



# How serious a threat is the UK's financialised economy?

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## Summary: UK financial system at risk of systemic crisis

*The paper, "How serious a threat is the UK's financialised economy" by Jim Cuthbert analyses the stability of the UK economy and argues that there is a serious threat of a renewed crisis.*

The problems, at root, relate to the UK's massively overblown financial sector. In proportionate terms, the UK has a larger financial sector than any other major economy: by 2008, the size of the financial sector, measured in terms of its total assets (or liabilities) was about 16 times UK GDP: and it has hardly shrunk since 2008, still standing at around 14 times GDP.

The sources of instability which posed the threat in 2008 have not been addressed: the idea that these problems arose because we had individual institutions which were too big to fail is too simplistic – our problem now is that we have a financial sector which in itself is too big and interconnected to fail. In addition, further sources of potential instability have emerged since 2008: the response of policy makers to the threatened collapse of the 2008 asset bubble was to prop up asset prices by low interest rates, and quantitative easing, hence inflating an unprecedented bond bubble. And the potential liabilities associated with financial derivative products grew hugely in 2008, and now stand at some 400 per cent of GDP.

Moreover, policy makers are still repeating earlier mistakes: witness the way policy has deliberately stoked up a new housing bubble, with house prices now above their 2008 level, and increasing at about 10 per cent per annum.

And the non-financial sectors of the economy have been seriously weakened, either by the run up to the 2008 crisis, or the policy actions which have been taken since 2008. In the household sector, the renewed housing bubble has pushed house prices way out of line with a sustainable relationship to earnings. In the non-financial corporate sector, there are chronic problems with low productivity, and there are over 100,000 underperforming companies (known as 'zombies') which cannot fully service their debts. The public sector is burdened with a level of net debt which is more than twice what it was prior to 2008, and still growing. And in international terms, the UK's chronic deficit on its current account now stands at an almost unprecedented 3.8 per cent of GDP.

What this means is that the rest of the economy is in no position to bail out the financial sector should there be another financial crisis. And yet, the financial system is just one shock away from a further crisis – because the fundamental issues of 2008 were never addressed, and, in particular, because of the unstable asset bubble blown up by quantitative easing, particularly in government bonds. No less a person than Andy Haldane, Director of financial stability at the Bank of England, identified this as the biggest threat to global financial stability when he gave evidence to the Treasury Select Committee in June 2013: in his words,

“If I were to single out what for me would be the biggest risk to global financial stability just now it would be a disorderly reversion in the yields of government bonds globally....Let’s be clear, we have intentionally blown up the biggest bond bubble in history.”

Basically, any shock (like a significant rise in interest rates) which led to a sharp fall in bond or asset prices could lead to a downward spiral of credit contraction and further asset price falls – with disastrous consequences for the real economy. And there are any number of potential triggers which could provide such a shock: for example:

- A misjudged attempt to reverse quantitative easing.
- A fall in the price of government bonds if investors rediscovered a more normal appetite for risk, and were no longer willing to hold government bonds at very low rates of return as a safe haven.
- A recovery in the US economy, prompting a rise in interest rates there, and requiring the UK to raise interest rates as well to prevent an outflow of capital.
- A shock to some specific class of assets: e.g., a widespread default on Chinese securities, or on European bonds.
- The bursting of the domestic housing or commercial real estate bubbles.
- Adverse political events internationally: e.g., a worsening of the crises in Ukraine or the Middle East.
- Domestic political events such as a domestic UK referendum on EU membership.

Overall, the unstable position the UK is in, and the likelihood of a future shock, mean that there must be a serious risk of the occurrence of a systemic crisis in the UK financial sector, and wider economy, in the near future.

## 1. Introduction.

1. The 2008 crisis in the financial system brought the world’s economic order to the brink of imminent collapse. The implications for the UK were particularly serious, given the dominance, unique among major economies, of the financial sector in the UK economy. This then raises a vitally important question: have the risks posed to the UK economy by the financial sector gone away, or is the UK still at serious risk of another crisis? This is the topic examined in this paper.
2. The approach adopted here is to examine the balance sheet of the UK – that is, the total of the assets and liabilities owned, and owed, by the different agents in the economy – breaking the balance sheet down by the different sectors of the economy. What emerges is a very worrying picture. The UK economy is still massively distorted by a hugely overblown financial sector. The sources of instability which posed the threat in 2008 have not been fundamentally addressed – but have rather been transformed into different forms. Policy makers are still repeating some of the original mistakes which led to the original problems. All that it could take to precipitate a further crisis could be one of a number of possible adverse shocks. And the potential of the economy to bail out the financial sector again in

the event of a future crisis has been much reduced. The overall conclusion is that the UK economy is at serious risk of a major crisis in the near future.

