3. Without a European safe asset, there will not be a complete, flourishing capital markets union so important to stimulate growth and provide private risk sharing in a monetary union;
4. Without a European safe asset there will not be a fully integrated European bond market which is crucial to foster the international role of the euro;
5. Without a European safe asset, monetary policy cannot benefit from a more representative European yield curve and more appropriate assets to purchase in open market operations that will be necessary even in normal times in the future.

Additionally, the creation of a European safe asset would have also a confidence boost effect on the monetary union project, deepening financial integration and contributing to mitigate redenomination risk.

Starting with the first point it is worth noting that the literature points to some good reasons for a certain dose of home-bias that is empirically well-documented. However, it is true that in a robust monetary union home bias should be smaller. I have developed elsewhere [7] the arguments against using harsh quantitative limits or heavy capital charges to force banks to diversify their portfolios away from domestic sovereign bonds, underlying three aspects: a) there would be an immediate surge in rollover risk. Countries with high rollover requirements (some with annual hundreds of billions) cannot quickly change their investors' composition. They have naturally to rely heavily on existent debt owners renewing their holdings; b) Induced diversification to other European sovereign bonds is very likely to increase the balance sheet risk of most banks in the Euro Area; c) That induced diversification does not improve the tail risks either for single countries or for the EU banking system.

7 Constâncio, Vitor (2018) " Completing the Odyssean journey of the European monetary union" at https://www.ecb.europa.eu/press/key/date/2018/html/ecb.sp180517.en.html

These last two points are made very clear in two recent papers. In Giuzio, M., B. Craig, and S. Paterlini (2016)[8] we can read: "Using a sample of 106 European banks included in the EBA stress testing dataset over the period June 2013 to December 2015, we find that a diversification requirement such as the ones proposed can actually increase the risk of the resultant portfolios, while having little effect on the tail-risk or contagion risk. Given that the reduction of risk is a major reason for a costly diversification requirement, results suggest caution before their adoption…Using simple rebalancing rules, we find that the likely portfolios that result from such higher diversification requirements will generally increase the risk of most banks in the Euro area." Analyzing the tail risk of portfolios, the authors conclude that: "the rebalanced and current portfolios show similar levels of tail risk, both for single countries and for the EU banking system, which means that rebalancing portfolios to increase diversification may be inefficient, even when correlation between sovereigns' defaults is higher, as during a crisis."

There is also an ESRB paper by Alogoskoufis and Langfield (2018), calculating the effects of several measures, from limits to concentration charges, which concludes that "… our numerical simulations indicate that there is a fundamental tension between lowering concentration and lowering credit risk in the absence of an area-wide low-risk asset. … None of the reforms unambiguously achieve both".

This should be decisive to conclude that the only non-disruptive viable solution to the doom loop problem is diversification via a European safe asset.

The second advantage I mentioned was related with the particular role safe assets play in our modern financial systems. Being almost without credit risk, immune to asymmetric information and adverse selection, safe assets are good stores of value, have a role in the means of exchange for financial transactions and are used as collateral for borrowing. The crisis accentuated the trend towards a financial system that is increasingly collateralised and where the shortage of safe assets can have widespread undesired effects as emphasised by Gorton, Caballero and others.

8 Giuzio, M., B. Craig, and S. Paterlini (2016), "Effects of diversification and capital buffers on the EU sovereign- bank networks", mimeo

Gary Gorton and co-authors[9] have described and modelled how these developments preceded and promoted the expansion of a shadow banking system as a market-based new credit system that was behind the crisis. On the other hand, the series of papers by Caballero, Fahri and Gourinchas[10] model predominantly the role of the safe assets' shortage after the financial crisis started and securitisation contracted. When the interest rate approached the Zero Lower Bound (ZLB) it ceased to play the role of equilibrating supply and demand of safe assets, a role subsequently played by output.

A European safe asset would expand the supply of safe assets in a significant way thereby providing the benefits just mentioned. Since the crisis, safe assets, represented by triple A rated sovereign bonds, have declined from 2.8 trillion euros in 2008 to 1.8 trillion today. According to the Leandro/ Zettelmeyer calibration, the main proposal in discussion for a new safe asset could practically double the present size of that market to 3.5 trillion [11].

In third place, introducing a European safe asset serves another major goal in fostering financial integration and a full Capital Markets Union (CMU). The crisis made it clear that deep financial integration creates risks, but generates interdependences and mechanisms that are conducive to indispensable collective action to face potential EMU existential crises. CMU provides risk sharing mechanisms which can reduce the impact of country-specific shocks and contributes to macroeconomic stability. Internationally diversified portfolios – cross-regional and

9 Gorton, G.and He (2016) " Optimal monetary policy in a collateralized economy" NBER wp 22599; see also Gorton, G and G. Ordoñez (2014) " Collateral crises" *American Economic Review Papers and Proceedings* 102: 101-106.; Gorton, G and G. Ordoñez (2013) " The supply and demand for safe assets" NBER wp 18732

10 Caballero, R. and E. Fahri (2017) " The safety trap" in *The Review of Economic Studies*, Volume 85, Issue 1, 1 January 2018, Pages 223–274 (existed since 2014 as NBER wp19927): Caballero, R., Farhi, E., and and P-O Gourinchas (2017) " The safe assets shortage conundrum" *Journal of Economic Perspectives—Volume 31, Number 3—Summer 2017—Pages 29–46;* Caballero, R., Farhi, E., and and P-O Gourinchas, (2008) "An Equilibrium Model of `Global Imbalances` and Low Interest Rates." *American Economic Review*, 98(1), pp. 358-393; Caballero, R., Farhi, E., and and P-O Gourinchas (2015) "Global Imbalances and Currency Wars at the ZLB." Harvard mimeo.

11 This number results from taking the 51% of the present 1.8 tr not used for the Ebonds and adding 2.6 tr of the maximum EBonds issuance estimated by Leandro, A. and J. Zettelmaeyer (2018) " The search for a Euro Area safe asset" CEPR DP 12793, March and Leandro, A. and J. Zettelmaeyer (2018) " Safety Without Tranches: Creating a 'real' safe asset for the euro area" CEPR Policy Insight n. 93, June.

cross-border asset holdings, including firm ownership claims – are more resilient to global and local shocks and can mitigate the impact of such adverse scenarios. Perhaps even more important, CMU is also essential to foster economic growth. Integrated capital markets provide a wider source of financing and lower funding costs for households and firms and ultimately support innovation and increased productivity.

Linked with the materialisation of CMU is the question of fostering the international role of the euro, an objective that should be assumed as part of the European participation in the international power game It is true that, in general, the European construction has developed under the umbrella of the Pax Americana and therefore separated as much as possible from an autonomous role in the international power game. Dealing with the economic goals of its own well-being and exerting a discrete soft power in a multilateral system as an example of peaceful integration, have defined the limits of the European ambition. The recent geo-political transformations have exposed this comfortable position. The shattering of multilateralism by the US transactional politics, the Russian destabilizing role and the Chinese economic expansionism, must change the strategic thinking of the European project. In this context, monetary union coupled with a real integrated European capital market with enough depth and liquidity would give the euro a significant international role representing a powerful instrument of European independent affirmation.

A final aspect underlying the importance of a European safe asset, relates to the benefits that monetary policy can reap from its introduction. Currently, the ECB uses and publishes two yield curves, one for an average of triple A sovereign debt and another related to all countries. The first, including only a few countries, is impacted by flight-to-quality and "convenience yield" effects and is not really representative of the euro area. The second is not a real risk-free yield curve as it is affected by a complex set of different risk and liquidity premia idiosyncratic of each country. The common present use of the OIS (Overnight Indexed Swap) curve as a substitute or complement to a yield curve is not so effective for longer maturities as they do not benefit from a very liquid market[12]. The safe

12 See ECB (2014)"Euro area risk-free interest rates: Measurement issues, recent developments and relevance to Monetary policy" in ECB Monthly Bulletin July 2014; see also P. Nymand-Andersen (2018) Yield curve modelling and a conceptual framework for estimating yield curves: evidence from the European Central Bank´s yields curves" ECB Statistical Paper Series n. 27

asset, with deep liquidity and significant amounts issued at different maturities, would create a more representative yield curve. As we know, the yield curve is important for monetary policy. First, it is an indicator of what the market is thinking about the expected path of future monetary policy. Indeed, long-term rates under certain conditions reflect expectations of the future path of short-term rates. Of course, besides future rate expectations, longer maturity yields typically contain risk premia. The quantification of these premia is difficult even in normal times.

Another advantage for monetary policy from an increased supply of a safe asset is obviously associated with the easiness of conducting open market operations, either regular ones or extraordinary large securities asset purchases Large Scale Asset Purchase or Quantitative Easing (LSAP or QE). In any reasonable scenario, regular open market operations will have to be used in the future as a consequence of the ECB´s balance sheet becoming much bigger than what it was before the crisis, even not considering any unconventional policy measures.

Which safe assets? Let me end with some brief comments on the types of European safe assets that seem more viable, meaning the ones that exclude significant degrees of mutualisation, can attain significant volumes and are issued with a broad spectrum of maturities. In this context we are all indebted to Alvaro Leandro and Jeromin Zettelmeyer (2018)[13] for their papers, analysing several possible schemes. In my view, their analysis justifies disregarding the solutions of national tranching or those linked to a Euro area budget or sovereign wealth fund. I also exclude the suggestion of issuing Eurobills, initially proposed with mutualisation and linked to expenditures in European projects[14]. Even if these two aspects could be corrected, issuing only short term paper would not serve the panoply of objectives that I have mentioned as important. Other pro-

13 Leandro, A. and J. Zettelmaeyer (2018) " The search for a Euro Area safe asset" CEPR DP 12793, March; Leandro, A. and J. Zettelmaeyer (2018) " Safety Without Tranches: Creating a 'real' safe asset for the euro area" CEPR Policy Insight n. 93, June.

14 See the initial proposal by Philippon, Helwig (2011) Eurobills, not Eurobonds at https://voxeu.org/article/eurobills-not-euro-bonds; See also Bishop, Graham (2013) " Bolstering the Still-Fragile Euro: A Plan for a Temporary Eurobill Fund" at http://www.grahambishop.com/DocumentStore/08e23646-5275-490b-9442-f1a650db2119.pdf. See also the EU Commission (2014) Final Report of the EU Commission Expert Group on Redemption Fund and Eurobills at http://ec.europa.eu/economy_finance/articles/governance/pdf/20140331_conclusion_en.pdf

posals include the Purple Bonds[15] and the somewhat obscure idea of using the banks´ reserves at the ECB as a basis for a safe asset. The Purple Bonds is basically a scheme of guarantees of no restructuring that very gradually (20 years) would undergo a transition towards a final stage where sovereign debt would be transformed into the Blue/Red bonds of the 2011 proposal by Jacques Delpa and Jacob (2010)[16]. The concept implies a degree of mutualisation, even during the transition, that makes it unviable. Bank reserves at the ECB are safe assets for the banks that can only use them for transfers to other banks that are ECB´s counterparts. Allowing the creation of time deposits out of those basically overnight reserves and making them negotiable with entities outside the perimeter of central bank counterparties through a kind of repos, would interfere with monetary policy conduct and could never fulfil the several roles a true European safe asset should ensure.

We are left with two basic proposals. The first follows the series of papers by Brunnermeier et al (2018)[17] and was crystalised in the report published by the ESRB[18], proposing Sovereign Bond-Backed Securities (SBBS), a tranched synthetic bond backed by national sovereign bonds. The senior tranche would have very low risk levels, presumably below German debt, as a result of the diversification gains based on historical correlations and of the protection granted by lower-grade tranches. Market practitioners and rating agencies have been skeptical about the instrument revealing that major financial institutions would issue or buy such a synthetic product. National Debt Managing Offices (DMO) have fiercely opposed the scheme, particularly because it was supposed to be launched by private firms without coordination with planned official issues. Finally, in December 2018 the ECOFIN put aside further consideration of this project. The main substantive concern is a perceived insufficient diversification to ensure that the senior tranche can be indeed as safe as claimed because correlations among several countries' debt could

15 See Bini-Smaghi and M. Marcussen (2018) " Delivering a safe asset for the euro area: A proposal for a Purple bond transition" at https://voxeu.org/article/delivering-safe-asset-euro-area

16 See Delpa, J. and J. Weizsäker (2010) The Blue bonds proposal at http://bruegel.org/wp-content/uploads/imported/publications/1005-PB-Blue_Bonds.pdf

17 Brunnermeier, Markus K., Sam Langfield, Marco Pagano, Ricardo Reis, Stijn Van Nieuwerburgh, and Dimitri Vayanos (2017), 'ESBies: Safety in the Tranches', *Economic Policy 32*, (90): 175-219.

18 ESRB (2018) " Sovereign bond-backed Securities: a feasibility study" available at https://www.esrb.europa.eu/pub/task_force_safe_assets/shared/pdf/esrb.report290118_sbbs_volume_I_mainfindings.en.pdf

increase in a stressful situation. Also, it may be difficult to sell the junior tranche at coupons that do not fatally compromise the overall economics of the synthetic security issuance. Indeed, if the junior tranche had to be placed at a relatively high coupon, then the senior tranche would need to offer a lower coupon than Bunds, a doubtful selling prospect. This would likely render the economics of the SBBS unviable. These obstacles could be overcome if, for instance, a small first loss tranche was to be covered by public guarantee, jointly provided by member states. Such contingent liability could be limited to a reasonable level but it is unlikely to be forthcoming. All considered, I think this proposal should be abandoned.

The second proposal is the Leandro/Zettelmeyer (2018)[19] version of the so-called Ebonds, with a European public entity issuing securities destined to cover a sizeable amount of national financing needs and backed by seniority of its claims over other national sovereign liabilities. Seniority, instead of diversification and tranching, would make these securities as safe as the safest present sovereign bond. The achievable amounts could be considerable, more than € 3 trillion as I mentioned, serving the different important goals of having a European safe asset. To allay the concerns of National Treasuries, they should all sit on the Board deciding the amounts and timing of issuance of the safe asset. Complementary regulations would ensure that the banks must use the new asset to substitute their excessive holdings of domestic sovereign debt. The absence of mutualisation should make the scheme agreeable to northern countries. Subordination of the remaining national debts could result in an increased cost of its issuance, which could be a concern for more indebted countries. However, reasonable analysis and simulations show that that possible cost would be offset by the lower costs of issuance of the E-bonds benefiting all countries.

19 Leandro, A. and J. Zettelmaeyer (2018) " Safety Without Tranches: Creating a 'real' safe asset for the euro area" CEPR Policy Insight n. 93, June

Conclusion

Let me conclude. Monetary Union, Banking Union and Capital Markets Union are deeply intertwined. A European safe asset is a linchpin of the three projects, as I tried to illustrate. None of them can reach a smooth and full completion without it. Member States and European policy makers must now take seriously the creation of such vital component of the European financial architecture.

Thank you for your attention.

Florence, 25th of April 2019

PART I

Extra-Territoriality and Financial Infrastructure

Financial Market Infrastructures: Supporting Global Markets While Respecting Financial Sanctions Restrictions

James H. Freis, Jr.[1]

Introduction

Financial market infrastructures provide the foundation for efficient interaction of financial market participants, which in turn are essential for the functioning of the real economy and economic growth. Regulatory focus on the financial markets over the past decade has been to strengthen defences against financial crisis. Over the same period, a very different trend has been global financial institutions paying record penalties for a range of conduct failures, including in the context of financial sanctions. Each of these areas reflect high priority policy principles for implementing jurisdictions globally. A question posed is what risks financial market infrastructures might face in regard to financial sanctions, and how to mitigate potentially conflicting policy priorities, particularly in a cross-border context.

This paper posits that financial market infrastructures should consider promoting market integrity as core to their missions. In so doing,

1 Chief Compliance Officer, Deutsche Boerse Group, which operates a range of financial market infrastructures, including CCPs (Eurex Clearing AG and European Commodity Clearing AG); SSS and CSDs (Clearstream Banking S.A., Clearstream Banking AG, and LuxCSD); Payment Systems (including certain cash clearing systems of the foregoing entities; additionally in light of global volumes Clearstream Banking S.A. has a board seat at SWIFT); and a TR (REGIS-TR). As part of his responsibilities, Mr. Freis has guided each of the foregoing entities in connection with financial sanctions matters.

they need to drive standards in the interests of the markets as a whole, which includes considering the reality of the cross-border nature of financial markets.

Context

This paper reflects remarks and discussions on 25 April 2019 at the European University Institute's conference entitled "European Financial Infrastructure in the Face of New Challenges" in a session on the topic of "Extra-Territoriality and Financial Infrastructure." The conference's pre-defined objective in relevant part was to "assess the challenges to Europe's and the global payment systems in the context of rising US extra-territorial sanctions." The author approached this debate from his personal perspective and experience both as: i) a former official of the United States Department of the Treasury (i.e. the country's finance ministry) among the senior leadership responsible for application of financial sanctions and other targeted financial measures to combat illicit finance; and ii) in his current role in the management of Europe's largest provider of financial market infrastructures.

What do the following financial institutions have in common: Deutsche Bank and Commerzbank from Germany; HSBC, Barclays, and Standard Chartered from the UK; BNP Paribas and Credit Agricole from France; and Unicredit and Intesa Sanpaolo from Italy? These have been the largest financial institutions respectively based in the four largest economies in the EU over the past decade. Each is considered to be a Globally Systemically Important Institution by the European Banking Authority.[2] …*And*, each paid penalties to the US authorities in connection with alleged evasion of US financial sanctions, in most instances in aggregated amounts exceeding USD 1 billion – amounts which far exceed the largest penalties ever imposed by EU competent authorities on their regulated financial institutions regardless of the nature of the transgression.

The penalties reflect the US authorities' allegations of the nature of the conduct, but fundamentally are derived from the value of the underlying transactions at issue, and the penalties are paid out of the capital or own

2 Lists of G-SIIs by year can be found at https://eba.europa.eu/risk-analysis-and-data/global-systemically-important-institutions/2019. All but Commerzbank and Intesa Sanpaolo are also considered by the Financial Stability Board to be Globally Systemically Important Banks; see https://www.fsb.org/wp-content/uploads/P161118-1.pdf.

funds of the penalized financial institution. How is this relevant for financial market infrastructures? By definition, FMIs are involved in extremely large volumes of financial transactions which in aggregate have extremely large values. In contrast to global banks, however, they maintain relatively modest amounts of own capital reflecting the different nature of the common financial institution exposures they try to limit in terms, e.g., of credit risk, market risk or liquidity risk. Said another way, if the same alleged conduct and penalty criteria were applied to a financial market infrastructure that have been applied to the largest banks, the penalty amount could easily exceed the ability of the financial market infrastructure to pay. Thus, the concern was that a significant penalty related to alleged financial sanctions evasion could trigger the failure of a market infrastructure.

Background on Relevance and Policy Priorities

In the decade since the Global Financial Crisis, one of the most significant regulatory changes has been an increased focus on financial infrastructures.[3] In simplified terms, a goal is to mitigate the risks of future crises, *inter alia*, by preventing a problem in one institution from spilling over to others, which in practice can occur through the common infrastructures on which financial market participants rely. While previously likened to a "boring" utility, the most important financial market infrastructures—*i.e.*, those deemed systemically significant—are now being held to standards that they should be able to survive the failure of some of their largest participants. This global policy approach has been developed at the G-20 level. Within the European Union, this effort has largely been subsumed in efforts towards harmonisation across the Common Market in the sense of further implementation of the Four Freedoms of movement within the EU of goods, capital, services and people and the more targeted focus on advancing Capital Markets Union.

Financial market activity is nonetheless of a global nature. The most important, a.k.a. systemically significant infrastructures, regardless of their focus from a national or regional perspective, are necessarily interconnected with the global financial architecture.

3 For more detailed information on the structure of financial market regulation, in particular as relevant to financial market infrastructures and enhancements developed in response to Global Financial Crises, see James H. Freis, Jr. and Alexandra Hachmeister, "Chapter 9: Financial Market Regulation," in R. Francioni & R.A. Schwartz, eds., Equity Markets in Transition (Wiley, 2017).

Financial sanctions can have a global nature, to the extent driven by United Nations Security Council Resolutions. These, however, essentially are focused on pariah states or actors that are essentially isolated from the global community and financial markets. Thus, the financial sanctions here at issue are those of a national or in the case of the EU, regional, nature, and this is where the challenge begins: measures driven by highest priority national security goals have direct effect within the jurisdiction of the respective competent authority. The cross-border nature of the financial markets can expose inconsistencies across regulations that apply within the borders of the issuing jurisdiction.

One logical approach to avoid inconsistency would be to try to prioritise among the competing policy interests. Such a balancing exercise is challenged here by the fact that each of the areas of prudential regulation of financial market infrastructures and of financial sanctions among related anti-financial crime measures are considered to be global political priorities. This is most succinctly illustrated by considering the "Key Standards for Sound Financial Systems" adopted by the Financial Stability Board (FSB).[4] The FSB is an international body that promotes international financial stability by coordinating national financial authorities and international standard-setting bodies as they work toward developing strong regulatory, supervisory and other financial sector policies. The fifteen Key Standards are meant to be relevant and critical for a stable, robust, and well-functioning financial system (including in light of the lessons from the recent financial crisis); to assist in prioritisation in implementation; and to be universal in their applicability. The Key Standards are included in the country assessments carried out by multinational bodies including the International Monetary Fund (IMF) and the World Bank. As described herein, among these fifteen Key Standards, further sub-divided to the eight standards in the policy area of Institutional and Market Infrastructure, are the "Principles for Financial Market Infrastructures" (henceforth "Principles for FMIs"), and the "FATF Recommendations on Combating Money Laundering and the Financing of Terrorism & Proliferation" ("FATF Recommendations," also known as the "Market Integrity" standards).

The respective Principles for FMIs and the FATF Recommendations are by no means conflicting on their face, but they do not provide direct guidance as to their relation to one another. The report publishing the

4 See: https://www.fsb.org/work-of-the-fsb/about-the-compendium-of-standards/key_standards/

Principles for FMIs states that issues including anti-money laundering and antiterrorist financing which are at the core of the FATF Recommendations are beyond its scope.[5] Similarly, the FATF Recommendations define obligations for financial institutions but not specifically for financial market infrastructures.[6]

It is nonetheless well established that the Market Integrity standards of the FATF Recommendations are complementary and not inconsistent with Key Principles for prudential supervision of the major participants in financial market infrastructures, the financial institutions themselves (e.g., banks, securities broker-dealers, insurance companies, etc.). The G-20 has long taken the position that within any jurisdiction's national framework, strong prudential financial standards are mutually reinforcing and strongly correlated with efforts to increase the integrity of financial markets through combatting money laundering, terrorist financing, corruption and tax evasion.[7] This article seeks to further apply this line of thinking as specific to financial market infrastructures with respect to financial sanctions.

Financial Market Infrastructures and Their Relevance

To understand the nature of the entities being considered, let us refer to the definitions in the internationally recognised standards, the Principles for FMIs, which were issued jointly in 2012 by the Committee on Payments and Settlement Systems (now known as the Committee on Payments and Financial Market Infrastructures (CPMI)) and the International Organization of Securities Commissions (IOSCO).[8] The Principles

5 See: Principles for FMIs at paragraph 1.15, pages 10-11, and n.16 ("These objectives [in setting forth the Principles for FMIs … broadly, to limit systemic risk and foster transparency and financial stability]…. Other objectives, which include anti-money laundering, antiterrorist financing, data privacy, promotion of competition policy, and specific types of investor and consumer protections, can play important roles in the design of such systems, but these issues are generally beyond the scope of this and previous reports.").

6 Note that individual financial market infrastructures in some cases have opted to be licensed as a specific or limited type of financial institution, including to provide ancillary or additional services, in which case they might fall under the broader regulatory framework applicable to financial institutions generally.

7 See: James H. Freis, Jr., "The G-20 Emphasis on Promoting Integrity in Financial Markets," in Mario Giovanoli and Diego Devos, eds., International Monetary and Financial Law: The Global Crisis (Oxford University Press: Oxford, 2010).

8 https://www.bis.org/cpmi/publ/d101a.pdf

for FMIs define a financial market infrastructure as "a multilateral system among participating institutions, including the operator of the system, used for the purposes of clearing, settling, or recording payments, securities, derivatives, or other financial transactions […] FMIs provide participants with centralised clearing, settlement, and recording of financial transactions among themselves or between each of them and a central party to allow for greater efficiency and reduced costs and risks. […] Some FMIs are critical to helping central banks conduct monetary policy and maintain financial stability."

The Principles for FMIs further delineate the above definition to include five key types of financial market infrastructures:

- Payment Systems – a set of instruments, procedures, and rules for the transfer of funds between or among participants;
- Central Securities Depositories – a "CSD" provides securities accounts, central safekeeping services, and asset services, and which may include the administration of corporate actions and redemptions, and plays an important role in helping to ensure the integrity of securities issues;
- Securities Settlement Systems – a "SSS" enables securities to be transferred and settled by book entry according to a set of predetermined rules;
- Central Counterparties – a "CCP" interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer and thereby ensuring the performance of open contracts;
- Trade repositories – a "TR" maintains a centralised electronic record (database) of transaction data, which can serve to enhance the transparency of transaction information to relevant authorities and the public, promoting financial stability, and supporting the detection and prevention of market abuse.

The corporate form of FMIs vary across jurisdictions. Some market infrastructures reflect services provided by public entities, in particular central banks. Others have evolved historically over time as cooperatives or mutual institutions owned by their participants. The more recent trend is to dedicated legal entities, including in order to address requirements of the specific regulation applying to them as infrastructures.

This paper's discussion of financial sanctions will derive a few concepts from the more commonly understood elements relevant to Payment Systems and then address financial market infrastructures involved in the securities and derivatives markets: a CSD, SSS, and CCP. (A TR is not materially affected in its data role.)

Financial Sanctions as Extreme Policy Choice

Before discussing the potential impact of financial sanctions on market infrastructures, it must first be understood that financial sanctions are meant to be extreme measures. Their origins are in the context of wartime embargoes that interrupt peaceful trade. They are invoked in times of crisis and are meant to punish the targets of the measures, in some cases to avoid the few other alternative measures available, such as outright conflict or military action.

One prominent example of the imposition of financial sanctions as reaction to a crisis are the EU and United States sanctions imposed as from 2014 in connection with concerns over the conflict in the Ukraine, including the Russian annexation of the Crimea. German Chancellor Merkel played a prominent role in the policy debates, which included discussions of embargo and financial sanctions as one of the few viable alternatives to sending troops into a conflict zone, with active reference to the tragic history of previous conflict across Europe.[9]

Within the European Union, the European Commission's Service for Foreign Policy Instruments (FPI) transposes into EU law sanctions decisions, which support specific EU Common Foreign and Security Policy Objectives or United Nations Security Council Resolutions. The FPI website entry with respect to "Sanctions" states: "It is the policy of the European Union to intervene when necessary to prevent conflict or respond to emerging or actual crisis. In certain cases, EU intervention can take the form of restrictive measures or 'sanctions.'" These measures are further described to include arms embargoes; trade restrictions, such as import and export bans; financial restrictions; and restricting movement, such

9 See: e.g., German Government publication on the Press Conference of German Chancellor Merkel and Russian State President Putin on 10 May 2015 in Moscow, available at https://www.bundesregierung.de/breg-de/aktuelles/pressekonferenzen/pressekonferenz-von-bundeskanzlerin-merkel-und-staatspraesident-putin-am-10-mai-2015-in-moskau-848730

as visa or travel bans.[10]

The United States of America imposes a similar range of sanctions measures. Financial sanctions are primarily the responsibility of the Department of the Treasury, and specifically its Office of Foreign Assets Control (OFAC). As summarized on the Treasury website, OFAC "administers and enforces economic and trade sanctions based on US foreign policy and national security goals against targeted foreign countries and regimes, terrorists, international narcotics traffickers, those engaged in activities related to the proliferation of weapons of mass destruction, and other threats to the national security, foreign policy or economy of the United States. OFAC acts under Presidential national emergency powers, as well as authority granted by specific legislation, to impose controls on transactions and freeze assets under US jurisdiction. Many of the sanctions are based on United Nations and other international mandates, are multilateral in scope, and involve close cooperation with allied governments."[11]

The FATF Recommendations among the Key Standards for Sound Financial Systems only partially overlap with the topic of financial sanctions, but they have expanded in this direction since their original focus on anti-money laundering. The FATF Recommendations were last revised in 2012—coincidentally the same year as the Principles for FMIs. FATF Recommendations 6 and 7 state that countries should implement targeted financial sanctions regimes to comply with United Nations Security Council resolutions relating, respectively, to the prevention and suppression of terrorism and terrorist financing; and to the prevention, suppression and disruption of proliferation of weapons of mass destruction and its financing. Notably, the official interpretative notes to these recommendations—which collectively contain the most detail across these standards—elaborate upon the processes for countries to not only passively follow Security Council decisions, but also to actively engage in its processes as well as ensure implementation. Moreover, in addition to the topics of terrorist financing and proliferation, sanctions designations—particularly in the United States—are based upon other money laundering predicates, including narcotics trafficking, public corruption and organized criminal activity. As a practical matter, both financial supervisors and financial institutions approach compliance with finan-

10 https://ec.europa.eu/fpi/what-we-do/sanctions_en

11 https://www.treasury.gov/about/organizational-structure/offices/Pages/Office-of-Foreign-Assets-

cial sanctions together with anti-money laundering as part of a broader anti-financial crime approach.[12]

It is also very important to realise that even if a particular national sanctions regime does not have direct effect for persons or institutions in another jurisdiction, it might nonetheless trigger anti-money obligations that do apply. This can be illustrated through a simple, noncontroversial example. OFAC in the United States is a competent public authority which follows an evidentiary based process for the designation of persons subject to sanctions, *inter alia*, for involvement in broadly recognized criminal activity such as narcotics trafficking. While a foreign bank with no connections to the United States might not be impacted directly by the OFAC reporting and blocking obligations, there is nonetheless publicly available negative information that such bank might wish to take into consideration in mitigating money laundering risks in any dealings with the OFAC-designated alleged narcotics trafficker. A range of national supervisors of financial institutions, e.g., in Colombia, Mexico, or Lebanon, have provided specific guidance to their regulated entities in this regard, and this interpretation is widely understood among regulators within the EU. The foregoing principle is not in any way inconsistent with the fact that different jurisdictions might take differing policy or even evidentiary approaches with respect to financial sanctions or designation of persons subject to sanctions. Nor is this inconsistent with prohibitions under the EU Blocking Regulation[13] or similar national laws.

12 See: e.g., United States Federal Financial Institutions Examination Council, Bank Secrecy Act/ Anti-Money Laundering Examination Manual (2014) (also containing supervisory expectations for an Office of Foreign Assets Control compliance program), available at https://bsaaml.ffiec.gov/docs/manual/BSA_AML_Man_2014_v2_CDDBO.pdf

13 See: Council Regulation (EC) No 2271/96 of 22 November 1996 protecting against the effects of the extra-territorial application of legislation adopted by a third country, and actions based thereon or resulting therefrom, O.J. L 309 (29 November 1996); Commission Delegated Regulation (EU) 2018/1100 of 6 June 2018 amending the Annex to Council Regulation (EC) No 2271/96 protecting against the effects of extra- territorial application of legislation adopted by a third country, and actions based thereon or resulting therefrom, O.J. L 199 I/1 (7 August 2018).

Rather, such result is compelled by the risk-based approach[14] that lies at the core of AML obligations consistent with the FATF Recommendations as implemented into national law.

Decisions to Implement Sanctions Involve Tradeoffs

Policymakers do not take lightly decisions to impose financial sanctions, and they understand that their imposition will involve externalities and unintended consequences. As a traditional example, a broad economic embargo or sanctions against a governing regime can be expected to impact many innocent civilians in the targeted jurisdiction. The restrictions on free movements of goods and services will undoubtedly also lead to lost economic opportunities for citizens and companies of the jurisdictions imposing the constraints. In the financial industry, a more specific debate over costs is particularly intense in light of the monitoring obligations needed to establish a framework reasonably designed to mitigate risks of processing payments or providing financial services that involve a person or jurisdiction subject to financial sanctions. (Many of such financial services would not necessarily involve a direct relationship of the involved financial institution, but rather a service provided on behalf of one of the previously mentioned groups – the regime or innocent persons therein on the one side; or the persons in the imposing jurisdictions whose economic opportunities could become restricted; or a contractual counterpart of any of the foregoing.) It is well known to policymakers that these risk mitigation measures are not easy and equate to a type of unintended consequences or costs. Given the decision to impose financial sanctions measures, perhaps the next best realistic wish from policymakers is try to create as level a playing field as possible, whereby the costs are borne more generally across market participants to limit the amount of distortion.

14 See also: FATF Recommendation 1 ("[C]ountries should apply a risk-based approach (RBA) to ensure that measures to prevent or mitigate money laundering and terrorist financing are commensurate with the risks identified. This approach should be an essential foundation to efficient allocation of resources across the anti-money laundering and countering the financing of terrorism (AML/CFT) regime and the implementation of risk-based measures throughout the FATF Recommendations […] Countries should require financial institutions and designated non-financial businesses and professions (DNFBPs) to identify, assess and take effective action to mitigate their money laundering and terrorist financing risks.")

Another policy trade-off between protecting national security and the potential negative impact on the civil liberties of individuals is perhaps strongest in the area of anti-terrorist financing. While there is near universal condemnation of terrorist acts, there remains difference of opinion as to whether a particular group is to be considered as "terrorists" as opposed, e.g., to freedom fighters. There is also, however, broad condemnation of the financing of terrorism, as evidenced, inter alia, by the almost universal ratification of the 1999 United Nations International Convention for the Suppression of the Financing of Terrorism. Terrorism financing, however, is at least one step removed from the actual attack. Therefore, there is a policy choice to criminalise the aspects of preparing for a terrorist act, and in particular the financial means that are necessary to carry out. Nonetheless, prosecuting an individual for the crime of terrorist financing alone can pose evidentiary challenges in the absence of the evidence of an attack having been carried out (which is what is desired to be prevented through the criminalization of preparatory steps). With the possible exception of "lone wolf" actions by individuals, and notwithstanding that the direct costs to carry out a particular terrorist act might be relatively modest, it takes substantial amounts of money to run a terrorist organization – to train, house and feed, purchase munitions and supplies, and in some cases pay for the victims of families left behind.

FATF and international conventions call for criminalisation of terrorist financing. A criminal prosecution requires evidence. Anti-terrorist financing measures are primarily meant to act as *prevention* and to avoid the loss of lives that could be expected in a terrorist act. In simple terms, that means the *ex-ante* evidentiary standard for supporting efforts to plan a terrorist attack through financing must be lower than the *ex-post* evidence that financing contributed to an attack.

In the United States this challenge was among the issues analysed by the national commission established to study the 9/11 attacks. Two charities, the Global Relief Foundation (GRF) and the Benevolence International Foundation (BIF), were publicly accused by the federal government shortly after 9/11 of providing financial support to al Qaeda and international terrorism. The investigations were followed by sanctions designation by OFAC and criminal trials. The 9/11 Commission staff report noted that the government's allegations were not baseless; nonetheless, the actions taken raise civil liberty concerns, and the cases illustrate the difficulties of bringing criminal proceedings to address terrorist

financing.[15]

The European Union has also weighed these competing policy questions, most prominently in the *Kadi* litigation before the General Court and the European Court of Justice. That case concerned Mr. Yassin Abdullah Kadi, a Saudi Arabian national, who was designated by the Sanctions Committee of the United Nations Security Council as being associated with Usama bin Laden, Al-Qaeda or the Taliban. The UN Security Council resolution was in turn implemented by EU Regulation ordering the freezing of the funds and other economic resources of Mr Kadi and other listed persons. The Court of Justice annulled the Regulation for being in breach of Kadi's fundamental rights. The EU implemented a further Regulation, but the General Court annulled this, finding that there had been a breach of Kadi's rights in terms of limited information being provided to him to provide a meaningful defence in light of the impact of the sanctions upon his liberties.[16]

Hence, we can and should debate when and under what circumstances financial sanctions are an appropriate tool. But it should be a foregone conclusion that once a government has taken the extreme policy choice to invoke them, that the expectation would be that they be implemented seriously. And against this context, it should also not be surprising that at least in the case of the United States that there would be an aggressive effort to penalize perceived non-compliance with financial sanctions.

The wave of record-breaking penalties imposed upon financial institutions over the past decade to a significant extent reflect increased emphasis on targeted financial sanctions as a government policy tool with broadened scope (certainly within the United States, but also by the EU, United Nations and other jurisdictions globally). A critical enabling factor for higher monetary penalties imposed (or negotiated through settlement) by OFAC was a change, through a series of steps, by the US Congress in various underlying statutes. In particular, the civil penalty authority under the International Emergency Economic Powers Act (IEEPA) was changed from historical amounts of USD 10,000 per violation to most recently in 2007 "an amount that is twice the amount of the transaction that is the basis of the violation with respect to which the

15 See: National Commission on Terrorist Attacks Upon the United States, Staff Monograph on Terrorist Financing, Chapter 6. The Illinois Charities Case Study, available at http://govinfo.library.unt.edu/911/staff_statements/911_TerrFin_Ch6.pdf

16 See generally: https://europa.eu/rapid/press-release_CJE-10-95_en.htm

penalty is imposed."[17] The imposition of a range of other types of penalties of similar magnitude for other types of violations – e.g., in connection with bribery and corruption; competition or antitrust; mortgage fraud in connection with financial crisis; or other money laundering penalties – have certainly "raised the bar" in the notion of what is a material penalty as well as an understanding of the impact or ability of a large institution to pay. Various EU and Member State authorities more recently are being given greater competences to impose financial penalties as well as "name and shame" through publication, so we can expect the trend to continue in this direction.

In summary, this context of understanding these difficult policy choices is critical before attempting to discuss concerns over "extraterritorial" applicability of financial sanctions, particularly as relevant to financial market infrastructures.

Experiences of Payment Systems

The debate over financial sanctions involving payment systems is inextricably linked to the dominant role of the US dollar as the primary unit of denomination and means of payment in international trade and investment. This preeminence of the US dollar has developed historically over the past century, and has been anchored by the depth and breadth of the US capital markets in addition to the role of the United States as the largest global economy. It is nonetheless also worth noting that the US as a policy matter has long taken the choice to allow the broad use of US dollars outside the country. This stands in contrast to the EU and European Central Bank's approach to the introduction of the Euro under the criteria as set out in the Maastricht Treaty for a Member State to adopt the common currency.

The purpose of Payment Systems, as compared to the role of other FMIs, are more readily understood by market participants. This includes the fundamental point that when a payment is denominated in a particular currency, the clearing of payments in that currency will often involve cash correspondent bank members of a Payment System of the country or currency area of that currency. Thus the rules applicable in the jurisdiction of the currency of denomination should be considered. The European Union has recognized this in the context of economic

17 See: 50 U.S.C. § 1705(b)(2).

sanctions with respect to Iran. The "Information Note on EU Sanctions to Be Lifted Under the Joint Comprehensive Plan of Action" of 23 January 2016[18] described at that time the loosening of certain EU sanctions restrictions, including "de-listing" of a range of Iranian entities from restricted or prohibited activity lists. Question and Answer 21 thereof state as follows:

> Is it possible for EU financial institutions to clear transactions involving non-listed Iranian persons or entities after Implementation Day?
>
> *Yes, EU financial institutions are permitted to clear transactions with non-listed Iranian persons or entities. EU persons will have to ensure, however, that they do not clear transactions through other financial systems, or with other entities, where such activity is not allowed.* [Footnote 70 with link to US Department of the Treasury Sanctions on Iran].

In other words, the interpretative note published by the European External Action Service (EEAS), the EU's diplomatic services, although by its express terms not meant to be legally binding, nonetheless cautions EU financial institutions that in conducting activity that is allowed within the EU, they nonetheless should take care to avoid violating sanctions applicable outside the EU. The multi-billion-dollar penalties on EU financial institutions mentioned at the beginning of this article largely involved the clearing through the United States (including through the EU financial group's respective own US branches or subsidiaries subject to US law) that would be prohibited for US-based entities. The conduct purportedly was often aggravated by attempts to knowingly disguise or remove information from transactions that otherwise would have been blocked by the US entities.

The United States of America had a historical policy choice to exempt from the US sanctions restrictions on Iran a specific type of payments activity that originated and ended outside of the United States. This reflected that beyond global trade transactions generally, trade in oil and other petroleum products was overwhelmingly denominated in US dollars. Iran, as a major oil exporter, earned and invested its hard currency primarily in US dollars. Thus, the US sanctions in the past exempted

18 Available at: http://www.eeas.europa.eu/archives/docs/top_stories/pdf/iran_implementation/information_note_eu_sanctions_jcpoa_en.pdf

what was known as a "U-turn transaction." The "U" shape was meant to describe a payment that originated and ended at bank accounts outside of the United States. For example, an oil importer based in Europe might instruct its European bank to pay dollars for the ultimate benefit of the Iranian exporter to be credited at its beneficiary bank account outside of the United States. Such payment denominated in US dollars nonetheless generally cleared through the United States through the cash correspondent banks of the originator bank transferring the funds to the cash correspondent bank of the beneficiary bank. In 2008, the United States Government revoked the U-turn exception, following a series of US government actions raising concerns over Iranian banks' involvement in the Iranian regime's support to terrorist groups and nuclear and missile proliferation.[19]

As discussed in more detail by other panelists at the conference at which this paper was presented, the SWIFT system used globally by financial institutions for sending instructions with respect to financial transactions has also been involved in various debates over financial sanctions. These included whether sanctioned entities should be cut off from the messaging system, as well as the US Terrorist Finance Tracking Program, which involves an agreement between the United States and the European Union with respect to targeted investigations of terrorist financing under specified conditions and the sharing of relevant results.[20]

Financial Sanctions Imposed on Securities Activity

As compared to Payment Systems, the experience and level of debate is much more limited with respect to financial sanctions involving securities activities and the associated financial market infrastructures of Central Securities Depositories (CSD), Securities Settlement Systems (SSS), and Central Counterparties (CCP). To the extent that financial sanctions restrictions have general application to all persons and entities within the imposing jurisdiction, such FMIs would fall under the relevant restrictions. Moreover, many securities transactions will involve offsetting or related cash transactions, and in multiple cases the cash operations of

19 See: US Department of the Treasury Press Release, "Treasury Revokes Iran's U-Turn License" (6 November 2008), available at https://www.treasury.gov/press-center/press-releases/Pages/hp1257.aspx

20 See generally: https://home.treasury.gov/policy-issues/terrorism-and-illicit-finance/terrorist-finance-tracking-program-tftp

a CSD, SSS or CCP might also be recognized as a Payment System for relevant FMI purposes. Nonetheless, the specific securities and derivatives activity historically had not been a primary focus of financial sanctions. This is logical in certain areas such as sanctions related to terrorist financing where certain transactional risks have been determined to be minimal.[21] Nonetheless, more recent financial sanctions have become more prescriptive and directly relevant to the securities sector.

