



A·U·G·U·R
Challenges for Europe in the world, 2030

WP2 Financial markets

The transformation of international
financial markets and the future of the
eurozone

John Eatwell
Queens' College, Cambridge

It has been obvious for some time that the banking crisis that engulfed the western world in 2008 has also seriously weakened sovereign financial systems. The commitments to bail-outs were dwarfed by the sharp fall in tax revenues in the recession that in turn led to major increases in fiscal deficits and substantial public debt accumulation. However, the impact on the eurozone has been far more severe than elsewhere. Peculiarities in the structure of the eurozone have led to the extraordinary situation in which the stability of banks throughout the zone, and indeed the survival of the currency system itself, have been endangered by a sovereign debt crisis in an entity that comprises a little over 2% of eurozone gdp.

The structural origins of this extraordinary turn of events are now well known. They include: the absence of any effective all-zone treasury function; the lack of a single eurozone bond; no substantial budgetary operation within which might be embedded the sort of fiscal transfers necessary to stabilise the monetary union that exist in, say, the USA or Australia; and, as has been painfully evident, a lack of coherent and decisive political leadership.

Developments in financial markets 1971-2011

Yet there are some all-pervasive, more fundamental trends in international finance that have played a major part in the world-wide crisis, and that have assumed a particular significance in the context of the eurozone.

First, the growth of the international bond market. Prior to the wave of financial market liberalisation that was sparked by President Nixon's abandonment of the Bretton Woods system in August 1971, post World War II sovereign bond markets were predominantly national. With liberalisation international markets grew rapidly. Overseas sales of US bonds rose from 3% of US gdp in 1970 to 200% in the early 2000s; whilst overseas sales of UK bonds rose from nil in 1970 (such sales would have been illegal) to 1000% of UK gdp in the early 2000s. The enormous scale of international bond transactions today make it possible for there to be huge swings in the funding of national bond markets, between holdings of say dollar, sterling or euro bonds, or between different sovereign euro bonds. These potentially destabilising swings have transformed the sensitivity of funding policy to market forces.

Second, the financial innovation that accompanied liberalisation has resulted in a rapid growth the size of the balance sheets of the banks (and other financial intermediaries) *relative to the underlying transactions that those balance sheets are based upon*. Broadly speaking, the assets of the banks have grown at an average rate of 15% since 1978. Given that the world gdp has grown (in nominal terms) at a little more than 5.8% per annum over the same period, the excess growth of 9.2% per year suggests that the banks' balance sheets are now around 20 times greater, relative to the given underlying gdp, than was the case 33 years ago. Since deposits are not likely to rise at a rate much faster than the growth of gdp, the relative increase in the size of financial balance sheets must be due to the growth of wholesale lending between financial institutions.

A simple example of what has happened can be seen in the market for domestic mortgages (see Shin, 2010). In the 1960s the financing of mortgages involved households depositing funds in mortgage banks that were then lent on to other households to enable them to buy houses. Today this transaction is likely to pass

through a long chain of investments, from the household purchase of money market funds, to short-term loans to the bank, which expands funding through repo transactions with a securities firm that in turn purchased securities from a provider of asset backed securities, that were in turn assembled from a mortgage pool created by lending to home-buying households. Indeed, even this sequence is probably a rather a short, uni-directional chain.

Suppose in the case of a 1960s-style funding, the value of the underlying mortgage is \$100k. Then there are \$200k worth of financial transactions associated with the intermediated transfer of funds from the depositing household to the home-buying household. *Gross* assets of \$200k are created – \$100k of assets in the form of a bank deposit on household's balance sheet, and a \$100k mortgage on the bank's balance sheet. With today's longer chains of transactions, far greater gross stocks of assets are created. And gross assets matter. In the face of an extreme event (such as mortgage default) netting of the intermediary's position is impossible since the asset (a 20 year mortgage) and the liability (a demand deposit) do not match. The bank has lost \$100k on its balance sheets, and, presuming it defaults, the lending household has lost \$100k too. The destructive power of gross positions was clearly exposed in the financial crisis. In 2008 Lehman Bros OTC CDS book had gross notional value of \$72bn. Months later the net loss was known to be \$5.2bn. Similarly, AIG's CDS book had a notional value of \$270bn, whereas actual losses were eventually just \$3bn. But it was the inability to provide further collateral against the gross figure when the rating on the book was reduced that forced AIG to look for a rescue from the federal authorities.

