The Future of European Government Bonds

EUROZONE BOND MARKETS 2.0

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Executive Summary

Government bond markets lie at the intersection of politics and markets. Following elections in Germany, France, and the UK, a moment has arisen in Europe where the need to modernise the architecture of European financial markets is now matched by the political willingness and leadership required to do so. It is a moment to be grasped by all; it will not last. The stakes have never been higher.

The ECB must set a clear exit path for monetary support for government bond markets: downsizing is not enough. This is how boom-bust persists. Booms are enabled by over-easy financial conditions lasting too long. Booms do not always show up in consumer inflation but in the kind of growth. It matters that while the economic recovery is gathering, real investment and productivity continues to disappoint.

The postponement of exit reveals that European officials are uncertain as to whether EMU reforms so far are adequate to safeguard against a repeat of the credit crisis or a return to a winner takes all government bond market. Market participants worry that left as they are, reforms have crimped liquidity. Officials are right to be concerned over the inadequacy of EMU reform, but they are wrong to postpone exit because fixes are available.

EMU reform should build on what has worked and focus on the problems to be solved, especially their liquidity character, not imaginary concerns or those that perpetuate a “core” and “periphery” split within the Eurozone. The stars of a more resilient EMU already exist; just their constellation needs re-orientation. New institutions and new instruments are not required.

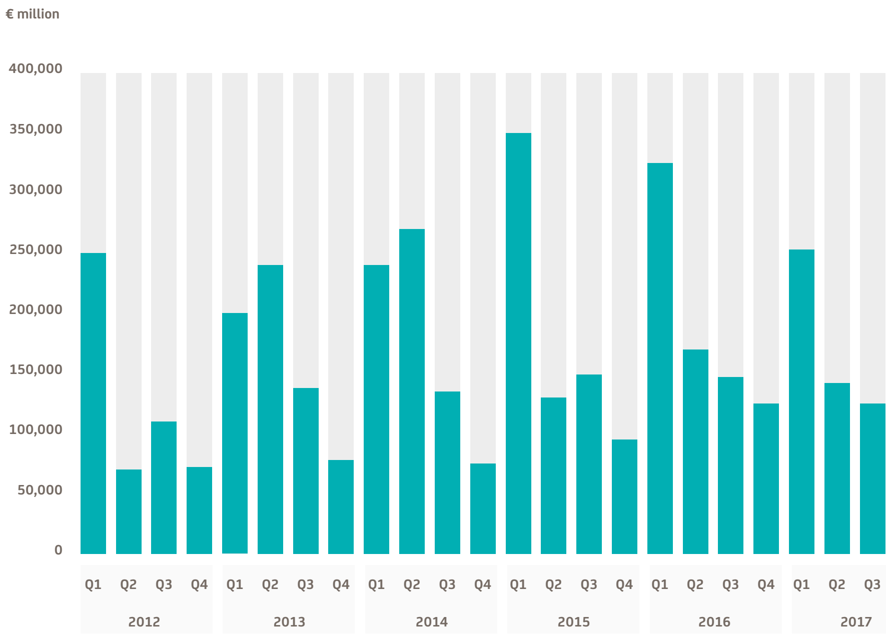
Macro-prudential regulation needs to be recast to take better aim at national booms. The authorities need to shrink those areas mostly exempt from competition policy. ECB bond purchases should be conditional on haircuts, domestic policies to close balance of payments deficits in a reasonable time, and a program of investments in trade integration. Capital requirements need to be augmented with FinTech to bring greater diversity into primary bond markets.

Introduction

Government bond markets lie at the intersection of politics and markets. Following elections in Germany, France, and the UK, a moment has arisen in Europe where the need to modernise the architecture of European financial markets is now matched by the political willingness and leadership to do so. This moment needs to be grasped by all; it will not last. The stakes have never been higher.

