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The supply of “safe” assets and fiscal policy

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The supply of "safe" assets and fiscal policy

Ludger Schuknecht[1]

15 July 2016

Abstract:

This study looks at the interrelationship between fiscal policy and safe assets as there is surprisingly little analysis about this beyond fleeting references. The study argues that from a certain point more public debt will not "buy" more safety: countries face a kind of "safe-assets Laffer curve" with a maximum amount of safe assets at some level of indebtedness. The position and "stability" of this curve depend on a number of national and international factors, including the international risk appetite and, as a more recent factor, QE policies by central banks. The study also finds evidence of declining safe assets as reflected in government debt ratings.

Key Words: Fiscal policy, public debt, safe assets, financial markets

JEL Classification: E62, G10

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1. Introduction

There is a lively debate about the role and provision of so called safe assets. Safe assets are needed as a benchmark against which one can measure the riskiness of other assets (a kind of reference unit of account), as liquidity service for companies and banks, and as an investment device (storage of value).

Some economists argue that there is a scarcity of safe assets while others doubt this claim (for a survey see Portes, 2013). The implicit assumption of most studies, however, is that government debt is always safe. Hence, more expansionary fiscal policies and higher deficits raise public debt and, thus, the supply of safe assets (Gorton and Ordonez,2013 or from a policy perspective, Gosse Steffen 2014 and Tober, 2016). Public debt sustainability does not play much of a role for "safety" especially in the policy debate—if governments have difficulties it is because there are liquidity problems, not solvency problems. The euro crisis in 2011/12 was "fuelled by the absence of a union-wide safe asset" and not primarily by solvency concerns about the sovereigns in distress (Brunnermeier et. Al, 2012).

There is surprisingly little analysis about the fact that public finances need to be sustainable for there to be any safe assets. (For rather general references to this constraint see Caballero and Farhi, 2013, Obstfeld, 2013 or IMF 2013). At the same time and independently from the safe asset debate, it is frequently argued that current public debt levels, especially when considering contingent liabilities from high private debt and population aging, may already be too high to be sustainable in some countries. The current low interest environment may create an illusion of safety that could disappear when the inflation-interest environment becomes less favourable. Therefore, public finances need to be brought on a sustainable path with declining deficits and public debt to enhance the safety of government debt/assets.

This paper looks at the interrelationship between fiscal policy and safe assets more closely. It argues that from a certain point more public debt will not "buy" more safety: countries face a kind of "safe-assets Laffer curve" with a maximum amount of safe assets at some level of indebtedness. The position and "stability" of this curve depend on a number of national and international factors, including the international risk appetite and, as a more recent factor, QE policies by central banks.

The study also finds evidence of declining safe assets as reflected in government debt ratings. The data confirms that a) higher public debt ceteris paribus means lower ratings, b) AA/A instead of AAA seems to be the new normal for "safe" industrial country debt, c) a number of emerging economies

have “moved up” the rating ladder and may provide the “safe assets” of the future, d) even industrial countries can slide, at times rapidly, out of safe territory as was conceivable only for emerging economies in the past, and e) central banks’ QE policies further reduce the supply of safe assets available in markets.

The study first discusses some conceptual issues around safe assets. It then assesses empirically whether the financial-fiscal crisis and post-crisis period has led to more or less safe assets before concluding with some policy considerations.

2. What are safe assets?

Safe assets are those assets which have a high degree of liquidity and a low default probability.[2] High liquidity is needed so that investors can be sure that they can sell an asset at any time and especially when the environment is rough. In the recent fiscal crisis, a number of government debt markets virtually shut down as “liquidity” evaporated. A low probability of default is needed so that investors do not demand much of a default premium. It is basically solvency and liquidity that can then be translated into measures of “safeness”. The liquidity service of a sufficient amount of safe assets increases output and growth (Caballero and Farhi, 2016). Safe assets also have an important signaling role in markets so that the pricing of risk (and riskier assets) functions properly. Finally, investors demand safe assets as a safe store of value (e.g. to smooth consumption in old age). A sufficient supply of safe assets may then increase demand as overall precautionary saving can be lower.