3. This is a paper about the UK economy: but it is very relevant to the forthcoming Scottish referendum. At the core of the referendum debate should be the question of relative risk: what are the risks of Scotland going it alone, compared with the risks of staying in the UK? Unfortunately, the debate has not been conducted in a balanced fashion: instead, too little attention has been paid to possible systemic risks facing the UK economy. This is understandable as regards the 'No' side in the debate – who will naturally portray the UK as a bastion of economic stability. But the failure by the 'Yes' campaign to address the risks attaching to the UK is much less understandable. The dangers to the UK economy highlighted in this paper make it essential that much more attention should be paid to these risks in the referendum debate.
4. The structure of this paper is as follows.
  - Section 2 looks at a report produced by the McKinsey Institute, on international comparisons of debt. This is a useful starting point because it establishes how unique the UK is in the size and growth of debt in its economy.
  - Section 3 sets out the UK's overall balance sheet, and sections 4 to 6 then look in more detail at the balance sheets of each of the non-financial sectors of the economy, in each case identifying potential weaknesses.
  - Section 7 considers the UK's position in relation to the rest of the world.
  - Section 8 then looks in detail at the balance sheet of the financial sector, and identifies in particular how the problems which led to the 2008 crisis have not been resolved.
  - Finally, section 9 considers the likelihood of a further financial crisis, and how well placed the UK is to respond.
  - Section 10 draws conclusions.

## **2. The McKinsey Report: the Importance of Debt in the UK Economy.**

1. In 2010, the McKinsey Global Institute, (an offshoot of the McKinsey accounting and consultancy empire), produced a report on the 2008 global credit crisis, and its consequences (McKinsey, 2010). This report provides independent confirmation about just how unusual the UK economy is in the degree to which it has come to be dominated by finance.
2. The McKinsey report is concerned with debt – defined as all credit market borrowing, including loans and fixed interest securities. The study concentrated on ten mature economies and four emerging economies: and it examined how debt had grown prior to the 2008 crisis, and what problems economies might have in reducing debt levels (de-leveraging) in its aftermath. The study found that debt had indeed increased markedly in the mature economies prior to 2008: from an average of about 200 per cent of GDP in 1995 to over 300 per cent by 2008.

3. Our primary interest, however, is in the UK: and what the study found in relation to the UK was stark. To quote from the McKinsey report:

*"The United Kingdom experienced the largest increase in total debt relative to GDP from 2000 through 2008, with its ratio reaching 469 percent. Even after adjusting for London's role as a global financial sector, the UK has the second highest ratio of debt-to-GDP of any major economies after Japan."* (McKinsey 2010, p18). The country with the largest ratio of debt to GDP was Japan: but the Japanese ratio has latterly been relatively stable.

4. The McKinsey report thus provides independent, and authoritative, evidence that the UK stands out from other advanced economies in the size, and growth, of its debt levels prior to 2008: even after allowing for the distorting effects of the City's role as an international financial hub.
5. In fact, however, while the McKinsey report provides prima-facie evidence for concern about the UK, it potentially understates the size of the problem. This is because the McKinsey report excludes an important class of securities from its calculation of overall debt figures. The excluded securities are the so-called "asset-backed securities". Creating an asset-backed security involves bundling together a group of loans, and selling the bundle as a security: essentially, it represents a further round of borrowing, based on the pooled collateral of the original loans. This is a process heavily engaged in by the financial sector.
6. McKinsey's logic in excluding asset backed securities from their definition of debt was, from one point of view, impeccable. As they said, (p58), they removed asset backed securities from debt figures *"because the underlying loan collateral is counted in the relevant sector and the inclusion of asset backed securities would result in the double counting of debt."* McKinsey is interested in who is responsible for paying off the originating debt – in other words, what is the burden of debt on the households, firms, etc, who took out the original loans.
7. Concentrating on who is responsible for the originating debt, however, potentially ignores another source of instability in the system. What if the financial sector is using asset-backed securities (or other forms of financial innovation) to build up an extensive pyramid of assets and liabilities, which might grow out of all proportion to the originating debt? Such a pyramid might in itself become unstable, and liable to collapse: and yet, because asset-backed securities are excluded from the McKinsey analysis, such a danger would not be revealed by their approach.
8. This suggests that, to get a fuller understanding of the potential stability of the financial sector, it would be appropriate to do an analysis of the full balance sheet (i.e., the total of assets and liabilities) of each sector of the economy: and that, for the financial sector, it would be important to try to assess how big an internal pyramid of assets and liabilities had been built up within the sector, over and above its role as a financial intermediary between the other sectors of the economy. This is the approach adopted in this paper. And, as will be seen, when the UK economy is analysed in these terms, the results are disturbing.