Starting in 2014, the European Union as well as the United States of America imposed a series of sanctions measures on Russia in light of actions viewed as undermining the independence and territorial sovereignty of the Ukraine. These sanctions are notable for the breadth and variety of measures imposed, including blocking of assets of specific individuals and entities, prohibitions of weapons sales, and "sectoral sanctions" focused on support for the petroleum industry and certain types of restrictions related to the financial industry. The latter financial measures effectively relate to the ability to raise funds in the capital markets, and these have been tightened over time both in terms of the breadth of the measures and the effective duration of the fund raising.

It is in this context that we find perhaps the only detailed measure that is relevant to activity specifically pertinent to a financial market infrastructure. The EU prohibitions include providing "brokering" or assistance in the issuance by sanctioned Russian entities of, or otherwise deal with transferable securities or money market instruments exceeding 90 (later 30) days. "Brokering" includes not only offering securities services to customers in the secondary market, but also primary market activity: "any service in relation to the admission to trading on a regulated market or trading on a multilateral trading facility."[22] This provision de facto should be read to include the activities essential for market trading of securities provided by market infrastructures of the trading venues, a securities settlement system, a central counterparty, and a central securities depository.

21 See, e.g.: Commission Staff Working Document Accompanying the document Report from the Commission to the European Parliament and to the Council on the assessment of the risks of money laundering and terrorist financing affecting the internal market and relating to cross-border situations, COM (2017) 340 final, at 103 ("The assessment of the [terrorist financing] threat related to safe custody services has not been considered as relevant."), *available at* https://eur-lex.europa.eu/resource.html?uri=cellar:d4d7d30e-5a5a-11e7-954d-01aa75ed71a1.0001.02/DOC_1&format=PDF.

22 See: Council Regulation (EU) No 833/2014 of 31 July 2014 concerning restrictive measures in view of Russia's actions destabilizing the situation in the Ukraine, O.J. L 229/1, articles 5, and 1(e)(viii).

The one significant case in which a financial market infrastructure has been negatively impacted by financial sanctions is a 2014 payment of USD 152 million to OFAC by Clearstream Banking S.A. Clearstream is the International Central Securities Depository and operator of a Securities Settlement System based in Luxembourg. The following description is drawn from the settlement agreement published by OFAC.[23] Clearstream had a historical relationship with the Central Bank of Iran (CBI), which it decided to close in 2007. CBI instructed that the securities be transferred to the account of a European bank at Clearstream, but, in fact, that European bank was acting as custodian for CBI, so the beneficial ownership of the account did not change. The securities entitlements at issue related to securities held in the United States for which central securities depositories in the United States served as the ultimate place of safekeeping for these securities. OFAC stated that "Clearstream, as intermediary, served as the channel through which the CBI held interests in these securities and transferred those interests at a later date, thereby exporting custody and related services from the United States to the CBI in apparent violation of the Iranian Transactions and Sanctions Regulations. […] " The Press Release said further, "The activity in question highlights the need for vigilance in the securities industry, where vehicles such as omnibus accounts—as well as the intermediated nature of the securities custody industry itself—can serve to obscure the beneficial ownership interests of sanctioned parties."[24]

Assessing the Potential Exposure of FMIs to Financial Sanctions

Taking into consideration all of the foregoing, how do we assess the risk of potential financial sanctions penalties for financial market infrastructures? Answer: significant and growing.

The increased regulatory and supervisory focus on FMIs reflects their increasing importance to the financial markets. At the same time, financial sanctions are an increasingly important policy tool for governments, including more specific attention to specialized securities market activity.

23 See:https://www.treasury.gov/resource-center/sanctions/CivPen/Documents/20140123_clearstream_settle.pdf

24 See: US Department of the Treasury Press Release, „Treasury Department Reaches Landmark $152 Million Settlement with Clearstream Banking, S.A." (23 January 2014), *available at* https://www.treasury.gov/press-center/press-releases/Pages/jl2264.aspx

Although penalties imposed are a lagging indicator in terms of the time that passes between an alleged violation and the conclusion of a penalty action, it can only be concluded that aggressive enforcement actions will continue with the possibility of very significant penalties.

What about the risk exposure of financial market infrastructures? The very nature of being a market infrastructure means that the FMI is exposed to risks aggregated from its many market participants. From this perspective, it could be assessed that there is a concentration of the risks of the individual market participants. Moreover, many of the market participants might themselves be acting as intermediaries on behalf of other (in many cases undisclosed to the FMI) market participants or ultimate beneficiaries of the financial activity. This means that the FMI might not even know, or readily be able to find out, the extent of such exposure. While a competent authority may have discretion to exercise its enforcement capabilities, one of the concerns about the financial sanctions imposed by OFAC is that as a US legal matter they can be applied on the basis of "strict liability." This means there is potential liability even in the absence of knowledge of the alleged violating person, and in any case without the much higher standard of intent, willfulness or knowledge that are more familiar as a basis in other criminal or civil penalties. (Again, this reflects the extreme policy choice underlying the use of financial sanctions.)

For Payment Systems, the duration of a specific transactional exposure is likely to be short, perhaps even becoming shorter in the context of development trends towards real-time payments. For other FMIs, however, the duration could be much longer, and in certain cases growing. For example, a CCP that steps in between parties to novate a transaction and become counterpart to each side could become involved with a 30-year swap transaction. The post-Global Financial Crisis incentives to move towards central clearing specifically focus on instruments such as swaps, which also have an increasing tenor. In another example of potential long-term FMI exposure, while a securities transaction in many jurisdictions will be settled two days after the trade, a CSD might find itself holding positions in custody for years.

While most financial market infrastructures likely serve a particular jurisdiction or region, in an open economy the FMI must be expected to have direct or indirect cross-border, and *de facto* global, exposure. This stems from the fact that any effort of a foreign investor directing investments into a particular jurisdiction may be expected to involve that jurisdiction's FMIs; in some cases, an FMI could also serve as a link

for a domestic investor's outward investment flow. There are also many links between FMIs across jurisdictions.[25] Moreover, the abovementioned Clearstream case showed the exposure of the International Central Securities Depository (of which there are precisely two such global institutions, Clearstream and Euroclear, each based within the EU). The ICSDs serve as the basis for the Eurobond market, whereby national, *e.g.*, Member State, governments and supranational institutions can issue securities denominated in currencies other than of their home jurisdiction (e.g., a German entity issuing debt denominated in US dollars or Chinese renminbi). The issuing entities thus rely potentially on a range of FMIs (be they Payment Systems, CCPs, SSS, or CSD) beyond the home jurisdiction, as do the global investors in such securities.

How Can We Mitigate the Exposure to FMIs?

The background discussion on the two distinct policy priorities of (i) strengthening FMIs, while also (ii) further utilizing financial sanctions, was meant to show that it is unlikely to expect that a relative prioritization will solve the challenge of a potential conflict.

A legislative solution also appears unlikely. The very nature of the problem is that the financial markets are global, but regulation stops at the border of the implementing jurisdiction.

A consensus view among the panelists at the conference at which this paper was presented was that "equivalence" recognition of FMIs by competent authorities in other jurisdictions could be part of any solution. This reflects the starting point of a global view post-Global Financial Crisis on the need to strengthen FMIs and on the abovementioned Principles for FMIs as the basis to do so. Moreover, since the financial markets and many of the largest financial institutions are global, the reduction from systemic risks will occur with less market fragmentation and more efficiency under a consistent approach to FMIs and recognition of their usage by market participants. Finally, it must be taken into consideration that FMIs tend towards economies of scale and in some jurisdictions may operate as *de facto* monopolies. Thus, the potential opportunity to utilize more than one FMI, particularly for transactions between actors in any case based in two separate jurisdictions, can hopefully continually evolve through competition and also avoid the risk of failure of any one critical FMI.

25 See generally: Principles for FMIs 20, "FMI Links", including the extensive discussion in the report thereon.

The active debate over equivalence, however, is focused on prudential issues, including aspects of the Principles for FMIs. It does not generally include aspects related to financial sanctions. That notwithstanding, any competent authority can be expected to assume, if not necessarily prescribe, that an FMI that it recognizes under some sort of equivalence or usage by its home financial institutions and citizens would act consistent with, or at least not inconsistent with, important policy issues such as financial sanctions. Along the lines of past enforcement actions, it would be a natural oversight question to ask what measures a foreign FMI is taking to avoid evasion of the requesting jurisdiction's broader policy objectives.

In the absence of much experience with financial sanctions for FMIs, we can draw upon the experience with market participants, *i.e.*, the global financial institutions. As previously noted, strong prudential financial standards are mutually reinforcing and strongly correlated with market integrity efforts. FATF Recommmendation 26 on regulation and supervision of financial institutions states, "For financial institutions subject to the Core Principles [i.e., the respective other globally recognized Key Standards for Sound Financial Systems relevant to the specific licensed entity], the regulatory and supervisory measures that apply for prudential purposes, and which are also relevant to money laundering and terrorist financing, should apply in a similar manner for AML/CFT purposes. This should include applying consolidated group supervision for AML/CFT purposes." Implementing jurisdictions globally have taken up this principle of a consolidated groupwide approach expected from financial institutions, for example in the EU Fourth Anti-Money Laundering Directive.[26]

Should not FMIs exposed to global risks apply global approaches to risk mitigation similar to their own financial institution market participants? While the trend is likely to go in this direction, we have not yet reached any focus on this type of harmonization. Rather the efforts towards enhancing harmonization of FMI prudential standards are still

26 See: Directive (EU) 2015/849 of the European Parliament and of the Council of 20 May 2015 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, amending Regulation (EU) No 648/2012 of the European Parliament and of the Council, and repealing Directive 2005/60/EC of the European Parliament and of the Council and Commission Directive 2006/70/EC, O.J. L 141/73, Article 45(1) ("Member States shall require obliged entities that are part of a group to implement group-wide policies and procedures, including data protection policies and policies and procedures for sharing information within the group for AML/CFT purposes.")

underway. The important efforts towards equivalence determinations move very slowly and can become quite acrimonious with respect to very technical issues even where principles and goals are well aligned. Thus, direct and consistent answers from the competent authorities responsible for FMIs on the additional topic of financial sanctions are unlikely to come soon (enough).

Faced with the foregoing, and in light of significant and growing risks to FMIs with respect to financial sanctions exposure, what if anything can an FMI itself do?

FMI Risk Mitigation Through Rules

The Principles for FMIs have a specific and limited use of the term "integrity" in connection with CSDs – related to accurate recordkeeping by the CSD of the rights of issuers and holders of securities entitlements.[27] More illuminative, however, is the means by which this type of integrity can be promoted: through the CSD employing appropriate rules, procedures, and controls. More generally, throughout the Principles for FMIs there is an emphasis on the importance of rules and procedures. Principle 23 then additionally sums up, "An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed."

If an FMI believes it could be subject to risks in connection with exposures to financial sanctions, is this not something it should analyse and consider possible mitigation options for implementation also in its expectations towards market participants? In order to serve the market as a whole, participants would be expected to meet minimum standards defined in the FMI's rules.

As mentioned above, the Clearstream ICSD entered into a settlement agreement with OFAC in connection with alleged sanctions violations. Clearstream subsequently enhanced its monitoring and due diligence approach, and also amended relevant contractual terms with its custom-

27 See: Report on Principles for FMIs, paragraph 3.11.2 ("Rules, procedures, and controls to safeguard the integrity of securities issues").

ers.[28] Clearstream also initiated and spearheaded an effort to develop global industry standards to help mitigate risks of financial sanctions and related issues.

The International Securities Services Association (ISSA) developed the Financial Crime Compliance Principles for Securities Custody and Settlement.[29] The preamble thereto noted increased attention and focus of regulators on sanctions enforcement and counter-terrorism measures. A specific focus was on cross-border relationships in the sense of foreign account holders or the deposit of foreign or international securities. The Principles rely on a custodian such as a CSD making transparent its expectations and then these being transmitted down the entire custody chain, with corresponding disclosure requirements as necessary. At the time of writing in 2019, these Principles were being implemented across multiple CSDs and the global financial institutions providing custody services.

Conclusion

We have two major policy goals: protecting financial markets through enhancing the roles of FMIs, and promoting national security objectives through the use of financial sanctions. Each of these are critically important. They generally are considered complementary to one another, but there is a potential for conflict. The conflict is particularly due to cross-border exposures. It is nonetheless not a viable option to mitigate the risk by limiting cross-border exposures, as this would be contrary to the prudential benefits of the FMIs.

FMIs fundamentally exist to promote the integrity of financial markets. Nonetheless, FMIs have not generally been the subject of requirements under Market Integrity principles which have been a major focus for regulated financial institutions. On a risk-basis, FMIs should give consideration to updating their rules and expectations among market participants. Such efforts would further the purpose of enhancement designed to prevent financial crisis.

28 See generally: General Terms and Conditions of Clearstream Banking S.A., art. 38, *available at* https://www.clearstream.com/resource/blob/1386306/34f4a92e35dee41d04b-1d68ac63a6d88/cbl-gtcs-jan-2019-data.pdf; See also: General Terms and Conditions of Clearstream Banking AG (a related company that is the CSD of Germany), art. VI ("Prevention of money laundering and terrorist financing, financial sanctions") (Status 1 June 2019), available at: https://www.clearstream.com/resource/blob/1526772/f09f-c669be365c29f886f69b1dcd9fe9/gtcs-cbf-en-jun-2019-data.pdf

29 See: https://www.issanet.org/e/3/current-wgs/48-compliance-transparency.html

Extraterritorial Application or Regulation in the Area of Financial Market Infrastructure: The Case for Cross-Border Cooperative Oversight

Klaus Löber[1]

The recent discussion around the cross-border regulation of central counterparties (CCPs) has been a powerful reminder of the complexities of extraterritorial regulation and cooperation of relevant authorities in the area of financial market infrastructure. Despite remaining largely out of sight of the general public, financial market infrastructures are critical to the global financial system and are a key driver of cross-border financial market integration. Payments, securities and derivatives transactions are cleared and settled across borders between financial institutions and end-users: these entities must therefore be able to access financial market infrastructures such as payment systems, CCPs and securities settlement systems in multiple jurisdictions, either directly or through an intermediary. The smooth operation and resilience of such infrastructures is critical to the ability of market participants to carry out payments and transactions in a particular currency or market. This is why market infrastructures are held to highest standards of financial and operational risk management, agreed at international level under the Principles for Financial Market Infrastructure (PFMIs). The PFMIs were issued jointly by the Committee on Payment and Market Infrastructures (CPMI), com-

1 The views expressed in this article are solely those of the author and do not necessarily represent the views of the ECB or any other public institution. The contributions of Clément Rouveyrol are gratefully acknowledged.

posed of central banks, and the International Organisation of Securities Commissions (IOSCO), both being the global regulatory standard setting bodies in the field of payments, clearing and settlement. At the same time, depending on their cross-border footprint, financial market infrastructures are often financial market nodes whose relevance – or even systemic importance – can extend far beyond the jurisdiction where they are established to carry out their operations.

This leads to an inherent tension in the regulation of financial market infrastructures: on the one hand, their regulation, supervision and oversight (oversight being a central bank function aiming to ensure the safety and efficiency of the financial market infrastructure) is mostly carried out under national frameworks, by the domestic authorities of the jurisdictions where the infrastructure is established. Even in the European Union, progress has been made in terms of regulatory harmonisation but supervision and oversight remains largely national, with a few exceptions such as the area of systemically important payment systems (SIPS) under the ECB's SIPS Regulation. National frameworks also define under which conditions, if any, a third-country market infrastructure can access the national market and offer services to domestic participants.

On the other hand, authorities can have a legitimate interest in the operation and risk management of a third-country market infrastructure: for instance, a securities markets authority will need to ensure that the assets of domestic clients are protected if they are held in offshore securities or margin accounts. A banking supervisor will be concerned with the financial resilience of a third-country CCP, to which the banks it supervises are exposed, to ensure that its risk management practices are sound enough to deserve the preferential prudential treatment a CCP usually receives under banking regulation. A central bank will need to monitor the smooth operation of market infrastructure clearing or settling in its currency, regardless of its location, to understand challenges to its liquidity management and to ensure the overall stability of its currency.

This means that financial market infrastructures may be subject to scrutiny not only from their domestic supervisors and overseers, but from the authorities of jurisdictions where they provide services or in whose currencies they settle, and this may be subject to a formal regulatory process in each jurisdiction. The regulation of market infrastructure therefore takes a particularly important and frequent cross-border dimension, which leads to the possibility of extraterritorial application of

regulatory requirements and potential friction between multiple regulatory frameworks and authorities.

In turn, this affects the policy choices of jurisdictions when setting conditions for cross-border access: one approach is to apply deference to local regulatory frameworks, provided that they are based on international standards and achieves the same broad regulatory outcomes. While this approach has advantages in terms of opening up market access and minimising regulatory burdens, it also implies reliance on foreign authorities, often with minimum information sharing and cooperation. It can also raise issues in terms of level playing field and financial stability risks if there are significant differences in specific prudential requirements.

Another approach consists in the extraterritorial application of national rules, where jurisdictions may decide that in order to provide services to domestic market participants, third-country financial market infrastructures will need to comply with part of or the entire domestic regulatory framework, and that this compliance should be verified by domestic authorities. This may have a legitimate policy purpose, to ensure appropriate control to fulfil domestic policy objectives, although it can also be used disproportionately in particular by large jurisdictions, as financial market infrastructures and participants are likely to prefer to bear the additional compliance cost rather than lose access to a large market. However, extraterritoriality in the regulation of financial market infrastructures also implies the need for coordination between authorities to ensure that overlapping requirements are applied in a mutually agreeable manner.

Based on these observations, cooperative oversight arrangements between relevant authorities provide a solution to the conundrum between the national supervision and oversight and the recognition of the legitimate interests of foreign authorities, while also laying the groundwork for information sharing and mutual consultation which in turns allow authorities to exercise broader deference. Where extraterritorial regulation is thought to be necessary, cooperation between authorities is also indispensable to ensure that financial market infrastructures remain compliant with all applicable requirements and, where possible, to reduce regulatory burdens. At the same time, it requires a level of commitment of all actors involved to information sharing, openness and willingness to compromise which can be difficult to achieve, but toward which authorities should still strive. This article aims at explaining the

importance of cooperative oversight in the regulation of financial market infrastructures, the advantages of cooperation in promoting the use of deference and facilitating the articulation of extraterritorial approaches, while acknowledging the limitations, and the need for cooperation to tackle new challenges in market infrastructures.

Cross-border cooperative oversight: principles and practice

The relevance of financial market infrastructures to the mandate of different authorities in multiple jurisdictions implies finding a modus vivendi through appropriate governance arrangements. Cooperative oversight arrangements allow authorities to obtain and share information on the operations, projects and risk management of a financial market infrastructure, and to be consulted on the assessment (or even conduct joint assessments) of its risk management and its compliance with international standards and regulatory requirements. This contributes to the comprehensiveness and effectiveness of supervision and oversight by bringing together different perspectives – both in terms of mandates and national viewpoints – and by ensuring that multiple authorities contribute to the assessments and provide second opinions.

Cooperative oversight arrangements are typically set up and led by the domestic authority having primary competence for the FMI. This home authority usually has wide discretion in setting the scope and depth of the cooperation, which should be proportionate to the cross-border or multicurrency footprint of the FMI but often depends on the home authority's willingness to engage. With the notable exception of the EU framework for CCP supervision, cooperative oversight usually relies on soft-law arrangements such as memoranda of understanding, to facilitate the exchange of confidential information subject to professional secrecy and to organise the cooperation without legally binding effects. Indeed, it is not meant to substitute the domestic supervisory and oversight setup or the foreign frameworks allowing for cross-border market access (whether they rely on deference or extraterritoriality). However, it can enhance the exercise of domestic prerogatives and responsibilities through information sharing and other cooperative actions, and thus minimise the degree of overlap and regulatory burden on the FMIs.

The principles of cooperation between authorities in the supervision and oversight of financial market infrastructure are enshrined in inter-

national regulatory standards, namely "Responsibility E" of the PFMIs, which state that "central banks, market regulators, and other relevant authorities should cooperative with each other, both domestically and internationally, as appropriate, in promoting the safety and efficiency of FMIs".

As central bank of issue for a major international currency, the ECB has a long-standing practical experience participating in and promoting the cooperative oversight of cross-border financial market infrastructure clearing and settling in euro. The ECB's mandate to ensure the smooth operation of payment systems and the stability the euro means that its oversight competence cannot be limited to its jurisdiction. There are several examples of systemic, multicurrency financial market infrastructures clearing and settling in euro outside the euro area. The ECB strives to ensure that these infrastructures meet international standards and its own oversight expectations regardless of their location.

For instance, the New York-based Continuous Linked Settlement system (CLS) settles foreign exchange transactions in 18 currencies, under the lead oversight of the Federal Reserve. The Federal Reserve chairs an Oversight Committee gathering 23 central banks and ensuring comprehensive oversight of the system for all relevant jurisdictions, aiming to remain efficient and avoiding duplication of regulatory burdens. The Committee also supports information sharing and transparency between central banks in the oversight of CLS.

International card schemes are another example for the practical implementation of cooperative oversight within the EU. MasterCard Europe is headquartered in Belgium and overseen by the NBB, involving the ECB and a number of euro-area national central banks in an assessment group. Visa Europe, meanwhile, is based in London and regulated by the Bank of England with whom the ECB is cooperating closely on the basis of a memorandum of understanding, while coordinating with euro area central banks for the assessment of Visa.

In the area of central clearing, European authorities have taken the lead in establishing a close cooperation. The European Market Infrastructure Regulation (EMIR), under which CCPs are regulated, provides that each CCP, while supervised by a national competent authority, should be overseen by a college gathering relevant EU authorities having an interest in its operations and risk management. While the EU's legal order permits the enshrinement of supervisory cooperation in the regulatory framework itself, it is also a building block for soft-law cooper-

ation on the basis of international standards. For instance, the Bank of England has set up "global colleges" for the two global UK CCPs, LCH and ICE Clear Europe, in which many EU and non-EU authorities participate. Whether European or global, these colleges brings together the regulatory perspectives of central bank overseers, banking supervisors and markets supervisors, fosters information sharing and ensures that all relevant authorities are satisfied with the operation and risk management of these CCPs. Unfortunately, up to this point, the establishment of cooperative arrangements for CCPs has largely been limited to the European context.

One area in which working cooperative oversight arrangements are particularly critical is crisis communication and management. They allow the domestic supervisor to share urgent information on the operation of the market infrastructure when necessary, for instance in the event of an operational incident affecting service continuity, or of an episode of market stress to which the infrastructure needs to respond. They also facilitate communication and coordination when a market participant is in financial distress: in the event of a default, market infrastructures need to take prompt action to mitigate any risks to their other participants. At the same time, coordination between the relevant authorities responsible for infrastructures and for their participants is essential for instance to avoid premature default declaration and appropriate coordination, for instance in the context of the resolution of a participant. While a participant in resolution continues to perform on its obligation to the infrastructure, their access should be maintained to prevent further disruption, but this may be dependent on the sharing of information between the respective relevant authorities.

Cooperative oversight and cross-border regulation: facilitation and limitations

Cooperative arrangements are an essential instrument to facilitate the articulation of national regulatory frameworks and thus the cross-border regulation of payment, clearing and settlement services, with a view to limiting or smoothening issues arising from extraterritoriality.

The exercise of deference in the cross-border regulation of market infrastructure typically relies on equivalence or substituted compliance, where a foreign authority assesses the local regulatory framework as equivalent or substitutable to their own and allows the infrastructures

subject to that framework to provide services based on their local supervision and oversight. However, this type of setup is typically subject to the conclusion of a cooperation arrangement between the relevant authorities of both jurisdictions, where local authorities agrees to share information and notify the third-country authorities of relevant developments. A full cooperative oversight arrangement will also involve consultation and coordination of prudential activities, to ensure that the third-country authority can express its views and concerns on the risk management of the infrastructure, although remedial action will remain in the hands of the local regulator. However, that is not always the case, as local authorities may take advantage of the deference offered by other jurisdictions to limit their level of engagement and cooperation.

It is easy to see how a broadening and deepening of cooperative oversight could develop as a more flexible and constructive alternative to the unilateral extraterritorial application of domestic rules. If relevant foreign authorities are appropriately involved and consulted, and their concerns taken into account in the supervision and oversight of financial market infrastructures, they will be more willing to forego the exercise of own legally binding powers. One advantage of this approach is that it may allow foreign authorities more discretion and flexibility to adjust their regulatory expectations in a proportionate manner, based on the size of cross-border activities and the risk profile of the infrastructure. By contrast, the direct application of national rules could result in foreign authorities enforcing compliance strictly with less regard to proportional application.

There can however be specific circumstances where the extraterritorial application of regulatory requirements is justified. One such case is where domestic authorities – especially non-central banks – refuse to establish any cooperative oversight arrangements and act without regards to the interests of foreign authorities. The only way for foreign regulators to offer access to their markets is in turn to subject them to their own regulatory framework, in particular when the infrastructure is too important to their jurisdiction to rely exclusively on deference.

Another issue of increasing relevance is the development of global market infrastructures which are systemically important for multiple jurisdictions, where the stability of a jurisdiction's financial system depends crucially on the resilience of a third-country infrastructure. In this case, the extraterritorial application of national rules may be necessary and proportionate to mitigate potential financial stability risks.

The EU's new approach to the regulation of third-country CCPs based on the EMIR revision is an example of finding this balance – the EU will continue to defer to foreign jurisdictions in most cases, but will apply enhanced scrutiny from market authorities and central banks to CCPs which are systemically important for the EU. At the same time, such a regime should not be opposed to cooperative oversight, as cooperation between authorities remains critical to its successful implementation, in a way which ensures the consistent enforcement of high risk management standards while minimising regulatory burdens. Indeed, to facilitate the compliance of global CCPs with the regulatory frameworks of several jurisdictions, dialogue between regulators to find the necessary compromises and arrangements is indispensable. Pre-existing or new cooperative oversight arrangements can only facilitate this dialogue.

Of course, there are limitations to what cooperative oversight can achieve. In some circumstances, extraterritoriality can be applied so broadly that it can no longer be considered proportionate, which discourages reciprocal deference and supervisory cooperation: recently, the CFTC chairman acknowledged that his agency's approach to regulating derivatives clearing and derivatives markets more broadly was too intrusive for other jurisdictions, as its reach extended far beyond US domestic markets.

In other cases, considerations beyond the scope of financial regulation intrude in the operation and risk management of financial market infrastructure. Recently, the extraterritorial application of US sanctions to Iranian banks led SWIFT, the Belgium-based financial messaging network provider whose infrastructure is critical to most financial institutions worldwide, to disconnect Iranian banks to protect the stability and integrity of the wider SWIFT network. Although SWIFT is located in Europe and overseen by the National Bank of Belgium, it could not elude the scope of US sanctions or ignore their application, and oversight cooperation would not have been able to resolve an issue that goes beyond financial regulation.

Cooperative oversight in the fact of new challenges

Finally, the need for cooperative oversight is continue to grow, despite (or rather because of) the recent movement away from multilateralism, given the challenges the global regulatory community faces today.

The entry of tech giants – large technology companies with estab-

lished user networks – amongst them the US GAFA and the Chinese Alibaba/Ant Financial and Tencent – into the realm of retail payments and financial services is one such challenge. These companies' multi-sided platforms have expanded beyond their sector's boundaries and have become important players in the digital economy. In the financial sector, the emergency of these tech giants could disintermediate the payments value chain and challenge the more specialised incumbent providers. This is a particular critical challenge for the EU, as such tech companies are typically headquartered in other jurisdictions and their asymmetric relationship with payment service providers (PSPs) and other regulated financial sector actors could undermine the incumbents' effective control over critical parts of the payment value chain and question the effectiveness of domestic supervision and oversight of these activities.

Another example of the need for regulatory cooperation in the area of market infrastructure is the risk of cyber-crime – which by essence knows no borders. The 2016 heist at the Bangladesh central bank is a case in point. Weak cyber-security allowed hackers to transmit fraudulent messages and divert $81 million from the Bank's account with the Federal Reserve of New York. More recently, criminals have targeted wholesale payment systems in other jurisdictions – siphoning off funds and sending them abroad.

Strengthening cyber-resilience, especially in payments, must therefore be part of the international policy agenda. CPMI and IOSCO play an active role in this process, including by adopting international standards on cyber resilience for financial market infrastructures in June 2016. The ECB channels these efforts in the euro area, and has issued its own cyber-resilience oversight expectations, is holding financial market infrastructures against these expectations and is facilitating a dialogue between the public and the private sector on cyber resilience. These efforts aim at ensuring that financial market infrastructures, given their criticality to the financial system and their reliance on information technology, have the necessary resources and processes to address cyber-risks.

At the same time, cyber risk can also materialise at the level of all market participants regardless of the jurisdiction where they are located. The CPMI recently published a strategy for reducing the risk of wholesale payments fraud related to endpoint security by encouraging industry-wide efforts to reduce the risks of wholesale payments fraud. It is designed to address all areas relevant to preventing, detecting, responding to and communicating about fraud. The resilience of the ecosystem of

market infrastructures therefore relies on the coordinated application of this strategy across jurisdictions. This also means that CPMI member authorities must reach out to non-member jurisdictions.

Regulatory cooperation in this area is developing rapidly. Earlier this year in Whistler (Canada), G7 finance ministers and central bank governors took part in a simulation of the day after a major cyber-incident in the financial sector. This exercise showed that a major cyber-incident would require an internationally coordinated response. Forthcoming activities at the G7 level include a cross-border cyber-crisis simulation exercise involving G7 financial authorities. Sharing of information, also across borders, is therefore essential in fending off cyber-attacks, and the many impediments linked to regulatory restrictions or reputational concerns need to be overcome to achieve results in this critical field.

Going forward, cooperative oversight arrangements leveraging on established international standards and improving with the experiences gained in the areas of financial market infrastructures will be a critical factor allowing competent authorities to respond to the challenges arising from an increasingly globally connected financial sector, the advent of new players and threats, whilst being able to fulfil their domestic mandates also in view of cross-border scenarios without the pitfalls of unilateral extraterritorial application of rules.

Supranational Financial Supervision: A Pipe Dream, or an Idea Whose Time has Come?

Nicolas Véron

The Great Financial Crisis has affected the dynamics of financial globalization, but in a way that is better described as a due correction than a reversal. New risks are emerging, however, that may threaten the sustainability of the financial globalization process. Some of these threats can be addressed within the existing global architecture for cooperation in financial services policy, or with incremental changes thereto; but it may be that further institutional change will be needed to make cross-border financial integration sustainable, involving tailored governance designs for the supranational supervision of specific (not all) financial firms. Recent experience in the European Union suggests that such thinking is less utopian than it has long been viewed as, and also highlights some pitfalls. Policymakers should consider limited and careful institutional experimentation in the direction of supranational financial supervision.

Financial Globalization Lives On

Financial globalization (or its near-synonym, cross-border financial integration) is an indispensable complement to trade and economic globalization, even though the linkages remain poorly understood. Like economic globalization, it is not without its downsides, and, as with financial development, its correlation with economic growth is complex (e.g. Rodrik and Subramanian, 2009). Nevertheless, it is closely related to trade integration, which it directly supports through various mechanisms of trade finance (e.g. Bown and Keynes, 2019). There is overall a strong

case for policymakers to encourage cross-border financial integration within robust safeguards, whose nature and design is heavily dependent on domestic structures and level of financial and economic development, to ensure financial stability and the appropriate public protection of users of financial services.

Financial globalization went into overdrive in the early years of the 21st century, largely because of the uncontrolled expansion and risk accumulation of European banks (Bayoumi, 2017). The Great Financial Crisis that started in 2007-08 brought a correction but, viewed from a global perspective, it has not resulted in a reversal. For banks from outside Europe and other financial market participants, cross-border integration has continued apace even as European (and especially euro-area) banks have retrenched (MGI, 2017; McCauley, Benetrix, McGuire and von Peter, 2017). As for the euro-area banking system, most of the needed deleveraging has taken place, and a new cycle of – hopefully better controlled – cross-border consolidation can now be anticipated.

What is observable in patterns of cross-border financial activity is echoed in the global architecture of policy institutions and mechanisms that underpins them. By and large, these have resisted the stress of the crisis, and have even in some aspects been strengthened or expanded as a result. This is particularly true of global financial standards that had been developed before the crisis. Notably, International Financial Reporting Standards (IFRS) have been adopted by an increasing number of jurisdictions around the world, to the extent that they are now the dominant set of accounting standards outside of the United States (which has kept its separate accounting system, even though it has allowed non-US companies listed on US stock exchanges to use IFRS for their public financial reporting since 2007). Much of that development happened in the half-decade before the start of the crisis in 2007, but it has continued since. IFRS have been questioned during the crisis, not least by major financial firms, for their possible pro-cyclical impact, but there has been no reversal in their adoption and, by and large, the independence of their standard setter (the International Accounting Standards Board) has been preserved. Another key reference set of global financial standards, the Basel accords on bank capital and other prudential requirements, has been significantly strengthened during the crisis. This is true in terms of the standards' content, with the adoption of the more demanding "Basel III" accord in various stages from 2010 to 2017; of their broad adoption, as Basel III (unlike the earlier Basel II) has been transposed into

binding rules, to varying degrees, in all jurisdictions represented on the Basel Committee on Banking Supervision (BCBS) and beyond; and of the authoritativeness of the standard-setting process, which has been significantly bolstered by several path-breaking initiatives that include the introduction of a Regulatory Consistency Assessment Program, under which the level of alignment of each individual BCBS jurisdiction's rules with the global accord is evaluated and published, including in cases of material non-compliance, a remarkable break with longstanding practices of keeping any differences of view outside of the public eye.

The crisis prompted the adoption of an ambitious agenda of financial reform at the global level, through the agency of the newly empowered Group of Twenty (G20) and of a rebranded and expanded Financial Stability Board (FSB). Unlike after other crises of the past, this process did generally not result in the creation of entirely new institutions, but existing institutions have been upgraded. While both the G20 and the FSB's predecessor forum were created in the late 1990s following the Asian and emerging-markets crisis, the Great Financial Crisis led to their elevation to a more senior level of official participation (for the G20) or to a more high-profile mandate (for the FSB). Entirely new areas of global financial regulation were created with ambitious reforms of derivatives markets, and an effort to ensure the orderly resolution of failing banks without excessive public cost.

Fissures in the Global Architecture

From the start of the crisis, however, it was apparent that the existing international architecture that supports such coordinated financial efforts might not be sufficient for the task at hand. The first G20 summit declaration, in Washington DC in November 2008, included an expansive "pledge to (…) ensure that all financial markets, products and participants are regulated or subject to oversight, as appropriate to their circumstances." This stood in stark contrast with the pre-existing reality that much financial activity was unregulated. The initial high pressure from the urgency of the crisis forged a high degree of international consensus in some areas, as illustrated by Basel III. But the combination of re-regulation, meaning more areas being subject to public policy decisions and thus higher requirements for international coordination to ensure consistency, and multipolarity, with an accelerated diversification of the global financial system away from the crisis-affected North Atlantic region,

made it increasingly unlikely that the existing structures would cope with the G20's ambitious objectives (Rottier and Veron, 2010). Indeed, some of the G20's initially heralded reforms were not implemented and had to be quietly abandoned, such as the convergence between IFRS and US accounting standards; others failed to meet their stated objectives, such as the obligation to report derivatives transactions to trade repositories in order for authorities to have a globally aggregated mapping of counterparty exposures. As a result, concerns about international fragmentation have gradually risen since the start of the crisis (Veron, 2014).

Such concerns have gained additional salience in recent years, because of rapid developments in the collection and use of digital data, matched by the spectacular growth in activity and value of companies that specialize in data services. As a consequence, concerns about data ownership, integrity and privacy have risen in parallel, compounded by geopolitical tensions that have created widespread suspicions about the use of data by cross-border firms. New and untested forms of data regulation are appearing, illustrated by the EU General Data Protection Regulation (GDPR), enacted in 2016 and whose main provisions became enforceable in May 2018. Regulated financial firms handle massive amounts of data themselves, but are also, and increasingly, relying on critical data service providers, e.g. cloud service providers and other firms often loosely referred to as "infrastructures". As a result of the current environment, it is likely that data service providers and infrastructures will be increasingly subject to regulation and supervision, and that, if such regulation and supervision is not sufficiently consistent across borders, the effect may increasingly undermine cross-border financial integration.

This context gives renewed salience to the idea of supranational financial supervision, based on harmonized or consistent rules, but going beyond these to ensure consistency of such rules' implementation and enforcement. This idea is not new (e.g. Eatwell and Taylor, 2001). It has long been viewed as impractical by public officials, not only those working for individual jurisdictions but also many from international organizations (e.g. Crockett, 2001). But a new development has significantly modified the terms of that debate in the last decade, with the largely successful introduction of several forms of supranational financial supervision in the specific environment of the European Union.

European Proofs-Of-Concept

Back in the 1990s and 2000s in the European Union, a number of voices

called for centralized supervision of EU markets and/or banks, with motivations including financial stability, monetary policy effectiveness, investor protection, and economic efficiency. Such advocacy long appeared marginal and fruitless, but suddenly became critically relevant as the Great Financial Crisis exposed the EU financial supervisory system as severely flawed and ineffective. The EU introduced supranational financial supervision into its policy framework in two steps.

First, the financial crisis that started in 2007 and climaxed in September-October 2008 led the European Commission to commission a report from a high-level group that was chaired by former French central banker and IMF head Jacques de Larosière, and included seven other senior members: Leszek Balcerowicz, Othmar Issing, Rainer Masera, Callum McCarthy, Lars Nyberg, José Pérez, and Onno Ruding. The secretariat of the group was provided by the European Commission, which took an active role in the report's drafting. The "Larosière report" was swiftly delivered in February 2009 and recommended, among other things, the transformation of three pre-existing committees into EU agencies with legal personality, based on Article 114 of the Treaty on the Functioning of the EU (the legal basis for internal market legislation), that could acquire direct supervisory authority in some narrowly defined situations of emergency (European Commission, 2009). Corresponding EU legislation was duly enacted in 2010 and the three "European Supervisory Authorities" (ESAs) were established as of January 1, 2011: respectively the European Banking Authority (EBA), the European Insurance and Occupational Pensions Authority (EIOPA), and the European Securities and Markets Authority (ESMA).

In a subsequent move in June 2010, the European Commission proposed to centralize within ESMA the supervision of Credit Rating Agencies (CRAs), which had just started to be regulated in Europe under EU legislation enacted in 2009. This entered into force in May 2011, and the transfer of supervisory authority over CRAs from national authorities to ESMA was completed on July 1, 2011. Later on, the so-called European Market Infrastructure Regulation (EMIR) of July 2012, in application of above-mentioned reforms decided at the G20 level in 2009, mandated the reporting of over-the-counter derivatives transactions to Trade Repositories (TRs) and the registration and supervision of all European TRs by ESMA, which was implemented in the course of 2013. As a consequence, in recent years ESMA has been the sole supervisory authority for

all CRAs and TRs in the EU[1]. By contrast, the other two ESAs, namely EBA and EIOPA, have not been granted any direct supervisory authority.

Second, in mid-2012 the leaders of euro area countries decided, under pressure from rapidly deteriorating market perceptions of the sustainability of the monetary union, to start the project known since as "banking union", namely the transfer from the national to the European level of a wide range of banking sector policies including prudential supervision and crisis management. The supervisory component of this agenda was promptly implemented in the form of a Single Supervisory Mechanism (SSM), under which all bank licensing authority in the euro area was assumed by the European Central Bank (ECB) on November 4, 2014. At the same date, the ECB became the sole prudential supervisor of more than a hundred euro-area "significant" banking groups, representing more than four-fifths of the system's total assets, and the overseer of supervision of all the other, "less significant", euro-area banks for which most supervisory tasks remain in the hands of the incumbent national authorities. By contrast, other parts of the banking union agenda, such as a single European deposit insurance scheme, remain unfinished (e.g. Busch and Ferrarini, 2015).

Geographically, the scope of supranational supervisory authority of ESMA is the entire internal market, including not only all EU member states but also the other members of the European Economic Area, namely Iceland, Liechtenstein and Norway. The scope of ECB banking supervision includes all euro-area member states, and may be extended to other EU countries by a voluntary process known as "close cooperation" agreement. Several non-euro member states, e.g. Bulgaria, Croatia, and Denmark, are likely to join the SSM through this process in the near future.

The performance of ESMA's supervision of CRAs and of the ECB's supervision of banks has been audited at an early stage by the European Court of Auditors, in 2015 and 2016 respectively. The titles of the respective performance audit reports summarize the assessments, respectively "well established but not yet fully effective" for ESMA (ECA, 2015) and "good start but further improvements needed" for the SSM (ECA, 2016). (ESMA's supervision of TRs does not appear to have been similarly evaluated yet.) These and other assessments suggest that supranational finan-

1 N.B. The author is a non-executive independent director at the global trade repository arm of DTCC, a financial infrastructure company that operates on a non-profit basis. The European component of this TR activity is supervised by ESMA.

cial supervision in the EU is now broadly functional, even though its introduction is too recent to precisely compare its effectiveness with that of national supervisory systems.

The Case for Institutional Experimentation

It is obvious that the EU experiments with supranational financial supervision cannot be directly transposed to other, non-EU environments, let alone the entire world. The EU relies on a robust and enforceable legal framework, with established institutions and widespread (if not universal) acceptance among its member states' populations and public officials.

It is also probable that, even under an ambitious vision, banks will remain supervised at the level of individual jurisdictions for the foreseeable future. This does not preclude more internationally integrated approaches for the collection and analysis of bank supervisory data. Indeed, such an approach is already in place with the Bank for International Settlements (BIS)'s International Data Hub, initiated in 2013 (BIS, 2015).