Market-based measures of safeness include the rating of an asset by credit rating agencies. A rating typically looks at the probability of default of an asset within five years. Liquidity also plays a role. Ratings reduce the information and monitoring costs of safety (Franke and Krahnen, 2009). Another market-based measure is the “benchmark” status of an asset. Only government debt has benchmark status and only that of some countries: Japanese government bonds in the yen market, US Treasuries in the US$ market, German bunds in the Euro market, UK Treasuries in the pound market. Some countries’ debt may thus not qualify because the market is small, not because there is a higher solvency risk.

Other market-based measures include the cost of credit-default swaps or the spread of government debt over benchmarks. Markets for credit-default swaps are, however, still rather thin and their accuracy as a measure of default risk has been doubted. The same is true for spreads over

[2] The IMF Global Financial Stability Report (2012) also mentions limited inflation risk, low exchange rate risks and limited idiosyncratic risks. Just like the first two factors, they enhance the stability of real asset prices and returns.

benchmarks, with the additional caveat that benchmarks are assumed to be perfectly safe. Volume and volatility indicators could proxy liquidity but such indicators are hard to come by and compare.

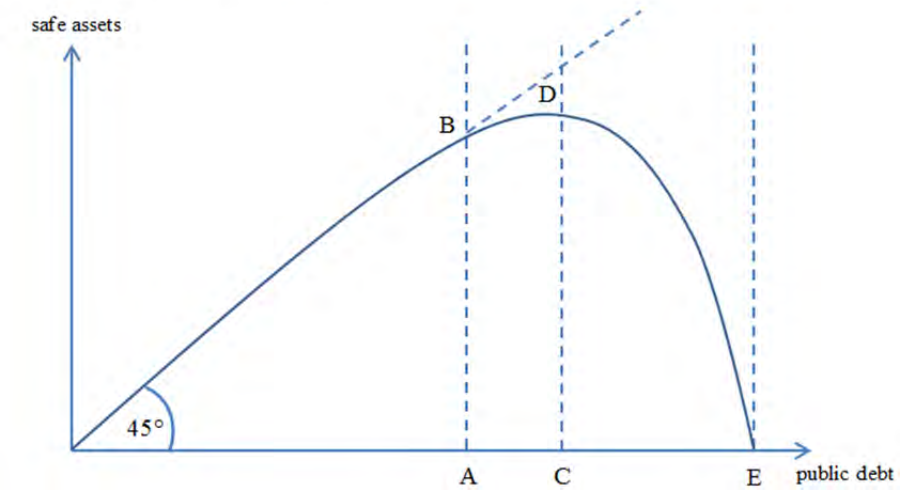
Regulation-based measures of safety basically rely on ratings or on past volatility which, in turn, affects asset returns, their risk-weight and bank stress tests. Finally, there are technical measures of safeness for government debt of various degrees of sophistication. These include absolute measures such as fiscal deficits, public debt, public debt plus contingent debt in the private/social security sectors; probabilistic measures such as default probabilities based on assumptions and judgements about growth, interest rates, inflation, the institutional environment etc. None of these measures is perfect; otherwise defining and measuring safeness and the supply of safe assets would be trivial.

3. The safe assets (Laffer) curve

a. The concept

It is a mathematical law that a curve that starts at zero and at some point ends at zero must have a maximum (or a minimum) in between. Applying this logic to safe assets in the form of government debt, an increase in public debt increases--for a while--the supply of safe assets. At some point along this path, however, confidence will start to wane and a further increase in public debt will not increase the amount of assets without compromising their quality or degree of safety. If one were to measure safety by the amount of assets weighted by their degree of safety, at some point, a maximum will be reached. This Laffer-curve type pattern is actually rather trivial: until point B in Figure 1 it is the 45 degree line as all additional public debt is seen as ultra-safe. Until D the curve is still rising as additional debt is still of a high enough quality so that total "weighted" safe assets increase. At some point E, the whole debt stock is "unsafe".

Figure 1: The Safe Asset Curve



Fiscal policy implies a movement along the curve: an increase in deficit and debt via expansionary policies implies a move to the right. At first, it has the double "benefit" of stimulating demand and raising the available amount of safe assets. This is certainly true until point B, as the country is in the "safe" zone. Beyond point D, the loss in quality outweighs the gain in quantity, before all debt is unsafe beyond E. In rating terms, a country would be AAA until B and below BBB in E.