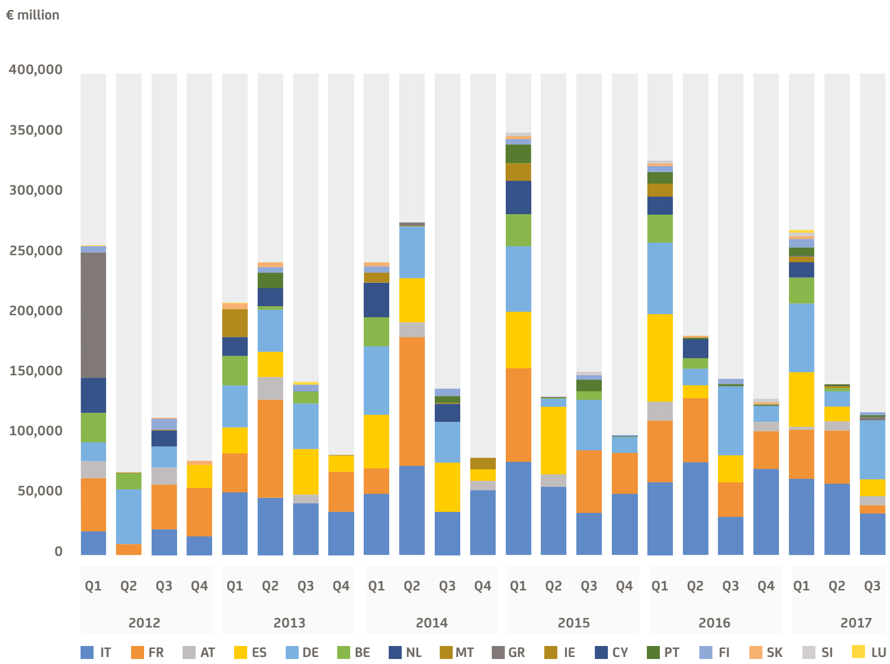
The Eurozone Government bond market is large, has high turnover and narrow trading spreads. But it is not just big. The sovereign bond yield curve represents the frontier between risk and safety. Today, every point along that curve is artificial, imposed administratively by the government and not based on reality. At the short-end, yields of some Eurozone government bond markets have been negative. It is now apparently risk-free to lose a little. This valuation does not reflect the strength of conviction by market participants over a coming deflation. Equity markets continue their rebound. It is, in substantial part, because of the regulatory-related demand for safe assets exceeds their supply.

Gross Eurozone Sovereign Issuance
Eurozone Sovereign Issuance



Source: Bloomberg

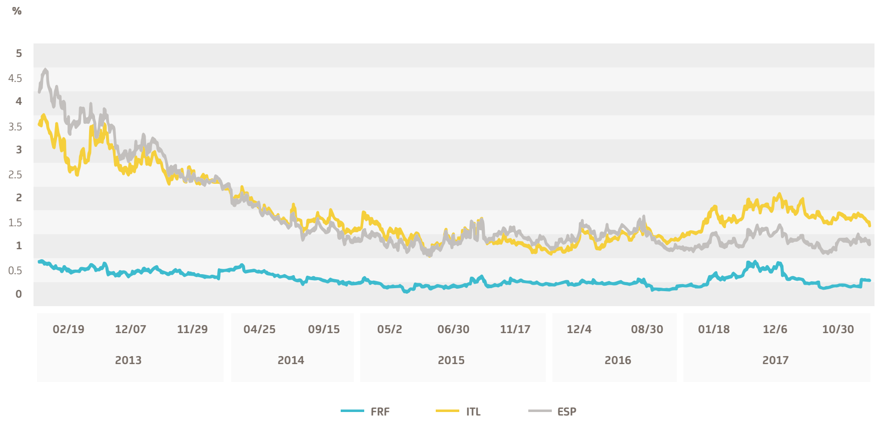
Eurozone Sovereign Issuance (by country)



Source: Bloomberg

At the long end, yields of some Eurozone government bond markets have been held down by the purchases of government bonds by the ECB that until recently has run at an annual pace of €720bn. Apparently, the ECB and others believe that without these purchases, yields would rise sharply, leading to a vicious cycle between higher yields, tighter fiscal policy, weaker economic activity, larger deficits and back to higher yields. This sequence was real enough between 2009 and 2013, and it was ECB bond buying that cut it. Four years on, the boundary between risk and safety as determined by government bond yields is constructed by the official sector; it did not emerge through a natural, distributed market process.