The obstacles to supranational financial supervision are likely to be less daunting for other kinds of regulated financial firms, including subcategories of data intermediaries, critical services providers, and financial infrastructures. It is probably not a coincidence that all the market segments over which ESMA has been granted direct supervisory authority are within that space, such as CRAs and TRs, and more recently critical benchmarks, so-called consolidated tape providers, and third-country central counterparties. Unlike banks, many such financial firms are not susceptible to require any financial intervention by public authorities even in the most severe scenarios of their failure in a systemic crisis, which removes the challenge of sharing that burden among different jurisdictions. The same challenge of financial burden-sharing may also be less intractable for comparatively simple financial infrastructures than for banks, potentially including some internationally significant clearing houses.

Moreover, supranational financial supervision must certainly not be understood as necessarily involving all of the world's jurisdictions at once. On the contrary, anything that happens in that space is likely to reflect a general principle of variable geometry. For example, judging from its publicly available Multilateral Framework, the above-mentioned

BIS International Data Hub includes most jurisdictions that are home to global significantly important banks under the FSB's classification, but not all of them, since China is not mentioned among the participants (BIS, 2015). If the exit of the United Kingdom from the European Single Market is confirmed, it is not entirely fanciful to imagine the creation of joint UK-EU27 institutions to supervise certain financial entities. In other parts of the world than Europe, countries that have formed regional groupings for economic cooperation may also be inclined to set up supranational financial supervisors for some financial entities on a regional basis.

There is, of course, a trade-off between tailoring institutional design to the specificity of a given market segment and a general objective of simplicity. If a number of supranational entities are created to supervise different categories of financial firms, opportunities for supervisory arbitrage may be an issue – even though in principle there will be fewer such opportunities than in the present status quo in which each jurisdiction has a different supervisor (apart from the cases of ESMA responsabilities for CRAs and TRs, and ECB banking supervision already outlined above).

Supranational financial supervision can contribute to resolving cross-jurisdictional coordination problems to avoid financial fragmentation without compromising supervisory quality and effectiveness (and potentially even enhancing it, as the experience of the SSM in particular suggests). The recent European experience demonstrates it can be a viable proposition, at least in certain contexts in terms of geography and categories of supervised financial firms. It may provide responses to specific challenges posed by new technology-enabled, inherently border-hopping financial services business models. Experimentation in this area may not always succeed, but should be considered with an open mind by forward-looking policymakers.

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PART II

Collective Action Clauses and Sovereign Debt Restructuring

The Road to Euro Area Sovereign Debt Restructuring

Aitor Erce[1]

Greece's controversial sovereign debt restructuring has become the poster child of the potential consequences of not having a well-defined framework to restructure sovereign debt in the euro area.[2] The approach devised to restructure domestic-law Greek sovereign bonds, by retrofitting through legislative act an aggregated collective action clause in all domestic-law bonds and use it to obtain sufficient creditor support for the restructuring, worked smoothly (Gelpern et al. 2016, Buchheit, 2018). The restructuring process, facilitated by the advantage provided by the local nature of the bonds, contrasts with that of foreign-law Greek bonds, where holdout creditors managed to block the restructuring of six billion euros of those bonds (Gulati et al. 2013).

Concerned by this behaviour and by the extent to which official bailouts had been used to postpone the debt restructuring and repay private creditors, euro area policy makers recently agreed to further enhance sovereign bond contracts by including single-limb collective action clauses.[3] Still, multiple experts and analysts argue the euro area needs a more transparent and predictable mechanism to restructure sovereign debt (Grund and Stenstrom 2018). The objectives would be: to reduce

1 I thank Daragh Clancy, Vítor Constâncio, Mitu Gulati, Andreja Lenarcic, Mattia Picarelli, Stefano Rossi, Livio Stracca, Ignacio Tirado, Vilem Valenta, Jeromin Zettelmeyer, and seminar participants at the Florence School of Banking and LUISS School of Economic Policy for comments and discussions.

2 The tendency of the actors involved in a debt restructuring to postpone it, together with the recurrence with which relief is too small to solve the crisis, led the IMF to argue that restructuring happens "too little too late" (IMF, 2013).

3 Existing (two-limb) collective action clauses require that bondholders agree to restructure through both a bond-by-bond and an aggregate vote. A single-limb collective action clauses only require a qualified majority in a unique aggregated vote, by construction, they reduce the likelihood of successfully holding-out.

the extent to which public funds are used to bail out private creditors when debt is not sustainable, to provide incentives for a proper pricing of sovereign risk and prudent management of fiscal finances, and to tie the hands of policy-makers. [4]

Achieving these objectives implies tackling two operational problems: limit holdout risk and reduce incentives for "too little too late" debt relief. There is wide agreement that walking the extra mile to limit holdout risk requires introducing a single-limb aggregation clause into euro area sovereign bonds (Zandstra, 2018). In contrast, the route to addressing incentives to restructure "too little, too late" is not as clear. According to Grund and Stenstrom (2018), reflecting the potential political will for a better-defined mechanism for restructuring sovereign debt, the wording determining the road to debt restructuring in the euro area, Recital (12) of the ESM Treaty, was left voluntarily loose. In fact, an earlier version of the ESM Treaty contained more detail on how to conduct debt restructuring, including considerations on the role of cross-border spill overs.[5]

For those that believe that more structure is needed, the rationale for having a better-defined sovereign debt restructuring framework (SDRF) is to avoid policy makers' biases against timely debt restructuring (Andritzky et al. 2016). Destais et al. (2019) argue for a statutory mechanism that precisely defines procedures and responsible institutions to determine the cases where a restructuring is needed. The most stringent proposals want to impose automatic maturity extensions of the debt of sovereigns requiring official assistance (Grosse-Steffen and Schumacher 2014, Corsetti et al. 2015, Andriztky et al. 2016, and Bundesbank 2016). Such automatic approaches face the major concern that they reinforce market pro-cyclicality, and may deliver "too much and too often" restructuring (see Zettelmeyer et al. 2017 or Schumacher and Weder di Mauro,

4 The debate on a sovereign debt restructuring mechanism is an old one. For an overview, see Rogoff and Zettelmeyer (2002), Bolton and Skeel (2009) or Buccheit et al. (2109).

5 The earlier version of the ESM Treaty said: *"An adequate and proportionate form of private-sector involvement shall be sought on a case-by-case basis where financial assistance is received by an ESM Member, in line with IMF practice. The nature and the extent of this involvement shall depend on the outcome of a debt sustainability analysis and shall take due account of the risk of contagion and potential spill-over effects on other Member States of the European Union and third countries. […] Where it is concluded that a macro-economic adjustment programme cannot realistically restore the public debt to a sustainable path, the beneficiary ESM Member shall be required to engage in active negotiations in good faith with its non-official creditors to secure their direct involvement in restoring debt sustainability. In the latter case, the granting of financial assistance will be contingent on the ESM Member having a credible plan for restoring debt sustainability and demonstrating sufficient commitment to ensure adequate and proportionate private-sector involvement. Progress in the implementation of the plan will be monitored under the programme […]*" (see Grund and Stenstrom, 2018).

2015). Combining legal and statutory elements, Grund and Stenstrom (2018) and Buchheit and Gulati (2018) argue that the SDRF should include single-limb CACs and amendments to the ESM Treaty to immunize ESM funds from litigation (as proposed by Buchheit et al. 2013). Grund and Stenstrom (2018) also propose the creation of a dispute resolution mechanism to be used when contractual remedies fail.[6]

Others argue that the current approach provides flexibility to accommodate to specific circumstances and it would be enough to clarify responsibilities and methodologies for restructuring debt under the existing framework. Baglioni and Bordignon (2019) and Wolff (2018) argue that the existing case-by-case approach provides flexibility, and through its "constructive ambiguity" reduces the risk of freezes in government bond markets.[7] They support the introduction of an "aggregation" rule in sovereign bonds. Beyond that, they argue that a legal framework for imposing a debt restructuring as a condition to get ESM aid is already in place and there are no compelling reasons to revise it. Rossi (2019) supports the current decentralized system, but argues it should be complemented with a more explicit seniority structure of sovereign debt (see also Zettelmeyer 2018).[8]

Will single-limb CACs be enough? Euro area policy makers need to decide whether the current flexible framework, enhanced with single-limb CACs, is sufficient, or there should be a more standardized and regulated procedure to conduct sovereign debt restructuring. If they opt for a new procedure, a number of responsibilities need to be assigned. What debt instruments, and through which processes, should it include? Who and how would evaluate debt sustainability? Should there be a consideration of the role of spill overs within the framework? In the rest of this chapter, I provide an answer to these questions. First, I provide some thoughts on whether a CAC-centred framework can guarantee that future debt restructuring are fair and effective (sufficiently comprehensive). Next, I review the analysis that leads the official sector to require a debt restructuring. Finally, I consider whether spill over costs should be accounted for when considering to fill residual financing gaps through restructuring.

6 To mitigate financial instability risks, Zettelmeyer (2018) proposes regulatory actions to reduce the balance sheet connection between domestic banks and governments, a European deposit insurance system, and a euro area safe asset.

7 According to Diaz-Cassou and Erce (2011) a flexible restructuring framework helps accommodate country specificities, but can be seen as lacking consistency and even-handedness.

8 Rossi (2019) proposes the development of state-contingent debt instruments as a way to clarify seniority.

Are single-limb CACs enough?

To avoid that future debt restructuring processes feature a pool of holdout investors as large as the one Greece faced, the 4th of December report on EMU deepening by the Euro group (Euro group, 2018) stated: "There is broad support for the need to improve the existing framework for pro¬moting debt sustainability in the euro area. We intend to introduce single-limb collective action clauses by 2022 and to include this commitment in the ESM Treaty".

One important factor that facilitated this decision is that a similar reform had been successfully carried out in January 2013. On that date, euro area countries introduced cross-series aggregation clauses (the so-called two-limb CACs), in both domestic and foreign law bonds. These clauses allow for an agreement by bond holders to restructure a range of bonds provided that certain majorities are achieved in aggregate and, separately, in each series of bonds (two-limb aggregation).[9] When these two-limb CACs were being discussed, there was fear that such move would segment the market in CAC and non-CAC bonds, draining liquidity, triggering instability in bonds markets, and pushing borrowing costs up (Wiesmann, 2013). Instead, the growing set of studies that have analysed the effects of the introduction of CACs on euro area sovereigns' ability to borrow have found no negative effects (see Carletti et al. 2016, Grosse-Steffen et al. 2019, IMF 2019 or Picarelli et al 2019).[10] Figure 1, borrowed from Picarelli et al. (2019), compares the dynamic effect of the inclusion of two-limb CACs on the yield of Italian and Dutch sovereign bonds. The figure shows that, if anything, the inclusion of two-limb CACs helped reduce Italian borrowing costs.[11] The fact that two-limb CACs had not the significant negative effect that many feared facilitated the agreement for introducing single-limb CACs.[12]

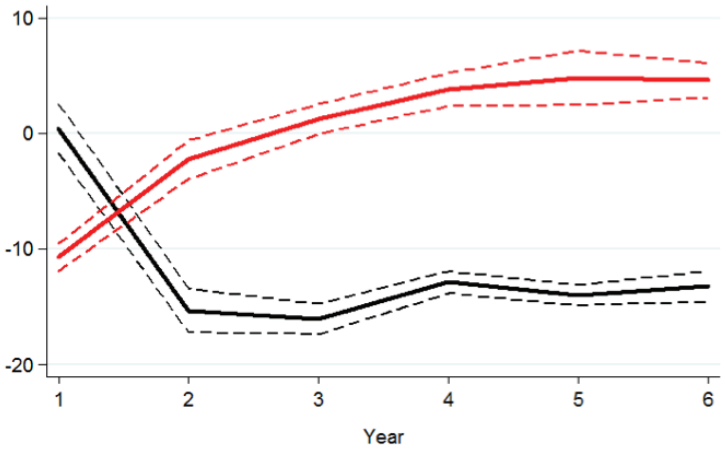
9 See Recital 11 to the ESM Treaty.

10 Evidence on the use of single-limb CACs is scattered (see Picarelli et al (2019) for evidence from Sweden, and IMF (2019) for evidence from emerging markets).

11 This could be explained by the fact that the inclusion of two-limb CACs reduced the ability of the authorities to engineer a debt restructuring through legislative action.

12 According to Zandstra (2018) and Buchheit and Gulati (2018), the best way to avoid that CACs do not work is preventing holdouts from enforcing repayment. This facilitates the work of CACs by avoiding execution while consensus is reached. This could be achieved by immunising the ESM against holdout litigation and by raising acceleration thresholds.

Figure 1. The impact of two-limb CACs



The red line represents the change in the yield of Dutch sovereign bonds following the inclusion of two-limb CACs. The black line presents the corresponding effects for Italy. The vertical axis measures the effect of the two-limb CACs in basis points. Year i refers to the effect i years after the inclusion of two-limb CACs. Source: Picarelli et al. (2019).

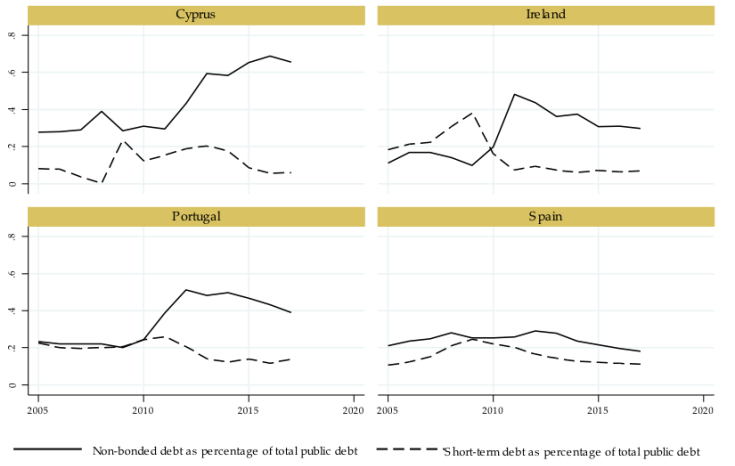
Despite these promising news, a CAC-centred framework is not without potential shortcomings.[13] Here I discuss two under debated aspects. First, as noted by United Nations (2017), Schneider (2018), Stumpf (2018) or Buchheit et al. (2019), in the context of emerging economies, sovereigns obtain financing using multiple instruments different from long-term bonds, which do not contain aggregation clauses to facilitate their restructuring.[14] Figure 2 depicts the relevance of short-term liabilities and liabilities other than bonds, for selected euro area countries. The weight of sovereign liabilities that cannot be restructured through CACs is significant. Even before the countries started to accumulate official loans, non-bonded liabilities represented a 20% of the public debt stock. This implies that the perimeter of debt to be included in an exchange needs to be clarified, and triggers two interrelated questions: How to achieve a restructuring if the debt structure is very diverse? Would restructuring

13 According to Trebesch et al. (2019) single-limb CACs would have avoided hold-outs in many previous debt restructurings, but is not a silver bullet.

14 Stumpf (2018) discusses in detail the various techniques that have been used to restructure bank loans United Nations (2017) notes that there are no clauses which allow for an aggregation across different types of instruments.

bonded debt only amount to imposing an excessive burden of adjustment on a single creditor category? How to achieve a restructuring if the debt structure is very diverse?

Figure 2. Non-bonded and short term public debt in crisis countries



Source: Eurostat. Short term debt includes bonds and loans with maturity below one year, and other accounts payable.

Achieving a fair burden-sharing (an equitable treatment across different types of creditors) during a debt restructuring requires incorporating liabilities other than bonds with CACs to the restructuring process.[15] Including non-bonded debt, however, complicates issues significantly, as this requires a hierarchy and guiding rules (United Nations 2017, Stumpf 2018, Buchheit et al. 2019). In the context of emerging economies, an alternative that has been discussed is to embed bank loans with a form of collective action clause that allows the Government to aggregate them with bonds (Scheinder 2018). Given the significant hurdles that such reforms would imply, articulating the process around collective actions clauses and bonded debt may be the only advisable way forward.

Accepting that a CAC-centred framework is the only feasible approach leads to an additional concern. Such a framework would treat claims asymmetrically and could affect the sovereigns' financing strategies. According to Bolton and Jeanne (2009), a system that affects the seniority of debt instruments, making some liabilities easier to restruc-

15 Venezuela's cumbersome debt structure is a good example of this concern.

ture than others, incentivises the authorities to obtain financing through instruments that are harder to restructure.

If the logic of Bolton and Jeanne (2009) is correct, a CAC-centred framework could lead sovereigns to prefer issuing liabilities different from bonds, as those would be more attractive to creditors because they are harder to restructure. Such general equilibrium effect could partly undo the beneficial effect of CACs, by moving sovereign financing towards instruments not containing them.[16]

How to define what a sustainable level of debt is?

When considering the combination of policies required for solving a sovereign debt crisis, I find it useful to think about a three-layered response combining fiscal adjustment, official lending and debt restructuring.[17] Within the euro area framework, debt restructuring is requested by official lenders when their debt sustainability analysis (DSA) shows that not path of adjustment and official lending can stabilize the requesting country's debt. With some differences in methods and data, the DSA elaborated by official institutions contains three elements: data inputs, a standardized technical assessment, and a final assessment informed by judgement. This approach is preferred because it provides a homogeneous treatment while, through the use of judgement, caters for country specificities (Corsetti 2018).

During the euro area crisis, the existing approach to evaluate debt sustainability came under intense scrutiny (IMF, 2013b).[18] The IMF reacted to criticism with various reforms (IMF 2014, 2015, 2016a, 2016b, 2017, 2018), and is currently reviewing its DSA for countries with regular market-access (MAC DSA). IMF staff conducted a preliminary assessment of the MAC DSA in 2018 and concluded the framework required a rigorous review. In particular, the staff found that the methodology had little capacity to separate stress from non-stress periods and to account

16 The findings of Bolton and Jeanne (2009) have similar implications for existing proposals that consider that an improved restructuring mechanism requires a clearer seniority structure (Rossi, 2019).

17 The approximate size of a country's financing gap, and how these three components are used to fill it, is part of the output of the debt sustainability analysis conducted prior to any decision to provide official lending.

18 Most controversial aspect was Greece's need for a debt restructuring, supported by the IMF but opposed by Europe.

for uncertainty.[19] The assessment also noted that the use of judgement did not improve the identification of risks, and proposed that the framework be embedded with more clarity on how judgement should be exercised. From the euro area perspective, in its proposal from December 2018, the Euro group agreed that the Commission, European Central Bank, and ESM will, in future, cooperate in performing the DSA. Beyond giving the Commission the last word, it did not detail how to deal with the issues identified by the IMF.

An effective framework to evaluate debt sustainability needs to be based on a technically sound assessment. This requires having clear principles and a well-established procedure that provides ex-ante clarity on what data, assumptions and methodological tools are to be used (IMF 2013b). The design of a robust DSA should also specify what institution should yield the relevant data and assumptions. For example, long-term growth assumptions could come from the OECD, which has an outstanding reputation and provides credible standards. From this technical perspective, although recent DSA frameworks (see, for instance, Bouabdallah et al. 2017) cover a larger number of indicators and use statistical methods to study tail risks, a number of important issues remain open. According to Corsetti (2018), for as long as liquidity risks and debt management are not properly accounted for, the framework's ability to evaluate debt sustainability will remain limited. Corsetti (2018) argues that as official lending has moved from supporting developing issuers with irregular presence in international bond markets to heavily financialised economies, where governments operate large and liquid domestic bond markets, the traditional approach to debt sustainability has become insufficient for at least two reasons:

- In contrast with the practice of advanced economies debt management offices, current DSA frameworks use simple and unrealistic rules for the roll-over of maturing debt (see Athanasopoulos et al., 2018).

- Market access conditions, a critical element of program design, and the terms of official support feedback into one another, strongly

19 In calling a debt restructuring, two types of errors are possible. A 'type I error' happens if an unsustainable debt is seen as sustainable. In a 'type II error' a sovereign is forced to restructure, despite solvency could be restored through adjustment.

affecting markets perceptions of sustainability.[20] This is something that the current framework fails to recognize.

Despite an adequate use of judgement is also critical for an effective DSA framework, as noted in the MAC DSA review and in Lang and Presbitero (2018), the track record shows that its use can be controversial. Lang and Presbitero (2018) study the role of judgement in altering the mechanical decision process embedded in the World Bank-IMF Debt Sustainability Framework. They show that both political interests and bureaucratic incentives influence the decision to intervene in the mechanical decision-making process, suggesting that the room for discretion in official lenders' DSA can be a source of biased decision-making (see also Gould 2003). Schadler (2013), Baglioni and Bordignon (2019) and Destais et al. (2019) note that a similar concern exists in the euro area where various institutions, with different mandates, are to be involved in the process.[21]

A related complicating factor is the various roles played by the official DSA. It is a risk-management instrument of the lender. It is also the platform where the policy response is put together, and a source of information to all parts involved in a debt restructuring. These multiple roles expose the DSA to conflict. The impartiality in evaluating sustainability may be viewed with scepticism, especially if the lender is already heavily exposed to the sovereign (Diaz-Cassou and Erce 2011). Simpson (2006) evaluation of the IMF's role in Argentina noted that the Fund came to be perceived as more concerned about its own financial resources than about providing an accurate representation of the underlying problems.

Schadler (2013) argues that a credible evaluation process requires

20 Using counterfactual experiments, Corsetti et al. (2018) show that, in 2013, depending on the terms of official lending, Portugal's sustainable debt level was anywhere between 80 and 180 percent of GDP.

21 According to Baglioni and Bordignon (2019) the options for institutional involvement in the DSA are the European Commission, alone or with the ESM and the ECB, or an independent institution. Key arguments in favour of involving the ESM are that the institution providing loans should be involved in all analytical steps (Destais et al., 2019) and that the analysis could benefit from its close relation with capital markets (Corsetti, 2018). Baglioni and Bordignon (2019) see no obvious benefits from delegating the technical assessment to the ESM, which they see as subject to similar, if not higher, political biases as the Commission. Others favour keeping the IMF in the analysis because of its technical expertise in dealing with insolvent sovereigns, and more neutral perspective than European institutions, which reduced the risk of political biases (Pisani-Ferry et al. 2011). Instead, Destais et al. (2019) argue that the credibility from the IMF will be low if it has no skin in the game. Another argument against IMF involvement is that its DSA is geared towards its risk management framework, with a shorter-term focus than that of the euro area official lenders, limiting its ability to provide guidance (Corsetti 2018).

safeguards to guarantee that, through the use of judgement, sustainability assessments do not become biased. To move the framework away from biases, Baglioni and Bordignon (2019) and Destais et al. (2019) propose to leave the technical analysis to an independent body less directly exposed to biases and conflicts of interest, such as the European Fiscal Board. The role of this independent body would be to perform the technical analysis, using input from European Commission, European Stability Mechanism, and European Central Bank. This would give all the institutions involved the option to provide their own technical analysis and judgement, enabling them to argue against a debt restructuring due to contagion, financial stability, or other considerations.

One advantage of a setting that provides more clarity into whether the drivers of a decision to restructure are technical, judgmental or political, is that it would increase transparency, and the value of the DSA as public information (a public good). The increased transparency of this approach could also reinforce the ability of collective action clauses to smooth the restructuring and the process of market re-access, by reassuring investors that they are requested to contribute only when justified.

How much debt relief is necessary? Spill overs and self-interested solidarity

An important limitation of the current framework is that it has no sound and generally-accepted method to evaluate the costs that a restructuring can have, both domestically and on third parties.[22] Such a tool is still lacking despite the relevance of spill overs was a critical lesson from the Greek debt crisis. When Greece asked the IMF for support, its debt did not pass the sustainability test with high probability and, according to the policies existing at the time; the IMF could not lend (Hagan et al., 2017). Given the fears that a disordered default in Greece could trigger a systemic meltdown, the IMF temporarily modified its exceptional access policy, to allow lending to sovereigns whose sustainability is not guaran-

22 The approach followed to restructure can have major macroeconomic implications, including through increased financial instability (Asonuma et al. 2019) and contagion (Arellano et al. 2018). A sovereign default will spill over across borders through multiple channels (trade, assets valuations/private-sector exposures), including through contagion. Harsher restructuring terms are more likely to dampen activity (Trebesch and Zabel 2017, Asonuma et al. 2016), generate sudden stops and financial instability (Panizza et al 2009). Kuvshinov and Zimmermann (2019) find that default generates a long-lasting output cost: 2.9% of GDP on impact and 4.4% at peak after five years.

teed if a default can have large systemic effects (for a detailed description of this episode see IMF 2013, Schadler 2013 or Corsetti et al. 2017).[23]

Despite various reforms within the euro area that try to delink sovereigns from banks, given how heavily interconnected its members are, systemic effects and spill overs from a sovereign debt restructuring will almost certainly be very large. This is even more likely to be the case if the source of the sovereign vulnerability was not recognized well in advance, something that, as discussed above, existing frameworks for crisis detection seem unable to achieve. In such circumstances, as outlined in Tirole (2015) and Corsetti (2018), a self-interested solidarity argument may apply. It might be cheaper to lend into doubtful solvency and engineer debt relief through the official sector rather than imposing a debt restructuring and facing the collateral damage.

Along the lines suggested by Schadler (2013), a euro area sovereign debt restructuring framework could accommodate systemic considerations as follows. Before a decision to ask for a debt restructuring is triggered by the failure of a country to pass the DSA, it could be required that a rigorous analysis of spill over effects is carried out. This would allow policy-makers to evaluate the potential benefits and costs of such a restructuring before it is agreed. An important question is who should provide such spill over analysis. While more technical work is needed to understand the drivers of cross-border costs from a sovereign debt restructuring, both the European Central Bank and the International Monetary Fund already provide analysis of spill-overs (see ECB 2015 or IMF 2014).

Of course, such an escape clause may reduce the ex-ante incentives that the framework is expected to provide. But the lack of a contingency plan for situations in which spill over risks make ex-post efficient to avoid a disordered default even if the country is insolvent, could make the framework time-inconsistent, risking that it comes to be seen as non-credible.

23 According to Buchheit and Gulati (2018) the only justification to official loans as those provided was preventing contagion. According to Corsetti et al. (2017), the fear that through the large exposure of still-weak euro area banks to Greece, a Greek debt restructuring could trigger a wave of bankruptcies, was the main argument that euro area governments used to convince the IMF to modify its exceptional access policy and participate in the Greek program.

Conclusions

The complicated resolution of the Greek debt overhang triggered an ongoing reform effort to facilitate future sovereign debt restructurings. On the road to euro area sovereign debt restructuring, governments not only enjoy the advantage provided by the local nature of the law governing most of their liabilities, but will also have at their disposal the means to conduct restructuring through the use of single-limb CACs. One important aspect to watch, if a CAC-centred restructuring framework is chosen, will be the «general-equilibrium » effect on debt structures, especially around times of distress.

Although single-limb CACs are not bullet-proof, achieving a more statutory approach is far from simple and could prove destabilising. If we come up with a more transparent and less bias-prone way to implement the current framework, and avoid that sovereigns tilt their financing away from instruments including CACs, it is not evident what additional statutory reforms are necessary. Instead, we would do well to invest in understanding better when a debt restructuring is the right alternative. Doing so requires a more transparent and effective framework for evaluating debt sustainability, one which separates technical from political decisions and helps limit the too little, too late syndrome. It also requires clarifying what is the role to be played by spill overs.

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Collective Action Clauses and Sovereign Debt Restructuring Frameworks: Why and When is Restructuring Appropriate

Giampaolo Galli

In this paper, I will first make a few considerations about the legal aspects of Collective Action Clauses (CACs) in the context of the Eurozone and then approach the broader economic issue of why it may be useful to have more efficient CACs, such as single-limb CACs, and when and in what circumstances it may be appropriate to restructure sovereign debts.

1. Considerations on CACs.

1.1 Are CACs the Only Way?

The first issue that arises in the context of existing Euro CACs – the so called dual-limbed CACs that were mandatorily introduced for all Eurozone sovereign bond issuances made after January 2013 – is whether they are the only tool available to the authorities or if they are but an additional option. The latter view has been argued by several authors and emerges forcefully in a recent paper by Mark Weidemaier.[1] The argument is essentially that of the so called "Local Law Advantage", that can be applied to the great majority of the outstanding bonds that are subject to the local law. According to Weidemeier:

1 Weidemaier (2019). See also Gulati (2019).

> This 'local law advantage' makes it comparatively easy for a government to restructure its debt. To use an extreme example, a government might enact legislation imposing a 50% tax on payments to bondholders. Less extreme examples are easy to find. In 2012, Greece achieved debt relief of over 50% of GDP by passing a law providing for a collectively-binding restructuring vote taken across most of the country's local-law debt stock. The recent restructuring in Barbados has followed a similar approach.

On this issue, since I am an economist and not a jurist, I think that rather than reporting my personal view, it is more useful if I report the view of the Italian authorities, by which I mean the people in charge of debt management at the Treasury and at the Bank of Italy. Italian authorities, and their legal departments, claim that **CACs are the only way**, in the sense that it is compulsory to use them in the event of a need to restructure a Euro area nation's sovereign debt. The argument is that the goal pursued by authorities and by the technical committee that drafted the euro CAC regulation in 2012 was to have a uniform and predictable system for all future debt restructurings throughout the Eurozone. Or, to put it differently, that the strategy of using a retrofit CAC in Greece in March 2012 would not repeated. To this effect, it is recalled that art. 12 (par. 3) of the ESM Treaty give emphasis to the notion that CACs should have identical effects in all member state. The article states that:

> Collective action clauses shall be included, as of 1 January 2013, in all new euro area government securities, with maturity above one year, **in a way which ensures that their legal impact is identical.** (emphasis added).

Moreover, the preamble of the Treaty explains:

> In its statement of 28 November 2010, the Euro Group stated that **standardized and identical Collective Action Clauses** ("CACs") will be included, in such a way as to preserve market liquidity, in the terms and conditions of all new euro area government bonds. (emphasis added).

A couple of years ago, a Report of Mediobanca Securities (2017) caused some discussions in the markets since it argued (or took for granted) that bonds issued after Jan. 2013 with Euro CACs could no longer be

redenominated (except with a large supermajority of investors). Lorenzo Codogno and I consulted with a number of experts on international law and found that their overwhelming opinion was that the Mediobanca report was mistaken.[2] The reason being the local law advantage.

So, it would appear that the answer is different if one asks about debt restructuring or about redenomination of the debt. This apparent contradiction probably has a simple explanation. Redenomination is itself a breach of European law, given that there is no legal way to exit the euro; so should a country choose to exit, it would expect to face an enormous amount of litigation, independently of what the CACs say or do not say. Instead, a country that wants to stay in the Euro area, but needs to restructure its debt, would probably try to avoid any unneeded litigation. It hence would not make sense for such a country to eschew the use of the Euro CACs.

In other words, using CACs seems to be a safe way to do things. Other ways are theoretically possible, but are filled with difficulties, as they would give rise to extreme litigation. Investors would probably be able to have recourse to the Constitutional Court and the European Court of Human Rights.

This conclusion is in line with what Weidemaier himself concludes:

> From the perspective of the restructurer, Euro CACs represent the safe option, not the only one. A sovereign that satisfies the Euro CAC's voting requirements can rest easy; its restructuring will leave no holdouts and will survive almost any legal challenge. But a sovereign that has issued local-law debt remains free to alter its law to facilitate restructuring. This path involves more risk. The sovereign is constrained by its own law and institutions, by international law, and (in the Euro Area) by European law and institutions. Yet the constraints are not absolute; there is room for the prudent exercise of local law advantage. I doubt a Euro Area sovereign would eschew CACs without good reason, but the option is there.

2 Codogno, L and Galli G. (2017).

1.2 CACs and the Italian Consolidated Act on Public Debt

In the case of Italy, the idea that CACs are not the only way to do a debt restructuring is reinforced by the interpretation that both Weidemaier (2019) and Gulati (2019) give to the Consolidated Act of 2003 that establishes principles and responsibilities for the management of the public debt[3]. According to their interpretation, the law allows the Treasury to take all sorts of unilateral actions to restructure without even requiring new legislation.[4] It is thus of some importance to inform you that Italian authorities, and their legal departments, do not agree. Instead, they suggest a radically different interpretation: the word "restructuring" used in that law stands for voluntary operations that are done on routine basis, including such simple things as issuing long term bonds rather than short term and vice versa, since these are ways to change the maturity structure of the debt. There is a decree of the Treasury Minister that gives this interpretation.[5] The authorities have no doubts that a different interpretation would be deemed unconstitutional.[6]

1.3 Towards Single-limb CACs

Since 2013, the discussion on CACs in Europe, as well as at the IMF, has made progress and there now seems to be a consensus that single-limb CACs are a better choice. They are considered more efficient, because they allow a sovereign to restructure more rapidly - a single vote would be required rather than multiple votes for each series of bonds - and more effectively, since the problem of holdout creditors is minimized. At the Eurogroup meeting of November 19, 2018 member countries expressed "broad support for the introduction of the single limb CACs, as part of a comprehensive package of EMU reforms".[7] The intention is to introduce a single limb feature in the CACs as an amendment to the ESM Treaty. Single-limb CACs have also been deemed useful by the ECB.[8]

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3 Decree of the President of the Republic of December 30, 2003, no. 398 (published in the Official Gazette of 9/3/2004, Supplemento ordinario no. 37).

4 See Edelen, A., et al. (2013).

5 Decree of the Minister of Economy and Finance, n. 99912, 12 December 2012.

6 For a discussion of the question, as it was raised in the context of the Greek restructuring of 2012, see Manuelides (2019), page 119 in this volume.

7 See the letter of the President of the Eurogroup of November 30, 2018.

8 See the papers by Yves Mersch and Otto Heinz in: *ESCB Legal Conference (2016)*.

Not surprisingly, the Italian authorities in charge of debt management are not keen about them because they fear that their introduction might send a negative message to the markets. In this respect, it is worth noting that the current CACs were conceived in 2012 as a rather complex instrument, giving creditors a greater say in the matter, in part to avoid giving the impression to the markets that their purpose was to make restructuring excessively easier.

2. Why and when do we want to make it easier to restructure the debt?

In which context, do we think that restructuring should take place? And how deep should be restructuring? Here I would like to spend a few words to answer a question that was put forward at the side-lines of this EUI conference by Jeromin Zettelmeyer in informal conversations. He asked: why there is much skepticism among Italian economists about the "Franco-German" idea of making debt restructuring a more feasible option of the euro architecture?

I will do my best to answer this question, although I should make clear that here I am expressing my own personal opinions and do not claim to represent the economics profession in Italy.

Before, presenting the analytical arguments, let me say that:

a. Defaults and restructuring can happen. They are a fact of life, whether or not they are a rational choice. One cannot conceive a federation of states in which some states provide an unlimited guarantee to other states. In these cases, having a more efficient way to restructure, as with single-limb CACs, is probably desirable.

b. I believe that market discipline usually works better than UE budgetary rules. Moreover, I sympathize with the idea of making markets do the work in a better and more effective way. Much too often we see markets reacting too slowly and too abruptly, a point that was made in the Delors Report, and that is the logical underpinning of the system of fiscal rules that we have in the EU.[9] This means that governments live under the illusion that they can pile up mountains of debts and keep refinancing it at low rates. And the realization that that strategy will not work perpetually does not arrive in the minds of

9 See Committeri, M. and Tommasini P. (2018).

the government officials and politicians until it is too late.

c. I realize that sovereign restructuring may be unavoidable and perhaps appropriate under some circumstances, which are mainly the following: i) a country asks for external assistance, which means money of foreign taxpayers; ii) the restructuring is part of a package agreed with official creditors aimed at fiscal rectitude and is by no means a substitute for fiscal rectitude; and iii) the restructuring is not too large in a sense that I will try to make clear.

Having said the foregoing, one should be clear about the ultimate goal of what we are doing: that is convincing Italy to implement a credible plan to improve its budget, according to European rules. The goal cannot be the restructuring of the debt: a restructuring in the absence of a credible fiscal plan would be a tremendous problem for Italy and cause harm to the rest of the Eurozone as well.

So what I am objecting to is the idea that restructuring is a way to "solve the problem of the debt", i.e. that it is an alternative to fiscal rectitude. Restructuring can at best be a complement to fiscal rectitude, unless it is a necessity. Then, however, we are not talking about rational choices, but, at best, about disaster management. I will explain why below.

a. The critical thing to have in mind is that restructuring the Italian debt is a different story from the various emerging markets countries dealt with by the IMF in recent decades and also from Greece. The reason is that in these cases, most of the debt was held by foreign banks or by a small number of wealthy nationals who held domestic bonds through illegal foreign deposits. In these cases, restructuring imposed a burden on foreign institutions and a few wealthy nationals. In the case of Italy, it would impose a substantial burden on domestic residents who hold the debt either directly or through (mutual or pension) funds. Residents hold about 70% of the debt in Italy today, while they held roughly 30% in Greece in 2012.[10] This is an essential difference from a social and political point of view.

10 17.3% of the total debt (euro 2,317 billion, including a small portion of loans) is held by the Bank of Italy, 28.2 by Italian banks, 19.6 by Italian non-bank financial institutions, 5.3% by other Italian residents, and 29.5 by non-residents. Bank of Italy, The public finances: borrowing requirement and debt, March 15, 2019 (data as of Dec. 31, 2018).

b. There are also different economic consequences, because, when the debt is large and widely held by the population, a restructuring of the debt will be detrimental to domestic demand, through three main channels: (i) wealth effects on consumption, because restructuring is a tax on wealth; (ii) reputational effects that may prevent private companies to access markets for quite some time given that corporate ratings are linked to sovereign ratings and both would be at junk level; and (iii) a credit crunch, since bank capital would be eroded by the loss on government bonds. The importance of this argument depends on how large the restructuring is. Here, I come to the critical analytical argument.

c. A small restructuring will cause the markets to expect a bigger one, and capital flight will be huge (unless accompanied by a significant shift in budgetary policy to make the debt sustainable in the context of an agreement with official creditors).

d. In turn, this means that the restructuring makes sense only if it is large, in the sense that it is a definitive and credible solution to the problem of the debt. This means that a debt of 130% of GDP must be cut down to something like 80 or 90 per cent. This move is bound to cause a major recession, through the three channels mentioned above. In addition, the restructuring (which should involve a strong reprofiling) would have to be accompanied by very tight budgetary policy both to minimize the need to tap the markets the next day and to regain credibility. These actions would aggravate the fall in domestic demand. ESM and IMF resources can smooth the transition and allow a country to continue running a small deficit for some time, but at the end of the transition, after 3 or 4 years, the country must be able to regain access to the markets, which in any case requires that the budget be brought in equilibrium (which essentially means balanced budget). In the end, fiscal rectitude is necessary, whether or not there is a restructuring, but it is more difficult to exercise if there is a restructuring because the latter damages domestic demand and does not do much to reduce the primary surplus that is needed to put the debt on a downward path[11].

11 If (r-g) is around zero, the level of the debt ratio is irrelevant for debt dynamics. If it is +1%, then having an initial debt ratio of – say- 90% instead of 130% makes a difference of 0.4% of Gdp in the level of the primary surplus that is needed to keep the debt constant. With a r-g= 2%, the difference would be 0.8%, still less than one per cent of Gdp.

e. To these considerations, one should add that a large part of the debt (like in the case of Greece) is held by domestic banks, which following a restructuring would need to be recapitalized, otherwise one would not only have a credit crunch, but a full-fledged banking crisis. This means that the state would have to ask for official loans, implying that on this part of the debt there would be little or no relief.

3. Some Tentative Conclusions

Given these considerations, I propose the following tentative conclusions:

a. A small restructuring is likely to aggravate a fiscal crisis because agents will come to expect a more extensive restructuring. (This will not occur only if the restructuring is part of a credible package to make the debt sustainable through a higher primary surplus).

b. A large restructuring, on the other hand, bringing the debt down from – say- 130% to 80%, will cause serious damage to domestic demand, thus making it more difficult to put the debt ratio on a sustainable path. Such negative effects could last for several years because of the loss of reputation in the markets.

c. At the end of the story, the budget must be balanced, and the level of the debt makes a relatively small difference in the primary surplus that is needed. Hence, the path to fiscal rectitude is far less painful without restructuring because restructuring reduces the debt, but causes significant damage to domestic demand. It is obvious, but it is worth repeating, that if the government never undertakes fiscal responsibility, then default and restructuring became a necessity, but – I should add - a dramatic necessity.

d. I doubt that there can be such thing as an orderly restructuring when the debt is large and is held by millions of domestic savers. Major financial disruptions are to be expected as well as social and political tensions of great magnitude. The experience of Argentina in 2000-2001 probably gives one a sense of how bad things can get. Or the Weimar Republic, when the government's default on the real debt annihilated the middle class of Germany.[12]

12 Alesina A., (1988).

e. I also doubt that there can be such a thing as an early restructuring. In the sense that no government will ever decide to restructure the debt unless it is already close to a state of default and bond prices have already collapsed; only then the government can offer a slightly better deal to bondholders and in this CACs can be quite useful. An early restructuring is a cold blooded pistol shot in the heads of innocent savers[13]. It is much worse than bank fraud, for which there are penal responsibilities in all countries. The government cannot behave worse than Enron and Lehmann put together; in any case, if it does, it would be lynched by the populace, not only by the electorate. Besides, in Italy, as in most other countries, an early restructuring would likely be held in local courts to be unconstitutional, because the Italian judicial system is based on the rule of law and the protects property rights and, specifically, savings; expropriation is possible for reasons of public interest, but only with due indemnification.

f. A moderate restructuring, i.e. one that does not cause a significant recession, may be appropriate in the context and as a complement of a package agreed with official creditors aimed at increasing the primary surplus. Actually, in such cases a wealth tax would probably be more equitable, but it may be more difficult to implement. In any case, restructuring cannot be a substitute for fiscal responsibility.

g. Such moderate restructuring in the context of a program can and should be done but in a discretionary fashion. Existing rules, namely the no bail-out clause and the requirement that the debts of countries applying for ESM support be sustainable, already provide a framework for such discretionary solutions, aimed primarily at avoiding moral hazard.

Finally, let me add that whatever we do now with ESM rules and CACs, it is crucial not to repeat the mistake that was done in 2010 in Deauville. When markets learnt about PSI, contagion effects were significant and markets were destabilized in several Eurozone countries.[14] For this reason, these issues must be handled with great care.

13 A preemptive restructuring, i.e. that occurs before technical default on some payments, may instead be useful in making the restructuring less disorderly and costly. See Asonuma T. and Trebesch C. (2015) and Sturzenegger, F. and Zettelmeyer J. (2006).