A number of factors complicate this simple picture in reality. The maturity structure of debt matters for the perceived safety. Issuing more short term debt may allow to issue more total debt but it makes long term debt junior. Variable interest debt, GDP floaters or debt with a preferred creditor status (like the IMF) are additional complications.

b. Determinants of the position of the curve

What shifts the curve? What is the implication of uncertainty and shocks? What are the short versus long run dynamics, also in light of political economy considerations? As regards the first question, the position of the curve is determined by a number of endogenous and exogenous factors. A strong fiscal governance which gives investors confidence so that even large deficits and debt levels do not imply an unsustainable debt path means that the 45 degree line is relevant for longer than in countries with weak fiscal governance and little such confidence. The same holds for monetary policies: independent central banks with stable, low inflation have more credibility so that real and nominal interest rates are lower. Again the 45degree part of the Laffer curve is likely to be longer as the country can safely finance more public debt. Favourable long term growth prospects due to sound economic structures have the same effect as the economy can more easily grow out of public debt. Policy reforms that improve any of these factors are also likely to improve the perceived safety of assets/government debt.

External factors include the size of the market. More liquidity has a favourable effect ceteris paribus. Market size in conjunction with favourable fiscal and monetary governance is likely to make public debt even safer. The underlying currency can become a reserve currency and the asset a benchmark in international markets. This again extends the safe (0B) part of the curve and shifts outward the zones of less safe or unsafe government debt. As a result, countries with very high debt like the UK or the USA do have a much better rating than a country like Mexico although the latter's debt ratio is much lower.

Figure 2: Safe Asset Curve by Country Groups

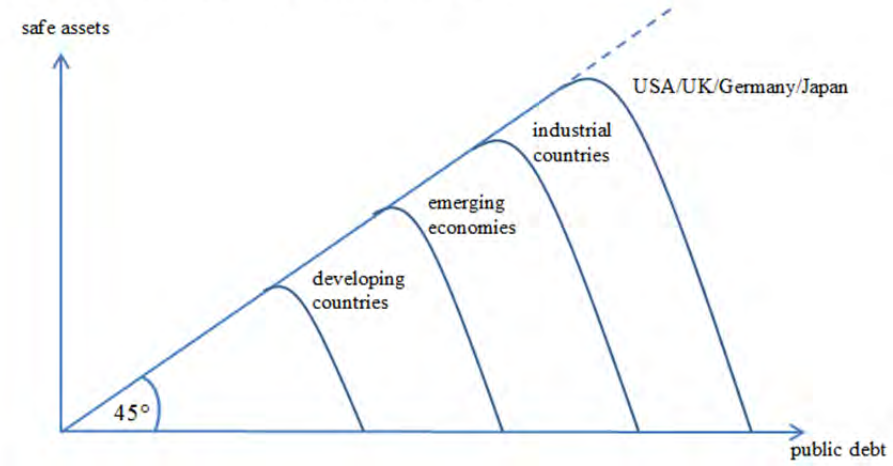


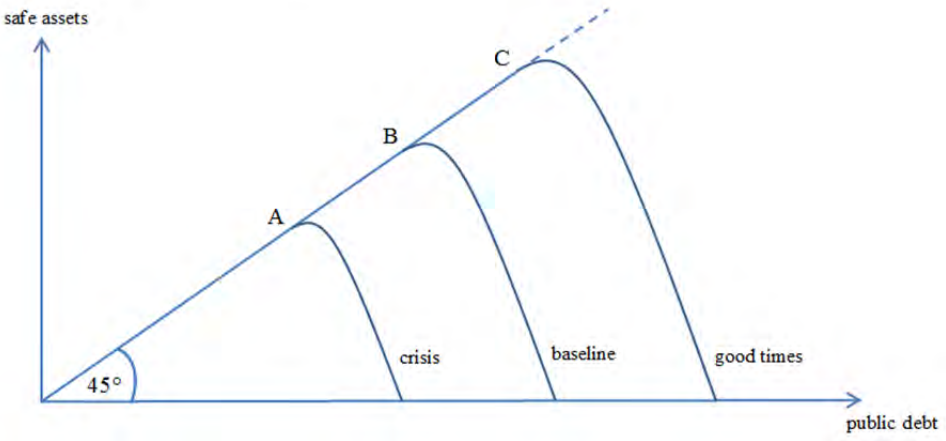
Figure 2 illustrates a typology of curves across country groups: developing countries (illiquid markets, weak policy governance) have the shortest 45 degree segment or a low potential for generating safe government assets. In some of them, no government debt would be considered safe. Emerging economies, especially those that are large and have more credibility, can reap the double benefit of debt financing and safe asset generation significantly longer. "Normal" industrial countries may find that they can issue even more safe assets=public debt. However, confidence about the difference between emerging economies and industrialised countries has been rocked quite severely in the recent crisis for a few European countries. The countries with the highest potential for issuing public debt/generating safe assets are, as mentioned, the reserve currency/benchmark debt countries, i.e., the US, Japan, the UK, and Germany.