Third, the growth of wholesale funding has transformed the balance sheets of the banks. In the 1960s the liabilities of a bank consisted almost entirely of deposits by households and firms. The assets of the bank were a mixture of very liquid assets, such as Treasury Bills and trade acceptances (around 40%) and loans to households and firms (the remaining 60%). Today the balance sheet looks quite different. Deposits by households and firms comprise only about 20% of the liabilities, the rest being made up of lending from other banks (much of it international), commercial paper and repos. In the UK funding through the repos market is almost of the same order as funding by deposits. Around 25% of the asset side of the banks' balance sheets consist of loans to households and firms, the rest being *marketable* loans and securities and other investments, and repos.

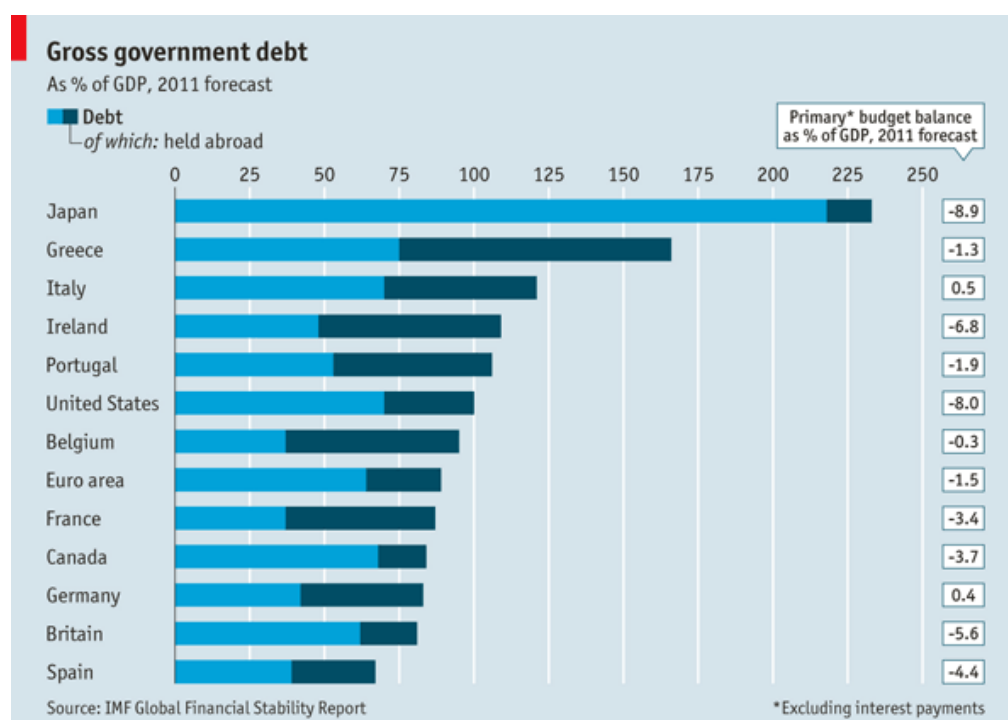
The growth of the repo market has been one of the most extraordinary phenomena of the past decade, with repos growing 4 times faster than M2 (cash and current accounts – roughly the rate of growth of nominal gdp). *Overnight* repos have grown at the same rate. Management of the repo market has become an important part of central banks management of overall liquidity; the day to day stability of the repo market being a key policy goal.