Eurozone Sovereign Bond Spreads
10yr spreads vs Germany



Source: Bloomberg

We do not question the merit of the extraordinary actions the ECB and other central banks pursued to save us from a repeat of the horror of the 1930s and what followed. We can debate the results and methods, but this was a noble battle, and the generals deserve high honour. The context of the concern is that the war is over, reform of EMU signed, and yet the ECB has not left the battlefield. ECB asset purchases continue apace. The recent announcement of a downshift to purchases at an annual rate of €360bn was not accompanied by an exit plan or date but hints of lower purchases for longer[1]. Fear that left unsupported, the Eurozone government bond market would return to "winner takes all" clearly remains prevalent. At the same time, the artificiality of government bond yields for an extended period and amid gathering economic growth has separate and severe consequences for the correct allocation of capital, financial stability and sustainable growth.

The combination of artificial government bond prices, an increasing reliance on more capital to make institutions safe and old market-maker obligations have reduced the depth of Eurozone government bond markets. There is now evidence of the liquidity impact of a reduction in the willingness of market makers to manage or warehouse large positions[2].

1. *See, "Eurozone bonds rally as ECB extends bond buying" Financial Times, October 26, 2017*
2. *See, "Fixed income market liquidity," BIS, January 2016, https://www.bis.org/publ/cgfs55.htm*

The current situation is unsustainable. There is no one who disagrees. And yet for some time, we have been stuck between the untenable and the immovable. There is a commitment to exit, moves made as if to exit, but no viable path to exit. In this paper, a path is offered to exit that will bring resilience to EMU and restore liquidity in European government bonds. One could argue that while the right way is in the direction of drilling down to a deeper level of integration in specific areas, we cannot just drill everywhere. The authorities need to position the drill carefully; a little off and they will miss the target. Further integration of the application of macro-prudential regulation, competition policy and FinTech in bond trading with conditional monetary support for bond markets will allow EMU to be more resilient, to draw in more liquidity into bond markets and support investment in the real economy.

Fake markets are dangerous for the Eurozone economy

The time of artificiality in the pricing of government bonds should end. Not because, as some believe, monetary support for government bond markets is always and everywhere a bad idea. It must stop now because it is no longer required. While it was the right idea at a specific moment in time, it is a dangerous idea. From the vantage point of the financial crisis, the absolute prohibitions of the original EU Treaties appear to be an indulgence of theory over practice, but the architects of the Treaty were right to make it hard for governments to monetise their deficits, however indirectly. The more monetary support for the bond markets persist when it is no longer required, the more dangerous it will become: capital will be misallocated. When rates are lower than they should be the risk is that productive investment will give way to excessive financialisation. Watch the return of the corporate-financier while real investment and productivity remains downbeat.

The long history of finance tells us that the seeds of the next crisis are sown in moments like these when the authorities have been bold, they have done the job, but no one wants to run the risk of exiting from the policy "early." At these times inflation tends to be low and the specter of deflation only recently past. The risk of being late seems modest. The last boom was forged in 2002 and 2003 when central bank officials were debating aloud the merits of helicopter money to avert the risks of deflation[3].

3. *See, "Deflation: Making sure "It" Doesn't happen here," Remarks by Governor Ben S. Bernanke, before the National Economists Club, Washington, D.C., November 21, 2002*

These apparently reasonable assessments of the balance of what we can see today, championed by Alan Greenspan in the late 1990s, make policymakers late and propagates the cycle of boom-bust. By the time risk step out of the shadows, it is too late. Lest we have forgotten, the responsibility of policymakers runs deeper than reacting to measures of consumer price inflation[4]. Predicting future risks is, of course, fraught with difficulty in finance. Risks that are predicted tend not to erupt. However, the argument for leaving the central bank emergency room today is not just an observation that unseen risks brew when rates remain low for too long. It is also that the circumstances that created the emergency have passed. It is time to emerge, blinking, from the bunker.

It is worth reminding ourselves why we are here and why those circumstances have changed before deciding where we must go next. While the past is no less contested than the future, it is more vulnerable to analysis. Lasting solutions are those grounded in a review of the real problem we are trying to solve rather than imagined ones. The problem that EMU reforms try to solve originated with the long boom that ultimately ended in 2007. In the Eurozone this boom was amplified, in countries that previously exhibited relatively high bond yields, by the arrival of EMU and the convergence of bond yields that followed. Financial convergence ran ahead of real convergence causing real yields (inflation-adjusted) to diverge as nominal yields were converging. Diverging real yields drove the direction of intra-Eurozone capital flows. The quantum of these flows was unmatched elsewhere or in recent history[5].