14 Bini Smaghi, Lorenzo (2018).

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CACs and Doorknobs

Anna Gelpern and Jeromin Zettelmeyer

Introduction

Debates about Europe's financial architecture have paid Collective Action Clauses ("CACs") in sovereign bond contracts the sort of attention normally accorded to cathedral walls. CACs allow creditor majorities to reduce or postpone the debtor's payment obligations and bind dissenting minorities.[1] No other debt contract clause comes close to CACs' fame. Treaties and communiques commit to adopt CACs. Newspapers editorialize about CACs. Heads of state speak knowingly of CACs' virtues. At the other extreme, anyone who says "CACs" and "Italy" in the same breath might get accused of preaching Italexit and shattering the postwar peace. As befits high-profile policy initiatives, CACs have inspired a substantial body of theoretical and empirical scholarship, including a large crop of bond pricing studies with dramatically divergent results.

A puzzling picture emerges from all the policy, market, and academic output about CACs. On the one hand, the *fact* that leaders and their ministers repeatedly turn to CACs in response to crises bespeaks CACs' load-bearing significance. Surely officials would not bother with CACs—to the exclusion of other contract terms—if they did not expect CACs to make a big difference in crisis management. However, if CACs were effective at reducing debt crisis costs, sovereign debtors that adopt CACs might

1 This is the most common use of the term "CACs" in financial architecture parlance. Apart from majority amendment, the category may include collective enforcement, collective representation, and creditor engagement clauses, among others. Policy, market, and academic focus has been on majority amendment of core financial terms. See e.g., Taylor (2002), https://www.piie.com/commentary/speeches-papers/sovereign-debt-restructuring-us-perspective; Weidemaier & Gulati (2013), https://scholarship.law.duke.edu/faculty_scholarship/2710/.

take less care to avoid crises and, once in crisis, might find more appeal in debt restructuring. This may led investors to charge extra or refuse to lend altogether.

On the other hand, the *contents* of official pronouncements about CACs convey the opposite message. Here CACs are an innocuous process tool, relevant only when the debtor cannot pay and debt restructuring is inevitable. CACs play no role in the debtor's decisions to reform or to repay. They reduce deadweight losses and might affect distribution among creditors on the margins after the debtor decides to restructure. Under the circumstances, investors could value CACs positively, negatively, or not at all.

The former view positions CACs as a core structural element in the European architecture—if not walls, at least doors or windows. In the latter, CACs look more like doorknobs. To be sure, doorknobs are both symbolically and functionally important. A rusty antique signifies neglect, or an old-fashioned sensibility. Turning a sleek, well-oiled knob is far preferable to breaking down the door or jumping out of the window. Nonetheless, doorknobs rarely swing decisions to enter, exit, or to invite guests. They might affect the manner of entry and exit, which is no small thing when the house is on fire.

This essay reconsiders the place of CACs in the European and global financial architecture, and the range of possible effects the inclusion of CACs in sovereign debt contracts might have on the probability of default, recovery values, bond prices, and welfare.

Commentators in financial architecture debates invariably describe CACs as a "market-based," "market-friendly," or even "market-led" alternative to treaty-based or statutory sovereign bankruptcy.[2] It is an incomplete description both when it comes to CACs' market roots and the range of available alternatives.

Majority amendment clauses appear to have sprung up organically in English corporate debt in the late 19th century. They have surfaced on sovereign debt policy agendas periodically at least since the 1930s, when a League of Nations committee considered both statutory and contractual voting mechanisms to help manage the tide of sovereign defaults (Weide-

2 *See e.g.*, Bedford, Penalver & Salmon (2013), https://pdfs.semanticscholar.org/9faf/1459030a7427c2e9efd3b6f97d00f0d099ce.pdf ; Sabel (2013); Bardozzetti & Dottori (2014), https://econpapers.repec.org/article/eeeinecon/v_3a92_3ay_3a2014_3ai_3a2_3ap_3a286-303.htm; Group of Ten (1996), https://www.bis.org/publ/gten03.pdf.

maier et al. 2016[3], League of Nations 1939). In the mid-1990s, CACs in sovereign bonds became part of an evolving set of initiatives under the rubric of international financial architecture—to vigorous opposition from financial market participants, who saw them as an effort to shift crisis costs onto creditors.[4]

Financial industry views on CACs softened as new crises brought more intrusive treaty-based sovereign bankruptcy proposals. Starting in 2003, three waves of increasingly robust CAC reforms spread quickly across sovereign debt markets. Each of the three began as policy responses to market shocks: the first, to Argentina's 2001 default and the statutory sovereign bankruptcy proposals that followed, the second, to the Euro area crisis in 2010,[5] and the third, to successful holdout lawsuits against Argentina and to Greece's 2012 bond restructuring. Although industry groups ultimately played an important role in the development and adoption of CACs, none of the three waves would have happened without intervention by public officials in the world's wealthiest countries.

The three waves of CAC reforms differ in scope and substance, and would be expected to produce different restructuring outcomes. The first wave focused on emerging market borrowers and New York-law sovereign bonds, where by custom, amending payment terms required unanimous creditor consent. Under first-wave CACs, each bond issue is polled separately; in most cases, amendment requires more than 75% supermajority approval. This means that creditors who control more than a quarter of any outstanding bond issue can block its restructuring. The first wave had a limited impact on Europe, where most sovereign debt is governed

3 https://www.cambridge.org/core/books/contractual-knowledge/when-governments-write-contracts-policy-and-expertise-in-sovereign-debt-markets/AC634FAF0CDFE75856CA4DAC24224B62

4 *See, e.g.*, Eichengreen & Portes (1995), https://books.google.com/books/about/Crisis_What_crisis_Orderly_workouts_for.html?id=7fuzAAAAIAAJ; and Group of Ten (1996); for context, *see* Gelpern & Gulati (2006), https://openscholarship.wustl.edu/cgi/viewcontent.cgi?article=1221&context=law_lawreview. The desire to limit official "bailouts" motivated the earlier interventions. That goal remains elusive. *See, e.g.*, Roubini & Setser (2003), https://www.amazon.com/Bailouts-Bail-Ins-Responding-Financial-Economies/dp/0881323713, Independent Evaluation Office of the IMF (2016).

5 *See* Bini Smaghi (2010); Sapir et al. (2010), Strupczewski (2010); Franco-German Declaration (2010); Treaty Establishing the European Stability Mechanism (2012). For context, *see* Bauer et al., eds. (2013) and Gelpern & Gulati (2013).

by the debtor's own law.[6] The second wave was all about Europe. Member states' commitment to adopt functionally identical CACs was announced in 2010 and later incorporated in the treaty establishing the European Stability Mechanism (ESM). Issuance began in 2013. Euro area CACs apply to foreign and domestic bonds, and use aggregated voting across multiple bond series[7] combined with a lower 50% amendment threshold for individual series votes, which makes life harder for a would-be holdout.[8] Euro area CACs also let independent central banks and government pension funds vote their holdings of their own governments' bonds. The third wave began in 2014 and was initially limited to foreign sovereign bonds. However, European institutions have since set on a path to adopt third-wave CACs. Third-wave CACs allow a single 75% vote across multiple bond series, effectively eliminating holdouts.[9]

This recent history reveals that CACs in sovereign bonds may be market-ratified and relatively market-friendly, but they are not *of* the market. This blindingly obvious point has important consequences. The CACs at the center of financial architecture discussions respond to international public policy—not necessarily debtor or creditor—objectives. The three might coincide perfectly if policy intervention makes up for market failure (creditor coordination problems) and merely reduces deadweight losses in restructuring. CACs could also turn out to be useful as rhetoric, but otherwise functionally unimportant. After all, sovereign bond restructurings with or without CACs since the mid-1990s have proceeded more quickly and smoothly than had been expected, in part thanks to new

6 European governments committed to include CACs in their foreign-law debt beginning in 2004 as part of the G-7 effort to "lead by example" and encourage emerging market governments to adopt CACs. Although some contracts changed, this was not an economically or politically significant event because the affected contracts in most cases stood at (much) less than ten per cent of the government's debt stock, and because no one considered CAC issuance by rich European countries a good proxy for the emerging market experience (*see e.g.*, Kenadjian 2013).

7 Although Uruguay in 2003 and Argentina in 2005 had included aggregated voting in their restructured bond contracts, they were the rare exceptions to the rule. In 2010, sovereign bonds either had no CACs or had CACs that were limited to a single bond series.

8 Weidemaier (2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3364982; Manuelides (2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3405422.

9 If 75% of the polled bond stock supports the restructuring proposal, it becomes binding on all would-be holdouts. If the proposal fails to clear 75%, there is no restructuring. To use this aggregation mechanism under the industry model of the clause, a sovereign debtor must offer the same terms to all affected bondholders. The debtor can still create multiple voting pools, offer different terms to different pools, and sequence the votes as it sees fit, so long as it discloses its plans to the other bondholders.

tools such as debt exchanges with exit consents (Bi et al. 2016), adapted from the corporate world. Barring perfect coincidence and irrelevance, contracts with CACs must incorporate tradeoffs to satisfy market objectives. The simplest tradeoff is price, but "in-kind" tradeoffs are just as plausible. [10]

In this essay, we take the policy perspective and consider the welfare implications of CACs. While the experience with majority voting in sovereign debt restructurings is limited (Moody's 2013), its history in corporate restructuring is long, rich, and controversial. Our brief survey of the corporate context in Part I suggests that the welfare implications of majority amendment terms such as CACs are very sensitive to the availability of alternative restructuring technology such as bankruptcy or debt exchanges—doorknobs matter less for a building with many different ways in and out. We elaborate on this intuition in a theoretical sketch we offer in Part II, addressing the relationship between bond prices and the welfare effects of CACs.

We find that even if the price of CACs in sovereign bonds were discernible, it would not necessarily determine the welfare effects of adopting CACs. Empirical studies to help policy makers decide whether CACs are a good idea would have to know (i) whether a given debtor would default opportunistically, (ii) whether debt restructuring with CACs leads to more or less debt relief than other restructuring methods, and (iii) whether CACs reduce deadweight losses in a sovereign debt crisis, and by how much. Nonetheless, if CACs are shown to reduce borrowing costs, welfare must increase or at least remain unchanged. If it remains unchanged, all the effort that went into promotion and adoption might have been wasted. But even if welfare increases, it would be important to know why borrowing costs went down with CACs. Is it because CACs reduce deadweight losses of default or because they reduce debtor bar-

10 In-kind tradeoffs might be sprinkled throughout the contract, as with new anti-manipulation and information covenants and higher supermajorities to amend non-financial terms. Some tradeoffs may be hidden: in the past, sovereigns have tweaked issuance parameters to mask the expected effect of CACs on their bond prices and bond market liquidity. For instance, Mexico's first issue with CACs was designed to avoid comparisons with benchmark issues that did not have CACs. Some European sovereigns changed interest payment dates to help secondary market liquidity as they transitioned to CACs. Borrowers expressed concern about liquidity because clearing platforms and market participants did not treat bonds with different amendment terms as fungible. (Gelpern & Gulati 2006, Gelpern, Gulati & Zettelmeyer 2019). Meanwhile, restructuring practices evolve with new contract terms and lessons from experience (Bi et al. 2016). As contracts and market practice adapt over time, the full effect of any given version of CACs may not become apparent for years.

gaining power? Do CACs reduce sovereign borrowing costs because they reduce the probability of debt restructuring or despite the fact that they increase this probability? Could it be that investors simply do not worry about debtor moral hazard when pricing debt with CACs?[11] Studies of the ex-post effects of CACs could help answer these questions. There are few such studies, however, in part because there have been few sovereign debt restructurings with CACs.[12]

We proceed as follows. Part I compares the experience with CACs in corporate and sovereign debt. CACs in corporate debt have helped shape sovereign debt contracts and restructuring practice; yet they are mostly absent from the sovereign debt literature. The role of contractual voting mechanisms in corporate workouts has changed over time, contingent on the availability and quality of alternative debt restructuring tools—including, but not limited to bankruptcy. Part II sketches a theoretical frame for these observations and applies it to sovereign debt. We describe eight stylized ways in which CACs could affect the probability of default, recovery values, deadweight losses, and overall welfare. We would expect the welfare effects to be highly context-specific The existing literature does not yet allow us to choose which of the eight scenarios obtains in a given sovereign debt crisis, and therefore could not determine the welfare effects of including CACs in particular sovereign bonds. We conclude with research and policy implications.

I. Corporate Debt Ghosts

It is not surprising to find contemporary policy engagement with CACs and workout techniques in sovereign bonds drawing on the corporate debt experience (*See e.g.*, Buchheit & Gulati 2000[13], 2004[14]). It is puzzling that corporate debt contracts and corporate workout experience barely rate a mention in the growing empirical literature on sovereign CACs. Voting in corporate workouts—in and out of bankruptcy—has a rich

11 In an earlier study, we asked investors what concerned them the most about CAC language that appeared to leave room for manipulation by the debtor. A handful said they worried about deeper haircuts and lower recovery values; no one suggested that restructuring would become more likely with that or any other version of CACs. (Gelpern, Gulati & Zettelmeyer 2019).

12 For a recent exception, *see* Fang et al. (2019).

13 https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=2081&context=faculty_scholarship

14 https://scholarship.law.duke.edu/faculty_scholarship/3416/

history full of holdout creditors, manipulative debtors, faithless agents, judicial and regulatory intervention. By comparison, the history of CACs in sovereign bond workouts is recent, thin and bland: just a few dozen restructured bonds and one big courtroom drama (Argentina), where CACs figured in a dubious aside while another clause stole the show.[15] Because we view *ex post* restructuring experience as potentially central for assessing the welfare effects of CACs, we turn to corporate debt for clues to the likely impact of CACs in sovereign workouts. A key lesson from the literature on corporate workouts is that CACs' performance must be judged relative to the available alternatives. In other words, CACs look compelling if the alternative to majority modification is disorderly default and massive deadweight losses. They look inessential and possibly distortive if the debtor can secure the necessary debt relief in bond exchanges with exit consents, targeted domestic legislation, or by majority vote in bankruptcy.

CACs were reportedly introduced in English corporate bonds in 1879 and quickly became corporate market standard in London (Buchheit & Gulati 2004, Sainz de Vicuna y Barroso 2013). At least two other majoritarian coordination mechanisms preceded CACs and operated in parallel with them: bondholder committees and stock exchange rules that shut defaulting debtors out of the London market (Flandreau 2013[16]). Both were used in sovereign debt. Weidemaier and Gulati (2013) trace the first CAC in a sovereign bond to Czechoslovakia's 1922 issue coordinated with the League of Nations. Flandreau (2013) suggests that CACs' added value in sovereign debt would have been uncertain in the late 19th century owing to the challenge of enforcing contracts against absolutely immune debtors, and the ability of bondholder committees and stock exchange rules to achieve acceptable results without CACs. Reinforcing Flandreau's argument, Czechoslovakia did not even consider using its CACs when it had to restructure the 1922 bond many years later (Weidemaier & Gulati 2013).

CACs in U.S. corporate bonds gained popularity in the 1920s as a faster, cheaper alternative to court-supervised equity receiverships (Bratton & Levitin 2018[17]). Corporate, municipal, and sovereign bond defaults in the 1920s and the 1930s revealed rampant abuse by bondholder

15 Moody's (2015), Fang et al. (2019); NML Capital Ltd. v. Republic of Argentina, 699 F.3d 246 (2d Cir. 2012).

16 https://academic.oup.com/oxrep/article-abstract/29/4/668/481954

17 https://www.pennlawreview.com/print/?id=614

representatives, bankers, and corporate equity holders, and led to the prohibition on majority amendment in publicly-issued, SEC-registered U.S. corporate bonds under the Trust Indenture Act of 1939 ("TIA"). An eight-volume SEC report, compiled under the Securities Exchange Act of 1934 mandate, featured hundreds of pages of examples of bankers taking bribes to do corporate managers' bidding, and bondholder committees using threats, inducements, and outright lies to recruit bondholders. Vote-buying and selling were rampant. Equity holders and their agents bought up corporate debt, voted it, and effectively expropriated arm's length creditors.[18] Although the authors of the SEC report were keenly aware of the holdout problem,[19] they were more worried about abuse in out-of-court workouts and relaxed about available alternatives. The TIA consciously limited firms' out-of-court workout options and sought to confine majority rule to the newly enacted corporate bankruptcy reorganization framework. Roe (1987)[20] points out that subsequent jurisprudence limited the use of majority amendment even in bankruptcy; majority rule in bankruptcy remained on shaky footing until the 1978 amendments to the U.S. Bankruptcy Code.[21]

At about the same time, the League of Nations committee on sovereign debt contracts looked for ways to promote creditor coordination, and even commissioned a survey of statutory and contractual majority amendment mechanisms. The U.S. SEC report on bond workouts contained plenty of abuse stories involving sovereign debt, but did not recommend banning majority modification in sovereign bonds, because it would be quite pointless:

> In fashioning these regulatory measures, it will not be possible even to approximate the type of supervision and control which inheres in bankruptcy or receivership courts, since the assets of the debtor are not subject to process in this country and no power exists to subject them to such jurisdiction. By the same token there is no control over the debtor in any real or legalistic sense. Hence any system of control must fall short of assuring, to the

18 *See e.g.*, SEC 1936, 1937; Aladdin Hotel v. Bloom, [1953] 200 F.2d 627 (8th Cir.).

19 "It is clear that the inertia of security holders is great and the difficulty of getting them assembled tremendous." SEC (1937); See also Roe (1987).

20 https://digitalcommons.law.yale.edu/ylj/vol97/iss2/2/

21 Trust Indenture Act of 1939, Sec. 316(b) Each debt holder's right to receive payment under publicly issued corporate debt securities could not "be impaired or affected without the consent of such holder."

> degree possible in the domestic field, production of reorganization or readjustment plans which are fair and equitable. As we have said, assets cannot be collected; claims cannot be enforced; debtors cannot be restrained from wasteful or unconscionable practices; leverage cannot be placed in the hands of creditors; priorities of creditors cannot· be enforced, as in domestic bankruptcies or receivership.[22]

The United States was relatively late to ban CACs in corporate debt. Germany had severely limited majority rule under its Debt Securities Act of 1899, which could have inspired (or had shared inspiration with) the voting prohibition under the TIA (*see* Allen 2012[23]). The Debt Securities Act remained in effect until a replacement law in 2009 law specifically permitted CACs. Debtors and creditors may not have felt the urgency of repeal because, long before the replacement was enacted, German firms had circumvented the law by issuing debt in London, where CACs were permitted (Allen 2012).

The United Kingdom, Canada, Australia, Luxembourg and Japan comprised the small handful of jurisdictions that had never banned CACs (Allen 2012, Haseler 2010[24]). Throughout the 20th century, most other countries prohibited or severely limited contractual majority amendment of payment terms, much like Germany and the United States. All but the United States have recently repealed the unanimity requirement (Allen 2012, Haseler 2012[25], Berdejo 2016[26]). In this fragmented legal regime, some U.S. firms have bonds that include both CACs and unanimity, depending on market custom in the issuance jurisdiction.[27]

The TIA's prohibition on CACs in publicly traded corporate debt has drawn sharp criticism from law scholars, including the seminal contribution by Roe (1987), as well as a vigorous defense by Brudney (1992), among others. Critics blamed the prohibition for deadweight losses in

22 SEC (1937), p. 737.

23 https://academic.oup.com/cmlj/article-abstract/7/1/55/334084

24 https://onlinelibrary.wiley.com/doi/full/10.1111/j.1467-6419.2009.00606.x

25 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2133299

26 https://pdfs.semanticscholar.org/aac9/7d10fd938f2478481173370eff05c7ebcc96.pdf

27 For example, Fiat Chrysler has issued debt securities in the United States under a qualified New York-law indenture with unanimity (https://www.fcagroup.com/en-US/investors/bond_info_and_credit_rating/bonds/Prospectus/FCA_Full_Listing_Prospectus_2015_08_14.pdf), but also in Europe under English law, using majority amendment CACs (https://www.ise.ie/debt_documents/Base%20Prospectus_4a5498e4-c606-467f-9bda-9345549fa1db.PDF).

drawn-out bankruptcy reorganizations that had enjoyed the support of large creditor majorities on the eve of the bankruptcy filing. They also argued that the requirement of unanimous consent did not serve its stated purpose of protecting unsophisticated bondholders, preventing abuse, and distorting incentives. Instead, it encouraged workarounds that were even harsher on dissenting minority investors (Roe 1987). Supporters of the prohibition pointed out that bankruptcy avoidance was often fleeting, illusory, or both: about half the firms ended up in bankruptcy anyway, so that the net result of out-of-court restructurings was to prolong the agony without delivering more relief (*See, e.g.*, Bratton & Levitin 2012).

Out-of-court corporate workouts appear to come in clumps (*see e.g.*, Altman & Karlin). They may be responding to background macroeconomic and credit conditions, as well as tax, regulatory, and contract developments. Debt contracts and restructuring practices also respond to legal shocks. Most recently, Bratton & Levitin (2018) document a small but clearly discernible shift to majority amendment in U.S. corporate bonds exempt from SEC registration requirements, adapting to the aftermath of a Federal Court ruling in New York that briefly cast doubt on the enforceability of exit consents.[28]

Yet again, the corporate experience reveals a striking lack of urgency to ban or promote CACs against the background of credible alternative workout paths. CACs have not been the only, and perhaps not even the best means of addressing corporate debt overhang. Debt exchanges, even clearly coercive ones (discussed below), delivered debt reduction and survived court challenges for decades.[29] Corporate restructuring practices have evolved to reflect contractual, regulatory, and statutory constraints, as have their sovereign counterparts (*cf*. Bi et al. 2016). We elaborate on the restructuring practices next.

Multi-creditor corporate debt contracts can be restructured in three ways, broadly defined: using contractual majority amendment terms such as CACs to bind dissenters, with debt exchanges (using exit consents to penalize dissenters), and in bankruptcy or a bankruptcy-style collective restructuring under judicial supervision. The first two approaches pre-

28 Bratton & Levitin 2018.

29 *See e.g.*, Katz v. Oak Industries, [1986] 508 A.2d 873 (Del. Ch.) (coercive exit consents), Kass v. Eastern Air Lines, Inc., 1986 WL 13008 (Del. Ch.) (paying for votes), 28. Marblegate Asset Mgmt., LLC v. Education Mgmt. Finance Corp., [2017] 846 F.3d 1 (2nd Cir.) (expropriating holdouts). For UK parallels, *see* Assenagon Asset Mgmt S.A. v. Irish Bank Resolution Co. [2012] EWHC 2090 (Ch), HC11C01320 (coercion/expropriation); Azevedo v. Imcopa Importacao [2014] B.C.C. 611 (paying for votes).

date robust corporate bankruptcy reorganization statutes. In the United States, the corporate debtor must choose between bankruptcy and a debt exchange. Debtors may use CACs or debt exchanges in a targeted way to postpone debt payments and conserve liquidity, or for a more fundamental restructuring as a way to avoid what they perceive as deadweight losses in bankruptcy.[30]

In a debt exchange, creditors trade in their debt claims for new ones that relieve the firm's debt burden. Debt exchanges rely on a combination of sticks and carrots to get enough relief and dissuade free-riders. Exit amendments (also called exit consents) are sticks, widely used to achieve high participation and dissuade potential holdouts. When the debtor invites existing creditors to trade their old debt securities for new ones, it also asks (and sometimes requires) them to vote to amend the residual debt, leaving behind illiquid or effectively subordinated securities, even where core payment terms remain unchanged. Debtors may prefer debt exchanges to CACs when they worry about clearing the amendment threshold. Recent research suggests that debt exchanges may be associated with deeper debt relief for the firm, partly because it does not have to pay everyone the same.[31] Others observe that the efficiency of any given approach depends on who holds the debt, so that widely held public bond issues should benefit the most from bankruptcy's strong coordination framework.

Corporate restructuring history suggests that the risk of insider abuse and opportunistic behavior by debtors is real—with jurisprudence to prove it (*see, e.g.*, Burn 2013 (U.K.), Bratton & Levitin 2018 (U.S.)). A customary response is that sovereign debtors would not perpetrate insider abuse because they do not issue equity; however, such reasoning is misleading. There are plenty of insiders and quasi-insiders in sovereign debt, ranging from government agencies to regulated financial institutions, which could all benefit from colluding with the sovereign to expropriate creditor minorities. On the other hand, sovereigns have to worry more about the spillover effects of default and restructuring on their domestic economies (Broner et al. 2010).

30 Some of this practice is attributable to regulation: for instance, although the TIA does not apply to exempt securities in the United States, many firms give their creditors the option to exchange exempt securities for publicly tradable ones, and try to keep the covenants parallel (Bratton & Levitin 2018).

31 Hege & Mella-Baral (2019), https://ideas.repec.org/p/tse/wpaper/123086.html; compare Bi, Chamon & Zettelmeyer (2016), https://econpapers.repec.org/article/palimfecr/v_3a64_3ay_3a2016_3ai_3a3_3ad_3a10.1057_5fimfer.2016.13.htm.

In contrast to the large volume of empirical studies of CACs in sovereign debt, there appear to be hardly any studies comparing restructuring outcomes or prices between corporate bonds with and without CACs (Berdejo 2016). This is surprising in light of the preceding discussion: the corporate bond universe is bigger than its sovereign counterpart; CACs originated in corporate debt more or less organically; corporate bonds use a richer variety of bond covenants than sovereign debt, and contractual workouts are far more common. Meanwhile, only about a dozen sovereign restructurings used CACs in modern memory (Fang et al. 2019). Corporate bond history includes legislative, regulatory, and judicial prohibition, side by side with encouragement of CACs by government actors. The take-away would reinforce our suspicion that the welfare effects of CACs are ambiguous: they may facilitate debt restructuring among large numbers of diverse, dispersed creditors, but they are not the only way to achieve the result outside bankruptcy, nor clearly the best way in light of the available alternatives.

II. The Place of Price

Quantitative empirical research has followed CAC advocacy. Policy makers who promoted CACs and debt managers who adopted them have professed a keen interest in how CACs would affect borrowing costs. On the other hand, they did not leave themselves much room for maneuver in the event studies associated CACs with large pricing penalties, in line with dire warnings by industry opponents. In private, more than a few officials said they had expected CACs to come at a discernible cost, and were surprised to find none.

Had academic studies early on linked CACs to substantial penalties, supporters might have stood down or faced demands to defray the cost of what was, in effect, systemic crisis insurance. Two decades of academic studies produced stubbornly inconclusive, even inconsistent, results. (*See, e.g.* the literature review in Carletti et al. 2019) Market consensus meanwhile settled around the view that CACs did not raise sovereign borrowing costs, but that price differences between bonds with and without CACs might occasionally appear when default was imminent. This outcome might have been theoretically awkward if read to suggest that investors were not forward-looking, but it was also pragmatically ideal: small, uncertain price effects left advocates free to insist that CACs were costless ("market-neutral") – at worst, harmless – but stopped short

of driving away those who saw in them potential for more orderly process, market discipline, burden-sharing, or all of the above.

Contemporary CAC initiatives and the associated empirical literature have, on the one hand, paid much attention to the price of CACs and their impact on borrowing costs, and on the other hand, have boxed themselves into promoting CACs come what may. Both may have gone too far. First, on purely theoretical grounds, CACs may or may not be a good idea, in the sense that they could be either welfare reducing or welfare improving. Second, the empirical pricing literature offers limited insight on whether CACs are a good idea: while falling costs could indicate a rise in welfare or unchanged welfare, rising costs could be consistent with a rise in welfare, a fall in welfare, or unchanged welfare. Falling costs could indicate a rise in welfare, or unchanged welfare. Distinguishing among these cases would require and empirical analysis of the ex-post implications of CACs, rather than a pricing analysis. Such analysis is only beginning to emerge (*see e.g.* Fang et al 2019)

Making this argument rigorously would require a formal model (for example, along the lines of Carletti et al. 2019), but the main idea is easily sketched. The central insight is that the price effects of CACs can come from several mechanisms, some of which are good for welfare, some of which are bad because they create moral hazard, and some of which are welfare neutral because they are confined to distribution between creditors and debtors. Consider a set-up in which CACs change the ex-post outcomes of debt restructurings in two ways. By reducing the extent to which holdouts can interfere with a restructuring that brings about debt sustainability, they could reduce litigation costs and the duration of debt workouts, and hence the "deadweight losses" of restructuring. Ex post, both creditors (other than holdouts) and the debtor benefit from this presumed effect, which is the dominant stated reason why CACs are so popular with policy makers working on sovereign debt. In addition, CACs could affect the bargaining power of the debtor, and hence the "haircut" suffered by the creditors. This effect is usually presumed to benefit the debtor. But this is not necessarily the case. The predominant alternative to CACs is a debt exchange offer with or without exit consents, and the threat of default in the background.[32] When armed with exit consents – or simply with defiance fortified by immunity – a sovereign debtor

32 In Europe and other jurisdictions where most of the debt is governed by the borrower's own law, the sovereign has another alternative—using the "local law advantage" to effect modification by statute or regulation (Weidemaier 2019, Manuelides 2019).

might use exchange offers to extract better terms from most creditors than would obtain with amendment using CACs, perhaps settling with holdouts on the side (Bi, Chamon & Zettelmeyer 2016[33]). Hence, the bargaining power effect could go either way, depending on expected litigation costs, creditor composition (*see* Scott, Gulati and Choi 2019[34]), and the debtor's propensity to act opportunistically.

Table 1 combines these channels through which CACs might affect debt restructuring outcomes with two assumptions about debtor behavior. In the top row, the probability of default is assumed to be insensitive to the effect of CACs on the consequences of default. In the bottom row, debt restructuring outcomes are assumed to influence the probability of default through the mechanisms described in the previous paragraph, i.e. by changing the incentives to prevent and/or to default opportunistically. The columns describe four possible combinations of the effects of CACs on debtor bargaining power (up or down; equivalent to saying that haircuts rise or fall) and deadweight losses of default (down or unchanged). The cells of the matrix, finally, describe the implications of each case for borrowing costs r – assumed to depend on the impact of CACs on both loss-given-default (*lgd*) from the creditor perspective and the probability of default (*pd*) – and for welfare.

33 https://econpapers.repec.org/article/palimfecr/v_3a64_3ay_3a2016_3ai_3a3_3ad_3a10.1057_5fimfer.2016.13.htm

34 http://www.law.nyu.edu/sites/default/files/Hidden%20Holdouts%20NYU-Penn%20Conference_1.9.2019.pdfhttps:/scholarship.law.columbia.edu/faculty_scholarship/2305/

Table 1. Effects of CACs on bond yields and welfare

		Effect of CACs on debt restructuring			
		No impact on dead-weight losses		Deadweight losses reduced	
		debtor bargaining power up	debtor bargaining power down	debtor bargaining power up	debtor bargaining power down
		(1)	(2)	(3)	(4)
Debtor behavior	(1) *pd* does *not* react to CACs	*r* up *W* neutral	*r* down *W* neutral	*r* ambiguous *W* improving	*r* down *W* improving
	(2) *pd* reacts to CACs	*r* up *W* reducing	*r* down *W* improving	*r* ambiguous *W* ambiguous, but falling/ unchanged *r* is sufficient for rise in *W*	*r* ambiguous *W* ambiguous, but falling/ unchanged *r* is sufficient for rise in *W*

Note: pd refers to the probability of default, r to the real return required by creditors (the borrowing cost from the perspective of the debtor), and W to welfare. "Debtor bargaining power up" corresponds to a rise in the haircut, "debtor bargaining power down" to a fall. The loss-given-default (lgd) suffered by creditors reflects both the haircut and the deadweight loss of default. r depends on both lgd and pd.

Consider the first row, which assumes that the probability of default is unchanged by the impact of CACs on debt restructuring outcomes. This could be because the debtor is not forward-looking, or simply because "ability to pay" considerations swamp any other possible determinants of the decision to restructure debt). This case is useful both for its practical relevance and as a benchmark that makes it easier to think about the implications of the alternative assumption, in which the debtor takes the consequences of CACs on debt restructuring outcomes into account (row 2).

The immediate implications of the assumption that the probability of default does not react to CACs are as follows.

- Since *pd* is unchanged, *r* will change only in response to changes in *lgd*, the loss-given-default suffered by the creditor. This in turn responds to changes in debtor bargaining power (higher debtor bargaining power means a higher haircut, hence a higher *lgd*) and in the deadweight loss of default (for a given debtor bargaining power, a lower deadweight loss means a lower *lgd*). In cells (1,1), (1,2) and (1,4), these go in the same directions, i.e. *lgd* and *r* unambiguously rise (cell 1,1) or fall (cells 1,2 and 1,4). In cell (1,3), the impact of CACs on *lgd* and *r* is ambiguous, however, since debtor bargaining power rises – raising haircuts – while deadweight losses fall.

- The assumption that *pd* is unchanged rules out any debtor moral hazard effect. Hence, welfare can only increase – if the deadweight loss of default declines (cells 1,3 and 1,4) – or stay unchanged (cells 1,1 and 1,2).

The second row assumes that the debtor takes the outcomes of debt restructuring into account when deciding how much to invest in crisis prevention and/or whether to default opportunistically. An increase in haircuts and a reduction of the deadweight losses of default will tend to increase the probability of default through either of these channels. Since this comes at the expense of the creditor, these are forms of debtor moral hazard. Importantly, however, the welfare effect of a reduction in the deadweight losses of debt restructuring – that is, the efficiency gain ex post – could be positive overall, even if it leads to debtor moral hazard, but only if the increase in the probability of default is not too high.

Armed with these insights, consider how the results of the first row are modified by the assumption that the debtor is forward-looking (that is, takes restructuring outcomes with CACs into account):

- Cell (2,1): CACs raise the haircut but do not impact deadweight losses. This raises the probability of default at the expense of creditors (debtor moral hazard). With both *lgd* and *pd* up, yields and sovereign borrowing costs rise. Since welfare was neutral in (1,1) it must now fall. The welfare cost is ultimately borne by the debtor, in the form of the greater increase in borrowing cost attributable to the increase in *pd*.[35]

- Cell (2,2): CACs do not impact deadweight losses, but *lower* hair-

35 Put differently, if the debtor could commit not to raise *pd*, i.e. to be in cell (1,1) rather than cell (2,1), it would.

cuts – perhaps because they are bundled with new safeguards elsewhere in the contract, or because they encourage holdout behavior. This makes debt restructurings less attractive to the debtor, lowering debtor moral hazard, so that *pd* declines. With both *lgd* and *pd* down, borrowing costs fall. Welfare rises.

- Cell (2,3): CACs are assumed to both lower deadweight losses and raise haircuts. For both reasons, debt restructurings become more attractive to the debtor, and *pd* increases. Lower deadweight losses and higher haircuts pull *lgd* in different directions, so the net effect is unclear. The impact on borrowing costs is also unclear: if *lgd* increases, costs would increase, but if *lgd* falls and *pd* does not increase to offset it, costs might fall. The welfare implications are ambiguous: they depend on the relative magnitudes of the fall in deadweight losses, the increase in haircuts and the extent to which *pd* reacts. This said, if *r* falls or is unchanged, this would imply a welfare improvement, since the debtor is better off both *ex ante* (lower borrowing costs) and *ex post* (lower deadweight costs of default). Even a small increase in *r* could be consistent with a welfare improvement: the *ex post* efficiency gain associated with lower deadweight costs of default may outweigh the moral hazard effect.

- Cell (2,4): CACs are assumed to lower both deadweight losses and haircuts. Hence, *lgd* unambiguously falls, but *pd* might fall or rise, depending on whether the debtor reacts more to lower deadweight losses (which make a debt restructuring more attractive) or to the lower haircuts (which make a debt restructuring less attractive). Since the rise in *pd* could offset the fall in *lgd*, the impact on borrowing costs is ambiguous. The impact on welfare is more likely to be positive than in cell (2,3), since *pd* will rise less (if at all) due to the lower haircut. But it is still ambiguous: if there is a large rise in *pd*, the rise in moral hazard might outweigh the lower deadweight loss of default, and welfare might fall. As in cell (2,3), a fall in *r* implies a

welfare improvement. [36]

The relationship between changes in borrowing costs and changes in welfare can hence be summarized as follows:

- Suppose borrowing costs rise. This may be consistent with lower welfare due to debtor moral hazard (cell 2,1), unchanged welfare (reflecting higher haircuts but no effect on *pd*, cell 1,1), or even with higher welfare (cells 2,3 and 2,4). The interpretation of the higher welfare case is as follows: while the probability of default rises, it does so for efficient reasons, namely, because CACs lower the deadweight costs of defaults by a lot; while moral hazard either declines or rises, but not by much.

- Suppose borrowing costs fall. This could be consistent with higher welfare, due to either lower deadweight losses with unchanged moral hazard (cell 1,4), lower deadweight losses that offset somewhat higher moral hazard (cell 2,3 or cell 2,4 with small rise in *pd*), lower moral hazard with unchanged deadweight losses (cell 2,2) or both lower moral hazard and lower deadweight losses (cell 2,4 with fall in *pd*). However, welfare could also be unchanged, as the reduction in borrowing costs might merely reflect a lower haircut, without changes in either the *pd* or the deadweight loss of default (cell 2,2). Importantly, however, welfare cannot fall.

The bottom line is that the reaction of borrowing costs to CACs does not offer a reliable guide to the welfare implications of CACs, with one important exception: if borrowing costs stay unchanged or fall, then CACs are either welfare improving or welfare neutral. Distinguishing between these cases – or establishing the welfare implications of CACs if

36 The Carletti et al. (2019) model can be viewed as a special case of this matrix. The authors assume that (1) unlike non-CAC bonds, bond with CACs can be restructured without any output costs (corresponding to the last two columns of Table 1); (2) default/restructuring costs influence the restructuring decision (as in the bottom row of Table 1). They also assume that the haircut on non-CAC bonds is either zero (full repayment) or 100 percent (default, triggering an output cost). Their main result is that depending on the size of the output shock, either cell (2,3) or cell (2,4) will be relevant. For smaller output shocks, CAC bonds are restructured while non-CAC bonds escape restructuring (as this would trigger an output loss). But for larger output shocks, CAC bonds are restructured and there is total default on non-CAC bonds. They find that CAC bonds entail lower borrowing costs than non-CAC bonds), consistent with either cell (2,4) or cell (2,3) for the case in which moral hazard effects are small. Erce et al. (2019) reach a similar conclusion.

they were found to raise borrowing costs—would require empirical work on the ex-post effects of CACs: in particular, on how they influence haircuts, and whether and to what extent they lower the deadweight losses of defaults.

Conclusions

CACs in sovereign debt use market form with roots in corporate debt to achieve policy outcomes. The experience with CACs in corporate debt suggests that their welfare effects are uncertain ex ante, and change over time. CACs in any given sovereign debt contract can be good or bad, importantly depending on the efficacy of other restructuring mechanisms available to the debtor and its creditors. Other factors that can affect CACs' impact on welfare include the debtor's propensity to default opportunistically and creditor composition (relevant to deadweight losses).

While it makes sense to consider the impact of CACs on sovereign borrowing costs as part of the broader cost-benefit calculus associated with adoption, pricing studies deliver an unambiguous welfare implication only if they find that CACs do not raise borrowing costs. Moreover, the impact of CACs on sovereign borrowing costs depends on factors that have not received enough attention in the existing literature. Going forward, research on the *ex post* effects of CACs in sovereign and corporate bonds, particularly as compared to other creditor coordination and workout mechanisms, would be particularly valuable. The impact of creditor composition on the operation of CACs (*see* Gulati & Scott 2018), as well as the impact of CACs on reducing deadweight costs in restructuring, would be important for policy formulation. Because there are at least three different model CACs and considerable variation among issuers within each model, identifying the impact of CACs on restructuring is not straightforward. Where first-wave CACs barely move the dial, third-wave CACs eliminate the possibility of holdouts altogether, but add safeguards to against debtor and insider abuse (*see* Fang et al. 2019).

Our argument implies that policy makers working on Europe's financial architecture may wish to calibrate the emphasis on CACs as a crisis-fighting tool, and on pricing studies as tools of persuasion. Study results so far remain "all over the map," which is unsurprising in our stylized scheme given the diversity of factors at play, including the avail-

ability of other workout and creditor coordination tools, and the challenge of identifying the relevant factors in any given case.

When a house is on fire, well-functioning doors—and doorknobs—could save lives. However, keeping doorknobs in good working order does not amount to a fire prevention strategy, or even an emergency management plan. By the same token, a resilient financial architecture for Europe cannot be made to depend on CACs, and must go well beyond them. In a well-conceived and well-executed architectural plan, CACs would take up their proper ancillary role and yield public space to loftier endeavors.

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Using the Local Law Advantage in Today's Eurozone
(with some references to the Republic of Arcadia and the *Mamatas* judgment)

Yannis Manuelides[1]

When Greece lost market access in May 2010 and had to seek the assistance of the IMF and its European Union partners, neither the Eurozone nor the European Union more broadly had any tools at hand to deal with the crisis. As Greece received its initial assistance package of loans from the IMF and the other Eurozone member states[2], the European Union and the Eurozone scrambled to create institutions and legal tools which could provide solutions to the spreading Eurozone crisis of the time.

In May 2010 the European Union established the European Financial Stabilisation Mechanism (EFSM) so that the European Commission could provide financial assistance to EU countries having financial diffi-

1 I want to thank the European University Institute (EUI), the Brevan Howard Centre at Imperial College and BAFFI CAREFIN at Bocconi University and in particular Franklin Allen, Elena Carletti, Jeromin Zettlemeier and Mitu Gulati for inviting me to participate in the Annual Conference of the Florence School of Banking and Finance, part of the European University Institute's Robert Schuman Centre for Advanced Studies, entitled "*European Financial Infrastructure In the Face of New Challenges*" hosted at the EUI in Florence on 25 April 2019. I acknowledge the helpful discussions with Pedro Bizarro, Peter Crossan, Katherine Crispi, Anna Gelpern, Sebastian Grund, Mitu Gulati, Matthew Hartley, Alexander Metallinos and Mark Weidemaier (all of whom regardless of professional affiliations expressed their personal views). The views set out in this paper are mine, they are strictly personal and do not represent the views of Allen &Overy LLP.