c. Safe assets in different circumstances

The position of the safe asset (Laffer) curve is not only country specific but depends very much on the state of the economy as related to internal and external conditions and shocks. In times of low inflation and interest rates, little risk aversion, political stability and strong growth, the ability of governments to borrow and thus create safe assets often appears limitless. By contrast, in times of stress, global or national, where the view about growth prospects, risk aversion, fiscal prospects and or governance/political stability turn more negative, the perception of safety will decline. Moreover, the European boom and fiscal crisis have shown that favourable and unfavourable factors tend to occur in a highly correlated manner. And while in times of stress, the curve of less safe countries will shift to the left, the underlying safe haven flows will move the curve of reserve countries to the right, as also happened during the European fiscal crisis.

In sum, it is probably more appropriate to characterize countries' as facing a "fan" of safe asset curves. An example of such a set of plausible curves is illustrated in Figure 3. The baseline curve is in the middle. In the worst case, with "everything" going wrong, the relevant curve is the "crisis" curve. In the best case, countries face the curve "good times" where public debt can, in principle, be expanded significantly further without any doubt about the underlying assets safety. For reserve currencies, the curves for good times and crisis scenarios may both move to the right compared to the baseline. The risk for these countries, then, is to shift status and loose the reserve currency status (UK in the 60s/70s?).

Figure 3: The Safe Assets Curve by state of the economy



The financial cum fiscal crisis taught us that a country can move rapidly from a seemingly very safe position to a country in stress as the curve shifts left. And obviously, there are options to react: fiscal consolidation implies a move along as well as a potential shift in the curve if expectations are affected. Other reforms to strengthen policy governance and growth also shift the curve favourably. External financial support via IMF/ESM programs is likely to improve the perceived safety of assets in two ways: by reducing a government's financing needs and by improving the prospect of fiscal sustainability through reforms.

There are also more "temporary" measures: countries can avert concerns by shortening the maturity structure of debt issuance and issue more Treasury bills. They can resort to moral suasion by, for example, "asking" banks or insurances to buy government debt. Or they can "ask" the central bank to step in, making government assets safer.

d. Structural changes in the demand for "safe" government debt

The three scenarios depicted in Figure 3 could also be seen as reflecting structural changes in the demand for safe assets (and, hence, also government budget constraints). Aging societies with funded pension systems may have greater demand for safe government debt in the build-up phase of pension funds. Tightening regulatory requirements for private assets on bank balance sheets may cause a shift into government assets as they are not subject to capital requirements or exposure limits. Independent central banks have more trust in declaring government asset purchases part of monetary policy than dependent central banks which would be under much more suspicion of monetary financing. These three factors may have contributed to markets financing much higher debt levels at low interest rates than a decade ago.

At the same time, the risk of non-linear market reactions and sudden stops may have increased as well. This implies a steeper downward segment of the curve and a greater risk of shifts in the curve. Regulatory and central bank privileges may be dependent on minimum ratings. International interdependence (financial and confidence channel), herding behavior in asset classes (such as "vulnerable countries") and less market making may also increase volatility.

e. Political economy

What is the likely course policy makers are going to take? In the ideal world of forward-looking, perfectly informed governments, public debt would probably not rise beyond A in Figure 3. The government would not want to risk a fiscal crisis scenario with financing difficulties that would require ad hoc and pro-cyclical fiscal consolidation measures. From a political economy perspective, this is not necessarily so. Governments with limited time horizons will discount the probability of crisis especially at the longer horizon. They will maximize the scope for indebtedness or at least they may not seek to reduce public debt as much as needed. Public debt is likely to stay or rise above B and even close to C in good times (Hauptmeier et al, 2011).