The emergence of the sub-prime mortgage crisis in the United States ended the boom. The defining feature of the unfolding crisis was not public debt, as is often thought in those countries that were least affected, but the scale and proportion of intra-Eurozone cross-border flows[6] . Like most risks that visibly grow large before exploding, there was a good story as to why this was not a risk at all and why it evolved unimpeded. Why should the balance of payments matter in a monetary union - came the reply on the rare occasion that the question was asked. This answer was often followed by the observation that the flow of investment from wealthier European savers to less well-off European neighbours was anyway a positive development, was how rich countries were going to afford pension commitments and how poorer nations were going to catch up[7].

4. *There has been a long debate in central banking between final targets like inflation and intermediate targets, like money supply or nominal income measures that forewarn inflation is in the system before it emerges.*

5. *In 2008, 50% of cross-border bank lending by destination to major advanced economies was into the Euro area, three times the amount into emerging market economies. Cumulatively by origin, cross-border bank lending from the Euro area was more than almost four times cross-border bank lending from the US between 1999 and 2008. See, "Capital Flows in the Euro Area, Phillip R. Lane, Economic Paper 497, European Commission, April 2013.*

6. *See, "The Eurozone crisis: A consensus view of the causes and a few possible solutions" eds. Richard Baldwin and Francesco Giavazzi, VOX, CEPR, 7 September 2015. http://voxeu.org/article/eurozone-crisis-consensus-view-causes-and-few-possible-solutions*

7. *See, "EMU@10: Successes and challenges of Economic and Monetary Union", European Commission, European Economy, 2, 2008.*

Cross-border bank lending and portfolio investments financed the last boom. At the time of the "sudden stop," the crisis countries had the largest balance of payments deficits, and overseas investors held a substantial proportion of their loans and debt securities. When booms come crashing down, investors become risk-averse and want to reduce risks and pile into cash. At the onset, these "sudden stops" are liquidity problems. There is a desire by investors to sell the same assets at the same time, causing prices to crash below a considered discounted cash flow valuation. The crash in asset prices creates new gaps in balance sheets causing further selling. When these liquidity crises fester they become solvency crises. From 2009 to 2013 as the overseas holders of the debt securities of the crisis countries collectively tried to exit, bond yields spiked. The refusal of foreign investors to buy more local securities meant that the balance of payments deficit in these countries transferred, disruptively, into bigger fiscal deficits, justifying even higher bond yields.

Between 2009 and 2013, rising deficits, increasing yields and bond buyers strike caused debt service to slip into unsustainable territory in some countries and the spiral of their bond yields to feed upon itself. It was a classic speculative run which required a speed of response outside of the capacity of European institutions at the time. Moreover, trying to cut fiscal deficits in this environment, initially made matters worse[8]. Fast forward ten years from the start of the crisis and the situation is incontrovertibly different. National bailouts of private debt and ECB purchases of public debt have ended the overhang of foreign holders of the debt of crisis countries. Collapsing consumption has sharply narrowed balance of payments deficits. The speculative run is over. An announcement of a gradual end the ECB's bond-buying program, to be speeded up or slowed down depending on conditions would be greeted well by the debt and currency markets. There is no need for safe bonds or other proposals to mutualise large amounts of Eurozone debt.

8. *See, "Fiscal policy in a depressed economy," DeLong, B and L Summers, paper presented at the Spring 2012 Brookings Panel.*

A new framework for the monetary support of European Government Bonds

The ECB's bond-buying program worked to cut down the upward spiral of bond yields. Given the liquidity component of the crisis, it wasn't just a papering over of cracks. We can reinforce the courage of policymakers and reduce the risks of policy exit if we were to establish a framework for the return to monetary support, were such assistance to be needed again in the future. The downside of central bank backing becoming predictable is that it encourages indiscipline by market participants and governments. The consequence is that future crises will not just be about liquidity, but also insolvency as a result of reckless lending. One solution to this classic conundrum is to make monetary support conditional on risk sharing between bondholders and other stakeholders such as taxpayers and workers. Sharing is the operative word, and from the bondholders perspective, it needs to be enough to inspire discipline, but not enough to trigger insolvency of well run financial institutions. A government could elect to request monetary support for their bond market in return for agreeing a 33% haircut in the nominal value of their government bonds and a program that brought international payments into balance through expenditure switching tax and spending policies over a reasonable time.