### 3. The UK Balance Sheet.

1. If we think of the UK economy as being split down into its constituent sectors (households, non-financial corporations, general government, and financial corporations) then the individual agents in these sectors hold assets, and have liabilities. The aggregates of the assets and of the liabilities for each sector constitute the sector's balance sheet: and the difference between total assets and total liabilities for that sector constitutes the sector's net wealth.
2. The following table shows the balance sheet for each sector of the UK economy as at 2012: that is, the table represents the position four years after the onset of the 2008 crisis. Figures have been expressed as a percentage of GDP, to give an indication of scale. In the table, assets have been split down into non-financial assets, (like, for example, houses), and financial assets, (like, for example, bank deposits or shares).

Assets, liabilities and net wealth, by sector: percent of GDP: 2012					
	Non-financial assets	Financial assets	Total assets	Liabilities	Net worth
Households	295	291	586	99	487
Non-financial corps.	119	121	241	257	-16
General government	50	36	86	105	-19
Financial corporations	10	1368	1378	1364	14
Total	475	1816	2291	1825	466

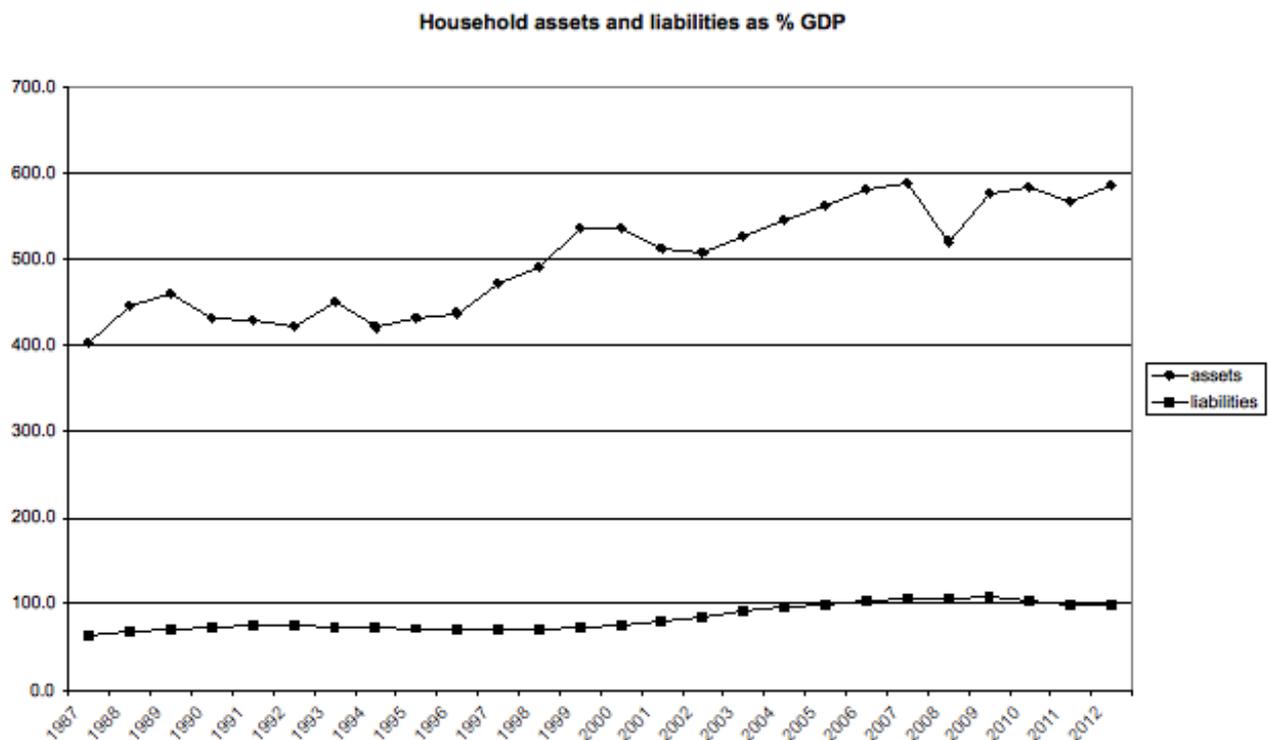
Source: derived from ONS Blue Book, 2013