The result has been a fundamental shift in bank funding, away from deposits (that tend to be very “sticky”) toward short-term market transactions that must be continually re-financed. The 90 banks covered by the recent European Banking Authority stress tests, for example, need to refinance €5,400bn of debt in the next two years, equivalent to 45 per cent of European Union gdp. Not too difficult to turn over in tranquil times, but a significantly greater challenge today.

Current events and the future of the eurozone

The impact of the 2008 financial crisis on public debt is well known. Amongst the OECD countries the ratio of public debt to gdp doubled from 1970 to 2008, rising from 40% of gdp to 80% of gdp. In just the next 3 years it rose to 106% of OECD gdp. Of particular interest is the balance between domestic funding of public debt (a nation borrowing from itself) and international funding. It is noticeable that amongst developed countries it is the eurozone countries that have by far the greater international exposure (see figure 1). Taking Canada, Japan, the US, and the UK together, the overseas proportion of public borrowing is around 12%. However, taking Belgium, France, Germany, Greece, Ireland, Italy, Portugal and Spain together, around 50% of public debt is funded overseas (predominantly, but not exclusively, in other countries of the eurozone as is evident from the aggregate euro area data) – and this figure is roughly the same for each country.

Figure 1



There are 2 major reasons for this difference in the structure of funding.

First, whilst eurozone economy is larger than the economy of the US, and hence any balanced bond portfolio must contain euro denominated bonds, exposure to the euro can be obtained by investing in any of the various eurozone sovereign bonds. Investors therefore have a choice as to which euro sovereign to hold, a choice that is likely to be informed by the risk, return and hence diversification of their entire euro holding. The implementation of Basel III will further exaggerate this peculiarity of the eurozone. Under new liquidity rules banks will be required to hold significantly greater proportions of sovereign debt on their balance sheets. In the case of the UK, for example, this will be sterling debt. In the case of a eurozone bank this will be euro debt – *but that euro debt may be issued by any eurozone sovereign*. The banks will, of

course, manage the sovereign exposure of their euro debt, adding to the potential scale of flows between euro sovereign bonds.

Second, the policy of the European Central Bank (ECB) resulted, at least up to the end of 2009, in all eurozone sovereign bonds being treated by the market as if they were almost equivalent to one another, despite obvious differences in national debt structures which were in turn reflected in bond ratings (Buiter and Sibert, 2005). A key decision was to assign all eligible euro-denominated sovereign debt instruments issued by the eurozone central governments to the same (highest) liquidity category. Accordingly, not only were spreads between the returns on sovereign bonds very small, but also the ECB operations in the repo market ensured that sovereign debt could be transformed into cash easily and cheaply. It was therefore in the interest of the banks to hold large quantities of sovereign debt on their balance sheets – in effect earning a substantial risk free return. Moreover, since all sovereign debt was treated the same, then it made sense to hold a “balanced portfolio” of sovereign instruments from throughout the eurozone. An unintended consequence of ECB policy was to make sovereign funding very easy and very cheap. Eurozone states are prohibited from printing money, but they were provided with a financial facility that (so long as confidence lasted) was almost as good! This was quasi-sovereignty. It was a particularly attractive source of funding as tax revenues collapsed in 2007-9.

A further element of ECB policy was the excessive increase in the valuation haircut associated with the maturity of the collateral used in repo transactions. This encouraged the move to short-term funding that has become typical of eurozone banks and eurozone sovereigns.

These arrangements could not survive the market shock of the emergence of funding difficulties in Greece, Portugal and Ireland, and latterly in Spain and Italy. Around €450bn of sovereign debt is held by Europe’s top 24 banks, of which €50bn is from Greece, Ireland and Portugal, nations that make up about 6% of eurozone gdp. As CDS spreads widened the repo market was no longer a source of ready cash, indeed Greece could only sell government bonds direct to the ECB. Banks holding large quantities of eurozone sovereign debt faced the prospect of large write-downs. The banking crisis has led to a sovereign crisis that has led back to a banking crisis.