Making bondholders, workers and taxpayers worse off will add to the contraction of the economy when it is already free-falling as a result of the forced closure of the balance of payments deficit. Consequently, it would be essential to add to the policy mix, an EU commitment to substantial new investments into projects in the stricken country that would deepen the physical integration of the EU. These projects would be identified beforehand as the kind of projects the European Investment Bank (EIB) may typically invest in and would not threaten its credit rating if it did. The intention is not an increase in credit risk of the lender, but a shift in the timing and prioritization of investments. If the EIB were initially to finance these investments, there would be an element of mutualisation, but the exposure would be single digit percentages of GDP, to be repaid by the investment returns. It would be a tiny fraction of the amounts of mutualised debt sometimes proposed. Moreover, investing counter-cyclically, when assets and supplies are cheap is of course financially and economically the right time to do so for a long-term investor like the EIB.

This investment needs to be substantial, not symbolic and fast-tracked. Current EIB project approval processes, for instance, are better suited to the timeframe of large public projects than economic rescues, as we have discovered with the path of the Juncker plan. It is possible to establish a new institution to execute counter-cyclical investment spending on European network infrastructure – transport, ICT, energy, etc. However, any institution would need to replicate the financial and project discipline of the EIB. That may be harder for a new institution to do if the authorities established it with the explicit and sole purpose of economic rescue.

Some may liken the structure, to a European Monetary Fund or at least a European version of the IMF with a sovereign bankruptcy procedure. A new institution is not necessary, but even if one were established to provide focus, this is only one half of the equation, and without the other half it will not work. The most significant defence against a repeat of the Eurozone's first financial crisis is not smoothing the crashes, but tackling the booms. This is the enduring mistake policymakers have made with current EMU reform efforts. The nature of financial meltdowns is that they are so comprehensive, so caught up in political and moral undercurrents that they are virtually impossible to manage well. It is far better to limit the booms that beget the crashes than to rely so heavily on risk sharing during a crash. An example of this is the recent bailing out of two regional banks by the Italian authorities.

It is tempting to argue that the Italians have irrationally ruined Europe's Banking Union, but it is worth considering, carefully, why a government would want to embroil its hard-pressed taxpayers into a bank rescue and not let the private bondholders take the hit. I argued three years ago that in a democracy it is not possible to save taxpayers by throwing pensioners under the bus[9]. Pension funds own bank bonds and equity and pensioners are more likely to vote than your average taxpayer.

The bondholders of Banco Popular, the Spanish bank that appears to have been successfully rescued by the Spanish authorities without taxpayer support, were mostly foreign, as evidenced by those who have joined a legal action against the Spanish resolution fund. The experience of the United States is that risk-sharing works if the creditors or owners of a troubled bank live in another state to the one where the bank has credit problems. True risk-sharing, therefore, needs European bond and equity markets to be less "localised." This is one of the primary motivations behind the Capital Markets Union (CMU)[10].

Resistance to the CMU comes partly from the fact that it seems a little arcane to the average voter, feeding their sense (and that of their elected representatives), that it may, in fact, be a conspiracy of capital. The Italian rescue of bank bondholders at the expense of taxpayers has therefore done a service to the cause of Capital Markets Union, by helping to personify one group of potential beneficiaries of less localised markets – ordinary taxpayers. There are, however, many forces that contribute to localisation and the authorities cannot or should not remove. Local assets are a good hedge against liabilities linked to the government and local inflation. It is appropriate that risk-takers take risks with which they are most familiar. Consequently, a fully operational CMU may help to reduce the home country bias of investors and add to risk sharing, but it is not an adequate crisis prevention measure. Macro-prudential regulation should play that role.