From a political economy perspective, three further scenarios are worth discussing. First, the potential for financial support (via international or central bank help) will soften the government's budget constraint. By lowering the risk of a crisis scenario via higher deficits rises. This implies a shift in and a move along the curve. Second, a very volatile financial environment (frequent shifts in the curve) and conditionality tied to financial aid tightens budget constraints and reduces moral hazard because crisis-related external financing would be politically costly. The resulting reforms, in turn, would reduce debt and shift the curve to the right.

f. Quantitative easing

Quantitative easing (QE) is interesting to analyse in this context.[3] The purchase of "safe" government paper withdraws the respective liquidity services and investable paper from the economy. Moreover, it distorts the signaling role of the interest rate both on the price of safety and the price of risk, especially when central banks buy very large amounts of more and less safe assets. This should also lead to distortions in investment decisions (a desired stimulus of demand plus an undesired allocation to less productive investment). Graphically, this implies that the safe asset curve that governments face is shifted to the right during the entry phase and back to the left during exit. Here of course, timing matters: QE in crisis may compensate for loss of market confidence as left- and rightward shifts in the curve balance out. Exit in times of exuberance may appropriately normalize the financing situation governments' phase.

The moral hazard role of QE is also interesting to analyse from a political economy perspective. While counter-cyclical QE would be desirable, central banks may exit too late (as investors and governments prefer cheap financing). Moreover, they may fill some of the QE-related additional safe asset demand via fiscal spending and higher deficits and find themselves in an uncomfortable position of excessive debt when the central bank should exit. Thus QE may increase the very fiscal dominance risks that central banks must avoid.

Another fact to consider is the implications of QE for the safeness of existing debt outside central banks' balance sheets relative to those on central bank books. What does QE do: it replaces the financing costs of long term with that for short term borrowing; the rollover risk does not change (in other words: change from long term variable instead of fixed rate financing). However, unless central banks are explicitly exempt from preferred creditor status (PCS), the risk for the remaining paper in the market rises.

The situation in Europe may be even more complex: the Eurosystem may gain a significant veto power against restructuring if their foreign debt holdings become very large. Even without formal PCS or without using their veto, they may need priority access to somebody's public money to be recapitalized (de facto PCS) after a restructuring of debt in the euro area.[4] All this requires futher reflection on the risk of unintended and unexpected consequences.

[3] On monetary policy at the zero lower bound and the logic of QE, see, for example, G. Eggertson and M Woodford (2003).

[4] For a description of the was the Eurosystem's QE program works, see www.ecb.europa.eu/mopo/implement/omt/html/pspp.em.html.

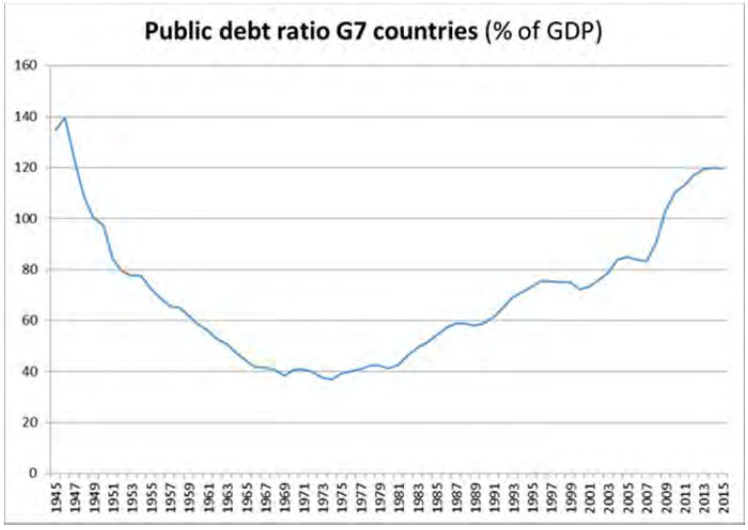
In conclusion, the claim that expansionary fiscal policies raise the pool of safe assets and aggregate demand depends very much on the state of both the domestic and global economy. Political economy considerations suggest that governments are likely to let public debt rise beyond the point where government debt would still be safe in crisis. QE may exacerbate short term shortages of safe assets through adverse supply effects and long term shortages through adverse sustainability effects.