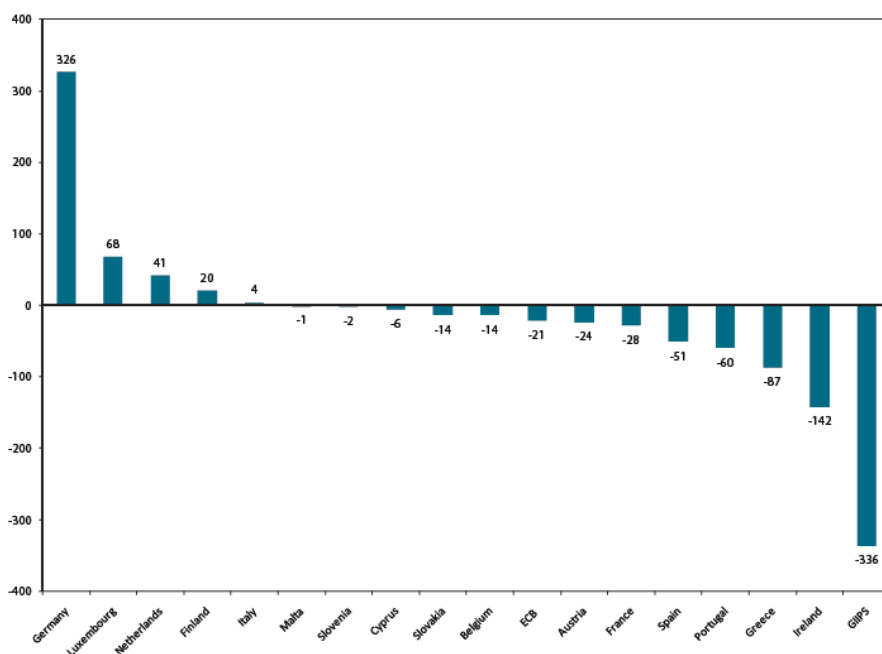
The most spectacular collapse so far has been the recent demise of the Franco-Belgian financial group Dexia – a bank that was rated one of Europe’s safest in the stress tests last July. Dexia held €1billion of “peripheral” eurozone sovereign bonds. The overall balance sheet was financed by short-term borrowing that required *daily* €10bn - €20bn funding from the wholesale markets. A ratings downgrade closed that short-term door forcing Dexia to turn to the French and Belgian governments to guarantee €90bn of short-term funding. Dexia is now going through what is effectively an insolvency process.

It is worth reflecting on why the ECB pursued its common strategy toward sovereign bonds. The central bank of a single sovereign, say the Bank of England or the Federal Reserve, will automatically regard bonds issued by its sovereign state as being the most liquid in the market, since the state can always swap the bonds for cash – it can print money. It would seem that the ECB carried over this not unreasonable approach to management of the repo market in a single state to the peculiar multi-state structure of the eurozone.

A further notable characteristic of the eurozone is the lack of a single, all zone funding mechanism – the lack of a eurobond. This means that investors seeking exposure to the euro are required to hold bonds issued by individual sovereigns. This also means that exposure can be maintained whilst switching from one sovereign to another. Moreover, any holder of euro cash and bank deposits (which lack any national identity) can achieve the security of desired national identity by moving cash balances from say, Greek current accounts, into say German bonds. There is thus the potential for massive capital flight. Between states with different currencies capital flight results in the accumulation of unwanted currency in the central bank of the recipient state. That central bank will seek to transform unwanted currency into desired reserve denominations, putting downward pressure on the currency from which capital has fled. Nothing of this sort can take place within the eurozone since it is a single currency area. The result has been that large balances have been accumulated in the accounts of the central banks of recipient countries at the ECB, and equivalent negative balances in the accounts of the central banks of the countries from which capital has fled (see figure 2). This capital flight might well be reversed if a convincing rescue deal for the euro were put in place. Its very existence is evidence of a serious design fault in the eurozone.