3. In terms of net worth, the table shows how the UK indeed appears to be a wealthy country, with a total net worth of 466 per cent of GDP (in money terms, this net worth is £7.3 trillion.) Net worth is heavily concentrated in the household sector, whose aggregate net worth is 487 per cent of GDP (or £7.6 trillion.) The net worth, (positive or negative), of each of the other sectors is relatively small by comparison. (Note that the negative net worth of non-financial corporations, of -16 per cent of GDP, does not indicate that this sector is bankrupt, but rather reflects a peculiarity of the way in which shares issued by public companies appear in the national accounts: there is a fuller discussion in Section 5 below.)
4. What these overall net worth figures conceal, however, are the scales of the underlying piles of assets and liabilities which are netted off to give net worth. The household sector, for example, has assets of 586 per cent of GDP (of which more than half represents non-financial assets) and liabilities of 99 per cent of GDP. The assets and liabilities of non-financial corporations and general government are smaller (though still, of course, substantial). But the sector which really stands out is the financial sector. Financial corporations have assets and liabilities which are each equivalent to the staggering figure of almost 1400 per cent of GDP: that is, the aggregate size of the financial sector is almost 14 times the UK's GDP.
5. Of course, the fact that the financial sector is very large is not in itself necessarily cause for concern. Since the financial sector acts as an intermediary between the other parts of the economy – for example, channelling household savings into investment in businesses – we would expect most of the assets and liabilities of the non-financial sectors to have, as counterparts, liabilities and assets within the financial sector. So the financial sector's assets are likely to be larger than the total of the financial liabilities of the other sectors of the economy – and vice versa. Secondly, London is a major financial hub for the rest of the world: so we would expect a significant part of the financial sector's assets and liabilities to reflect international activities of the City.

- Nevertheless, as will be shown later in this paper, even after these factors are corrected for, the size of the UK financial sector's balance sheet is still immense. And, as we will see, there are real worries that this balance sheet is unstable, with a risk of collapse. But before moving on to this more detailed analysis of the financial sector, it is necessary to do some ground clearing, by looking in more detail at the factors underlying the balance sheets of the other sectors of the economy. As we will see, in each of these sectors there are underlying problems which relate back to the pre-2008 boom, and/or to the policy steps which have been taken since 2008. These factors have the twin effects of making a further financial crisis more likely, and of reducing the economy's ability to cope with any further financial crisis.

## 4. The Household Sector: Does Household Wealth Rest on a Bubble?

- The following chart shows how the assets and liabilities of the household sector have evolved through time: (again, figures have been expressed as a percent of the GDP of the relevant time period.)