4. An empirical assessment on the supply of safe assets

Even from descriptive analysis, there is some evidence of the indebtedness pattern that political economy would predict with countries' government debt ratios tending to move beyond the maximum point of safe assets.

a. Government debt ratios

Government indebtedness has been rising for the past four decades on average and in most industrialised countries. Government debt in the G7 countries, for example, is now about 120 percent of GDP on average, just about the same ratio as after 1945 (Chart 1). Japan has the highest ratio well above 200 percent of GDP of gross debt for general government. A number of European countries, including Italy, Greece, Portugal and Spain and the US follow suit with over 100 percent of GDP. France and the UK are close to 100 percent, Germany is above 70 percent.



b. Debt and ratings

When looking at public debt ratings, one can see the close correlation between rising public debt and worsening ratings. Until the late 1990s, most industrial countries had AAA ratings. A number of

(already then) highly indebted European countries and Canada were “only” AA. Ratings for emerging economies were often barely in investment grade territory.

In the new millennium, interesting changes occurred. In the 2010s, industrial country downgrades increased and accelerated, affecting increasingly large countries and even the US. By 2016, Japan was only in single A and Italy and Spain in BBB territory. France, the US and Austria had lost their AAA rating with S&P. As of the 2000s, a number of emerging economies moved up the rating scale. India, Mexico and Russia debt feature investment grade ratings. Korea and China at AA- are rated higher than Japan.

Figure 1: Government debt ratings (S&P, foreign currency)

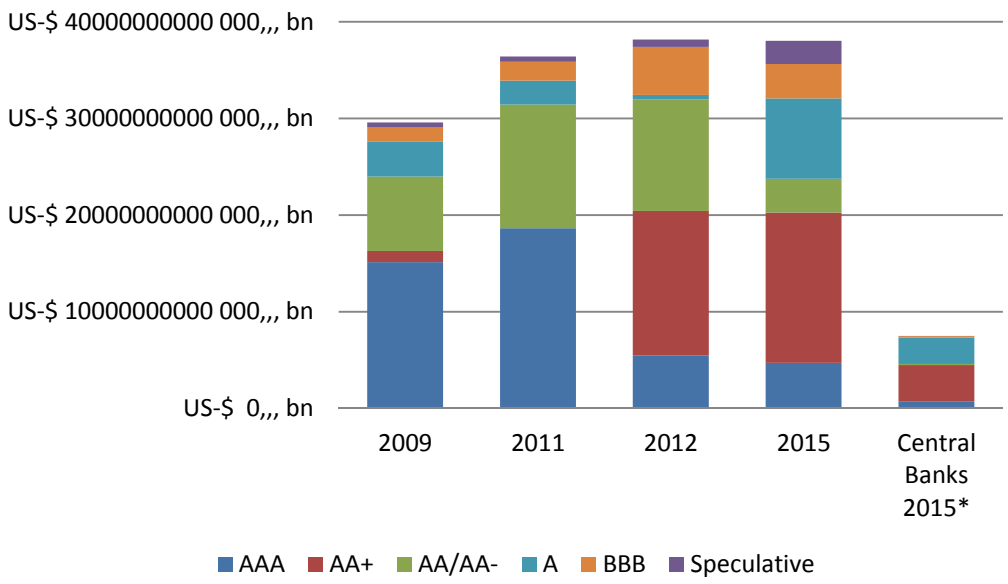
	1993 Q4	1999 Q4	2006 Q4	2011 Q2	22.01.2016
Germany	AAA	AAA	AAA	AAA	AAA
Netherlands	AAA	AAA	AAA	AAA	AAA
Switzerland	AAA	AAA	AAA	AAA	AAA
United Kingdom	AAA	AAA	AAA	AAA	AAA
Austria	AAA	AAA	AAA	AAA	AA+
United States	AAA	AAA	AAA	AAA	AA+
France	AAA	AAA	AAA	AAA	AA
Japan	AAA	AAA	AA-	AA-	A+
Canada	AA+	AA+	AAA	AAA	AAA
Australia	AA	AA+	AAA	AAA	AAA
Belgium	AA+	AA+	AA+	AA+	AA
Spain	AA	AA+	AAA	AA	BBB+
Italy	AA	AA	A+	A+	BBB-
Portugal	AA-	AA	AA-	BBB-	BB+
Greece	BBB-	A-	A	CCC	B-
India	BB+	BB	BB+	BBB-	BBB-
Korea	A+	BBB	A	A	AA-
China	BBB	BBB	A	AA-	AA-
Mexico	BB+	BB	BBB	BBB	BBB+
Russia		SD	BBB+	BBB+	BBB+