Figure 2.

Claims of euro area members from netting of Euro System cross-border payments (in billions of euros)



Source: Sinn and Wollmershäuser (2011)

The short-term solution to the eurozone’s problems is clear enough. The ECB must guarantee the sovereign debts of all member states and where necessary print money to clear them. Whether this is preceded by a refinancing of debt that imposes a haircut on bond-holders is a matter of political taste (or perhaps, political necessity in the case of countries that are doing the refinancing). However, the larger the haircut imposed,

the greater the resources that will be required to re-capitalise the banks that have suffered the haircut. Despite the broad economic logic of the short-term solution to the current situation being straightforward, it has, up to now, run into a brick wall of political resistance.

Medium term policies

Moreover, these short-term measures would not solve the medium to long term problem. Once the debt of the less competitive countries has been in some way written off, and growth resumes, then the same pattern of indebtedness will begin to re-appear. This is inevitable in any monetary union. The idea that a monetary union could be uniformly competitive is a fantasy. That is why all workable monetary unions have the characteristics listed above – most notably an all-union bond issuance to fund a major part (though not necessarily all) of public debt and a substantial budgetary process that redistributes income from rich to poor, hence limiting the accumulation of debt. For example, tax revenues in London and the South-East of England are roughly 25% greater than government expenditure in the region, the difference being used to support other parts of the UK. Nobody notices.

The importance of the all-union bond should be evident from the experience of the internal capital flight that has afflicted the eurozone. Compare this situation to that of the United States. The fiscal problems of California (far bigger within the US economy than is Greece within the eurozone) affect the funding of the Californian deficit, but are in no way destabilising to the federal bond market. There is no comparable dollar crisis.

Will solutions be found, to both the short term and the longer term problems? The answer is to be found in the saying “follow the money”? In other words, who is the greatest beneficiary of the existence of the euro? The answer is Germany. Not only does the rest of the eurozone absorb 40 percent of German exports, but consider the exchange rate of a reconstituted deutsche mark. The German economic model of export-led growth would crumble as the mark soared, in the same way that the prosperity of Switzerland is now threatened by the “safe haven” status of the Swiss franc.

The beneficiary may be reluctant to pay for the benefits it enjoys, and there are still obvious historical inhibitions to German leadership, but the remorseless logic of economic advantage will triumph in the end. After 20 excruciating months of inflammatory indecision, Germany’s Angela Merkel and France’s Nicolas Sarkozy are talking of a “real economic government” for the euro, though they have not yet defined what this means or when it will happen. Sarkozy has even declared that “euro bonds can be imagined one day,” though this would be “at the end of the integration process, not the beginning.” That euro-bond market would be as large as the dollar market, and equally irresistible.

The deals reached this autumn are still in the “fire-fighting” category, and the key to temporary success will be whether the flames are doused. The longer term reconstruction of the eurozone will determine whether this is a temporary respite or whether a new, resilient structure emerges. Such a structure will inevitably involve a far greater degree of political integration (at least in economic decision making) than has been conceived of up until now.

There is a long way to go, and, along the way, many reluctant electorates to be persuaded. But in five years, with coherent political leadership and a lot of luck, the institutional framework of a passably workable monetary union will have been cobbled together.

References

Buiter, W. and A. Sibert (2005) *How the Eurosystem's Treatment of Collateral in Its Open Market Operations Weakens Fiscal Discipline in the eurozone and What to Do About It*. Paper presented at a conference on Fiscal Policy and the Road to the Euro conference, organized by the National Bank of Poland and the Central Bank of Hungary, Warsaw, June 30–July 1.

Shin, H.S. (2010) *Macroprudential Policies Beyond Basel III*, mimeo, Princeton.

Sinn, H.-W. and T. Wollmershäuser (2011) *Target Loans, Current Account Balances and Capital Flows: The ECB's Rescue Facility*. CESifo Working Paper 3500.