2 Strictly speaking, loans came from all the other Eurozone countries, except from Slovakia, which did not lend at all, and Germany, which did not lend directly but through KfW, the German state development bank.

culties by ultimately utilising the budget of the European Union.[3] Using the EFSM and hence the budget of the whole of the European Union, to which both Eurozone and non-Eurozone members had contributed, was politically less acceptable to the latter members. Therefore, in June 2010, the Eurozone established the European Financial Stability Facility (EFSF), a private law entity capable of providing loans to distressed Eurozone member states. October 2010 saw the establishment, through a new treaty, of the European Stability Mechanism (ESM), a new public international law entity with a greater range of aims and financial power than the EFSF followed.[4]

In addition to establishing organisations with the ability to provide financial support to Eurozone members who had lost market access, Eurozone ministers determined in November 2010 that future bond issues by Eurozone sovereigns should include collective action clauses (CACs).[5] The legal obligation to include such clauses for all new issues from 1 January 2013 was included in Article 12(3) of the ESM Treaty.

Whilst the European Union and the Eurozone were developing their various defences against the wider crisis, Greece was busy resolving its own. The legacies of the Greek crisis and of its resolution are many[6], but, for the purposes of this paper, I will focus on three.

First, Greece was able to restructure the bulk of its domestic law debt using a species of its legislative sovereignty referred to as the "local law advantage". This is the ability of any sovereign, as creator of its own laws, to change the laws which govern its own statutory and contractual obligations. In other words, a sovereign has the unique ability to change the rules governing its own commitments, to the extent these commitments are governed by its own law.

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3 Details on the EFSM and its activities can be seen here https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-financial-assistance/loan-programmes/european-financial-stabilisation-mechanism-efsm_en.

4 A summary view of the ESM's toolkit is available here https://www.esm.europa.eu/assistance/lending-toolkit#lending_toolkit.

5 Eurogroup statement of 28 November (https://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ecofin/118050.pdf).

6 I have attempted a summary of these in '*Restructuring of Greek Sovereign Debt*' March 2017, Global Restructuring Review (https://globalrestructuringreview.com/benchmarking/the-european-middle-eastern-and-african-restructuring-review-2017/1137879/overview-restructuring-of-greek-sovereign-debt). The paper includes a number of references including, '*The Greek Debt Restructuring: An Autopsy*' by Jeromin Zettelmeyer, Christoph Trebesch and Mitu Gulati, August 2013 (https://piie.com/sites/default/files/publications/wp/wp13-8.pdf).

Legislative sovereignty invariably affects existing property positions and contracts, most commonly through changes in the tax regime. These changes may be politically welcomed or resented, but, unless they are retrospective or change on-going commitments of the sovereign, they are not legally problematic. Sovereignty is nothing if it is not also legislative sovereignty, with the ability of the sovereign to create new laws and through these laws exercise power prospectively.

The retrospective use of legislative sovereignty is, however, more problematic, not only politically, but also legally. One does not need to delve into any esoteric chapter of jurisprudence to know that the keeping of promises is fundamental to the rule of law. Retrospective changes challenge the very integrity of a rule-of-law system and any such system should only tolerate retrospective changes of obligations arising out of these promises in the most extreme of circumstances, if it wants to be a rule-of-law system worthy of the name.[7]

Foreign courts do not generally challenge the legality of a sovereign's retrospective changes. The "local law" is an "advantage" partly because, if a sovereign chooses to change the terms of its own contracts governed by its own domestic law, these changes will, subject to limited public policy exceptions, be recognised by the courts of other sovereigns. This, at least, has been and remains the position under English law.[8] On the other hand, these changes will, in rule-of-law systems, be subject to judicial challenge by reference to (a) the sovereign's own domestic laws (principally constitutional provisions safeguarding the rights to property and the enforcement of contracts) or (b) international conventions binding on the sovereign (such as in the case of Greece, the European Convention of Human Rights and any bilateral investment treaties). The hurdle for anyone challenging the changes will be high: not only must a plaintiff show that the changes cannot be justified by reference to some general power of the sovereign, but a successful plaintiff must also be able to enforce its claims. The acceptance of the changes by the courts of other

7 For these purposes the Shorter Oxford English Dictionary definition will suffice: "Rule of law is the doctrine that arbitrary exercise of power is controlled by subordinating (governmental, military. economic, etc.) power to well defined and impartial principles of law: specifically the concept that ordinary exercise of governmental power must conform to general principles as administered by the ordinary courts.

8 For English law authority see *Re Helbert Wagg & Co Ltd* [1956] Ch 323 which held that the governing law applying to the agreement is the chosen domestic law as it exists from time to time and *Kahler v Midland Bank* [1950] AC 24, per Lord Radcliffe "the proper law, because it sustains, may also modify or dissolve the contractual bond".

sovereigns on the one hand, and the difficulties in establishing rights and enforcing them domestically on the other are at the core of the "local law advantage".

Using the "local law advantage" is not to be done lightly. If used, the level of distrust externally will be high and non-domestic counterparties will only be willing to contract under an insulating external law. Internally, the use of the "local law advantage" must be capable of being justified politically and legitimised in the context of the sovereign's civil society. Even if not capable of judicial challenge, such an exercise of legislative sovereignty may very well be an advantage which can only be used once. If the grounds for using it, the means deployed and the purpose for which it was utilised are not generally accepted as justified, measured and reasonable, it is unlikely that the sovereign will continue to be able to use this advantage. Foreign (and perhaps even domestic) creditors will seek the security of an insulating foreign law. Domestically, an unjustified exercise of this power is very likely to give rise to political challenges.[9]

The Greek debt restructuring of 2012 was possible because of the "local law advantage". It is widely assumed that Greece used the "local law advantage" simply by introducing a law with retroactive effects on its own contractual obligations under its bonds. The truth is that Greece used the "local law advantage" in a much milder way. Greece did not start with a unilateral change in the law. Instead, it asked the holders of Greek law bonds two questions:

a. were bondholders in favour of CACs, treating all their bonds as one voting class regardless of their time of issue, being retrofitted by operation of Greek law in their bonds?; and

b. were they in favour of a proposed bond restructuring being effected through the application of these retrofitted CACs?

Although Greece could, by invoking the "local law advantage", simply retrofit the CACs by enacting a law, and therefore by-pass the first question, it chose instead to carry out this novel consent solicitation across all series of Greek law bond for the change of their terms. Greece stated that if, on the basis of 50 per cent quorum and a two-thirds majority, consent were granted, then CACs would be retrofitted by operation of law and the

9 For a fuller discussion of the Local Law Advantage see '*Use of the Local Law Advantage in the Restructuring of European Sovereign Bonds*' by Lee Buchheit and Mitu Gulati, April 2018 (available here https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3159665).

same consent would be counted towards the exchange offer, i.e., towards approving the second of the above questions.

Not only did Greece choose to implement the "local law advantage" conservatively, but the retrofitting was also consistent with the manner in which Germany had sought to change the terms of its corporate bonds under the 2009 Debt Securities Act.[10] In brief, the Debt Securities Act introduced per series CACs in bonds governed by German law, but also allowed for the possibility that existing bonds could be retrofitted with CACs, thereby depriving individual bondholders of their existing contractual right to hold-out if the issuer and a 75% majority of voting bondholders agreed to the retrofitting.

Greece faced challenges for this particular use of legislative sovereignty to retrofit CACs in three fora. A challenge before the Greek courts was based on the argument that the government breached the Greek constitutional protections of property and contracts. A challenge before the arbitral tribunals was based on Greece's obligations under bilateral investment treaties. Finally a challenge before the European Court of Human Rights (ECHR) was based on the protection which the European Convention of Human Rights accords to property rights. Ultimately, all challenges were unsuccessful. The domestic challenge failed because the Greek constitution states that property rights "may not be exercised contrary to the public interest"[11] and mandates the state to "plan and coordinate economic activity" "in order to consolidate social peace and protect the general interest"[12]. The investment treaty arbitration failed on procedural grounds. Finally the challenge before the ECHR failed for reasons which will be discussed later in this paper.

Second, the Greek restructuring showed the weakness of trying to restructure debt by relying on CACs on a per series basis. English law bonds issued by Greece had their own CACs. As they were not governed by Greek law, the local law advantage was not available and so the exchange offer had to be approved by the bondholders of each of the sep-

10 Debt Securities Act (*Gesetz über Schuldverschreibungen aus Gesamtemissionen –Schuldverschreibungsgesetz*). My sources on this are secondary and are based on (a) an article in Thomson Reuters' *Practical Law* by Axel Vogelmann and Christian Halász (available by subscription only), and (b) Allen & Overy LLC's publication 'Government bond restructuring "made in Germany" - the rise of anti-holdout clauses' (http://www.allenovery.com/SiteCollectionDocuments/Government%20bond%20restructuring.pdf).

11 Constitution of the Hellenic Republic, Article 17(a) https://www.hellenicparliament.gr/UserFiles/f3c70a23-7696-49db-9148-f24dce6a27c8/001-156%20aggliko.pdf.

12 Constitution of the Hellenic Republic, Article 106(1).

arate series of these bonds. The results were mixed. In total, less than 50% by value of the English law bonds issued by Greece were restructured with the exchange offer failing in over half of them. Determined holdout investors had bought a sufficient number of bonds in each of these series so as to ensure that the offer would not be accepted. This raised the spectre of unsuccessful restructurings conducted on a series by series exchange offers and provided a further argument for the introduction of single limb aggregated CACs, i.e., CACs which, like the retrofitted Greek law ones, allow for bonds which contain them to vote as a single class across and regardless of their series.[13]

Third, the Greek restructuring showed that the participation of official sector creditors in a restructuring should not be taken for granted. About €53 billion of Greek bond holdings of the European Central Bank, the Eurozone Central Banks, the European Commission and the European Investment Bank were exempted from the exchange. This was effected through the expedient of a separate exchange of these holdings for new Greek government bonds with identical terms, but "issued" in early 2012 and hence falling outside the debt perimeter, which included bonds issued up to the end of December 2011.

The first of these three legacies showed a way forward for sovereign debt restructurings: "herd in" all the creditors (or almost all) together and ask them to determine the acceptability of the proposed restructuring with an enhanced majority binding the minority. The second and third of these legacies exposed the weaknesses of this approach. Private and official sector creditors who can lawfully avoid the "herding" will not be bound by the decisions of any supermajority of the creditors opting to get a better deal for themselves at the expense of both the sovereign debtor and the co-operating creditors.

These three legacies, the manner in which local law advantage can be deployed, the weakness of the single series CACs and the effective priority which official sector creditors can claim, came after the key decisions had been taken on the design of the Eurozone CACs. Although their specific design is not mandated by the ESM Treaty, consultations among Eurozone member states had resulted in an agreed "two limb" design, namely a Eurozone CAC (Euro-CAC) which required a successful vote both (i) across all the affected bond series in the aggregate and (ii) within

13 See principally the various policy papers of the IMF starting with '*Sovereign Debt Restructuring—Recent Developments and Implications for the Fund's Legal and Policy Framework*' (26 April 2013) and '*Strengthening the Contractual Framework to Address Collective Action Problems in Sovereign Debt Restructuring*' (2 September 2014).

each of these series individually.[14]

So from the very beginning the Euro-CACs, which require series by series voting, suffered from the weakness shown by the second legacy of the Greek debt restructuring, the single series voting of the English law bonds. If another Eurozone sovereign, Arcadia[15], were to try to restructure its domestic law bonds using the Euro-CACs, the restructuring might be seriously compromised by a large number of holdouts or even fail.

Moreover, the signal given to the markets by the official sector's refusal to participate in the Greek debt restructuring was not a positive one. Just as some of the Eurozone's beleaguered members sought to maintain market access, the spectre of the official sector asserting priority and thus increasing the size of a future private sector loss, did nothing to reassure markets and restore confidence. To calm the markets, steps had to be taken. In launching Outright Monetary Transactions (OMT), its emergency bond buying programme, the ECB stated that OMT bonds purchased by the Eurosystem will have "the same (*pari passu*) treatment as private or other creditors".[16] This was followed by the announcement that bonds acquired by the Eurosystem under the Public Sector Asset Purchase (PSPP) programme will have "the same (*pari passu*) treatment as private investors … in accordance with the terms of such instruments".[17]

The OMT and the PSPP programmes were both challenged in German courts. These challenges resulted in two important decisions of the Court of Justice of the European Union (CJEU), *Gauweiler*[18] and *Heinrich Weiss*[19] which consider, among other things, the compatibility of these programmes with the articles of the Treaty on the Functioning

14 European Union's Economic and Financial Committee "Euro area Model CAC 2012" which also contains links to the model Euro-CACs here https://europa.eu/efc/euro-area-model-cac-2012_en.

15 The fictional name of Arcadia is chosen to allow the discussion to focus on aspects of structure which are either positive or need improvement and avoid focusing on the particulars of any single Eurozone member state.

16 See ECB's Press Release '*Technical features of Outright Monetary Transactions*', 6 September 2012 https://www.ecb.europa.eu/press/pr/date/2012/html/pr120906_1en.html.

17 See ECB's Decision (EU) 2015/774, 4 March 2015 https://www.ecb.europa.eu/ecb/legal/pdf/oj_jol_2015_121_r_0007_en_txt.pdf

18 Case C-62/14 *Gauweiler and Others* (http://curia.europa.eu/juris/document/document_print.jsf?doclang=EN&text=&pageIndex=0&part=1&mode=lst&docid=165057&occ=first&dir=&cid=338215).

19 Case C-493/17 *Heinrich Weiss and Others* (http://curia.europa.eu/juris/document/document.jsf;jsessionid=AD0A9F885CCFDFB5ACBD50C22DF4AF57?text=&docid=208741&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=8681794).

of the European Union prohibiting monetary financing.[20] During the *Gauweiler* hearings the CJEU's Attorney General revealed in his opinion that "the ECB [in order to avoid participating in anything which amounts to monetary financing] has stated in its written observations that, in the context of a restructuring subject to CACs, **it will always vote against a full or partial waiver of its claims** [*emphasis added*]"[21]. Waiver of claims in this context must be understood as being a reference not only to simply legal waivers of legal rights, but also to amendments which attenuate its existing legal rights. In plainer terms, the ECB declared that it would be a holdout in any bond restructuring proposal by a Eurozone sovereign.

Although the statement is made on behalf of the ECB it must be assumed that it also applies to all the entities in the Eurosystem, i.e., all the national central banks of the Eurozone. All subsequent references to the ECB should therefore be assumed to apply to the whole of the Eurosystem.

The OMT programme has many conditions to its use, and has not yet been deployed. By contrast, the PSPP programme is very active. Mindful that this would make the ECB a major Eurozone government bond holder and also mindful of its promise not to vote in favour of any restructuring, the ECB's Governing Council set limits both on its overall bond holdings per Eurozone sovereign issuer and on its per-series holding on each bond series.[22] The limits were established expressly so that the ECB could not single-handedly prevent a debt restructuring.[23] The limits expressed here and below (by reference to nominal principal amount, at 33% overall and 33% by series dropping to 25%) which if reached would "create a situation whereby the Eurosystem would have a blocking minority for the purposes of collective action clauses"[24], are perilously close to the limits of the Euro-CACs.[25]

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20 See '*The European Central Bank's Public Sector Purchase Programme (PSPP), the Prohibition of Monetary Financing and Sovereign Debt Restructuring Scenarios*' by Sebastian Grund, November 2016 (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2717105).

21 Paragraph 235, Opinion of Advocate General Cruz Villalón delivered on 14 January 2015, http://curia.europa.eu/juris/document/document.jsf?text=&docid=161370&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=205838.

22 ECB Governing Council 3 September 2015, here https://www.ecb.europa.eu/press/govcdec/otherdec/2015/html/gc150918.en.html.

23 See reference to the statement where the by-series limit is set at "33%, subject to a case-by-case verification that it would not create a situation whereby the Eurosystem would have a blocking minority for the purposes of collective action clauses in which case the issue share limit would remain at 25%", ibid.

24 ibid.

25 Euro-CACs op.cit.

On the assumption that the ECB holds Arcadian government bonds as part of the PSPP programme, it is clear from these limits that it does not propose to sign any written bondholder resolution which requires $66^{2/3}$% of bondholders in the aggregate and 50% by each series to agree with the issuer's restructuring proposals. Instead, the ECB will force Arcadia to call a bondholder's meeting which, if it is to be quorate, must be attended by not less than $66^{2/3}$% of bondholders and which then requires the affirmative vote of 75% in the aggregate and $66^{2/3}$% by each series to effect the restructuring. With a 33% overall limit the ECB can easily assist in make these meetings inquorate - this would require another two thirds of one percent, of the bondholders not attending – and hence block the restructuring. If ECB attends and the meeting is quorate, with 33% overall limit ECB will block all overall restructurings, as its holding would always exceed the 25% blocking vote for those present.

The ECB, in its effort to avoid the Scylla of a market strike following the third legacy of the Greek restructuring, stated that it was prepared to have the same treatment as private investors. Unfortunately, this led it straight to the Charybdis of the prohibition of monetary financing. The solution is far from perfect. With its statement that it would oppose restructurings of all types in all circumstances, the ECB made the second legacy of the Greek restructuring, namely the holdout by individual series bondholders, even more likely. It will now be even easier for private sector holdouts to oppose restructurings: all they need to do is find out some details of the ECB's holdings in the relevant series of bonds and then complement the ECB's assured negative vote by buying enough additional bonds in that series to block a restructuring proposal. To top it all off, if notwithstanding its refusal, the ECB and the other holdouts are in a minority and the restructuring succeeds, the ECB will have to suffer losses and these losses may constitute monetary financing[26].

In many ways, these two consequences are the better of the three possible outcomes in a potential debt restructuring by Arcadia. The combination of the ECB's declaration in *Gauweiler* and its PSPP programme means that a proposed Arcadian restructuring might fail altogether, having achieved neither the desired percentage for a bondholder resolution, nor a quorate meeting, or a positive vote in one.

If this is correct, it means that the two negative legacies of the Greek restructuring not only continue, but have returned with a vengeance,

26 See '*The European Central Bank's Public Sector Purchase Programme (PSPP), the Prohibition of Monetary Financing and Sovereign Debt Restructuring Scenarios*' *op.cit*., where these questions are considered in detail in the context of an all-possibilities calculus.

threatening to undermine any future Eurozone sovereign debt restructuring. This in turn means the troubled sovereign of Arcadia seeking assistance from the ESM may not be able to receive it, because restructuring (a.k.a., "private sector involvement") is a pre-condition to the assistance.[27]

Where does this leave the Eurozone defences? A number of solutions may be proposed for the medium and long term, starting from those already agreed (if at a snail's pace) like the completion of the banking union by those who dream of some sort of fiscal union and revision of the EU treaties[28]. But in the short term, only two measures are possible.

The first is the immediate revision of the Euro-CACs to include the single-limb option and otherwise improve other aspects of these CACs. The weaknesses of the current Euro-CACs have not gone unnoticed. In its December 2018 meeting the Eurogroup announced a series of measures for the deepening of the European Monetary Union including reforms for the ESM. These reforms include "[an intention] to introduce single limb collective action clauses (CACs) by 2022 and to include this commitment in the ESM Treaty"[29] and were set out in a short termsheet.[30] As at the date of this paper, the intention remains to be actualised and an agreed form of the new single limb Euro-CACs has yet to emerge.

The second, which will be required immediately if Arcadia loses market access and is in need of an ESM (and IMF?) programme(s), will be to consider making use of the first legacy of the Greek restructuring, namely using the "local law advantage".

What does "local law advantage" mean for Arcadia? At the very least, in the era of the double-limb Euro-CACs now contained in a significant part of Arcadia's bond stock, it would mean the specific Greek solution of retrofitting the single-limb CACs. It cannot however be precluded that Arcadia may have to use the advantage of its legal sovereignty in all sorts of additional or different ways, depending on the circumstances. For the time being we will only consider its use for retrofitting single-limb CACs in its bond stock, a substantial proportion of which already has the ESM treaty mandated double-limb Euro-CAC.

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27 See Recital (12) and elsewhere in the ESM Treaty (https://www.esm.europa.eu/sites/default/files/20150203_-_esm_treaty_-_en.pdf).

28 To some countries this dream is a nightmare.

29 See "Eurogroup report to Leaders on EMU deepening", 4 December 2018 here https://www.consilium.europa.eu/en/press/press-releases/2018/12/04/eurogroup-report-to-leaders-on-emu-deepening/.

30 The termsheet, in its usual unmarked form, is available here https://www.consilium.europa.eu/media/37267/esm-term-sheet-041218_final_clean.pdf.

Inevitably, the question which arises is whether the local law advantage can be used in the context of Arcadia. For legal sovereignty to be of any value to Arcadia the vast majority of its debt obligations must be governed by Arcadian law. We know that almost all Eurozone countries (with the exception of Greece) raise debt by issuing almost exclusively domestic law bonds and so we will assume that this is the case for Arcadia as well.

But can the local law advantage be deployed lawfully, or does the existence of the current form of Euro-CACs mandated by the ESM treaty make the use of Greek-style retrofitting unlawful? In a recent paper[31] Mark Weidemaier argues that Eurozone countries are not constrained by the current form of Euro-CACs and can, if they wish, make use of their local law advantage to retrofit single limb CACs. Although I find Mark Weidemaier's paper convincing and have been persuaded that Eurozone countries are not so constrained, I understand that the position is not universally accepted. Clearly, as I have argued so far, if Mark Weidemaier's conclusions are not correct and Eurozone countries are constrained by the current double limb Euro-CACs, the tools that the Eurozone has at its disposal to deal with a loss of market access by Arcadia are severely limited. Indeed, as discussed earlier, the combination of the ECB's *Gauweiler* declaration and its PSPP Arcadian holdings may make an Arcadian restructuring impossible. In this paper I assume that Mark Weidemaier's legal arguments and legal conclusions are correct so as to explore what further problems the Eurozone and Arcadia may have to face, if the only way to ensure a debt restructuring and an ESM programme is a single-limb CAC retrofit.

However correct the legal arguments and conclusions may be, they may not at first instance be accepted by all relevant parties. To begin with, Arcadia itself, wishing not to spook the markets, to retain access to them and avoid an ESM programme, may well adopt a *Vade Retro Satana* campaign against single limb CACs and denounce any suggestion that it is not and will not remain committed to the existing Euro-CACs. Changes in Eurozone policies relative to sovereign debt will be anathema to Arcadia, as they may carry the stigma that they are meant to protect it at a time when it tries desperately to rebalance its economy and avoid a crisis. Such public assurances that nothing other than existing contractual rights will

31 See '*Restructuring Italian (or Other Euro Area) Debt: Do Euro CACs Constrain or Expand the Options?*' by Mark C. Weidemaier, 2 April 2019 (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3364982).

be used are likely to make the use of the "local law advantage" harder to justify later on, whether before judicial tribunals, to foreign investors or the citizens of Arcadia.

How will ECB react to a retrofit of single-limb CACs by Arcadia when the official Euro-CACs remain double limbed? At this stage all one can do is speculate, but if within the ECB the concern about monetary financing and preserving the perceived legal order prevails over possible concerns for market reactions and crisis contagion, the ECB might consider doing or threatening to do one or more of the following:

(a) legally challenging the single-limb retrofit. Such a challenge would throw in doubt the whole restructuring. At the very least, it or any collateral proceeding before the notoriously slow and unpredictable Arcadian courts[32], will delay the restructuring process;

(b) stating that the *pari-passu* promise made in respect of the OMT and/or the PSPP programme was conditional upon the CACs being used on a restructuring either being the original double-limb ones, or, if single limb, then at least approved by the Eurogroup or the EU Council. This is likely to terrify the markets, making any return of Arcadia to the markets more difficult and probably triggering a crisis for some other challenged European sovereigns;

(c) reconsidering the basis on which the, by now, collateral ineligible Arcadian sovereign bonds held by Arcadian banks will once again be accepted as eligible collateral. This will allow the ECB to hold Arcadia hostage as it can now determine whether Arcadia remains in the Eurozone or not.

It is of course possible that the ECB will neither do, nor threaten publicly to do, any of these things. However, the mere intimation that any of these might happen will be sufficient. If the ECB does take the view that it is not possible for it to accept the exercise of the local law advantage, then the least catastrophic solution may well be the repeat of the third Greek legacy, namely the exemption of the ECB from any restructuring.

Arcadia may of course, despite its protestations that it is immune to a crisis, lose market access and be unable to roll-over its debt. For the purposes of this paper we will assume that in such a case:

32 This is assumed by virtue of the poetic licence necessary to weave the tale of Arcadia.

(a) Arcadia has to seek an ESM loan and programme and proceed with some sort of debt restructuring. Debt restructuring for this purpose includes (i) an extension of the debt maturities and/or (ii) a reduction of the principal amount owed and/or the interest rate payable on the principal amount; and

(b) the ECB will not oppose the use of the local law advantage.

In such circumstances, how could Arcadia best use its local law advantage and what legal challenges could it face?

Arcadia will first of all need to establish the perimeter of the debt to be restructured. At the same time it will need to consider the overall debt requirements following any restructuring. To establish a credible medium term debt sustainability Arcadia must consider not only its own liabilities and post-restructuring requirements, but also those of its banking system, its energy industry, its regions and municipalities and certain state owed enterprises deemed to be vital. The exercise is likely to reveal a number of legal Gordian knots which will only be capable of being resolved through the exercise of legal sovereignty which in some instances will have to take the form of the "local law advantage", i.e., an interference with existing property and contract rights. The collective action challenges of bonds and other debt obligations will be only one of these Gordian knots. Retrofitting CACs in domestic law bonds and maybe even bringing other debt liabilities into the same class of debt is likely to be just one instance in which the "local law advantage" may have to operate.

To minimise the inevitable legal challenges and adverse market and political consequences which will follow the exercise of the "local law advantage" Arcadia must follow the following principles:

(a) the "local law advantage" should be as minimal as possible in the context of the specific crisis and the nature of the particular legal Gordian knots. Greece's approach in limiting the exercise of the advantage to the Greek government bonds and those of the guaranteed liabilities which were already serviced by Greece, while leaving other guaranteed debt which was current and capable of being serviced by the relevant primary obligors outside the debt perimeter is an appropriate example;

(b) the "local law advantage" should be grounded, where possible, on precedent, if not of Arcadian law, then deriving from the jurispru-

dence of other Eurozone or EU member states. Once again, Greece's approach of combining the CAC retrofitting with an exit consent which could cite the precedent of German law for corporate bonds could serve as a guide;

(c) the "local law advantage" must be set out clearly and in a manner which ensures a fair and consistent application. This will be particularly important given that Arcadia will have to justify to the courts, the markets and its Eurozone partners not only the departure from the Euro-CACs, but quite possibly other local law solutions required to solve other legal Gordian knots. Again, Greece is a case in point. The change in the bonds affected all the holders and it was applied across all of them (except for the official sector holdouts who forced Greece's hand). In particular, domestic holders were subject to the same rule and its application as non-domestic ones. Such an application may well constrain the particular solutions which will be applied – for example making a "haircut" of the principal amount outstanding of bonds more difficult if they are held primarily by the Arcadian banking system and the Arcadian central bank;

Precedent, a minimalist approach, and clear and fair application will assist in the defence of the "local law advantage". As with Greece, legal challenges are likely to come before the Arcadian courts, arbitral tribunals and the ECHR. The success before the Arcadian courts will depend on whether, and subject to what conditions, property rights are protected under the Arcadian constitution. The outcome before arbitral tribunals will in turn depend on whether bonds are protected investments entitled to a better treatment than all other investors. Finally, success before the ECHR is likely to depend on whether the ECHR determines that the use of the local law advantage is consistent with the principles it set out in the case of *Mamatas and Others v. Greece*[33], a challenge against Greece's CACs retrofit brought by about 6,300 individual bondholders (the Applicants).

The ECHR is, of course, not an institution of the European Union, nor a separate institution of the Eurozone members, as is the ESM. It is an international human rights tribunal established by international treaty with jurisdiction to hear complaints submitted by individuals and states concerning violations of the Convention for the Protection of Human

33 *Mamatas and Others v. Greece* (application nos. 63066/14, 64297/14 and 66106/14). Text of the decision available in French here: https://hudoc.echr.coe.int/eng#{%22itemid%22:[%22001-164969%22]}

Rights and Fundamental Freedoms (commonly referred to as the "European Convention on Human Rights"), a convention which concerns principally civil and political rights (the Convention). The ECHR cannot take up a case on its own initiative, but will allow complaints by any person if they concern alleged violations of the Convention by any of its 47 party states which affect the complainant.[34]

In the Mamatas case, the Applicants submitted their complaint to the ECHR after the supreme Greek administrative court dismissed their request to set aside the Greek CAC retrofit law.[35] Relying on the property protection provisions of the Convention[36], the Applicants complained that "the exchange of their bonds as required under the retrofit law had amounted to a *de facto* expropriation which had deprived them of their property or, in the alternative, an interference with their right to respect for their property"[37]. Also by reference to the anti-discrimination provisions of the Convention,[38] the Applicants "also complained that they had suffered discrimination as compared with other creditors, particularly the major creditors"[39]. The ECHR accepted jurisdiction on these points, with some minor exceptions.[40]

In the following numbered section I have tried to summarise the points made by the parties and the ECHR's considerations and conclusions.

34 As the ECHR's website does not appear to have a basic introduction to the ECHR itself, its history and activities, details, and the source of the above summary, come from the *International Justice Resource Center* (more here https://ijrcenter.org/european-court-of-human-rights/).

35 Greek Law No. 4050/2012. For a summary of the reasons for which the Greek court dismissed their request see page 122 (*Although Greece could, by invoking the "local law advantage..."*). Strictly speaking the proceedings before the Greek administrative courts included not only the retrofit law 4050/2012, but also all the two decisions of the Council of Ministers of 24 February and 9 March 2012, the 9 March 2012 decision of the Deputy Minister for Economic Affairs and the 9 March 2012 decision of the Governor of the Bank of Greece, which implemented the law.

36 Article 1 of Protocol No. 1 to the Convention.

37 See the ECHR English language Press Release with the summary of the case here (https://bit.ly/2EME1b6).

38 Article 14 in conjunction with Article 1 of Protocol No. 1.

39 ECHR Press Release *op.cit*.

40 See *Mamatas and Others v. Greece,* paragraphs 58 to 72.

1. The *Applicants claimed*, amongst others, that:

(a) they had been deprived of their property[41];

(b) there was no legal basis for the retrofitting of the CACs which was a despotic "*fait du prince*" seeking to discharge the Greek state of its liabilities without due compensation;[42]

(c) their inclusion in the restructuring did not serve any public benefit within the meaning of the Convention, their share in the total debt being no more than 0.8% of the total;[43]

(d) no study was made by the Greek state on the economic benefit of their inclusion in the restructuring and no proposals were made to the creditors' committee on a special treatment for the small investors, like the Applicants;[44] and

(e) the bonds given in exchange for their bonds are an insufficient consideration for their bonds and the government could, if it wanted to take advantage of the depressed market prices at the day of the exchange, instead sought to buy their bonds on a pure consensual basis.[45]

2. In response, *the Greek government responded* that:

(a) by enacting the CAC retrofit law, the Greek state did not deprive any bondholder of its property. It simply introduced a process which enabled the bondholders to decide, on an enhanced majority basis (following the principle of creditor democracy), together with their debtor, on the best possible way to safeguard their proprietary interests which were already at risk due to the insolvency of the Greek state;[46]

(b) in exchanging the bonds, the Greek state did not expropriate or deprive any bondholder of its property, but instead it exercised its

41 *Ibid*, paragraph 73.

42 *Ibid*, paragraph 74.

43 *Ibid*, paragraph 75.

44 *Ibid*, paragraph 76.

45 *Ibid*, paragraph 77.

46 *Ibid*, paragraph 78.

rights under the Convention. This allows a state to exercise its legislative powers to manage a financial crisis and determine what is in the public benefit, unless this lacks any reasonable basis. In this context, individual rights must take second place to the general interest. In any event, the value of the Applicants' exchanged bonds always depended on the issuer's economic ability to pay them;[47]

(c) the CAC retrofit law was enacted constitutionally and the aim of the bond exchange was the legitimate goal of the Greek state to avoid a cessation of payments, to prevent an economic collapse, to help an economic regeneration and to protect the Eurozone. In the absence of the bond exchange and the achievement of these goals, the value of the Applicants' bonds would have collapsed much more than the value offered in the exchange;[48]

(d) the exchange did not offend the principle of proportionality, as the payment made to the bondholders was the maximum permitted by the official sector lenders (i.e. what was allowed under the official sector's debt sustainability analysis) as a condition for them advancing further money to Greece, including the money to pay the bondholders;[49] and

(e) through the exchange the Applicants received a fair and reasonable amount for their bonds given (i) the market value of their bonds at the time, (ii) the overall prospects of the Greek economy and (iii) the very real possibility that absent the exchange the Applicants might have suffered a total loss on their investment.[50]

3. The *ECHR noted, considered and held* as follows:

(a) The Convention protects the dispossession (*privation*) by the state of individual property, and only permits it under certain conditions, including that it be lawful, of reasonable proportionality, consistent with the general principles of public international law and in the public interest.[51]

47 *Ibid*, paragraph 79.

48 *Ibid*, paragraph 80;

49 *Ibid*, paragraph 81.

50 *Ibid*, paragraph 82.

51 *Ibid*, paragraph 84. For these principles see Article 1 of Protocol 1 of the Convention.

(b) In the case of debts, the amount must be due and payable ("*créance certaine*"). Contingent claims are usually not protected unless recognised by applicable domestic law as legitimate expectations (*espérance légitime*).[52]

(c) The ECHR's established jurisprudence in matters of economic policy during a country's economic crisis is that national authorities are better placed than the ECHR to determine the most appropriate means to manage the crisis and the ECHR will respect their choices, unless they manifestly lack any reasonable basis. Moreover, in situations where legislative measures are likely to have a considerable economic consequence on the whole of the country, the national authorities must enjoy a large degree of discretion not only in choosing the measures with which they will protect and regulate property relations within the country, but also in the time necessary for their implementation.[53]

(d) The Applicants' Greek government bonds did constitute a property interest which was protected by the Convention. The CAC retrofit law did interfere with the Applicants' property rights as did the imposition of the exchange, to which they had objected.[54]

(e) This interference however did not amount to a dispossession (*privation*) protected by the Convention, (i) first because the Applicants made a market investment whose price depends on market conditions and on the economy of the issuing state, and (ii) second, because the conditions, which according to the Convention permit such interference, (see (a) above) were satisfied.[55]

(f) *Lawful*. An interference by the state on individual property rights must be lawful, a requirement which is not satisfied by mere legality. It must also maintain a balance between the public interest and the protection of the individual's fundamental rights. Such a balance is not maintained if the individual suffers personally an excessive loss. In this instance the requirement of lawfulness was satisfied because

52 *Ibid*, paragraphs 86 and 87.

53 *Ibid*, paragraphs 88 and 89.

54 *Ibid*, paragraphs 90 to 93.

55 *Ibid*, paragraph 94.

the interference was based on legal rules which were sufficiently accessible, specific and predictable, as to their effect. Moreover, the requirement of balance was met because these rules were non-discriminatory in their application over the affected persons, namely all the holders of Greek government bonds.[56]

(g) *In the public interest*. To be permitted, state interference on individual property rights must be in the public interest. In this instance, given the seriousness of the crisis, the state did take legitimate steps to protect the public interest aiming to restore economic stability and to restructure the national debt.[57]

(h) *Proportionality I*. Finally, to be permitted, such state interference must also be proportionate by reference to the goal pursued. In exchange for their property, the old bonds, the Applicants were immediately offered a new bond whose discount at 53.5% was deep, but far from a total discount. Moreover, the discount has to be considered in the context of such bond's current market price, not the bond's nominal price, and at the time of the exchange the market price of the bond was severely depressed. The discount also has to be considered in the context of what might have happened to the bond's price if the restructuring had not succeeded, which would have pushed the market price even lower.

(i) *Proportionality II*. The Applicants had the ability to sell their bonds, up to the point that the exchange was announced, especially if they knew that they did not want to participate in it. [Of course the announcement of the exchange in itself had consequences for the price, since the bonds were now subject to this potential change. However, the argument of the ECHR seems to be that the Applicants were not specifically prejudiced and that the Applicants' rights to dispose of their property in the market, before the vote which encumbered their bonds with CACs was taken, were not curtailed in any way.][58]

(j) *Proportionality III*. The major institutional investors requested, as a condition for accepting a debt haircut, that the bonds be retrofitted

56 *Ibid*, paragraphs 95 to 100.

57 *Ibid*, paragraphs 101 to 105.

58 *Ibid*, paragraphs 106 to 114.

with CACs. The absence of CACs would have made the restructuring more difficult to achieve and would have started the vicious circle of increasing the losses for those who would be willing to participate in the restructuring, which in turn would increase the numbers of those wishing to hold-out. It is therefore clear that the retrofitting of the CACs and the debt restructuring achieved thanks to them constituted an appropriate and necessary measure to achieve the reduction of the Greek public sector debt and to avoid a cessation of payments by Greece.[59]

(k) *Proportionality IV*. In conclusion, Greece did not breach the fair balance between the public interest and the Applicants' individual rights and did not impose on the Applicants an excessive loss. In the overall context of the wide discretion which sovereigns have in taking measures, the ones taken by Greece were not disproportionate and as a result there was no breach by Greece of the Convention.[60]

Mamatas goes on to consider and then dismiss the Applicants' additional complaint that the Greek retrofit law should have somehow exempted them from its scope.[61] This complaint is not considered here, but may be relevant in the context of an Arcadian restructuring where individual investors are affected.

The first and important point to note about *Mamatas* is that it is a decision on the facts. The ECHR finds that there is an interference with protected property rights but that in the context of the particular circumstances this interference was justified. It is clear that the ECHR does not offer a judgment which will allow Arcadia to use the "local law advantage", even if it uses it exactly like Greece did, regardless of the circumstances. The elbow room that sovereigns like Arcadia have in using the "local law advantage" is considerable given the sovereign discretion that it has in defending the public interest, but it is not without limits.

If Arcadia chooses to exercise the "local law advantage", it will have to do so in the appropriate way given the circumstances at the time. The discussion of the Greek circumstances in *Mamatas* will no doubt be useful to its officials when faced with these circumstances.

But the importance of *Mamatas* goes beyond this. In paragraph 116 of

59 *Ibid*, paragraph 116.

60 *Ibid*, paragraphs 119 and 120.

61 *Ibid*, paragraphs 121 to 142.

the judgment Mamatas tackles the puzzle of collective action. It notes that without collective action rules, the willingness of stakeholders to participate in the resolution of the crisis diminishes, generating a vicious circle of increased costs for participants, itself acting as a disincentive for participation. It is exactly this vicious circle that collective action processes in the context of corporate insolvencies aim to break and which measures like aggregating CACs seek to bring into sovereign bond restructurings. The ECHR notes that without these retrofitted CACs the Greek debt restructuring would not have succeeded, Greece would have had to stop paying all its creditors, including all its bondholders and would have itself suffered even greater economic loss. Although *Mamatas* does not state this expressly, the conclusion is clear: both the collective loss for Greece and the individual loss for all bondholders, including each Applicant, would have been greater but for the retrofitting and use of aggregated CACs which were therefore an "appropriate and necessary measure". The introduction of an instrument which resolves the puzzle of collective action by maximising utility both in the aggregate and per class of stakeholders whilst minimising overall losses is, I submit, an important principle established by *Mamatas*.

In paragraph 115 of the judgment, *Mamatas* states that at the time of the Greek CAC retrofit, CACs were included in international bonds issues and that the Eurozone had decided that its members would include CACs in all their future bond issuances. It may be argued that this reference to the Euro-CACs will make a future ECHR more reluctant to accept an Arcadian retrofit of single limb aggregated CACs when most of the Arcadian bonds include Euro-CACs. However, likely it is that such an argument will be made, I submit that the reference to the Euro-CACs is not an endorsement of the particular features of the current two-limb Euro-CACs, but a reference to evidence that CACs are generally being proposed to resolve the puzzle of collective action.

I also submit that if the ECHR were to consider whether Arcadia was justified in using the "local law advantage" in retrofitting single limb CACs in crisis circumstances (a) not dissimilar to Greece's and (b) where ECB and private sector holdouts threatened the success of the restructuring, it would allow the "advantage". The justification would rest on the principle deriving from paragraph 116 of *Mamatas* (but elsewhere as well) on the need for a collective action measure which is uniformly applicable to all creditors and avoids setting in motion the vicious circle which leads to increased holdouts and overall greater losses. The ECHR

would of course note the existence of the Euro-CACs and would have to consider the repeated Arcadian reassurances that these would not be changed through retrospective legislation. But the ECHR would also have to consider both (a) the Eurogroup's decision to move on to single limb CACs as an acknowledgment that it is the optimal resolution of the collective action puzzle that matters, rather than an imperfectly designed tool for it, (b) as well as the difficulties which the ECB's decision brings in any attempt to resolve the collective action puzzle, especially with the current less-than-perfect Euro-CACs.

If this analysis is correct, the *Mamatas* principle most clearly set out in paragraph 116 can also serve to justify "local law advantage" measures proposed for other parts of a sovereign debt crisis resolution, such as the inclusion in the debt parameter a wider class of debt obligations.

This leads to four additional topics which deserve to be considered further, though not in this paper. First, what I have referred to as the *Mamatas* principle needs to be further discussed and commented on in the context of options open to Arcadia if it ever faces a potentially catastrophic sovereign crisis. This of course will depend on the identity of Arcadia amongst Eurozone member states, the specific challenges it faces, the institutional alternatives available to it and the stance of all other relevant actors. What applied to a small Eurozone economy like Greece on all these fronts between 2010 and 2012 is very different to what applies to today's Italy. *Mamatas* offers guidance and, I have argued, principles. Ultimately, however, the *Mamatas* judgment is rendered on the facts of the case and these will have to be considered in detail by any individual Arcadia which finds itself in a predicament similar to Greece's.

Second, to what extent are the principles of *Mamatas* a source of law for the Court of Justice of the European Union and indeed for domestic administrative courts and to the extent that they are not, how could these three systems of law operating in Europe, domestic, EU and ECHR, find ways to build on each other's jurisprudence? It is important for the Eurozone and its members to develop a uniform jurisprudence on the questions discussed in *Mamatas* and to avoid the uncertainty-creating and, ultimately, destructive Tower of Babel of different institutional narratives.

Third, the use of the "local law advantage" is, regardless of justification, a breach of the sovereign commitment to its creditors. Using it will inevitably have short term consequences, one of which is the lack of trust in the sovereign's own laws. A condition for the return of Greece to the markets was the use of an external law which deprives the sovereign from

unilateral changes to the contractual terms.[62] Investors may well seek the insulation of such an external law, which may well prevent in the future even a benign application of the "local law advantage", as would be the case if Arcadia's bonds were all governed by external law and the use of Euro-CACs continues to have the disadvantages discussed earlier in this paper.