9. *See, "Why Bail-in Securities Are Fool's Gold, A. Persaud, PB14-23, Peterson Institute for International Economics, November 2014.*

10. *The CMU was first announced by the Commission in 2015 when it set out 33 tasks to deepen the single market in financial services, develop new sources of capital, open up pan-EU opportunities and remove obstacles to cross-border investing.*

Prevention over mitigation

We have argued above that the Eurozone crisis was a classic balance of payments crisis. In 2006, the measure that would have been the best predictor of which countries would fall into the doom loop was national current account positions, not national debt levels[11]. In thinking about what caused these current account deficits, the consensus has focused on national competitiveness problems. The classic illustration of these issues is the divergence of unit labour costs, often accompanied by a story on the importance of Gerhard Schroder's Agenda 2010 Reforms in Germany at the beginning of the century. This narrative points to there being national policy issues at work such as minimum wage legislation, generous unemployment benefits or employers' contributions to pensions and social security.

While these national labour market policies are real issues, there is a more proximate explanation for the patterns in unit labour costs, which is the flow of credit to the non-tradable sectors in the crisis countries. Despite all of these national policy considerations, the tradable goods sectors in the crisis countries were highly competitive. It was the non-tradable sectors that were not. During the boom years, because the non-tradeable sectors were insulated from international trade, they offered higher rates of return than the tradable sectors and received more substantial credit flows. This allowed them to boom further, drawing workers away from other industries by paying more, driving up unit labour costs nationally[12]. Economics textbooks describe non-tradables as hairdressers, car mechanics and such like, but the most significant non-tradable sectors are government, finance, and real estate development.

11. *See, "What caused the Eurozone crisis? Richard Baldwin and Daniel Gros, CEPS Commentary, 27 November 2015. https://www.ceps.eu/system/files/What%20caused%20the%20EZ%20Crisis%20RB%20DG%20CEPS%20Commentary.pdf*

12. *See, "Overborrowing and balance of payment imbalances in a monetary union", Mouhamadou Sy, Review of International Economics, November 2015.*

Macro-prudential policymakers should be attuned to the relative flow of capital to the tradable versus non-tradable sectors, varying capital ratios on bank lending to these sectors to bring credit flows into balance. This requires macro-prudential regulators to consider the balance of payments dangers and the signals of macro-financial imbalance of credit to the non-tradable sector growing at a faster pace than to the tradable sector. It does not require them to know what the right level of credit flow should be, the bugbear of macro-prudential policy. It also does not mean just raising capital ratios for the non-tradable industries and lowering them for the tradable sector, but when circumstances merit it, doing the opposite. Macro-prudential policy needs to be symmetrical.

Macro-prudential regulation in Europe is not applied in this way and will not gravitate in this direction without a nudge. Macro-prudential regulation and I write this as one of its protagonists, was meant to counter the pro-cyclicality of finance. In good economic times, financial markets tend to underestimate risks, fuelling a boom that leads to a crash, after that markets tend to overestimate risks, weighing down the recovery. But partly through an absence of a guide as to which fault lines macro-prudential regulators should follow, macro-prudential has become a catch-all for all of those issues that macro-prudential regulation does not take into account and a way of enforcing a commonality of micro-prudential rules.

The issues currently concerning macro-prudential regulators tend to be more visible when economies are struggling than when they are prospering. Macro-prudential policy, then, is in danger of having the effect of being pro-cyclical and micro-prudential rather than counter-cyclical. The average level of capital in the banking system needed to be higher from a micro-prudential perspective. The role of macro-prudential policy should have been to push against that happening until the recovery was in full swing, not to force it through earlier on the grounds of commonality and reciprocity.

The ESRB needs to consider macro-pru at the geographical level at which booms take place, and this is not regionally, but nationally and sub-nationally. Today the ESRB should be pressing for a much higher degree of diversity in capital ratios across countries and sectors than currently exists. A European body can act at a national and sub-national level, but not as easily as national central banks. A pan-Eurozone institution would be tempted to consider action pan-regionally, and its critics would be tempted to accuse it of undermining the integrity of the single market across the region whenever it acted nationally[13]. National macro-prudential regulation is what would make the single currency whole. Pan-Eurozone macro-pru would be in danger of entrenching the pro-cyclicality of micro-prudential rules.