When aggregating ratings and issuance, it is interesting to note that AAA has been replaced by AA as the “new normal” in 2012 when the US was down-graded. With the downgrade of Japan to A in 2015, even AA is not the “norm” any more. In 2011, about half of central government debt

was rated AAA (nearly 20,000 bn US$); this share declined to only about 15% (5,000 bn US$) in 2015.[5] The UK and Germany accounted for the lion share of that. While these figures would look differently with Moody's and Fitch data, they are nevertheless an indication that no country's rating is sacred and that if public finances were to get bad enough (or the risk off sentiment strong enough), the supply of safe assets could dwindle significantly and rapidly.

It is also interesting to look at the quantitative implications of QE on the availability of safe assets in the market. At the end of 2015, only the five major central banks (UK, US, Euro Area, CHN, SWE) held about 1/5 of central government debt securities with an investment grade. Given the continued QE in Japan and Europe, this share is still growing at about $ 2tn per year.

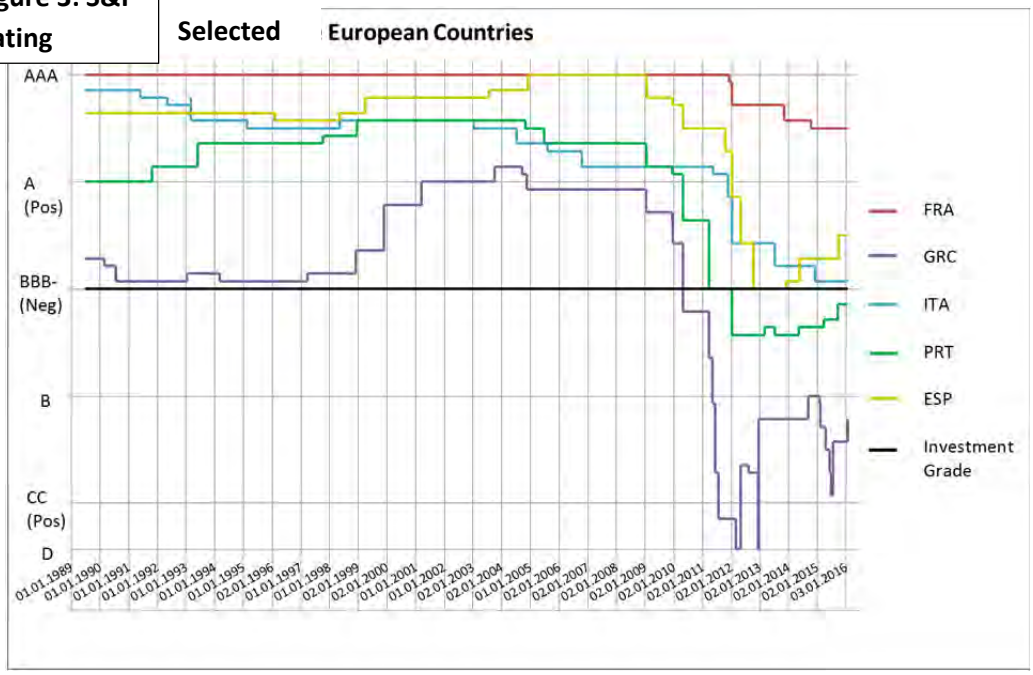
Figure 2: Market volume of central government debt securities by rating



Market Volume: End of each year or nearest available; only countries with data for all four years (see footnote 2), nonrated countries are considered speculative. Sources: Standard & Poor's, World Bank.
Central Banks: Quantitative Easing Programs of US Fed, Bank of England, Bank of Japan, Sveriges Riksbank, European Central Bank, and Chinese US-Dollar reserves (Treasuries). Sources: US Fed, Bank of England, Bank of