Fourth, the limits of sovereign discretion and the local law advantage as exercised by Greece (and as may have to be exercised by the Eurozone's Arcadias) and the principles set out in *Mamatas* need to be considered in the context of the discussion on institutions, credible commitment and their relevance for economic growth.[63] Summarising quickly what are complex arguments on which a lot more work is still being done, for "economic growth to occur the sovereign … must not merely establish the relevant set of [property] rights, but must make a credible commitment to them".[64] Commitment by a sovereign is credible when sovereign action is constrained by rules and institutions "that do not permit leeway for violating commitments"[65]. These institutions include the legal institutions which are the custodians, interpreters and enforcers of the rules. The strength of legal institutions rendering credibility to the commitment ultimately depends on the clarity, sufficiency and predictability of the rules and on the transparency, fairness of process and competence with which they are administered. Shortcomings in these institutions will affect adversely economic activity and growth which in turn will have consequences on the broader domestic political economy and the

62 It is my view that the insistence on external law to govern the Greek bonds in 2012 was due to two reasons. First, by the creditor concern that the debt relief provided by the private sector in 2012 was not sufficient to make the debt sustainable and that, hence, a further measure might have to be taken. The insufficiency of course was the result of the delay of the Greek restructuring and the official sector bailout of 2010. Second, because the choice of using the "local law advantage" was in essence being made not by Greece, but by the Eurozone and official sector more broadly. As a result the perception of the investors was that, notwithstanding Greek willingness to maintain or rebuild trust with the markets in 2012, this was not Greece's exclusive call and, therefore, the insulation of foreign law was the only option available to them.

63 See "Constitutions and Commitment: The Evolution of Institutions Governing Public Choice in Seventeenth-Century England", by Douglass C. North and Barry R. Weingast, The Journal Of Economic History, December 1989, Volume XLIX, Number 4 and "Institutions and Credible Commitment", by Douglass C. North, Journal of Institutional and Theoretical Economics (JITE) / Zeitschrift für diegesamte Staatswissenschaft, Vol. 149, No. 1, 1993. I am grateful to Mitu Gulati for supplying these references and through this suggesting the third topic for additional work.

64 "Constitutions and Commitment", ibid, page 803.

65 Ibid, page 804.

standing of the sovereign in the world. Greece's reliance on the "local law advantage" was unusual and was fully scrutinised by, among others, the ECHR in *Mamatas*. If Arcadia has to use the "local law advantage" in the shadow of both Greece and of the efforts made to avoid using the advantage, its actions will be scrutinised even more. Ultimately, the scrutiny will be that of economic actors whose decisions will affect the future economic prosperity of Arcadia. Clarity on the limits of the "local law advantage" and credibility as to the exceptional nature of its use and the overall economic utility of its outcome are essential for its short term successful application and for medium-term economic future of Arcadia.

I hope others will join this conversation and I hope that the ECHR will be persuaded to publish the *Mamatas* decision in other languages as well, at least English and German, to enable a wider and better conversation.

PART III

Towards a European Safe Asset?

Completing the Economic and Monetary Union with a European Safe Asset

Gabriele Giudice[1]

A solid euro, underpinned by many reforms since the crisis

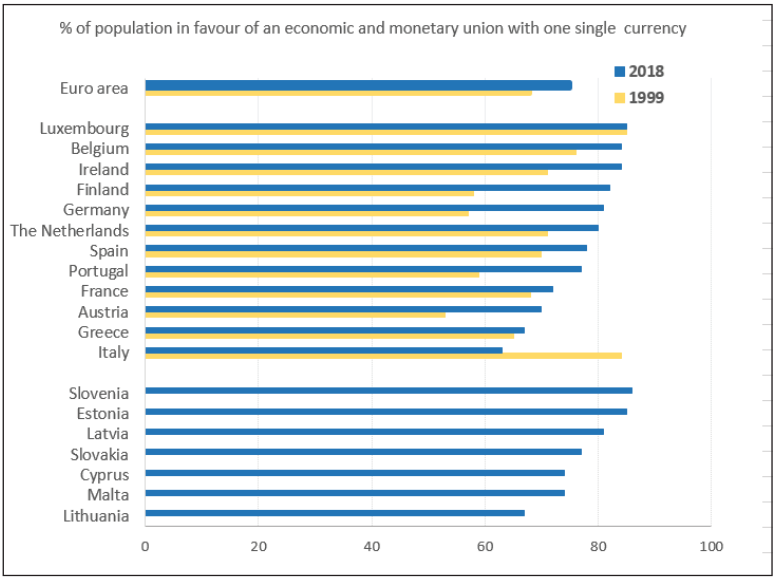
In 2019, the euro marked 20 years of its existence. After a surprisingly smooth infancy, its teenage years have been challenging. However, despite an economic and financial crisis which even cast doubt on its capacity to survive,[2] the euro has become adult and is alive and kicking. It is used by 340 million citizens in Europe and enjoys the support of three in four euro area citizens (the highest share ever, see Figure 1), and it has the solid status of second international currency, with 60 countries using the euro or planning to use it or having local currencies linked to it.[3]

1 This paper builds on a presentation made at the 2019 Annual Conference of the Florence School of Banking and Finance on "European Financial Infrastructure in the face of new challenges", Florence, 25 April 2019 and a keynote speech given at ELEC's Monetary Conference, Central Bank of Romania, 4 June 2019. The opinions expressed here are the author's only and should not be attributed to the European Commission. The author gratefully acknowledges the collaboration by Mirzha de Manuel, Maya Jolles, Zenon Kontolemis, Daniel Monteiro and Jakub Wtorek.

2 See Begg for a review of critical positions, including by several Nobel Prize winners. Begg I. (2019), "The euro at 20: Responsible adult or wayward youth?", The Hill, 13.1.2019.

3 European Commission (2019a). "Europe in May 2019, Preparing for a more united, stronger and more democratic Union in an increasingly uncertain world", Contribution to the informal EU27 leaders' meeting in Sibiu (Romania), 7 May.

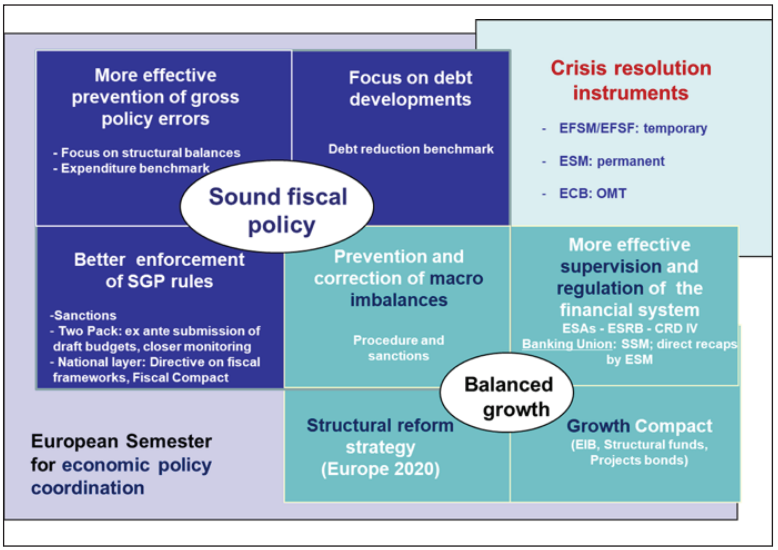
Figure 1. European citizens' support for the euro



Note: only the 15 countries part of the EU at that time were surveyed in 1999, of which 12 were Euro area countries.
Source: Standard Eurobarometers 51 and 90.

The crisis revealed several weaknesses in the construction of the EMU, but it commanded a strong response by EU governments and institutions. It showed that the euro still remains the most defining political project of European integration deserving all the necessary action to ensure its success. Member States agreed deep institutional reforms aimed at restoring and safeguarding financial stability, and reinforcing the integrity of the single currency (see Figure 2). This included transfers of competences to the centre, and required going through difficult debates internally and among Member States.

Figure 2. Far-reaching reforms of the EMU architecture



The reaction to the crisis addressed many missing elements of the EMU architecture:

1. The euro area has been equipped with **crisis resolution mechanisms**, the European Stability Mechanism (ESM) providing financial assistance to euro area countries experiencing or threatened by severe financing problems.
2. Throughout the years since the crisis, the **European Central Bank** has played a crucial role in restoring the confidence in the euro area, considerably expanding its monetary policy toolbox.
3. Several key elements of **Banking Union** have been achieved - a Single Rulebook, a Single Supervisory Mechanism and a Single Resolution Mechanism, whose Single Resolution Fund (SRF) will be backed by the ESM, and a comprehensive legislative package for the banking sector, which reduce risks and strengthen the resilience of EU financial institutions.
4. The **Capital Markets Union** (CMU) has been launched to broaden the capacity of European financial markets to provide funding to its economic actors, reducing the dependency on the banking system, and making it easier for companies to access capital and for individuals to invest their money in new ways.
5. The **macroeconomic and fiscal surveillance** of Member States

has been significantly strengthened with the introduction of the Macroeconomic Imbalances Procedure, enhanced national fiscal frameworks, and stronger preventive and corrective arms of the Stability and Growth Pact, the set of rules designed to ensure that Member States pursue sound fiscal policies.

6. Finally, and more recently, **the European Semester of economic policy coordination** was revamped and new instruments and bodies, such as National Productivity Boards, have been conceived to promote reforms in Member States to achieve more stability and growth. Greater attention has been given to the challenges of the euro area as a whole, with dedicated recommendations to the euro area providing the framework for national ones, and a closer monitoring of crossborder spillovers.[4]

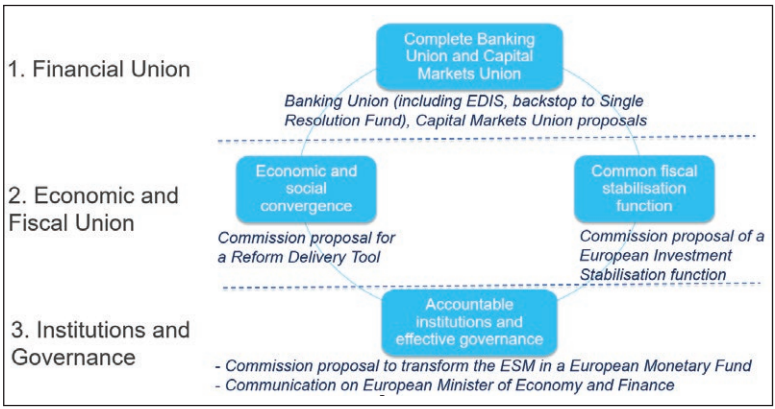
More is needed to strengthen the euro and EMU, both in the short and long term

A lot has been done over the past years, but gaps still remain in the architecture of EMU. To address them and reduce risks, the Commission presented in 2017 a roadmap and a series of proposals to move forward as concerns the Financial Union, the Economic and Fiscal Unions, and to develop the institutions and governance of EMU (see Figure 3).[5] It is fair to recognise that not all the Commission's proposals have gathered the necessary support, though several ideas have been taken up in one form or another.

4 A few other noteworthy institutional developments can be listed. The European Fiscal Board supports the evaluation of the implementation of EU fiscal rules. The European Commission also set up a Structural Reform Support Service to pool expertise from across Europe and provide technical support to Member States. Social considerations have been given increased attention, with specific recommendations and new social indicators as part of the European Semester. The European Commission also made concrete proposals to create a European Pillar of Social Rights, aiming to promote convergence between Member States towards better working and living conditions. Finally, the flexibility within the rules of the Stability and Growth Pact has been used in support of reforms and investment, as well as to better reflect the economic cycle.

5 See European Commission (2017), "Reflection Paper on the deepening of EMU", COM(2017)291, 31 May, and for a summary of its key initiatives, Buti M., G. Giudice and J. Leandro (2018), "Deepening EMU requires a coherent and well-sequenced package", Vox.eu, 25 April. Note that the Commission presented under the Economic Union chapter a proposal for a Reform Delivery Tool, which after the Eurosummit in December 2018 has become the basis for discussion on the Budgetary instrument for competitiveness and convergence.

Figure 3. Further reforms of the EMU architecture proposed by the Commission



The Eurosummit of December 2018 identified the issues on which progress should be quickly made. These include (i) implementing the common backstop for the Single Resolution Fund, agreed politically in principle already in 2013, (ii) strengthening the role of the European Stability Mechanism, (iii) defining the next steps towards the establishment of a European Deposit Insurance Scheme, (iv) outlining the design of a budgetary instrument for convergence and competitiveness for the euro area. Work has proceeded vigorously on these issues, ahead of the Eurosummits in June and December 2019.[6]

Besides the early deliverables that should be implemented in 2019, the completion of the Economic and Monetary Union still requires a long term vision. By 2025, progress should be made on several fronts:[7]

- Work is needed to finalise the implementation of the Banking Union to strengthen the resilience and competitiveness of the EU banking sector.
- The remaining barriers to the Capital Market Union, such as divergent insolvency regimes and ineffective cross-border taxation, have to be tackled to ensure a better integration of capital markets in Europe.

6 Centeno M. (2019), "Letter by President Centeno to President Tusk on the deepening of the economic and monetary union", 15 June 2019, https://www.consilium.europa.eu/media/39769/eurogroup-president-letter-to-euro-summit-president.pdf

7 See also European Commission (2019b), "Deepening Europe's Economic Monetary Union: Taking stock four years after the Five Presidents' report", 12 June 2019, COM(2019)279, 12 June.

- A common stabilisation function would be an important complement to national budgets and the Commission tabled last year a proposal for a European Investment Stabilisation Function. This could include a European Representative for Economic and Financial affairs, overseeing a euro area Treasury which could be established over time.
- There is need to reinforce the EU economic surveillance and governance framework, and a review of the two-pack and six-pack legislations could provide the basis for that.
- Gaps exist in terms of efficiency and democratic accountability to European bodies like the European Parliament, which could be overcome with a streamlining of competences and representation in the economic and financial sphere.
- Finally, strengthening the international use of the euro requires a combination of actions which need to be identified together with all relevant partners, building on the Commission consultations with market participants, public and private, over the past months.

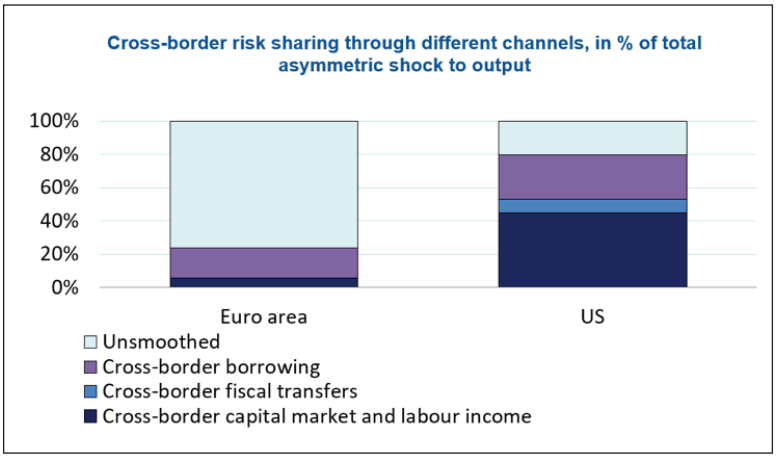
While the agenda is broad, we should still ask ourselves whether an even more ambitious agenda is needed over the coming years to secure the completion of EMU. Let me focus in particular on one aspect which is increasingly relevant.

The EMU must rely on a complete financial union

The financial sector has changed significantly, over the recent years, both globally and in the EU, also thanks to the elimination of the currency risks within the euro area and despite fragmentation along national lines of the EU financial markets. The latter has created dependency on foreign financial infrastructures and vulnerability to the risk of weaponisation of the dollar. At the same time, the euro area has been so far unable to tap the vast potential of its financial union as a channel to stabilise its economy contrary to what happens in the US, as argued in Buti *et. al.* (2016).[8]

8 Buti, M., J. Leandro and P. Nikolov (2016), "Smoothing economic shocks in the Eurozone: The untapped potential of the financial union", VoxEu.org, 25 August.

Figure 4. Tapping the full potential of Financial Union to increase risk-sharing



Source: Buti, Leandro and Nikolov (2016)

It is therefore most urgent to complete the Banking Union and make progress with the Capital market union, which will provide the backbone of a stronger international role of the euro, as also recalled by the European Commission, in its communications to European leaders before their May and June 2019 meetings, and by the Eurosystem.[9] Still, this may not address a peculiarity at the core of the euro area, which distinguishes it from other mature currency unions.

The functioning of EMU is still characterised by a fragmented sovereign bond landscape. While several aspects of the architecture of EMU have moved to a European jurisdiction (monetary and banking aspects, as well as a large part of the real economy through the single market), only national financial instruments are available in EMU to underpin its

9 "We should therefore further reinforce the banking system and accelerate the integration of our capital markets. A deep and liquid European capital market will enhance private risk-sharing, make our Union more competitive and resilient, and provide the backbone of a stronger international role for the euro." European Commission (2019a), *op. cit.*; European Commission (2019b); *op. cit.*; See also Draghi M. (2019), "Like the Commission, the Eurosystem stresses that the international role of the euro is primarily supported by a deeper and more complete EMU, including advancing the capital markets union, in the context of the pursuit of sound economic policies in the euro area. The Eurosystem supports these policies and emphasises the need for further efforts to complete EMU." foreword in ECB (2019), "The international role of the euro", June 2019;

architecture. At the same time, national government bonds have experienced a 'demotion' with the launch of EMU (Constancio, 2019): Countries no longer have their own national central banks to ultimately assist them in case of liquidity stress in sovereign debt markets denominated in their own currency.[10] This also means, in the words of Cœuré (2016) that "euro area government bonds are equivalent, in some ways, to "sub-sovereign" issues, since the different fiscal authorities and the central bank cannot be consolidated within a single "federal" balance sheet. […] Sovereign debt in the euro area is thus exposed to credit risk in a way other advanced economies are not."[11] Such credit risk in turn exposes the euro area to sudden capital flights triggered by changes in perceptions about specific countries' vulnerabilities. These can result in significant flows from and within the euro area, which directly affect national sovereign bond markets[12] and could generate self-fulfilling debt crises.[13] This can be called in the words of Gabor (2018) the 'financial view of bonds', which recognises that sovereign bonds play critical role in modern financial systems: benchmark, safe asset, HQLA & collateral, and highlights the financial stability implications of tremors in sovereign bond markets, as both banks and shadow banks' funding conditions rely on liquid and stable sovereign bond markets.[14]

10 Constancio V. (2019), "European financial architecture and the European safe asset", Speech at the Conference on "European Financial Infrastructure in the face of new challenges", Florence, 25 April.

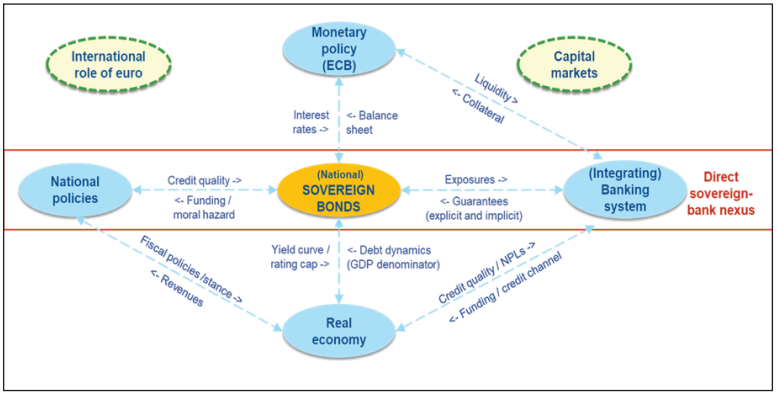
11 Cœuré B. (2016), "Sovereign debt in the euro area: too safe or too risky?", Keynote address at Harvard University's Minda de Gunzburg Center for European Studies in Cambridge, MA, 3 November.

12 According to Cœuré, portfolio rebalancing seems to have been specific to euro area bond markets, with some bond investors shifting out of markets where political risks are perceived to be large and into traditional safe haven markets, thereby contributing to a widening of short-term swap spreads. Cœuré B. (2017), "Bond scarcity and the ECB's asset purchase programme", Speech at the Club de Gestion Financière d'Associés en Finance, Paris, 3 April 2017

13 Jarociński, and Maćkowiak model the double-dip recession of the euro area and the swings in the government bond yields as outcomes of self-fulfilling shifts in expectations. According to their model, "the euro area is a 'land of indeterminacy.' It is an economy where macroeconomic outcomes can be turned around by a single speech, or by announcing policies that are never implemented." Jarociński, M. and B. Maćkowiak (2017), "Monetary-fiscal interactions and the euro area's malaise," Working Paper Series 2072, European Central Bank.

14 Gabor A. (2018) "The Single Safe Asset: a progressive view for a 'First Best EMU", FEPS Policy Brief, May.

Figure 5. Interlinkages (and doom-loops) in the European economy through national bond markets



Given the central role of national sovereign bonds in euro area economies, any stress or imbalances in national bond markets creates financial instability and hurts the economy at large. The propagation of shocks through the doom loops allowed by this structure of bond markets can derail a country's course on the path to convergence. One lesson from the crisis is that once a country goes off-track, the divergence can quickly become very large, quashing years of structural and institutional efforts to foster real convergence, and it will take long to recover.

Rather quickly after the launch of the euro the German Bund has become the anchor of national bond markets and of derivative markets in the euro area, which has economic and political implications in a developing EMU. Besides its strong fiscal record, the economic size and political clout of Germany play a relevant role for markets, which consider the Bund the safest assets in Europe and possibly in the world. This also means that policy decisions in Germany can have important spillovers on other markets and countries, especially if these bonds are in high demand.[15] In some ways, it is a situation similar to when the Bundesbank set interest rates focusing on national priorities while the Deutsche Mark was the anchor of the Exchange Rate Mechanism. This

15 Among the risks, Allen (2019) enumerates "exacerbating the price effect of European Central Bank bond-buying, widening the spread between German yields and those of riskier assets, such as Italy's bonds. […] The wider spreads are between ostensibly equal member states. The more volatile they are, and the more investors focus on them as a barometer of political risk, the more political the sovereign debt markets become.", Allen K. (2019), "We need to talk about Bunds", Financial Times, Opinion Tail Risks, 18 February.

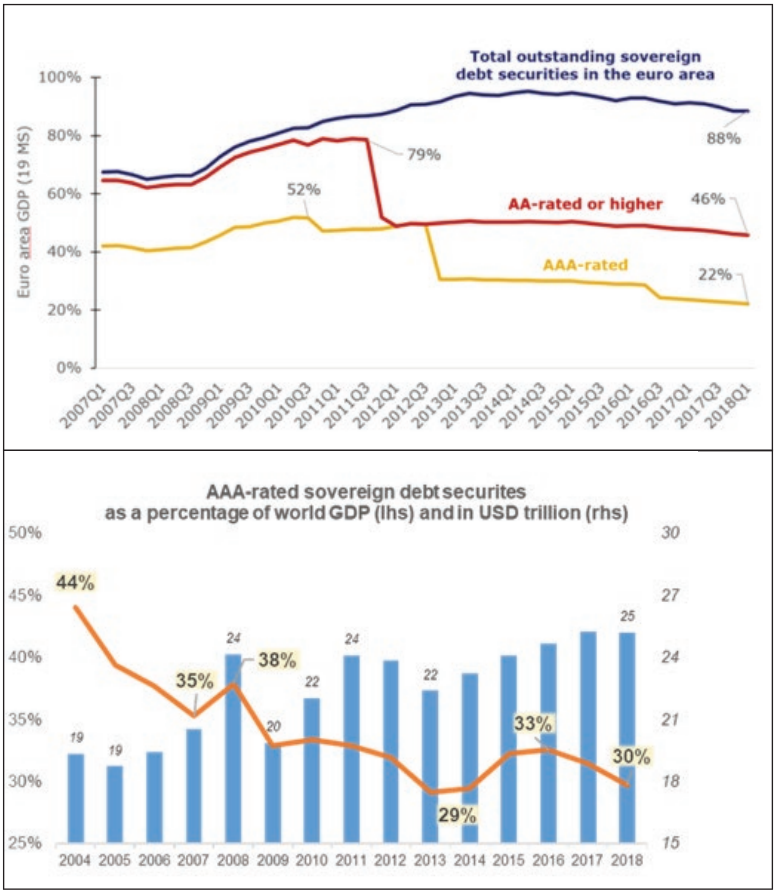
raises questions about the implications of the current EMU architecture for the conduct of policies in other countries of the euro area. There is a more fundamental question of whether the current situation with a national safe sovereign asset acting as the cornerstone of the financial system is compatible with having free capital mobility and maintaining economic and financial stability in a monetary union (Van Riet, 2017).[16] This is also leading to an uneven distribution of the benefits of the euro, in particular of the part of the 'exorbitant privilege' that the euro has enjoyed since its creation.[17]

The asymmetry in the euro area financial architecture is compounded by a scarcity of safe assets at euro area and global level. Financial development and the integration of global financial markets have increased the relevance of liquidity and the use of collateral instruments, and hence the demand for safe and ultra-liquid assets. Against this trend, the relative supply of safe assets in the euro area and at global level has fallen to unprecedented levels due to the combined loss of credit quality in parts of the euro area and the significant increase of global GDP over the past years, namely with the growth of China and India, which however do not supply AAA securities. As such, AAA sovereign bonds in the euro area represent only 22% of EA GDP in 2018, down from a peak of 52% in 2010, and global AAA sovereign bonds only 30% of world GDP, down from 44% in 2004 (See Figure 6).

16 Van Riet, A. (2017), "Addressing the safety trilemma: a safe sovereign asset for the eurozone", ESRB Working Paper Series No 35 / February; See also Gabor: "for the Eurozone, a fundamental problem is that the German bunds play the role of safe asset, for complex historical reasons. This is unsustainable." Gabor D. (2019) tweet at @DanielaGabor, 19 June.

17 According to Gräb et al (2019) "Some euro area sovereigns enjoy an economically significant "exorbitant privilege" stemming from large holdings of foreign central banks relative to outstanding euro area safe debt. As foreign central bank holdings of euro area government debt are concentrated in a few euro area countries issuing debt that is seen as risk-free, the "exorbitant privilege" can be interpreted as having contributed to widening intra-euro area sovereign bond spreads.", Gräb, J, Kostka T. and D. Quint (2019), "Quantifying the "exorbitant privilege" – potential benefits from a stronger international role of the euro", in ECB (2019), *op.cit*.

Figure 6. The supply of high-quality safe assets has fallen in the euro area and globally



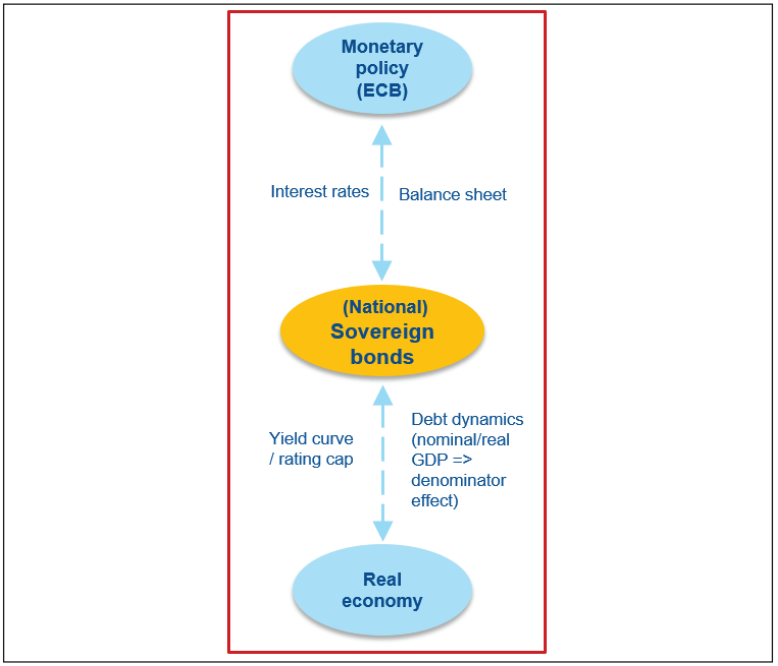
Source: Moody's, Eurostat, own calculations.

The scarcity of safe assets challenges the conduct of the single monetary policy, in terms of standard and unconventional monetary policy operations against a zero-lower-bound and the limits to the asset purchases, as well as the transmission of monetary policies.[18] We actually believe that it is these developments in financial market equilibria – rather than evolution in real economy variables - which determine the market reference/benchmark interest rates and are currently pushing them against the zero-lower bound.[19] This makes it difficult to achieve the inflation target. Cumulated over the past decade, the nominal level of GDP is probably lower by 10% compared what would have been if the inflation target of close to but below 2% had been met in a symmetric way. This keeps the debt-to-GDP ratios of high debt countries higher than otherwise, feeding doubts about their sustainability and incresing risks of financial instability (See Figure 7).

18 See Grandia, R., P. Hänling, M. Lo Russo, P. Åberg (editors) (2019), "Availability of high-quality liquid assets and monetary policy operations: an analysis for the euro area". ECB Occasional Paper Series No 218. According to the authors, demand for high-quality liquid assets (HQLA) (and possible scarcity phenomena) interferes with the efficiency and efficacy of the monetary policy implementation framework of the Eurosystem, i.e. with its ability to ensure that monetary and financial conditions are in line with the central bank's monetary policy stance. Scarcity phenomena may reflect flight to-quality effects in periods of distress, rendering the perimeter for "safe assets" more contained than that of the HQLA definition. See also, Brand, C., L. Ferrante and A. Hubert (2019), "From cash- to securities-driven euro area repo markets: the role of financial stress and safe asset scarcity", ECB Working Paper Series, No 2232. According to the authors, the asymmetries in repo spreads across countries in the euro area indicate lingering market fragmentation along jurisdictions and a structural scarcity of safe assets. These resulting divergences in funding conditions risk perpetuating differences in lending and borrowing conditions further along the monetary policy transmission mechanism.

19 The supply of safe asset (or, rather as we suggest here, the imbalance between (the global and/or regional) demand and supply of safe assets) has been highlighted by Borio and Disyatat (2011) as a factor affecting the market interest rate: "the balance between ex ante saving and ex ante investment is best regarded as determining the *natural*, not the *market*, interest rate. The interest rate that prevails in the market at any given point in time is fundamentally a monetary phenomenon. It reflects the interplay between the policy rate set by central banks, market expectations about future policy rates and risk premia, as affected by the relative supply of financial assets and the risk perceptions and preferences of economic agents. It is thus closely related to the markets where financing, borrowing and lending take place." Borio C. and P. Disyatat (2011), "Global imbalances and the financial crisis: Link or no link?", BIS Working Papers, No 346, Monetary and Economic Department, May.

Figure 7. Interlinkages: monetary policy, national bond markets and the real economy



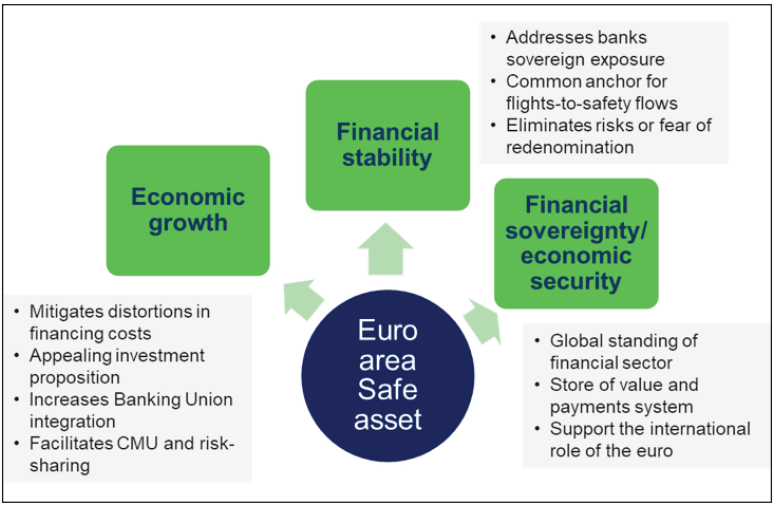
In addition, the current architecture of sovereign bond markets increases noise in their prices, which in turn weakens the incentives for sound policies and fiscal discipline. Monteiro and Vašíček (2019) show that the dynamics in bond prices have been largely driven not only by differences in debt ratios, but also by bouts of illiquidity and divergent market sensitivities, suggestive of flight-to-safety phenomena, among other factors. Panel model-based evidence is also suggestive of instances of price misalignment from fundamentals.[20] To increase incentives for sounder policies and avoid overreactions, there seem therefore to be merits in reducing noise in the bond markets.

20 Monteiro D. and B. Vašíček (2019), "A retrospective look at sovereign bond dynamics in the euro area", Quarterly Report of the Euro Area, Volume 17 No 4/18.

Addressing the peculiar role of national bond markets calls for a European safe asset

It is important to start a reflection on how to improve the functioning of the sovereign bond markets in EMU. One way would be to consider the creation of a European safe asset. A common safe asset has the potential to reduce the scope for destabilising intra-euro-area capital flows in times of elevated risk aversion, the so-called flights to safety that hurt investment, and to support a stronger international role of the euro. A supply of a homogeneous, high-quality supranational asset would provide a common yield curve that would better reflect expectations and financing conditions, and could be shaped more easily by monetary policy operations. It would ease the conduct of open market operations and allow the European Central Bank to use its policy toolkit more effectively (see Figure 8).

Figure 8. Benefits of a common European safe asset



A European safe asset would also underpin and support progress towards the banking and capital market unions. The common safe asset would provide a single term structure for risk-free interest rates that could serve as pricing benchmark and contribute to the creation of an integrated and liquid European market for corporate funding. It may also help to distribute more evenly the 'exorbitant privilege' that the euro

seem to enjoy.[21] Finally, one could argue that a common issuance of a safe asset could also be seen as form of regained - though shared - sovereignty, overcoming the feeling in several countries that they have lost the capacity to run their own national policies with respect to what is decided in Germany. This feeling may be behind the fall in support for the euro by Italians over the past years visible in Figure 1.

To be viable politically and legally in view of the Treaty requirements, the construction of the safe asset should avoid any mutualisation of debt or the transfer of risk from one member state to another. Each country should be fully responsible for its own debt and the consequences of its fiscal policies, which should reduce the risk of moral hazard. A safe asset could as a matter of fact allow a more linear functioning of sovereign bond markets, facilitating more consistent pricing of fundamentals and in particular of debt developments, creating better conditions and stronger incentives for conducting sounder fiscal policies.

While fascinating, the idea of a common European safe asset, which is controversial, should be kept in the right perspective. The discussion is hard to start as people have different constructions in mind, which would have very different consequences, and this generally leads to premature rejections of the concept itself. Even supporters of a European safe asset are sceptical that it could be introduced in the near- to medium-term, including as they see no feasible design in the near term.[22] Therefore it is important to first create a consensus on the potential benefits of a common safe asset, and then have a calm, analytical discussions on the possible options. Only at that point, any political consideration on its introduction may start. This may take long.

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21 According to Gräb et al (2019) "One ingredient for a stronger international role of the euro is to have a larger supply of safe assets. This can, for instance, be achieved by maintaining or restoring sound and sustainable fiscal policies throughout the euro area. In the longer term, the creation of a common euro area safe asset, if so decided by Member States, in a way that does not undermine incentives for sound national fiscal policies, could also contribute to this objective. An indirect benefit of a strong international role of the euro would be that the euro's "exorbitant privilege" would be more widely shared across euro area sovereigns. Gräb, J, Kostka T. and D. Quint (2019), *op.cit.*

22 See among others, B. Cœuré, (2019) "We know that the journey towards a true European safe asset, one that does not vanish on rainy days, will be long and full of perils. While progressing towards this objective, we should thus also focus our efforts on "upgrading" the credit quality of outstanding liabilities, which can only be achieved if governments make public debt more sustainable by committing to credible fiscal rules.", *Op. cit.*

A long-term issue, but it would be better to address it earlier than later

The question is whether a long-term horizon for overcoming the peculiar role of sovereign bond markets in EMU is appropriate, in the face of a vulnerability which has emerged in recent years. After a series of rating agencies downgrades of a number of euro area sovereigns during the crisis, the current situation leaves the euro area exposed on the one hand to eventful decisions by rating agencies on whether a government bond is investment grade or not, and on the other hand to uncooperative behaviour by governments who enjoy the advantages of the euro, but do not want to respect its fiscal rule. Both can generate shocks across bond markets, and hence for the domestic banking sector. That carries risks for the real economy of the specific country but also for the stability of the euro area as a whole, something already experienced during the Greek crisis.

One way to avoid systemic effects from a possible downgrade or even default of national bonds would be to reduce banks' excessive exposures to domestic sovereign. Changes in the regulatory treatment of sovereign exposures are advocated by some to achieve this objective. This is also a controversial concept, as this avenue could bring concerns for financial stability. In addition, it can go only as far as containing excessive exposures, because banks do need national sovereign bonds for liquidity and collateral purposes, which normally goes as far as 150% of their Tier 1 capital. To reduce risks more decisively would require reducing banks' exposure more significantly. This seems possible only by creating the condition for replacing most of them with a European safe asset. By providing the European banking sector with a non-national (supra-national) asset, which becomes the main instrument for liquidity and collateral, banks could find it attractive to reduce their exposures to national sovereign bonds. This would be even more so as this asset would probably be backed by the ECB as a lender of last resort, which would overcome once and for all the sovereign bond 'demotion' noted by Constancio.

While progress may be made only in steps, the sooner the functioning of sovereign bond markets can evolve, the sooner the EMU architecture can become stronger.[23] If banks' portfolios naturally shift towards the European asset, the latter's introduction would help to sever the sovereign-bank doom loop and mitigate risks from the implementation of other complementary changes, such as regulatory. Overall, it would favour progress towards the Banking Union. Additionally, as 'national' bonds would become more similar to 'municipal' without systemic implication, the no-bail out rule of the Treaty would become more credible, creating better conditions for other discussions, such as on the creation of a European stabilisation function, being it to stabilise investment, or to support unemployment.

It is to be noted that calls for further work on the question of European safe assets are increasing among observers and policy advisers.[24] Noteworthy is in particular that the question also appears among the areas for further work identified by the Chair of the High Level Working

23 It is noteworthy that strong calls come in particular from high personalities from the Central banking world, such as former Vice-President of the ECB Constancio, Board Member Cœuré, or the Governor of the Banca d'Italia Visco, stressing the link between the various components of EMU. Constancio, V (2019) notes that "Monetary Union, Banking Union and Capital Markets Union are deeply intertwined. A European Safe asset is a linchpin of the three projects.", *Op.cit..*; Visco V. (2019) states that "the introduction of safe assts in the euro area is the common denominator necessary to complete the three unions – Banking, Capital markets, Fiscal – that need to accompany the monetary Union"; Considerazioni finali del Governatore, Relazione annuale, Banca d'Italia, 31 maggio 2019, (our translation), https://www.bancaditalia.it/pubblicazioni/interventi-governatore/integov2019/cf_2018.pdf; Cœuré B. (2019): "Sound fiscal and structural policies are needed to provide international investors with what they need most: a large and elastic supply of safe assets. The fact that the supply of euro-denominated safe assets can shrink at precisely the time when demand for such assets is rising has not been lost on investors. It is likely a dominant factor keeping the euro from having a stronger international role." in "The euro's global role in a changing world: a monetary policy perspective", Speech at the Council on Foreign Relations, New York City, 15 February 2019.

24 See CEPS-ECMI: "a euro area safe asset and a high-quality reference euro-bond yield curve would be a major step forward towards more integration in Europe's capital markets and will further enhance private risk-sharing in the euro area. It will create a deep and liquid European bond market, which will set a benchmark for all markets. Moreover, it will support further portfolio diversification, while providing a new source of high-quality collateral for cross-border financial transactions", CEPS-ECMI (2019), "Rebranding Capital Markets Union: a market finance action plan", Report of a Task Force, Centre for European Policy Studies and European Capital Markets Institute, June 2019. See also, Nielsen E. (2019), "Sunday wrap - Chief Economist´s Comment", UniCredit Research, 16 June. "This calls for urgent policy action to help the ECB not being "the only game in town", both via fiscal stimulus but also by getting the work under way to create a proper euro-denominated safe asset".

group on the European Deposit Insurance Scheme, according to whom "work should continue, including through an impact assessment of the introduction of possible new measures and an analysis of market changes and implications thereof for financial stability at national/EU level, building on existing work." The measures under considerations in the area of sovereign exposures – with a focus to strengthen market discipline, reduce moral hazard and safeguard financial stability, whilst preserving the essential role and attractiveness of European sovereign bond markets – include also the introduction of a European safe asset.[25]

There is also a strong interest by market operators in exploring this idea further. A survey conducted in spring 21019 by OMFIF, the official monetary and financial institution forum, among representatives of reserve management and investment management departments at central banks, sovereign funds and public pension funds from 44 jurisdictions, collectively managing $17.9 trillion, provides important indications on this matter. The most important benefits identified, from a supranationally-issued euro area safe asset, were the creation of a highly liquid market and an increase in the supply of top-rated bonds. 81% of these representatives expressed support for further exploration of this project.[26]

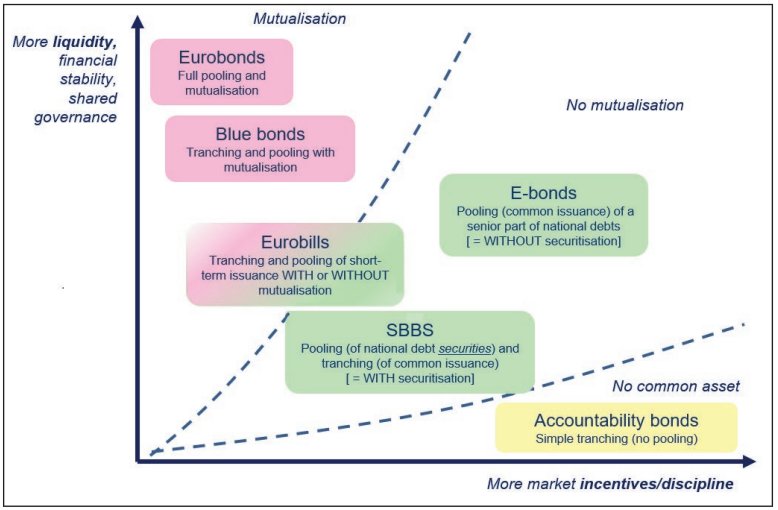
Constructing a European safe asset

Many ideas have been put forward over the last decade on how a European safe asset could be created, most facing opposition on different grounds (see Figure 9)**.** Many observers point to the legal and political limitations that apply to models involving mutualisation (such as a fully-fledged Eurobonds or Blue Bonds), as they require a European Union Treaty change. On the opposite end, constructions involving financial engineering, such as sovereign bond-backed securities (SBBS), are criticised on technical grounds, based on their behaviour in periods of distress.