13. See, "Vive la difference" A. Persaud, guest article, The Economist, January 26, 2013

A fresh outlook for European Government Bonds - Competition, FinTech, and liquidity

In the section above we point out that the size of the non-tradeable sectors in Europe played a critical role in the European crisis[14]. Consequently, a vital crisis prevention policy is to push the frontier of EU competition policy a little further. There are peculiarities to each of these significant non-tradable sectors which keep barriers to entry higher, and competition more at bay, than necessary. When it comes to government, too much of its activities are carved out of competition rules. Unnecessary legal requirements can make the real estate market more local than it needs to be. And the financial sector is rife with special relationships that perversely makes finance one of the most localised of markets within our monetary union.

The Markets in Financial Instruments Directive (MiFID II) which will come into force on 3 January 2018 will help to introduce more transparency and competition, and more unbundling and separate pricing and delivery of financial services. This is generally a good idea. However, in many countries, the issuance of national debt is a critically protected market. MiFID or even the CMU does not address this issue.

The original argument for restrictive practices over the primary issuance of debt centered on liquidity. To encourage or even require primary dealers to be always on tap to provide liquidity, there needed to be some protection for them against competition. It is a system that worked modestly well from the perspective of central banks and banks when the trading activities attracted little capital requirements and the relationship between banks, and central banks were multifaceted and laden with unspoken, duties and responsibilities. Today's world of earnings at risk, economic value added and capital ratios add new pressures on bankers and as a result the requirements to provide liquidity does not deliver what it once did.

Academics and central banks have written plenty on the changing liquidity conditions in government bond markets[15]. Trading spreads remain narrow, but a range of measures suggest there is more fake liquidity in the markets than before and less depth when it is most needed. Exit from unconventional monetary policies will help. Trading takes place when there is a disagreement on the value of a security. If the value of securities is being determined by non-market activities and actors such as central bank buying or collateral requirements, the disagreements on fundamental value fall away, and trading becomes less intense.

14. *See footnote 12*

15. *See footnote 2*

Trends in EU issuance and turnover

	2013	2014	2015	2016
Issuance (€ bn)	2805.7	2728.0	2605.6	2538.0
Outstanding (€ tn)	8.9	9.3	9.7	9.6
Bld-cover ratio	2.18	2.29	2.22	2.16
Average daily turnover (% YoY change)	–	–	-8.4%	-7.2%

Source: AFME Government Bond Data Report, Q1 2017

However, there are also fundamental reasons why trading liquidity has inevitably thinned. Market-making obligations, obligate market makers to take risks they may not otherwise wish to take. In the past regulators assumed that trading activities would always be liquid and so there were capital requirement exemptions for these trading activities were very modest. In the middle of the last crisis this was seen to have contributed to a build-up of trading risks, and so the divergence of capital requirements between the trading and bank books has been narrowed. Consequently, the price of market-making obligations have risen. It is no surprise that market makers have responded by scaling back their risk exposures and limiting their market maker obligations to smaller sized trades. The warehousing of unsold positions is shifting from banks to investors[16].

Banks will naturally clamour for lower capital requirements. The lesson of the last crash is that this would likely be a mistake and it is not part of the new framework. However, there is a danger in that the authorities are overly relying on capital as a solution to liquidity, as opposed to solvency issues. Capital is costly, and in a full-blown liquidity crisis, there is no amount of capital that would be enough. Technology may be able to augment the new capital rules to preserve and generate new liquidity.

16. *ibid*

Liquidity is about diversity of behaviour. Some argue that algorithmic, traders who buy and sell large quantities of securities over short-periods of time should be allowed to participate in primary markets, using their different behaviour to add liquidity. Policymakers are concerned that because 'algos' and other short-term players are lightly capitalized, they are only there in the good times when there is already plenty of liquidity but vanish when markets become volatile and liquidity is needed. In the age of false news, we may also have false liquidity. Policymakers further worry that if algos are there in the good times, they make it less profitable for the banks to remain as market makers and so when the algos retreat the banks are unprepared to fill the void. The evidence is patchy, but there are some merits to these arguments. However, the way to address this issue is not to narrow the field of liquidity providers but to be open to new sources of liquidity while ensuring there is an appropriate balance between players who respond to volatility differently.