[5] Countries included in Figure X: Albania, Armenia, Australia, Austria, Bangladesh, Belgium, Brazil, Bulgaria, Canada, China, Colombia, Costa Rica, Czech Republic, Denmark, El Salvador, Estonia, Finland, France, Georgia, Germany, Guatemala, Hungary, Iceland, Ireland, Israel, Italy, Japan, Kenya, Latvia, Lithuania, Luxembourg, Mauritius, Mexico, Moldova, Morocco, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Philippines, Poland, Portugal, Romania, Seychelles, Slovak Republic, South Africa, Spain, Sweden, Switzerland, Tonga, Turkey, Uganda, United Kingdom, and the United States. These countries account for over 98% of all reported central government securities in 2015.

Figure 3: S&P Rating Selected European Countries



The speed at which ratings can deteriorate is also noteworthy. Greece fell from A- to D within two years. Portugal fell from AA to BB and Spain from AAA to BBB- within three years. Italy's rating declined somewhat more gradually. But rating upgrades in recent years also reflect the successful implementation of reforms--in Spain, Portugal (stalled) and notably Ireland. This shows that there is nothing final in the loss of a "safe" rating and that reform is the key to future safety.

5. Conclusions

The analysis above has argued that there are limits to the supply of safe assets via government debt. At some point, an increase in debt implies less safe assets. The maximum amount of safe assets, however, is not a fixed point. In crisis situations, it is much smaller (with more limited debt issuance potential) than in good times. It is in the nature of democracies to try to incur more debt thus softening the government budget constraint. But in this process governments tend to incur more debt than is good for the safeness of the underlying assets in a crisis period. QE may exacerbate this risk, as "fiscal space" granted by QE may mistakenly be seen as permanent. The over-emission of "seemingly" safe assets is conceivable even at the global level which, in turn, raises an externality issue: a country's fiscal crisis could undermine confidence in the safeness of another government's debt. This would be particularly problematic if it was a large industrialised country.

Where do we stand today? After 40 years of chronic fiscal deficits, industrialised countries' are back to debt levels near the post World War II highs. Some countries are financing government debt ratios above 130 or even 200 percent of GDP. That this development has not come without consequences for the safeness of government debt is unsurprising. According to S&P, only about ¼ of government debt of industrialised countries is rated AAA (at the time of writing of this paper) after almost all government debt had this rating in the early 1990s. Most public debt, though, still has a rating of A or better. A number of industrialised countries have been on the verge of losing their investment grade--one indicator of minimum "safeness". Greece is perhaps the best public sector example of a "fallen angel", a country going rapidly from rating heaven to rating hell.

Are today's high debt ratios perceived as reasonably safe because the scope for government indebtedness has shifted permanently outward (e.g., aging and regulation related higher demand for government debt) or because price signals are heavily distorted? We do not know. The experience of the financial cum fiscal crisis in 2012 with even Spain and Italy at risk of losing market access illustrates that sentiment about safeness can shift quickly and dramatically. And the experience of many countries in history has illustrated, that central bank intervention works only up to a point.

Financial engineering may help to some extent. New types of bonds may extend the boundary of what markets would see as safe ("ESBIs" by Brunnermeier et al, e.g. 2016) or they may even improve the incentives for staying within safe limits ("accountability bonds" by Fuest and Heinemann, 2015)

But this is still no escape from the real question: how can we reverse the debt trend of recent decades, prevent further fiscal crisis and achieve a reasonable supply of safe assets and fiscal discipline? Market monitoring alone does not seem to do the job. International financial assistance can buy time for stabilizing markets and for bringing down unsafe debt levels. This has been tested quite successfully so far in the case of a number of European economies when combined with conditionality. But the option is probably not suitable for large countries because conditionality is unlikely to be credible. Some observers now argue that on the back of low interest rates, governments should abandon balanced budget objectives and contract more debt for worthy public spending objectives without much respect for adverse political economy incentives. Population aging and shifting global savings-investment patterns as a long term risk are also largely not on the radar.

The call for more deficit spending in parts of the international economic debate shows that a main lesson of the crisis may have been learnt for the financial sector (enhance resilience, build buffers, deleverage) but not for the public sector. Rating agencies may have learnt more: the lack of rating upgrades following QE suggests that they do not see more safety.

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