25 HLWG Chair (2019), "Considerations on the further strengthening of the banking union, including a common deposit insurance system", Report of the Chair too the June 2019 Eurogroup. The latter mandated the HLWG to continue this work and report back by December 2019.

26 OMFIF (2019), "2019 Asset allocation survey: developing a euro area safe asset", in Global Public Investor 2019, pp 82-83.

Figure 9. The search for a European Safe Asset, design options and indicative mapping



Lesser-known constructions should be explored. In particular, E-bonds seem to strike a good balance between the capacity to generate a safe asset of a sufficient size and the need to encourage government to run sound policies and subject them to a more linear market discipline. E-bonds would be issued by a public entity (a common issuer with a European institutional nature) who would pass on the funding amounts thus raised to Member States by granting them unconditional senior loans.[27,28] The use of seniority, combined with a size cap, would render the E-bonds safe without resorting to securitisation, nor to mutualisation of debt (current or future) or joint guarantees. First proposed in the "Single Market

27 Note that the European Commission indicated that a euro area Treasury could operate in a similar way as it 'could take shape, to access financial markets on behalf of its members to fund part of their regular financing needs", see European Commission (2019b).

28 To some extent, this model integrates the two alternative ideas put forward by Van Riet (2017): "To address the safety trilemma member countries must therefore act as the joint sovereign behind the euro and choose from two options. First, they could establish a credible multipolar system of safe national sovereign assets. For this purpose, they could all issue both senior and junior tranches of each national government bond in a proportion such that the expected safety of the senior tranche is the same across countries while the junior tranche would absorb any sovereign default risk. […] The second option is that the member countries together produce a common safe sovereign asset for a truly integrated and stable monetary union by creating synthetic eurobonds comprising both a safe senior claim and a risky junior claim on a diversified portfolio of national government bonds.", Van Riet A. (2017), *op.cit.*

Report" by M. Monti (2010),[29] they were featured under 'Option 3' of the European Commission (2011) Green Paper on Stability Bonds as a model to support common issuance backed by several but not joint guarantees.[30] They were more recently studied by J. Zettelmeyer and Á. Leandro,[31] who came to the conclusion that E-bonds have attractive features in terms of safety, liquidity and incentives, and that their potential size and attractiveness, as well as their impact on national bond markets, deserve careful investigation. Without affecting the outstanding stock, nor changing the volume of debt in the euro area, this approach could deliver a European supranational safe asset of similar if not higher safety than the Bund. This would fill an important liquidity gap on short-term maturities without hurting the Bund's AAA status, nor the capacity of vulnerable member states to fund themselves regularly and conveniently. It could be considered to start from the short-end of the maturity structure, similar to the Eurobills construction (without mutualisation) to then evolve over time by extending the maturities and creating a full European yield curve.[32] Whether such a construction may be able to fulfil all the necessary technical, legal and political considerations remains to be seen.[33]

29 Monti, M. (2010) "Supporting the single market and financial integration, through the issuance of E-bonds" in *A new strategy for the Single Market: at the service of Europe's economy and society* (Report to the President of the European Commission José Manuel Barroso), pages 61-64, May 2010, http://www.europarl.europa.eu/meetdocs/2009_2014/documents/empl/dv/empl_monti_report_/empl_monti_report_en.pdf. E-bonds were also proposed by J.-C. Juncker and G. Tremonti (2010), although their proposal was at that time misinterpreted as embedding mutualisation. See "E-bonds would end the crisis", Financial Times, 5 December 2010.

30 European Commission (2011); Green paper on the feasibility of introducing Stability Bonds, COM(2011) 818 final, http://ec.europa.eu/economy_finance/articles/governance/2011-11-23-green-paper-stability-bonds_en.htm

31 Zettelmeyer, J. and Á Leandro. (2018) "Europe's Search for a Safe Asset, Policy Brief 18-20" October 2018, Peterson Institute for International Economics, https://piie.com/publications/policy-briefs/europes-search-safe-asset and Leandro Á., and J. Zettelmeyer (2019), "Safety Without Tranches: Creating a 'real' safe asset for the euro area", CEPR Policy Insight, No 93. https://cepr.org/sites/default/files/policy_insights/PolicyInsight93.pdf.

32 See also CEPS-ECMI: "The first step should be the joint issuance of short-term treasury bills, on the basis of a clear distribution key and with the participation of national debt management offices in its governance. The potential of issuing longer-term bonds as well should be subject to further analysis of the different possible models." CEPS-ECMI (2019), *op. cit*. Other relevant sources on Eurobills are Bishop G. (2018), "Temporary Eurobill Fund (TEF): 30 FAQs", May, and the conclusions from the Expert Group on Debt Redemption Fund and Eurobills, European Commission (2014), March.

33 Giudice G. (2019), "A common asset to anchor EU markets", in OMFIF (2019), *op. cit.,* p.118.

Conclusions

Europe has taken a huge political step in creating the euro and its economic and monetary union. People strongly support the euro and there should be no doubt about the intention of the EU institutions and the euro area member states to underpin the euro with the strongest institutional architecture possible. A lot has been done to overcome the crisis, not only at EU level, but also at national level. Member states should continue to strengthen the resilience of their economies as this reduces vulnerabilities and increase their capacity to growth and prosper. This is crucially important for countries which intend to join the euro, such as such Romania and Bulgaria, as this implies a regime shift which can bring significant benefits, but also important risks which should be minimized with a good preparation.

Further determined collective efforts will be needed to advance further to complete Economic and Monetary Union by 2025 at the latest. This is important not only for its current members, but also to make EMU more attractive for those EU countries which do not have the euro yet. While completing EMU is a challenging process, there is both progress in the short term and signs that discussions are moving from urgencies to the long term vision, as suggested by the ongoing debate among member states on how the steady-state banking union should be. And there are areas on which reflections should advance, possibly more rapidly than envisaged so far, such as on how the sovereign bond market can work better around a common safe asset. One possible avenue to address these questions could be in the context of the ongoing discussions on a steady-state banking union. These are challenging and controversial ideas, but finding the right way to make them operational would help to strengthen the euro area and deliver a complete EMU architecture by 2025.

Does the Euro Area Need a Safe Asset? Does the Euro Area Banking System Need a 'European' Safe Asset?

Daniel Gros[1]

Abstract

The euro area has already two assets, which the market treats as safe: i) Bunds, i.e. securities issued by the German federal government, with an outstanding amount of about 1.100 billion euro. But only a fraction of this amount is available for the private sector. ii) Excess reserves of banks in the Eurosystem, with an outstanding amount of about 1.500 billion.

The problem is that banking regulation considers all euro area government bonds as riskless and liquid even when this is clearly not the case for all of them, especially under stressed conditions.

Any future new, common, safe asset would have to compete with the two existing ones. Unless the new safe asset is given some special regulatory advantage, it might not have a significant impact on the way the banking system operates.

At any rate, excess reserves are today large enough to satisfy, on their own, most of the liquidity needs of euro are banks. The ECB could easily make excess reserves more attractive by accepting longer term deposits.

1 Contribution for a conference on 25 April 2019, at the conference "European Financial Infrastructure in the Face of New Challenges", Session 3 – Towards a European Safe Asset?, organised by the Florence School of Banking and Finance at the European University Institute.

Introduction

The underlying assumption in most of the contributions to this conference is that the one key missing element of the euro area is a 'safe' asset. The importance of a safe asset in general is actually not universally recognized[2], but this contribution will take the desirability of a safe asset as given.

What is a 'safe asset'? In countries with their own currency, **domestic** government bonds are usually considered 'safe' because it is assumed that in an emergency the government could always force the central bank to stamp enough money to service its debt. This is not always true, as Rheinhard and Rogoff (2008) have shown. Domestic defaults are rare, but they do happen occasionally. But one could argue that in today's advanced countries the probability of a domestic default is negligible. However, the probability that central bank financing leads to higher inflation cannot be ruled out as the current discussion on Modern Monetary Theory (MMT) shows. In today's advanced economies, government debt can thus be considered only 'safe' in the sense that the nominal amount is virtually guaranteed[3].

At any rate, no euro area asset is free of risk in nominal terms because no single government (and not even a coalition of many governments) could force the ECB to underwrite this asset by buying unlimited quantities of it. The Maastricht Treaty expressively forbids any so-called monetary financing. Bonds jointly guaranteed by all Member States might also be considered 'safe', but they would not be compatible with the Treaty

2 Portes (2013).

3 Brunnermeier and Haddad (2014) argue that safe assets possess the following two characteristics: "the "good friend analogy" and the "safe asset tautology". Similar to a good friend who is around when needed, a safe asset is valuable and liquid exactly when needed. Like gold, a safe asset holds its value or even appreciates in times of crisis. While a risk-free asset is risk-free at a particular horizon, e.g., overnight or over 10 years, a safe asset is valuable at an ex-ante random horizon, when one needs it. They are, therefore, held as a precautionary buffer in addition to risky assets. Indeed, holding a safe asset allows one to scale up risky investment. The second property of safe assets is the safe-asset tautology: "A safe asset is safe because it is perceived to be safe". A good example of this mechanism is the fact that the yield on German government bonds declined during the euro crisis 2011/2 although the CDS premium increased during this period as investors feared that a breakdown of the euro would create such an economic crisis that even the German government might end up having difficulties paying back its debt fully and on time. It follows from the 'safe asset tautology' that safe assets are informationally insensitive to shifts in fundamentals. It is difficult to imagine that any structured product (ESBIEs, E-bonds, etc) could become safe assets.

requirements and would require a degree of mutual support which does not exist at present.

The argument made in the euro area context is more practical, namely that at present, sovereign risk on banks' balance sheet is very concentrated: banks in some large countries (mainly Italy, Germany and Spain) hold mostly domestic government bonds in their portfolios. Large holdings of the debt of the home sovereign contribute decisively to the so-called diabolical loop, as any weakness of the sovereign bond market will immediately weaken the banks of that country. As banks' holdings of domestic sovereign bonds are at times as much as twice total equity, any loss, even partial, of the value of the home country's sovereign bonds will have a strong impact on the solvency of the country's banks.

Existing supplies of safe assets in the euro area

The euro area does have an asset which is perceived as safe and, in practice, performs the function of a safe asset. German government bonds (Bunds) are perceived as safe, they are liquid and widely used as a benchmark. Bunds perform this function although Credit Default Swaps (CDS) rates indicate that the risk of a default of the German government is not zero; and although the swap market (e.g. OIS rates) in theory offers a competing, even less risky, asset. The real question is whether the existence of this safe asset based on the liabilities of one particular government represents a desirable and stable situation.

In addition to Bunds, the ECB provides a safe asset through the vast reserves banks hold in the Eurosystem.[4] These reserves amounted to almost 1.900 billion at the end of 2018, of which about 1.500 billion were excess reserves, which in principle any individual bank can easily have at their disposal. The total amount of excess reserves is much larger than that of (tradable) German federal

4 Annual consolidated balance sheet of the Eurosystem, https://www.ecb.europa.eu/pub/annual/balance/html/index.en.html

government securities[5], which is now only around 1.100 billion euro[6]. However, ECB deposits can be held only by banks. Moreover, ECB deposits have only an overnight maturity, whereas Bunds have the entire maturity spectrum (from 6 months to 30 years). For these reasons, ECB deposits are not perfect substitutes for Bunds as a safe asset. However, in discussing the need for a safe asset, ECB deposits should be considered an important element.

The Eurosystem has bought about 2.000 billion euro of government bonds since 2014. However, the total holdings of government bonds by banks have fallen only by about 500 billion euro between early 2015 and the end of 2018. Over the same period, the reserves of the banks have increased by about 1.500 billion euro. This means that banks have increased their holdings of 'safe' assets since the start of the sovereign bond buying program of the ECB (Public Sector Purchase Program, PSPP) by about 1.000 billion euro (1.500 more in reserves, but 500 less in sovereign bonds).

The fact that banks in the euro area preferred to hold on to most of their government bonds, despite the increase in excess reserves which can also serve as liquidity, could be taken as an indication that excess reserves at the central bank are not perfect substitutes for government bonds. Another indication is banks holding mainly longer term bonds on their balance sheets. At the end of 2018, euro area banks held only about 110 billion in short term government bonds, compared to over 1.400 billion in longer term ones.

Why should banks hold any government debt securities? One key reason is regulation. De facto, banks have to hold a substantial amount

5 Source: https://www.deutsche-finanzagentur.de/en/institutional-investors/federal-securities/

6 Source: https://www.deutsche-finanzagentur.de/fileadmin/user_upload/institutionelle-investoren/pdf/Ausstehende_Bunds_en.pdf This figure refers to the outstanding debt of the federal (or central) government. Bini-Smaghi and Markuse (2018) report that the total debt securities of German general government amount to 1.500 thousand billion euro (and the total debt of German general government is around 2.000 thousand billion). Moreover, over one quarter of the total outstanding federal debt securities ('Bunds') is now held by the Bundesbank, leaving less than 800 billion euro for other investors. A study by the Bundesbank estimates the free float of German (federal) government securities at between one third and one half of the total outstanding (400 to 500 billion). (Source: https://www.bundesbank.de/resource/blob/753990/bd4bd347cccf986232b4d4c960a3b39f/mL/2018-07-anleihemarkt-data.pdf) Coeré (2018) even suggests that the free float amounts to less than 20 % of the outstanding amounts of Bunds (about 200 billion euro).

of government bonds because of the so-called 'liquidity coverage ratio' (LCR) which forces banks to have enough 'High Quality Liquid Assets' (HQLA) to cover the cash needs that could rise under certain standardised scenarios of a withdrawal of deposits and any other events requiring cash in hand. Banks can satisfy the LCR in principle using any asset, which can be quickly converted into cash. But existing regulations make government bonds de facto the main asset to be used for the LCR because all bonds of all euro area governments are classified as 'level 1' high quality liquid assets – even if they are not all particularly liquid and not all riskless. Government bonds are not the only asset classified as HQLA, but they are the best choice because holding them attracts no capital charge.

The exact amount of "level 1" HQLA needed for compliance with regulatory requirements has been estimated at approximately 2 trillion euro for the euro area banking system. This is derived under the assumption that banks want to maintain a liquidity ratio equivalent to about 15 % of assets and that about 40% can be met with lower liquidity "level 2" assets and only the remaining 60% has to be met with "level 1" assets such as sovereign bonds.

Bonds in euro issued by EU institutions like the EIB, or the ESM constitute a third class of riskless assets, which are also considered riskless by regulations. The total supply of bonds denominated in euro by these supra- and inter-national institutions is probably around 600 billion euro, but these assets seem to have been forgotten in the debate.

Thus, the practical problem is that banks in peripheral countries can use the bonds of their own governments to satisfy liquidity requirements although there are plenty of alternatives. This 'home bias' creates a 'doom loop' as the bonds lose value and liquidity whenever the home sovereign comes under financial stress.

However, supranational bonds combined with the 1.500 billion euro of excess reserves in the euro area banking system today would, in principle, be able to cover about three quarters of the overall need for HQLA in the banking system.

The greatest carry trade?

The debate about government bond holdings focusses almost exclusively on their regulatory treatment. European banking rules provide for a treatment of all sovereign bonds as riskless, even if the sovereign in ques-

Box 1-The dog that did not bark: supranational bonds?

Bonds issued by supranational institutions enjoy, in principle, the same regulatory treatment as sovereign bonds (zero risk weight plus recognition as HQLA for liquidity requirements). This applies in particular to bonds in euro issued by European or euro area institutions like the European Investment Bank (EIB) and the European Stability Mechanism (ESM) (previously EFSF). The total amount of bonds outstanding by these two institutions alone amounts to over 600 billion euro. The total amount of euro denominated supranational bonds is larger given that even non-European based institutions, such as the World Bank, issue sizeable quantities in euro as well.

Bonds issued by supranational or international institutions are usually rated very highly, most often AAA. They should thus qualify as safe assets both from a regulatory perspective, and a practical (market) point of view. Given their large amounts available in the market, banks could satisfy a substantial part of their holdings of 'safe' assets through holding supranational bonds. These bonds should be particularly interesting for banks in highly rated countries because they yield a 'pick-up' over Bunds.

However, banks do not seem to hold very large amounts of these bonds on their balance sheets. It is known that banks account for almost 40% of the order book for the ESM and EFSF bonds, but how much of this amount banks keep on their books is unknown. The PSPP has led to sharp reduction in the free float of this category of bonds since the ECB (not the NCBs in the Eurosystem, but the legal entity ECB) now holds about one-half of the outstanding amount of ESM bonds.

The interest of banks in holding ESM/EFSF bonds might be limited due to the fact that the supply of bonds is likely to decrease over time, as Member States repay their outstanding loans.

The more important obstacle to ESM/EFSF bonds becoming an alternative safe asset is that they might not benefit from a flight to safety in times of tension. This is at least what happened in 2012, when the increasing tension in the euro area resulted in higher spreads on ESM/EFSF bonds over Bunds. The EIB bonds should not face this problem as the balance sheet of the EIB is not likely to shrink in the foreseeable future.

tion is rated as junk, or little better. Investing in de facto risky sovereign bonds at zero regulatory risk seems like an irresistible carry trade.[7]

But it is a mistake to look only at the regulatory treatment of one particular asset. One needs to consider the entire balance sheet; and how the composition of assets affects the cost of financing on the liability side. This simple point is too often overlooked: banks need to finance their holdings of government bonds by issuing liabilities to the public. When they concentrate their holdings on high yielding, but risky, domestic government bonds, their own risk will increase and the cost of re-financing will increase. This also implies that the differences in the regulatory treatment between the so-called 'banking book' and the rest of the balance sheet do not matter that much. If the market value of the bonds held by a bank goes down, the implications for the regulatory capital requirements and the regulatory profit/loss accounting can be very different depending on whether the bank has classified these bonds as 'hold to maturity', versus 'available for sale'. However, for investors the value of the bank has gone down, irrespective of the view of the regulators and supervisors. This applies not only for investors in equity, but all holders of other liabilities of a given bank.

As documented below, banks often have also a sizeable exposure in loans to governments, almost all of it to the home government. It is difficult to assign a value for these loans in case the government defaults. In many cases, these loans are owed by local governments or government agencies, which might be exempted from any haircut because they perform vital functions. In the case of Greece, the 'private sector involvement' applied only to the (traded) bonds of the central government. However, it is also possible that loans to other parts of the government could be restructured, perhaps without a cut in the nominal value, but simply by extending terms and lowering interest rates. On the balance sheets of the banks, these loans can be carried at face value as they are held to maturity and the capital charge is zero.

One must thus conclude that it does not really matter that much where banks hold their sovereign bonds (and other sovereign exposures) in the balance sheet. The key point is that a large concentrated sovereign exposure contributes to the riskiness of the bank and should thus increase the price at which the bank can finance itself.

Concentrated portfolios of domestic sovereign bonds, of course, do not constitute the only reason for the bank-sovereign link. It is evident

7 Acharya and Steffen (2015)

that most banks have a loans portfolio which is heavily concentrated in their home economy. Therefore, there will unavoidably be a large impact of any sovereign financing problems on the domestic economy and also on the banks operating in the country. However, large concentrated holdings add to that risk, and this addition can be quantitatively important. For example, at the end of 2018, the total exposure of the Italian banking system to its own (general) government amounted to about 660 billion euro (400 billion in debt securities and about 260 in loans), which is about the same amount as loans to non-financial corporations (680 billion). A sovereign default could thus easily double the losses that would arise from even an extreme downturn in economic activity. In Spain, sovereign exposure is equivalent to 60 % of loans to the non-financial corporate sector.

Moreover, large concentrated sovereign bonds holdings by the banking system might also add to the financing cost of rescuing the government if it gets into a crisis. This was visible in the case of Greece where the banks held about 60 billion euro of government bonds. When the Greek government defaulted on its bonds, the Greek banks had to be recapitalised and the European institutions had to increase the amount they lent to Greece by this amount.

Government bonds constitute only one part, albeit important, of the overall balance sheet of a bank. It is thus difficult to measure directly the impact of a concentration of government bond holdings on the re-financing cost of banks, which are affected also by liquidity, the riskiness of its loan book and many other factors.

Gros (2018) documents one instance in which one can observe the re-financing cost directly. During the financial tensions of 2011-2012, Italian banks bought a considerable amount of Italian public debt. At the same time, they had to renew or re-issue large amounts of their own bonds. The yield on these bonds was generally higher, by about 1 % point, than the yield on the Treasury Bonds – BTPs the banks were buying. The banks made thereby substantial losses as they carry on the operation: the purchase of government bonds financed by issuing bank bonds was negative.

One could of course argue that issuing their own (senior) bonds does not always constitute the way banks (re-)finance their holdings of sovereign debt. The view that acquiring domestic government bonds was 'The greatest carry trade'[8] is based on the idea that government bonds

8 Achariyan and Steffen (2012)

can be bought with cheap deposits and that the equity holders can benefit from the upside, while their downside is limited. Over time, the financing structure of banks has changed, as the loan/deposit ratio, which had increased during the boom, fell back to unity and below in many countries (including Italy and Spain). However, even today, the total of bank bonds issued by Spanish banks is equivalent to over 90% of the holdings of sovereign bonds. For Italy this is still 66%.

The 'carry trade' hypothesis is also difficult to reconcile with the fact that German and French banks also concentrate their bond holdings on the domestic sovereign. It is difficult to explain rationally why German banks hold mostly German government debt (over two thirds of the general government debt held is domestic) when Italian bonds promise a much higher yield. The same applies to French banks, whose holdings are 80% domestic.

In the past, one could argue that the German (or French) supervisor exerted moral suasion on German banks not to hold any 'peripheral' sovereign debt. However, most of the German banking system is now supervised by the Single Supervisory Mechanism (SSM), which is the supervisory arm of the ECB. But little seems to have changed in the domestic concentration of government bonds holdings by German banks.[9]

It is often argued that Italian banks hold Italian government bonds because they yield a better return than other sovereign bonds (and have a zero-risk weight, as the others). However, the same argument should also apply to German, French and other banks. If it were simply a question of higher return with a zero regulatory risk weighting, one would expect all banks in the euro area to hold mainly high yielding bonds.

The reasons for the concentration of banks' sovereign bond holdings are thus not well understood – at least not for the banks in highly rated countries. Farhi and Tirole (2018) provide a model for banks in countries subject to default risk, which incorporated explicitly also the potential for a bail-out by other countries which would be negatively affected by a default. In their set-up, stringent banking supervision, enforcing diversification requirements, represents the first best solution.

The best explanation for the concentrated home exposure of banks might thus not be the simple carry trade, but the fact that a larger

9 A recent IMF study, which focusses on the bond holdings of the major banks, which are supervised by the SSM, shows that German Banks still hold mostly German government debt, instead of higher yielding peripheral bonds. Moreover, some German government bonds yield even less than deposits with the ECB, which are even more liquid and presumably as safe as German government bonds.

holding of risky bonds increases the funding costs for banks. For banks in highly rated countries, this effect discourages the holding of peripheral bonds. For peripheral countries, the 'carry' on government bonds might in reality be negative, but this can be more than compensated by the covariance effect. In good states of the world, the bank can keep the high yield; but in bad states of the world, i.e. if the domestic sovereign has to be restructured, the banks are likely to be bailed out, at least partially (through the ESM or the Single Resolution Fund – SRF, for example). By contrast, banks in core countries are unlikely to be compensated for losses they make on investment in peripheral bonds.

Conclusions

The discussion about the need for a common safe asset for the euro area does not seem to make much progress. The euro area has a safe asset, in the form of Bunds. This is not a desirable situation from a political point of view. But the claims that creating an (additional?) **common** safe asset would yield large economic benefits are largely based on untested assertions about how another crisis would evolve if the flight to quality were to be directed to the common safe asset instead of Bunds (something which cannot anyway be taken for granted).

Much of the policy discussion evolves about the doom loop, which arises when banks hold a large amount of government bonds on their balance sheet. From a regulatory point of view, these holdings are considered riskless and only part of them are subject to market rules. An increase in the risk spread can thus lead to some loss of capital, as measured by regulators and supervisors. However, this emphasis on capital requirements represents a partial point of view, which does not reflect the fact that financial markets will value the equity and debt instruments of a bank based on the overall riskiness of the bank. This implies that the market value of a bank will fall irrespective of whether the regulatory capital changes a lot or not. Moreover, one has to take into account other sovereign exposures, mostly through credits, which in a number of cases are as important as the bond holdings. What matters for the stability of the banking system in times of crisis is thus the overall exposure to the own sovereign.

Enforcing or at least encouraging diversification of the (total) exposure to the own sovereign is something which should be undertaken now, whether or not there is progress on a common safe asset. The claim that

a gradual diversification of sovereign exposures would create havoc in financial markets is no longer tenable, given the low risk spreads on most (formerly?) peripheral countries whose public debt is now on a declining trajectory.

Italy is the exception, which shows that fiscal policy remains ultimately in national hands, and that domestic political choices can lead quickly to return of high spreads. However, even in these circumstances, large domestic bond holdings are likely to constitute a burden for the banking system because the re-financing costs of banks are (and should be post-BRRD, the Bank recovery and resolution directive) higher than that of the sovereign. Even for Italy it is thus difficult to see why a gradual diversification (and maybe reduction) of the holdings of BTPs by Italian banks should lead to any financial stress.

Diversification could be facilitated by recognising in banking regulations that, logically, investment funds composed only of euro area government debt should not lead to higher capital requirements than the underlying government bonds themselves. Adopting this 'look through' principle would be an easy step to take.

Moreover, the very large asset purchases of the ECB have resulted in large excess reserves of the banks. These reserves amount to 1.500 billion euro and they should count as high quality liquid assets, to satisfy liquidity requirements. These reserves are today large enough to cover about three quarters of the estimated 2.000 billion euro in liquidity requirements in the euro area. The ECB could make these reserves a more attractive asset for banks, by providing a large maturity spectrum (e.g. from daily to 3-month to 3-years). This constitutes another easy step, which could be taken immediately to wean banks from their concentration on domestic government bonds.

Making excess reserves more attractive as an asset for banks and facilitating diversification will not solve the perceived safe asset problem, but the political and legal hurdles for taking these two steps are rather low. In combination, this could provide a way to reduce concentration in bond holdings, thus mitigating the doom loop.

Annex 1: Beware of classification and other data issues

Measures of the exposure of the banking system to its own sovereign require different data than measures of the supply of (regulatory) safe assets. Moreover, one needs to distinguish between central and general government. The central government level is the one which typically issues the widely traded debt securities (bonds and shorter-term bills). The relative importance of different instruments and levels of government differs greatly across countries.

For example, banking statistics show that Euro area banks hold a sizeable amount of German government debt securities and German banks hold about 170 billion euro worth of domestic general government debt. But holding statistics suggest that only a small amount of Bunds is held by German banks. This apparent inconsistency in the data could be resolved if German banks held mostly general government debt securities other than Bunds. These other debt securities might be of the Länder and of social security institutions. Moreover, German banks have relatively large loans to the general government sector outstanding (presumably mostly to lower levels of government). The total exposure (loans plus debt securities) is thus rather large, both in absolute terms (about 460 billion euro) and relative to total German government debt (about 23% of the total).

In Italy, the total exposure of the domestic banking system to the sovereign (general government) is higher, but not much: in addition, the composition is somewhat different: debt securities, mostly of the central government, form the largest part.

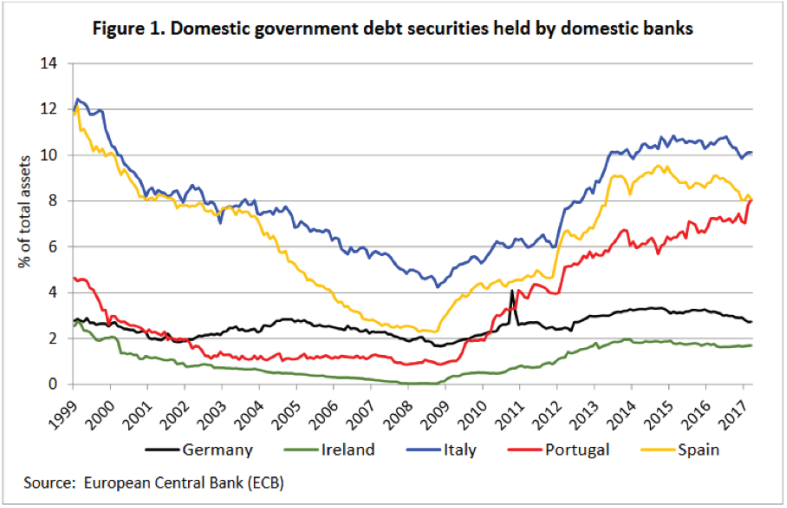
France seems to be the country, among the four largest Euro area ones, in which the exposure to the domestic sovereign is the smallest, both as a percentage of overall assets (4%) and as a percentage of total government debt owed to banks (16%). In Spain, the share of total government debt held by the domestic financial system is the largest, at almost 36%.

Table 1: exposure of the domestic banking system to its own sovereign

	Total*	Of which:*	Debt securities*		Ratios		
		Loans	Domestic	Cross border	Cross border % total securities	Total GG exposure % total GG debt	Total GG exposure % assets
DE	460.9	292.3	168.6	93.1	35.6	22.5	5.8
IT	660.8	265	395.8	50.7	11.4	28.7	17.9
FR	373	213.5	159.5	40.3	20.2	16.2	4.0
SP	429.3	69.7	359.6	59.4	14.2	35.8	16.3

**All figures in billion euros.Data: February 2019.*
Source : Author's own calculations on ECB data.

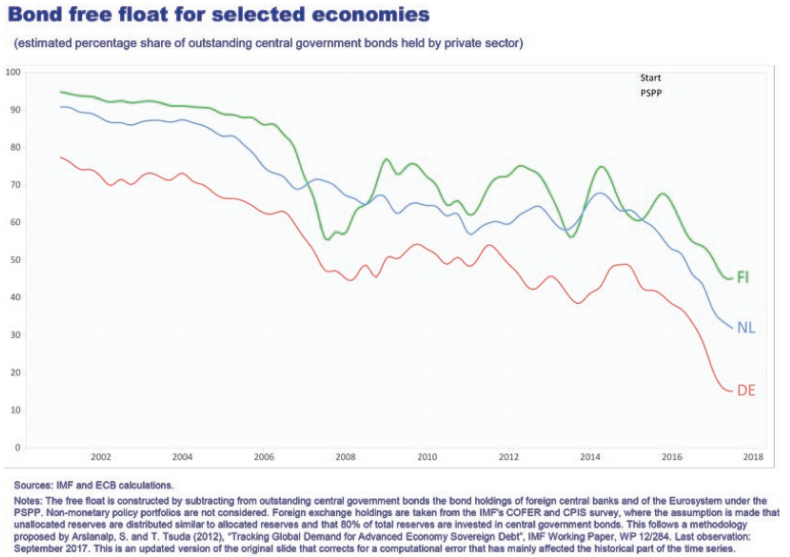
Figure 1: Domestic government debt securities held by domestic banks



Source: Zettelmayer (2018)

Annex 2: Two measures of the free float of Bunds.

Figure 2: The bond free float measurably in the wake of the APP



Note: The free float is constructed by computing the fraction of outstanding bonds that is held neither by the Eurosystem under the public sector purchase programme nor by foreign central banks as part of their foreign exchange reserves. In each case, the free float has shrunk significantly since the asset purchase programme began.

Figure 3: Holder structure of Federal securities

%

Holder	2014	2015	2016	2017
Geographical breakdown				
Germany (incl Bundesbank)	11.6	17.9	26.4	34.4
Euro area excl Germany	20.6	20.0	18.4	16.5
Non-euro area countries	59.8	55.0	48.2	44.6
Not recorded	8.0	7.1	6.9	4.5
Sectoral breakdown				
Private sector				
Germany	7.0	6.8	6.1	5.4
Financial investors	6.0	6.0	5.4	4.9
of which MFIs (banks)	1.6	1.6	1.2	0.8
Investment funds	3.2	3.3	3.1	2.9
Insurance corporations and pension funds	1.1	1.2	1.1	1.2
Non-financial investors	1.0	0.8	0.7	0.5
Euro area excl Germany	19.9	19.5	18.0	16.1
Financial investors	19.6	19.2	17.7	15.9
of which MFIs (banks)	3.4	2.2	2.0	-0.1
Investment funds	7.9	8.7	7.4	7.1
Insurance corporations and pension funds	7.8	7.9	8.0	8.3
Non-financial investors	0.4	0.3	0.3	0.2
Non-euro area countries	31.7	32.2	27.9	25.4
Public sector (central bank and general government)				
Total (all countries)	33.5	34.3	41.1	48.6
Bundesbank (PSPP)	0.0	6.4	15.4	23.5
Free float estimate (from … to …)[1]	49.7-58.6	49.5-58.6	42.9-52.0	37.4-47.0

Sources: ESCB (SHSS database) and Bundesbank calculations. * Holdings at year-end based on nominal values. Securities issued by FMS Wertpapiermanagement and central government's off-budget entities are not included. The figures for "euro area excl Germany" do not contain any own holdings of the ECB or the euro area national central banks. **1** The upper limit of the free float range is calculated as the sum of the total private sector; the lower limit reduces this figure by excluding insurance corporations and pension funds.

Deutsche Bundesbank

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Time Consistent Solutions to the Euro Area Doom Loop

Michala Marcussen and Lorenzo Bini Smaghi

Introduction

The sovereign-bank doom-loop that shaped the euro area debt crisis remains present and comes with a high price tag for the entire region from prolonged downturns, lacklustre expansions, financial fragility, reduced policy room or even political risks. While there is no lack of proposals as to how to fix this, be it common safe assets, the treatment of government bonds on bank balance sheets or new debt restructuring rules, the status quo holds attraction for both the core and the periphery. As such, the danger is that it will take a new crisis for any of the proposals to see the light of day. Moreover, even with the best political will, there is a transition to manage in introducing new measures.

This reality leads us to consider three timeframes in the debate on how to break the doom-loop, a long-term future framework, a transition hereto, and a quick response in the event of crisis. The Purple Bond proposal has been designed with these timeframes in mind and while the original paper presented a transition to Red-Blue Bonds[1], the proposal can readily be combined with other ideas, such as E-bonds. Purple Bonds can, furthermore, be quickly implemented as a stabilisation tool in crisis.

Starting from the present, the first section weighs the economic costs of the status quo against its political benefits. Next, we offer a brief anatomy of bonds yield and then review the main proposals from the literature before setting out a possible long-term future framework. The

1 Delpla and von Weizsäcker (2010)

fourth section considers the transition and we conclude with some considerations on crisis management.

Economic costs vs political benefits of the status quo

While the efforts of euro area leaders to date to address the sovereign-bank doom-loop are deserving praise, be it the European Semester, the European Stability Mechanism (ESM), the Banking Union or Outright Monetary Transactions (OMT), it takes no more than a quick glance at the European Central Bank's (ECB) financial integration indicators to realise that the euro area financial system remains highly fragmented, and this at a triple cost.

1. A drag in "normal" times: Peripheral sovereign spreads have narrowed significantly since the crisis and the region is in its seventh year of expansion[2]. Spreads, nonetheless, remain significant, at an inevitable cost to growth. The ECB, moreover, has found little room to normalise its monetary policy during the expansion and is set to enter the next downturn with a negative deposit rate and an already inflated balance sheet leaving doubts on policy where further policy room can be found.

2. Costly crisis management: A member state that faces unsustainable funding costs in markets, be it a funding or solvency issue, can seek ESM assistance. At present, the ESM has a lending capacity of €410bn. This may, however, prove insufficient to fund a large member state. ESM capacity concerns are not new and motivated the creation of the OMT, under which the ECB can purchase government bonds on secondary markets with a maturity of 1 to 3 years provided that the member state in question has signed a memorandum of understanding with the ESM, fully respects the conditionality and retains full market access. Retaining market access, however, excludes the possibility of private sector involvement (PSI) foreseen in the ESM Treaty. Some argue that PSI would reduce refinancing needs; we fear it would cause devasting economic damage and spread contagion throughout the euro area.

3. Lost future trend potential: Finally, the current fragmentation, with an incomplete Banking Union and still nascent Capital Markets Union is not just a risk to financial stability but is also holding back future

2 According to the CEPR Business Cycle Dating Committee, the current economic expansion began after the trough in the first quarter of 2013.

growth potential. It furthermore limits the ability of the euro area to develop the international role of the euro[3] and thus to reduce its dependency on the US dollar, which is increasingly being used as a diplomatic weapon to enforce sanctions.

Given these costs, it can seem surprising that there is not greater political appetite to find a solution; but there is certainly no lack of proposals.

Several core member states fear that proposals for a common safe asset would turn the euro area into a debt union rather than a stability union, exposing tax-payers in the core to the risk of fiscal profligacy in the periphery. This core thus preconditions any future risk sharing on first achieving significant risk reduction and favours proposals that reduce of bank's holding of national sovereign debt and/ or facilitate debt restructuring to force greater fiscal discipline.

Turning to the periphery, the concern is that placing risk reduction ahead of risk sharing could trigger a negative spiral of higher sovereign funding costs, economically and politically costly fiscal austerity and financial instability. Such a configuration would logically increase the likelihood of a member state on the periphery being forced to seek ESM assistance and thus de facto surrender sovereignty in setting economic policy for the duration of the programme.

A brief anatomy of bond yields

Government bonds sit at the heart of the doom-loop and before we move on to briefly review the various proposals, it is useful to offer a brief anatomy of bond yields, which can be broken into six main components as illustrated below.

Figure 1: Bond yield anatomy

Counter-cyclical components are shown in blue tones and pro-cyclical ones are shown in beige tones

Source: Authors

3 European Commission (2018)

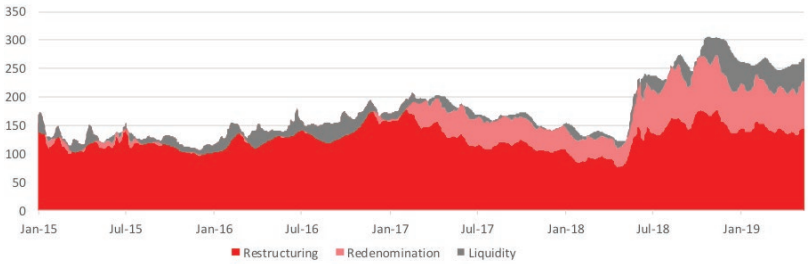
The first three components, are generally considered "counter-cyclical" for advanced economies; as the economy loses momentum, market participants would generally expect central banks to lower real short-term rates, expect inflation to decline as slack build in the economy and be willing to pay a premium for safety. These properties justify high ratings by rating agencies and explain why banks and other financial institutions are encouraged by regulators and supervisors to hold such "safe assets".

The next three components tend to behave "pro-cyclically" and compensate investors for the liquidity risk of not being able to use the bond to access cash and the credit risks of losing capital though default. In the case of the euro area, it is useful to break credit risk down into two components; a redenomination risk, reflecting the risk of a member state exits the euro and repays investors in a new devalued currency, and a restructuring risk, that essentially reflects the risk of debt restructuring, be it under an ESM programme or euro exit.

German Bunds are today considered the euro area's main safe asset and consist primarily of counter-cyclical factors. Subtracting the Bund yield from the government bond yields of other member states thus isolates the pro-cyclical risks as the spread. To further decompose the spread, CDS offer a useful albeit far from perfect proxy[4] to first isolate liquidity risks and then further isolate redenomination and restructuring risks. It is important to keep in mind that both restructuring and redenomination risks comprise the probability of the event occurring and the loss, if the event occurs. As seen, our proxy breakdown of Italian spreads currently contain liquidity, restructuring and redenomination risk.

4 For discussion of issues relating to sovereign CDS spreads, see Duffie (1999), Fontana and Scheicher (2010) and De Santis (2015).

Figure 2: Dissecting the 10-year Italian bond yield spread over Germany



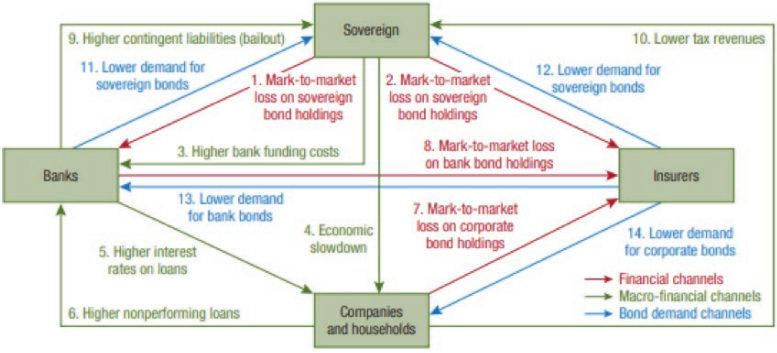
Source: Datastream and own calculations. Several options exist to decompose spreads. Here we draw on the differences between CDS issued under the ISDA 2003 convention, which does not consider redenomination of Italian debt into a new Italian currency as a credit event and the 2014 ISDA that does. The cash bond spread over Germany can thus be broken down into restructuring risk drawing on CDS under ISDA 2003, redenomination risks, drawing on the spread between CDS issued under ISDA 2014 and ISDA 2003. The residual to the cash spread is considered a broad measure of liquidity risk.

Benchmarking the proposals

Breaking the sovereign-bank doom loop extends well beyond reducing banks holding of national sovereign bonds. In its latest Global Financial Stability Report, the IMF[5] described the doom-loop under three major headings: (1) financial channels, describing mark-to-market losses on sovereign bond holdings on financial sector balance sheets, (2) macro-financial channels, describing the channels by which shocks move between the financial system and the real economy through tighter credit conditions, lower economic growth, higher NPLs and weaker public finances, and (3) bond demand channels, that see wary investors demand higher premiums, or altogether shy away from, sovereign, bank and corporate bonds. Removing the doom-loop requires that all three channels be addressed.