The behaviour of financial institutions relates to the structure of their liabilities. Life insurers and pension funds have the longest liabilities. Approximately 85% of the assets owned by savings institutions are life insurers and pension funds, and so this is a market that could be a large source of liquidity[17]. One of the reasons why long-term savers have not been tapped for liquidity is that they tend to be buy-and-hold investors. It is this characteristic that provides their liquidity risk capacity. A fund paying out a pension in 20 years time does not need to react to an event today that will reverse next week, only to events that may alter the value of the asset 20 years hence. Consequently, they are unlikely to be selling when short-term investors need to, and are likely to be the first to consider that a congestion of short-term sellers is a buying opportunity. However, it is this characteristic that also makes it expensive for intermediaries to work with the sector. Their turnover is low. The average pension fund turns over their entire portfolio once every 2-3 years and so to generate the same amount of turnover, an intermediary would need to work to understand the requirements and styles of a wide net of long-term savers. This is more expensive than working intensively with a small number of institutions who turn over their portfolio more rapidly.

New financial technology, however, allows the connectivity of large numbers of institutions. Applying the "long-tail" feature of internet technologies to finance allows access to new sources of liquidity[18]. Policymakers could address concerns over one source of liquidity not being there when needed by embracing new technologies to balance, map and even order all sources of liquidity at any one time. Underlying liquidity, it must be remembered, cannot be obligated or forced, it rests on the natural diversity of behavior. **Technology, not bank capital rules has the power to concentrate this diversity into one place to maximise liquidity.**

17. *See, Financial Stability Report, p. 25, EIOPA, December 2016. https://eiopa.europa.eu/Publications/Reports/Financial_Stability_Report_December%202016.pdf*

18. *The long tail was popularized by Chris Anderson in an October 2004 Wired magazine article, in which he mentioned Amazon.com, Apple and Yahoo! as examples of businesses applying this strategy. Anderson elaborated the concept in his book The Long Tail: Why the Future of Business Is Selling Less of More.*

Conclusion

Monetary support for Eurozone government bond markets must end now. Not because monetary support for bond markets is a bad idea. It must end now because it is no longer required and while it was the right idea at a specific moment, it is a dangerous idea and the more it is persisted with when it is no longer required, the more dangerous it will become. The long history of finance tells us that the seeds of the next crisis are sown when a bold policy has been tried, the job is done, but nerves remain.

The risks to ending bond purchases now are not as significant as is often thought. The essential problem was some countries had been running massive current account deficits for a long while, financed by foreign holders of their debt securities. The ECB has absorbed the overhang of foreign holders of the debts of the crisis countries and, primarily through austerity, countries have turned large trade deficits into surpluses. There is no more gas in the previous speculative run.

The risks of policy exit will be further reduced if the circumstances of its potential resumption are clear. The ECB could return to being a ready buyer of government paper for a country in a program designed to correct its balance of payments deficits over a reasonable time frame and as a result of being in such a program, eligible for investments in trade-enhancing infrastructure financed by the EIB.

There is no need for a mutualisation of debt. There is a need to better manage cross-border payments imbalances. The tools to do so are there, but the authorities need to use them more muscularly. First, there is the macro-prudential lever of the European Systemic Risk Board (ESRB). Its use needs to be better calibrated. Macro-prudential capital requirements should rise wherever and whenever credit to the non-tradeable sectors persistently outpace credit to the tradable sectors. Macro-prudential is the best defence against the sudden stop. Risk sharing in its current form is not.

The banking system needed more capital than it had, especially against trading risks. A natural consequence of that is a reluctance to take a trading risk, which is reducing liquidity in the government bond markets. The solution is not to lower capital requirements, but to use technology to introduce a greater diversity of participants, including a better balance between well-capitalized, long-term investors and short-term investors.

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Our electronic trading platforms are industry standards. Customers use our lifecycle management and information services to optimise portfolios, control risk and reduce costs.

We partner with emerging technology companies to bring greater efficiency, transparency and scale to the world's capital markets.

NEX is headquartered in London with offices worldwide. **nex.com**

NEX. Empowering markets.