5 IMF GFSR, April 2019

Figure 3 : Channels of Contagion in the Sovereign–Financial Sector Doom-loop



Source: IMF, Global Financial Stability Report, April 2019

In benchmarking the proposals to date, it can be useful to group these under a few broad headings that can be linked to the various channels of the doom-loop.

De-risking bank's government bond portfolios: Several proposals seek to reduce risk on bank balance sheets by limiting investment in government bonds with lower ratings and/or encouraging greater diversification of bank's government bond portfolios. The original Basel IV proposal suggested risk-weighting of sovereign exposures, albeit that this idea has now been put on hold. Véron (2017) proposed Sovereign Concentration Charges Regulation with a long transition period to avoid disruption to sovereign bond markets.

A safe-asset for bank balance sheets: Other proposals, such as Sovereign Backed Bond Securities (SBBS), aim to produce a safe asset for bank balance sheets by using a special purpose vehicle to structure existing government bonds into a safe senior tranche, that would then be held on bank balance sheets, and a junior tranche for those investors that can support the risk.

Both these proposals would, in principle, reduce the financial channel flowing through bank balance sheets. Turning to government bond yields, the first-round impact would come via the liquidity channel, reflecting the key role that banks play in both primary markets and collateral markets. Lower liquidity may also reduce the appetite of non-banks, such as insurance companies and pensions funds to hold such paper, further

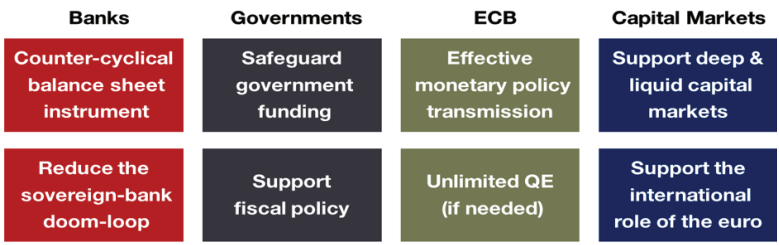
increasing the liquidity premia. For the government, this would entail higher funding costs, weighing on both public finances and growth. This, in turn, would increase the redenomination and restructuring risks.

Finalisation of Banking Union: On a more positive note, removing sovereign risk from bank balance sheets would in principle pave the way for finalising Banking Union, with a single jurisdiction and a common European Deposit Insurance Scheme (EDIS), setting the stage for genuine euro area banks with fully diversified balance sheets, reducing all three doom-loop channels. The concern is that this still leaves other financial balance sheets, such as pension funds, without a safe asset.

Collateral deserves special attention given its central role in the financial system. Analogous to the money creation that takes place in the traditional fractional reserve banking system, some forms of collateral can be "reused" in the system as a liquid cash equivalent allowing leverage to increase. Central banks are a key part of this chain as collateral gives access to central bank reserves, the safest and most liquid of all asset available. Central bank collateral frameworks thus sit at the heart of the financial plumbing and play a key role in determining the "safety" of a given asset used as collateral. Designs to break the doom-loop will thus have very significant implications for the functioning of the ECB's monetary policy.

As detailed in Bini-Smaghi and Marcussen (2019), safe assets are, indeed, not just for banks but need to consider the demands of capital markets (which covers demand from non-bank financial institutions), the central bank and indeed governments. It is worth recalling that, in adopting the euro, government gave up the ability to issue debt in domestic currency. Fully breaking the macro-financial channel outlined above, to our minds, requires that governments gain access to issue a safe asset, although not without limitations to avoid moral hazard.

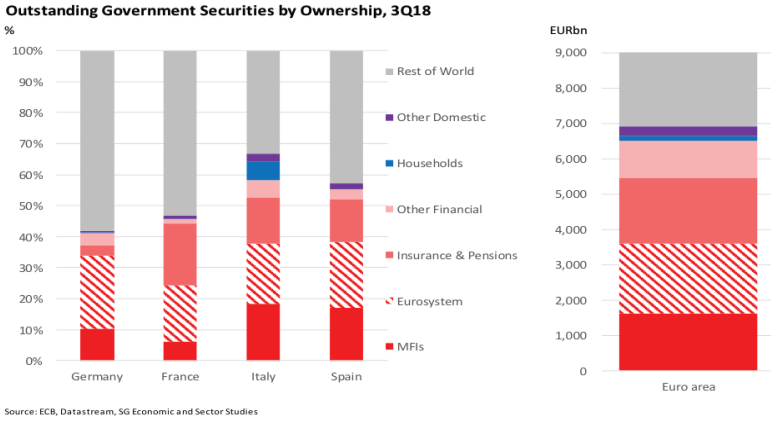
Figure 4: Eight reasons why the euro area needs a safe asset



Source: Bini-Smaghi and Marcussen (2019)

The chart below shows the current ownership structure for euro area government bonds, zooming in on a selection of member states. While investment motivations beyond capital preservation, liquidity needs, and meeting regulatory requirement may motivate these holdings, it seems reasonable to believe that a significant share of the ownership is today in fact driven by the "safety" of government bonds.

Figure 5: A safe asset of significant size is required



Source: Bini-Smaghi and Marcussen (2019)

A safe-asset for all: A common safe asset with joint and several liability, as set out in the original Red-Blue Bond proposal[6], would only be viable if the euro area enjoyed a full Fiscal Union, which is unlikely in the foreseeable future. A common safe-asset to help break the doom-loop and support the stated policy goal of Financial Union should, however, be achievable. The E-bond proposal, initially set out by Monti (2010), merits attention. E-bonds would be issued by a supra-national institution that enjoys seniority, such as the ESM and backed by senior loans to governments. In the event of a crisis, loans to the ESM would be repaid first. To avoid moral hazard and ensure the credibility of E-bonds, governments would only be able to fund a certain share of their funding needs through E-bonds and the rest would have to be funded through the issuance of junior national bonds.

6 Delpla and von Weizsäcker (2010)

A broader safe asset would help address the broader financial channels of the doom-loop and should also for the senior debt dampen the other channels. While the loss given default for senior debt would decline, that of the junior debt would mechanically increase, all else being equal. As an example, consider a member states with an initial debt equal to 100% of GDP and the market expectation of Loss-Given Default (LGD) set at 50%. If the debt is now split so that 25% becomes "senior" and 75% becomes "junior", then LGD on the senior and junior tranche would be, respectively, 0% and 66%.

This reality could lead to contractual challenges which could in principle be removed by exempting the existing debt, so that only new debt issued would be split into a senior and junior tranche. A fist disadvantage is that this would significantly slow the issuance of the new safe instrument, as a sufficient buffer of the junior tranche is required to support the senior one. Moreover, while this in principle would leave the LGD on the existing debt stock unchanged, liquidity risk would likely increase as would the probability of default. Indeed, the probability of default would be equal to that of the junior tranche which would most likely be higher than in the status quo. Given what would still be large holdings of national government debt on the balance sheets of banks and other key institutions, a legacy doom-loop would remain.

Facilitating orderly debt restructuring: 2013 saw the introduction of collective action clauses (CACs) in euro area sovereign bonds with the idea of facilitating "orderly" debt restructuring should this become necessary. As discussed in Zettelmeyer (2018), the euro area still does not enjoy a credible framework for debt restructuring due to the very significant spill-over risks that these entail, the ease of creditors to hold-out under euro-CACs and the fact that the IMF lending practices have not prevented the bail-out of countries with unsustainable debt burdens.

Measures that facilitate debt restructuring would, all also being equal, lead to an increase in the market pricing of probability of default.

Credible economic policies: The final point worth noting is that a framework to address the doom-loop also needs credible economic policies to ensure future growth potential, and this holds true at both the national and European level. The idea that fiscal discipline and structural reform alone can fix the doom-loop seems ambitious. Moreover, this would still leave the Capital Markets Union without a single safe asset and limit the international role of the euro. This in turn would cap the region's growth potential, feeding back into the doom-loop.

A long-term future framework

As seen from the discussion above, a framework that would allow the sovereign-bank doom loop to be broken would include (1) a common safe euro area asset, (2) national government bonds would be junior to this instrument, act as a safeguard against moral hazard and contain sufficient provisions to allow orderly debt restructuring, should this become necessary, (3) a full Banking Union with single jurisdiction and EDIS, and (4) credible economic policies, at both the national and euro area level. This is quite a tall order and will take time to deliver. Moreover, as with any new measure, it is important to consider the transition to ensure stability during this phase.

Preparing the transition

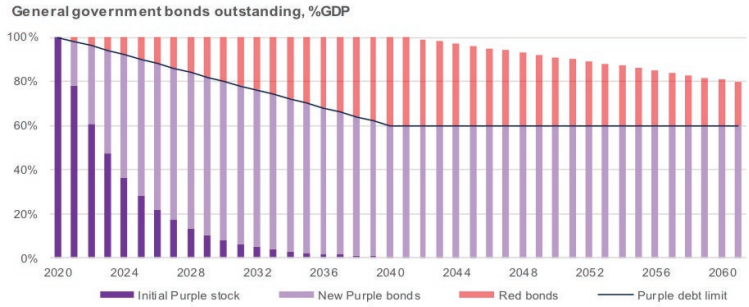
As outlined above, the various proposals presented to date would impact liquidity, loss given default and probability of default in different ways. Most importantly, we see a significant risk of a resulting legacy doom-loop. The main idea behind the Purple Bond proposal is to reduce the legacy risk by stabilising the existing debt stock, simply by lowering the probability of default linked to a potential PSI under and ESM programme to zero.

To implement the Purple Bond proposal, the ESM Treaty would need to be amended to reflect the no restructuring commitment; but there would be no need to alter the existing debt stock contracts. Moreover, there also would be no-bail out, no debt mutualisation and no fiscal transfers as a member state opting to unilaterally restructure debt or exit the euro would enjoy no guarantees.

The presently existing debt stock would become "Purple" and would over 20 years be reduced to 60% of GDP in line with the Fiscal Compact. To illustrate this, assume a member state has a 100% debt-GDP ratio on 1 January 2020. The Fiscal Compact requires that the debt falls by 1/20 of the gap to the 60% of GDP target every year. Let's assume, however, that the country fails to adhere to that commitment and debt remains at 100% of GDP during the first 20 years and then starts to decline by 1pp every year over the next 20 years. For simplicity, we assume all debt is bond financed. On 1 January 2020, the entire initial debt stock is labelled as Purple. At the end of 2020, the Fiscal Compact limit is 98%=(100% - (100%-60%)/20).

The country will need to refinance the maturing debt stock, here set at 19% of GDP, plus the budget deficit, here set at 1% of GDP. Given the Purple debt limit, the country can finance an amount equal to 18% of GDP in new Purple bonds and must finance the remainder through junior "Red" debt. These junior bonds would need to be issued with a clause making it clear that these fall outside the no restructuring and could also contain other clauses on debt restructuring to facilitate this, if necessary. There would still be default risk, should a member state decide unilaterally to restructure its debt and/or leave the euro area. As seen from the chart below, the stock of Purple bonds will stand at 60% of GDP in 2040 while Red bonds at that time will stand at 40% of GDP.

Figure 6: Purple and Red debt – a hypothetical example
Bars show the general government debt stock at year-end



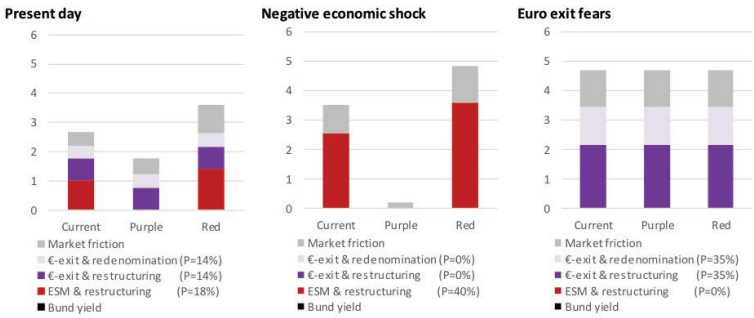
Source: Bini Smaghi and Marcussen (2018)

One concern on the Purple bond proposal is that the ESM could ultimately have to fund this debt, placing a high burden hereon. We consider this risk to be very small given that the ECB would be able to offer liquidity support via OMT. Further liquidity support could come from Long-Term Refinancing Operations (LTRO) as the lower risk of Purple bonds should allow banks to still buy this instrument. Finally, we note that the greater safety of Purple Bonds should allow the ECB to increase the issue limit under the Public-Sector Purchase Programme (PSPP) from the current 33% to the 50% awarded to EU supranational bonds. In recognition of the fact that Purple bonds would still be subject to redenomination risks, it would nonetheless be reasonable to maintain the current risk allocation where 80% of the risks linked to the Public-Sector Purchase Programme

(PSPP) still sits on the National Central Banks' (NCBs) balance sheet. Red Bonds would not be eligible for QE. One criticism here is that this could result in a further build out of Target II imbalances. The ECB has already made it very clear, however, that any member state leaving the euro area would need to settle such obligations in full.

The chart below illustrates a case study on Italy to show how introducing this proposal may see Italian debt repriced. Starting from the present day, we set the Italian 10-year yield at 2.65% and the German Bund at 0%, and we assume that the market sees a 14% of euro exit redenominating into a new currency that is devalued by 30% against the euro and with a debt restructuring that entails a LGD of 50%. We furthermore assume that the market sees a 14% that Italy will apply for an ESM programme that will entail a PSI with a LGD of 50%. Purple bonds do not contain any ESM related PSI risk and trade at 1.77%, still reflecting the euro exit related risk. Red debt would include ESM related PSI risk, but here we assume a higher LGD of 70% and would thus trade at 3.60%. Note, as Red bonds would only fund a marginal share of new issuance, overall debt servicing costs would most probably decline. Nonetheless, moral hazard is avoided. The next chart shows what happens in a negative shock without euro exit fears, while the following chart makes the point that if markets see no chance of an ESM programme and only fear euro exit, then all three bonds would price the same. This reflects the point that Purple bonds only benefit from protection against PSI under the full conditionality of an ESM Programme.

Figure 7: Pricing Purple and Red bonds – a case study for Italy on 10-year bond yields



Source: Datastream and own calculations

It is important to note that Purple bonds remain national and as such, the proposal does not generate a common safe asset. It could, for example, be combined with E-bonds allowing either less issuance of Purple debt or less issuance of the junior debt. Recall that, to protect its seniority, the issuance of E-bonds requires that a junior tranche exists to support it. In the example above, we illustrated a linear path in reducing the Purple debt stock to 60% of GDP, but there is no reason why a member state could not issue more of one debt type in one year and less in the next as long as the Fiscal Compact is respected. It would indeed make sense to issue more junior debt when market conditions are more benign leaving more Purple debt and E-bonds to be issued when market conditions deteriorate.

Managing a crisis

The main criticism raised against Purple Bonds is that it removes the option to restructure the existing debt stock under an ESM programme and in extremis could result in further public risk sharing. As discussed above, keeping this option open is expensive and adds a further economic pressure to the member states in question, which in turn can (and in some cases already has) increase political risks. The economic justification for keeping the PSI option open can only be that the existing debt stock is already at a level where the country is deemed insolvent as the moral hazard argument is removed by the presence of the junior red debt. While measuring debt solvency is far from an exact science, we see no real evidence to suggest that any euro area member states is today insolvent.

A second point to consider in this context is whether it is realistic for the euro area to implement a new PSI. To our minds, the answer is no, and we fear that such an approach would risk contagion and a deep economic crisis.

The good news is that the Purple Bond proposal can be implemented over a weekend, offering a solution that can help stabilise euro area government bond markets and thus be part of crisis management. Of course, it is regrettable that euro area policy makers seem to intent each time on looking deeply into the abyss before concluding that pursuing euro area integration is indeed the right way to go.

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A Common Safe Asset for Eurozone Bank Stability[1]

Marco Pagano

Why do we need common safe assets in the Eurozone? The main reason is to make Eurozone banks safer, not only individually but at the systemic level as well. At the current level, concentration and risk of bank sovereign exposures are a major threat, possibly the most relevant to financial stability in the Eurozone. We learnt this, or at least we should have learnt it during the euro debt crisis: in 2011-12, bank domestic exposures in fiscally vulnerable Eurozone countries amplified both the impact of sovereign stress on lending to the private sector and its impact on bank credit risk.

The ingredients that triggered those problems are still with us, despite years of regulatory debate and massive sovereign bond purchases by the ECB. The average Eurozone bank still holds nearly 200% of its book equity value in sovereign bonds. At the beginning of 2019, the exposure of Italian, Spanish and Portuguese banks to domestic sovereign risk was considerably larger than at the inception of the euro debt crisis.

So far, proposals to reform prudential regulation aimed at inducing banks to hold safer sovereign debt portfolios have clashed with a number of objections, one of which is the scarcity of safe assets that banks may hold and their asymmetric provision in the Eurozone. In what follows, I argue that attacking the problem requires two complementary ingredients: (i) a reform of the regulatory treatment of sovereign exposures (RTSE) inducing banks to replace risky public debt with safe assets, and (ii) a large enough supply of a common Eurozone safe asset enabling banks to do so.

1 Prepared for the Annual Conference on European Financial Infrastructure in the Face of New Challenges, European University Institute, 25 April 2019. I thank Sam Langfield for useful comments and Spyros Alogoskoufis for data on banks' sovereign exposures.

2. Banks' sovereign holdings and the doom loop: then and now

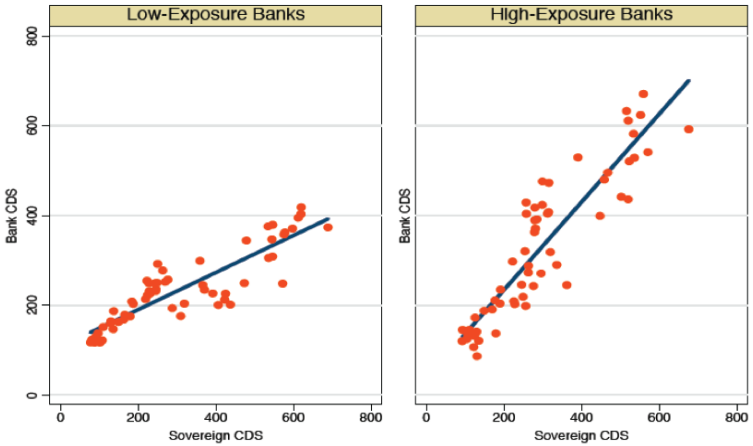
A substantial body of evidence indicates that during the Eurozone crisis, banks' exposures to domestic sovereign risk via government bond holdings amplified the transmission of stress to the banking system. When the market value of sovereign bonds dropped due to heightened sovereign risk, banks that held these bonds suffered equity losses, which increased their default risk and hence their funding costs, forcing the most highly exposed banks to deleverage. This mechanism operated in reverse once the prices of stressed countries' debt recovered, after the famous 'whatever it takes' speech by Mario Draghi in July 2012. In this case, the banks that were most exposed to risky sovereigns experienced the largest capital gains, and this tacit recapitalization allowed them to expand lending more than other banks.

This narrative is supported by an impressive amount of evidence. De Marco (2019) shows that the Eurozone banks with larger sovereign exposures (based on the European Banking Authority (EBA) stress tests) participated in the syndicated loan market less than less-exposed banks, and raised their lending rates more sharply. Acharya et al. (2018, 2019) combine syndicated loan data with company data to investigate the real effects of the loan contraction triggered by the sovereign crisis, and those of the loan expansion triggered by the subsequent abatement of sovereign stress. Altavilla et al. (2016, 2017) explore the role of sovereign exposures in the transmission of sovereign stress to Eurozone banks by using monthly data on sovereign exposures, loans, and lending rates for 226 Eurozone banks from 2007 to 2015, which provide richer cross-sectional and temporal variation in bank sovereign exposures than the EBA stress test data used in earlier studies, and expand the scope of the analysis from syndicated loans to the whole bank loan market. They document that in stressed Eurozone countries, the banks more exposed to the sovereign featured larger increases in solvency risk: as witnessed by Figure 1, in stressed Eurozone countries bank Credit Default Swaps (CDS) premia are more strongly correlated with the corresponding sovereign CDS premia for banks with high domestic sovereign exposures (right panel) than in those with low exposures (left panel).[2] According to their estimates, this

2 Altavilla et al. (2017) define as "stressed" Eurozone countries those whose 10-year sovereign yield exceeded 6% for at least one quarter between 2007 and 2015. They include Cyprus, Greece, Ireland, Italy, Portugal, Slovenia, and Spain. Hence, "non-stressed" countries include Austria, Belgium, Estonia, Finland, France, Germany, Luxembourg, Malta, the Netherlands, and Slovakia.

amplification effect is sizeable: in stressed countries, a 100-basis-point increase in the domestic sovereign CDS premium translates into a rise of 31.5 basis points in the CDS premium of the bank with median exposure. No such effect is found for banks of non-stressed countries.

Figure 1. Sovereign and bank CDS premia, by domestic sovereign exposures.



The left and right charts respectively plot the CDS premia for banks with low (bottom-quartile) and high (top-quartile) domestic sovereign exposures against the respective sovereign CDS premia in stressed Eurozone countries, 2007-15. Each point is a monthly observation of the average bank and sovereign 5-year CDS premium. Source: Altavilla et al. (2016).

At least as importantly, in stressed Eurozone countries, banks more exposed to the domestic sovereign reduced lending more sharply than the less-exposed banks: Altavilla et al. (2017) document that a one-standard-deviation drop in the price of government bonds reduced the loan growth of the median domestic head bank by 1.4 percentage points, which is 20% of the standard deviation of loan growth.

Altavilla et al. (2017) also establish that sovereign exposures have a causal role in this amplification mechanism. This is important, as banks choose both loans and sovereign debt holdings. Hence, in principle causality could run from banks' loans to their sovereign holdings rather than the other way: sovereign distress may reduce loan demand by sapping entrepreneurial confidence, and may impair corporate creditworthiness,

for instance for firms catering to the public sector. These drops in the amount or quality of loan demand may hit some banks more severely than others, and the worst-affected banks may end up substituting sovereign debt for corporate loans on the asset side. However, it turns out that the foreign subsidiaries of stressed-country banks cut back on lending in non-stressed countries in response to losses on their head banks' domestic sovereign portfolios, and these cuts were as large as those made by their head banks in lending at home, despite the resilience of loan demand in the more stable countries. Hence, reverse causality from changes in loan demand to sovereign exposures cannot be the whole story.

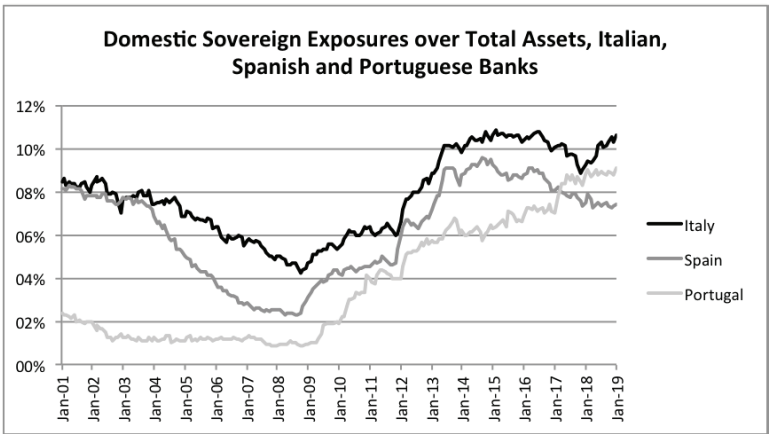
According to these studies, therefore, the domestic sovereign exposures of banks in stressed Eurozone countries amplified both the impact of sovereign stress until mid-2012 and its subsequent abatement, and thereby exacerbated the volatility of bank risk and lending in the Eurozone periphery from 2008 to 2015. This evidence accords with the sovereign-debt feedback loop models of Brunnermeier et al. (2016), Cooper and Nikolov (2018), Farhi and Tirole (2018) and Leonello (2018), which show that sovereign exposures create the potential for inefficient equilibria ('doom loops'): if banks are highly exposed to the domestic sovereign, pessimistic beliefs about government solvency that lead to sovereign debt repricing will inflict large losses on banks and trigger bailouts; these in turn increase the likelihood of government default, validating the initial pessimism. In these models, the size and concentration of banks' sovereign exposures affect the existence of these inefficient equilibria: for instance, the larger are domestic sovereign exposures relative to bank capital, the greater is the parameter region in which the 'doom loop' can arise.

In the Eurozone, the danger of such a doom loop is aggravated by the highly asymmetric provision of safe sovereign bonds, owing to strong differences in fiscal solvency of the national sovereigns. Germany supplies 83% of triple-A rated euro-denominated sovereign debt. This asymmetric provision of safe assets by one nation implies that when the doom loop is triggered within a country of the Eurozone, investors seek safer sovereign bonds in which to invest, causing large spikes in sovereign yield differentials. While over 2003-07 capital flowed from non-vulnerable to vulnerable countries, after 2009 investors began to question the solvency of some Eurozone sovereigns, and short-term capital flows switched sign as investors sought safety above all else. This sudden reversal was exacerbated by a perceived risk that euro-denominated securities in certain

countries would be redenominated into a new currency at a devalued rate of exchange. Cross-border flight-to-safety compressed non-stressed nations' borrowing costs, allowing them to enjoy a 'safety premium', while it raised stressed sovereigns' borrowing costs correspondingly, and thereby further hurt their fiscal solvency.

A key question then is whether the conditions that generated these amplification effects have abated substantially since the Eurozone debt crisis. It turns out that they have not: at the start of 2019 bank holdings of domestic sovereign exposures of Italian, Spanish and Portuguese banks were a larger fraction of their total assets than before the crisis, i.e. in early 2010, despite massive purchases of Eurozone sovereign debt by the ECB since 2014. As shown by Figure 2, the domestic exposures of Italian banks, after peaking at 10.8% of total assets in 2015-6, dropped to 8.9% in November 2017, but bounced back to 10.6% by January 2019, near their historical peak. Those of Portuguese banks rose continuously from below 2% in 2002-09 to 9.1% in January 2019. Only Spanish banks have uninterruptedly reduced their domestic exposures from their 9.5% peak in late 2014, down to 7.3% in January 2019, which however still greatly exceeds the 4% pre-crisis level.

Figure 2. Monthly domestic sovereign exposures of Italian, Spanish and Portuguese banks.

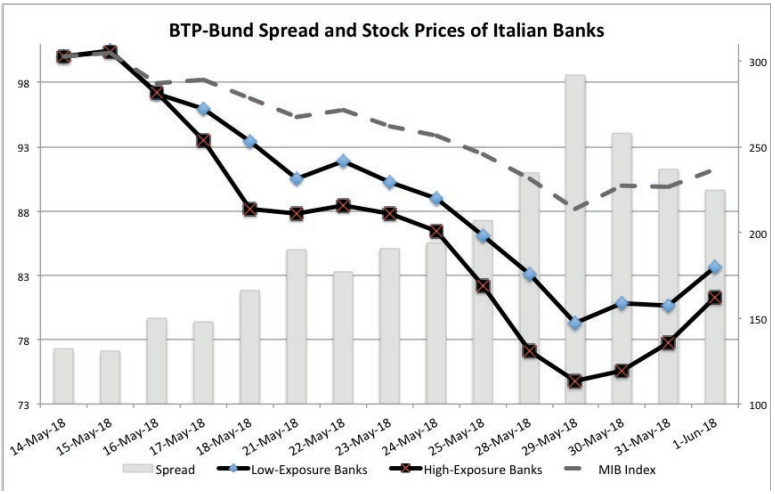


Exposures are defined as debt holdings scaled by total assets, 2001-19. Source: Balance Sheet Items, ECB Statistical Data Warehouse.

Using the same data source, it also turns out that Italian banks have more home-biased sovereign portfolios than Spanish and Portuguese banks and have diversified less since 2014. So Italian banks feature not only the largest exposures to sovereign risk, but also the most concentrated ("home-biased").

Hence, should there be a resurgence of sovereign stress comparable to that experienced by the Eurozone in 2011-12, one should expect the amplification effects on bank solvency risk and lending to be at least as large as during that crisis, and possibly larger. Indeed, fresh evidence of this amplification effect has emerged during the recent resumption of sovereign stress in Italy, in connection with the formation of the new populist government in May 2018, as illustrated by Figure 3.

Figure 3. BTP-Bund spread and stock prices of Italian banks.



Daily values of the spread between the 10-year yield on Italian BTPs and German Bunds (grey bars) are measured on the right axis. The MIB general stock market index (top line), the average stock price of Italian listed banks with below-average exposure to domestic sovereign debt (middle line) and with above-average exposure (bottom line) are measured on the left axis. Domestic sovereign exposures are computed as holdings of Italian public debt scaled by Tier-1 capital. All values are standardized to 100 on 14 May 2018. Sources: EBA, MTS and Thomson Reuters.

The figure shows that, as the Bund-BTP spread (the grey bars) rose from 125 to 310 basis points between 14 and 29 May, the Italian stock market index (the top line) dropped by 12%, the average stock price of listed banks with below-average sovereign exposures (the middle line) dropped by 20%, and that of the more exposed banks (the bottom line) dropped by 25%. And symmetrically the stock prices of the more exposed banks bounced back more strongly as the BTP-Bund spread dropped and sovereign stress abated after 29 May.

This indicates that the sovereign exposures of Italian banks are still an important source of systemic risk, in the presence of resurgent sovereign risk. As recognized by Italian Finance Minister Tria in a recent interview, "clearly these levels [of the BTP-Bund spread] pose a problem for the banking system and particularly for weaker banks" (Sole 24 Ore, 24 October 2018).

2. Regulatory treatment of bank sovereign exposures

Insofar as it affects the incentives to invest in domestic sovereign debt, the prudential regulation of banks is of paramount importance in determining the contribution of sovereign exposures to the transmission of sovereign stress to banks' risk and lending decisions. Currently, Eurozone prudential regulation gives preferential treatment to sovereign debt compared to loans to firms and households: unlike the latter, debt issued by Eurozone sovereigns entails no capital charge (it is zero risk-weighted in measuring bank assets' risk) and is not subject to any portfolio concentration limit. The absence of any capital charge or of limit induces banks to invest in risky sovereign debt rather than other assets of similar riskiness. The effects of this distortion are amplified during financial crises when banks' capital requirements bind—thereby strengthening banks' incentives to economize on capital by substituting into holdings of Eurozone sovereign bonds (and out of other domestic investment). Furthermore, the zero risk weights on sovereign debt make banks more willing to yield to their government's "moral suasion" to buy domestic sovereign bonds.

The evidence discussed in the previous section is consistent with the view that such a preferential regulatory treatment of banks' sovereign exposures is questionable, since these exposures amplified the transmission of sovereign stress to bank risk and lending in stressed Eurozone countries: the regulatory *status quo* gives banks a strong incentive to load up on sovereign risk in a socially inefficient way.

In principle, banks could be encouraged to reduce the extreme domestic bias of their sovereign portfolio either by charging positive risk weights on sovereign debt in computing their required capital or by imposing limits on exposures towards single-name sovereign issuers, thus requiring banks to diversify their sovereign portfolios. Both risk weights and exposure limits may be calibrated on the basis of the overall concentration of the bank's sovereign portfolio rather than based on the riskiness of individual sovereign issuers.

So, what is holding back regulatory reform in this area? There are two types of obstacles. First, each of the currently proposed reforms of the regulatory treatment of sovereign exposures (RTSE) has its own shortcomings, so that the debate about the pros and cons of each proposal has been lengthy, divisive and so far indecisive. Second, there has been strenuous resistance by the policymakers of the countries that experienced stress during the crisis, who are afraid of adverse consequences for their governments and domestic banks.

It is undeniable that each current RTSE proposal faces serious challenges. On the one hand, the response of banks' portfolio choices to risk weights on sovereign exposures is unknown, and these weights (if set as function of credit ratings) may themselves increase in response to sovereign stress, triggering procyclical behaviour in banks' exposures and balance sheets. On the other hand, setting limits to sovereign exposures may require Eurozone banks to undertake very large portfolio adjustments. In both cases, regulatory changes may result in unpredictable shifts in banks' sovereign debt portfolios, and equally unpredictable gyrations in relative yields in the Eurozone sovereign debt market. For instance, applying larger risk weights on the public debt of more vulnerable countries may induce Eurozone banks to engage in a generalized sell-off of this debt, leading to a new Eurozone sovereign debt crisis.

One of the main hurdles in evaluating the relative merits of different RTSE reforms is how banks will change their sovereign debt portfolios in response to each possible reform. Indeed, a recent paper by Alogoskoufis and Langfield (2019), which attempts to take into account such endogenous responses by making assumptions on banks' portfolio choices, finds that none of the currently proposed RTSE reforms unambiguously lowers both the concentration and the credit risk of Eurozone banks' sovereign portfolios.[3]

3 Alogoskoufis and Langfield (2019) use these principles to evaluate four different RTSE proposals: (i) marginal risk weights (penalizing concentration), (ii) standardized risk weights (penalizing credit risk), (iii) large exposure limits (penalizing concentration), and (iv) risky exposure limits (penalizing credit risk).

Yet, both concentration and credit risk should be key objectives of an effective RTSE reform. Reducing portfolio concentration alone – i.e., inducing banks to diversify their portfolios – may indeed increase systemic risk if it induces all banks to be exposed to the same sovereign risks: common holdings of a diversified (risky) portfolio can trigger global doom loops, as shown by Brunnermeier et al. (2016, 2017) and Bolton and Jeanne (2011). Alogoskoufis and Langfield (2019) show that in general there is a tradeoff between these two objectives: with the current constellation of sovereign debt, no RTSE design can attain adequately low levels of both concentration and credit risk in all Eurozone banks' sovereign debt portfolios.

These intrinsic difficulties in the design of RTSE reform are compounded by strong political hostility by policymakers in Italy, Spain, and Portugal: they fear that *any* RTSE reform, by reducing the demand for public debt by local banks, will saddle their sovereigns with a permanently higher cost of debt service, and deprive them of the option to lean on domestic banks to buy public debt at times of crisis. Moreover, insofar as local banks retain a home bias in their sovereign portfolios, they would face greater capital charges, or else deleverage, triggering a drop in lending — another unwelcome prospect for these countries' policymakers. These concerns stem from a structural problem in the provision of safe assets in the Eurozone: safe sovereign debt is relatively scarce and asymmetrically provided, with Germany supplying approximately 80% of triple-A rated euro-denominated sovereign debt. Therefore, these policymakers view a regime that encourages the holdings of safer sovereign debt by banks as favoring Germany at the expense of their countries.

However, both the above-discussed technical issues in the design of RTSE reform and the political concerns that it raises can be greatly mitigated by the introduction of a common Eurozone safe asset, defined as a security featuring both diversification (by "pooling" sovereign debt of all Eurozone issuers) and seniority (by "tranching" the cash flows of sovereign debt). The most developed proposal of such a common Eurozone safe asset is that of European Safe Bonds (ESBies) by Brunnermeier et al (2011, 2016, 2017), whose implementation (under the new name of Sovereign Bond-Backed Securities or SBBS) has been extensively analysed by the feasibility study of the ESRB High-Level Task Force on Safe Assets (2018). The next section explains why the availability of such an asset can unblock the current impasse regarding RTSE reform in the Eurozone.

4. Introducing ESBies to unblock the RTSE reform process

The idea at the basis of ESBies is simple: to create a euro-wide safe asset by securitizing a GDP-weighted pool of Eurozone government bonds. ESBies would be the senior tranche obtained from the securitization of this diversified sovereign bond portfolio. More specifically, the issuers of these bonds—either financial institutions or public institutions such as the European Investment Bank—would buy a GDP-weighted portfolio of Eurozone sovereign bonds, and use them as collateral to issue two securities. The first security—namely, ESBies—would be a senior claim on the payments from the sovereign bonds held in the portfolio. The second security, European Junior Bonds (EJBies), would be a junior claim on these payments—that is, it would be first in line to absorb losses arising from the pool of sovereign bonds that back these issues.

Owing to the double protection stemming from diversification of country-specific risk and from their seniority, ESBies would have virtually no exposure to sovereign risk, and therefore would be an ideal asset for Eurozone banks to diversify and de-risk their sovereign portfolios. Accordingly, in reforming the RTSE within the Eurozone, holdings of ESBies should receive a zero weight in the calculation of banks' regulatory capital, and not be subject to any exposure limit. By setting a positive risk-weight floor on all single-name sovereign exposures, ESBies would uniquely minimize capital requirements, regardless of the rule that banks adopt to reshuffle their sovereign debt portfolio, making their portfolio rebalancing in the wake of the RTSE reform highly predictable.

Therefore, sovereign portfolios comprised entirely of ESBies would simultaneously minimize both concentration and credit risk: in the simulations by Alogoskoufis and Langfield (2019), the introduction of ESBies removes altogether the tradeoff between the reduction of concentration and that of credit risk in RTSE design. Such a common safe asset would provide the element currently missing in Eurozone sovereign debt markets, namely a security that has both low concentration and low credit risk, because it exploits both diversification ("pooling") and seniority ("tranching").

The availability of such a common Eurozone safe asset would also help assuage the political opposition to RTSE in formerly stressed Eurozone countries. First, it would ensure that, should a sovereign crisis flare up again in the future, flight-to-safety capital flows would no longer occur across national boundaries, but rather across the two tranches pro-

duced by the securitization (i.e. from EJBies to ESBies), thereby avoiding fire sales of national sovereign bonds. Second, at least as importantly, the issuance of ESBies would enable fiscally vulnerable countries to participate in the supply of the safe asset that banks are encouraged to hold. Third, the availability of ESBies would overcome the current scarcity of safe assets in the Eurozone: according to the baseline simulations in Brunnermeier et al (2017), if the bonds underlying ESBies amounted to 60% of Eurozone GDP, ESBies would generate €2.7 trillion of additional safe assets—more than doubling the supply of AAA-rated safe assets generated by Eurozone sovereigns relative to the status quo.

Last but not least, ESBies do not imply any joint liability by Eurozone member states. In this sense, they are very different from all proposed types of Eurobonds or Eurobills, which do imply such joint liability. Hence, there is no substantial political obstacle to their creation. Their successful issuance, however, requires Eurozone governments to set common standards for ESBies and encourage their issuance. As already mentioned, a key incentive to their issuance would be to reform the RTSE, which currently is not sensitive to risk, and recognize their status as a 'safe asset' in the context of such a reform. Hence, the introduction of ESBies and the reform of the RTSE are complementary policies: on one hand, the availability of ESBies would allow banks' sovereign portfolios to benefit from the double protection of diversification and seniority; on the other hand, the new RTSE would raise banks' demand for safe sovereign debt securities, thus boosting demand for ESBies.

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CONFERENCE PROGRAMME

European University Institute — Robert Schuman Centre for Advanced Studies

Florence School of Banking & Finance

Annual Conference

European Financial Infrastructure in the Face of New Challenges

Franklin Allen | Brevan Howard Centre, Imperial College

Elena Carletti | Bocconi University, BAFFI CAREFIN and European University Institute

Mitu Gulati | Duke University

Jeromin Zettelmeyer | Peterson Institute for International Economics

Sala Europa

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25 April 2019

Introduction

Europe's financial infrastructure is experiencing significant challenges from both within and without. From within, there is a need to deal effectively with sovereign risk in a way that ensures financial stability in both the short and the long run. From without, Europe needs to react to the risk of economic and financial fragmentation, ignited by populist and nationalist movements and a new unilateralism on the side of Europe's traditional ally, the United States. The tensions ignited by this shift have so far been mostly limited to international trade, but they could also affect the payments system.

Against this background, the purpose of this conference will be to gain a better understanding of the internal and external disruptions that may be putting Europe's financial system under stress and offer a way forward to address these challenges, in a dialogue between senior academics, policy-makers and private practitioners.

Specifically, the conference aims to (1) assess the challenges to Europe's and the global payment systems in the context of rising US extra-territorial sanctions, (2) debate what steps could mitigate the costs of sovereign debt crises without raising sovereign yields or exacerbating liquidity risk in the short run, (3) ask whether Europe needs a safe asset that helps address challenges from both directions, and how this could be designed.

Imperial College Business School | Brevan Howard Centre for Financial Analysis — Università Commerciale Luigi Bocconi — BAFFI CAREFIN Centre for Applied Research on International Markets, Banking, Finance and Regulation

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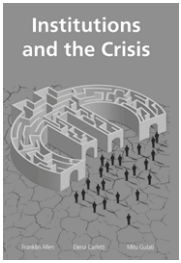
Programme

09.15 - 10.15	**Registration and Welcome coffee**
10.15 - 10.20	Welcoming remarks
	Elena Carletti | Bocconi University and Florence School of Banking & Finance
10.20 - 12.00	**Session 1 – Extra-Territoriality and Financial Infrastructure**
	Chair and moderator: **Elena Carletti** | Bocconi University and Florence School of Banking & Finance
	James Freis | Deutsche Börse
	Peter Grasmann | European Commission
	Klaus Löber | European Central Bank
	Nicolas Véron | Bruegel & Peterson Institute for International Economics
12.00 - 13.00	**Keynote speech**
	Chair and moderator: **Richard Portes** | London Business School
	Lee Buchheit | Honorary Professor, University of Edinburgh
13.00 - 14.30	Lunch Break
14.30 - 16.00	**Session 2 – Collective Action Clauses and Sovereign Debt Restructuring Frameworks**
	Chair and moderator: **Mitu Gulati** | Duke University
	Aitor Erce | European Stability Mechanism
	Giampaolo Galli | Observatory on the Italian Public Accounts, Catholic University of Milan
	Anna Gelpern | Peterson Institute for International Economics
	Yannis Manuelides | Allen & Overy LLP
16.00 - 16.30	Coffee Break
16.30 - 18.00	**Session 3 – Towards a European Safe Asset?**
	Chair and moderator: **Jeromin Zettelmeyer** | Peterson Institute for International Economics
	Gabriele Giudice | European Commission
	Daniel Gros | CEPS
	Michala Marcussen | Société Générale
	Marco Pagano | University of Naples Federico II
18.00 - 21.30	Reception and dinner
	Dinner Speaker:
	Vítor Constâncio | Former Vice President of the ECB, President of the Council of the Lisbon School of Economics & Management, University of Lisbon

PREVIOUS CONFERENCES

2018



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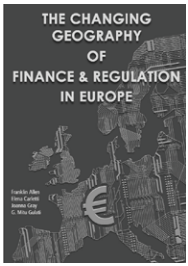

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