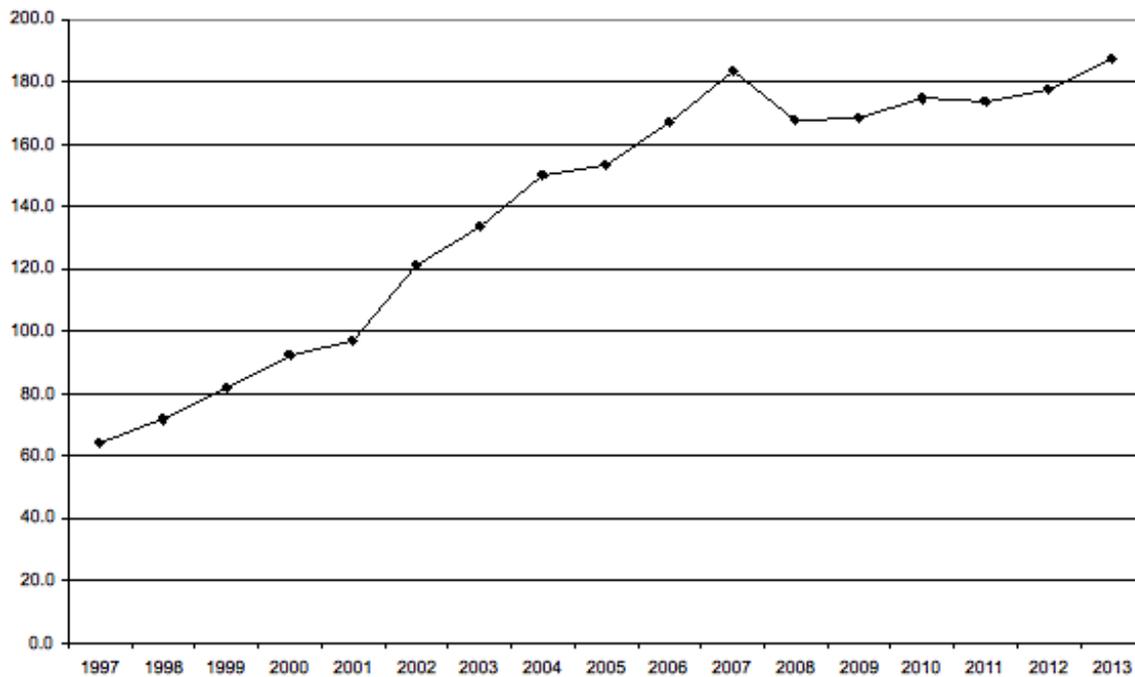


(source: figures derived from ONS Blue Book, 2013.)

The picture is one of steady growth in both assets and liabilities (apart from the marked dip in assets in 2008). Over time, the ratio of liabilities to assets has been fairly steady, in the range 15-20 per cent.

- What this overall picture does not reveal, however, is the importance of the role of housing. The value of dwellings accounts for almost a half of household assets: so the condition of the housing market is absolutely critical in assessing how sound the household balance sheet actually is. And here there are real grounds for concern.
- The following chart shows the all-dwellings index of UK house prices, (as calculated by ONS), from 1997 to 2013.

UK House price index: all dwellings

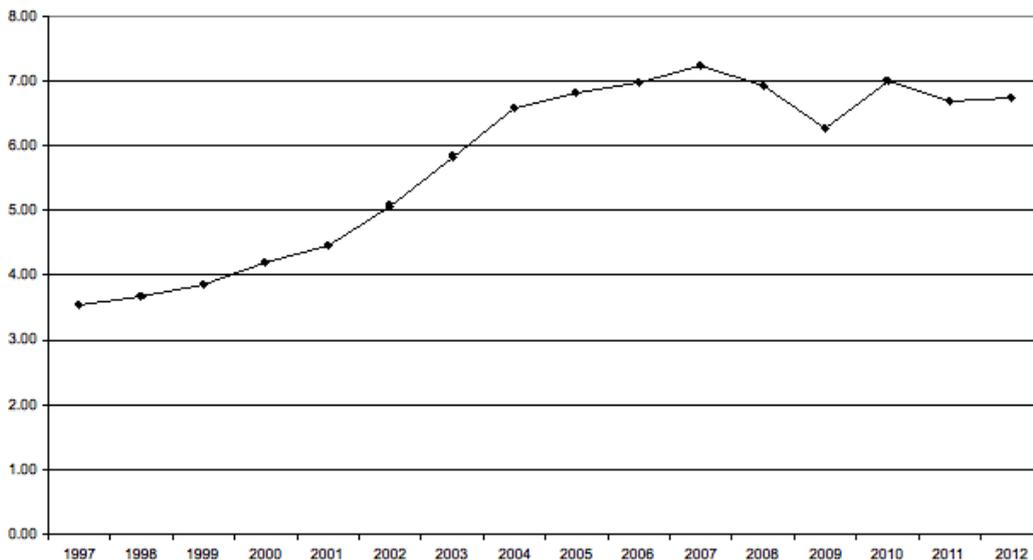


(source: ONS all-dwellings UK house price index: Q1 2002 = 100)

Over the period as a whole, house prices were rising by almost seven per cent per annum, more than double the underlying rate of inflation. As can be seen, prices rose particularly rapidly over the period up to 2007. But what is really interesting is that, after the drop in 2008, growth has resumed, and at an increasing rate. By 2013, not merely are overall prices higher than the 2008 peak: but the most recent rate of house price increases is around 10 per cent per annum.

- There are strong grounds for arguing that this level of house prices, and the current rate of increase, represent a bubble which is unlikely to be sustainable in the long term. One such ground relates to what has been happening to house prices in relation to earnings. The following chart shows, for England, the ratio of median house prices to median earnings. (The chart is for England rather than UK because the data are produced by the English department DCLG.)

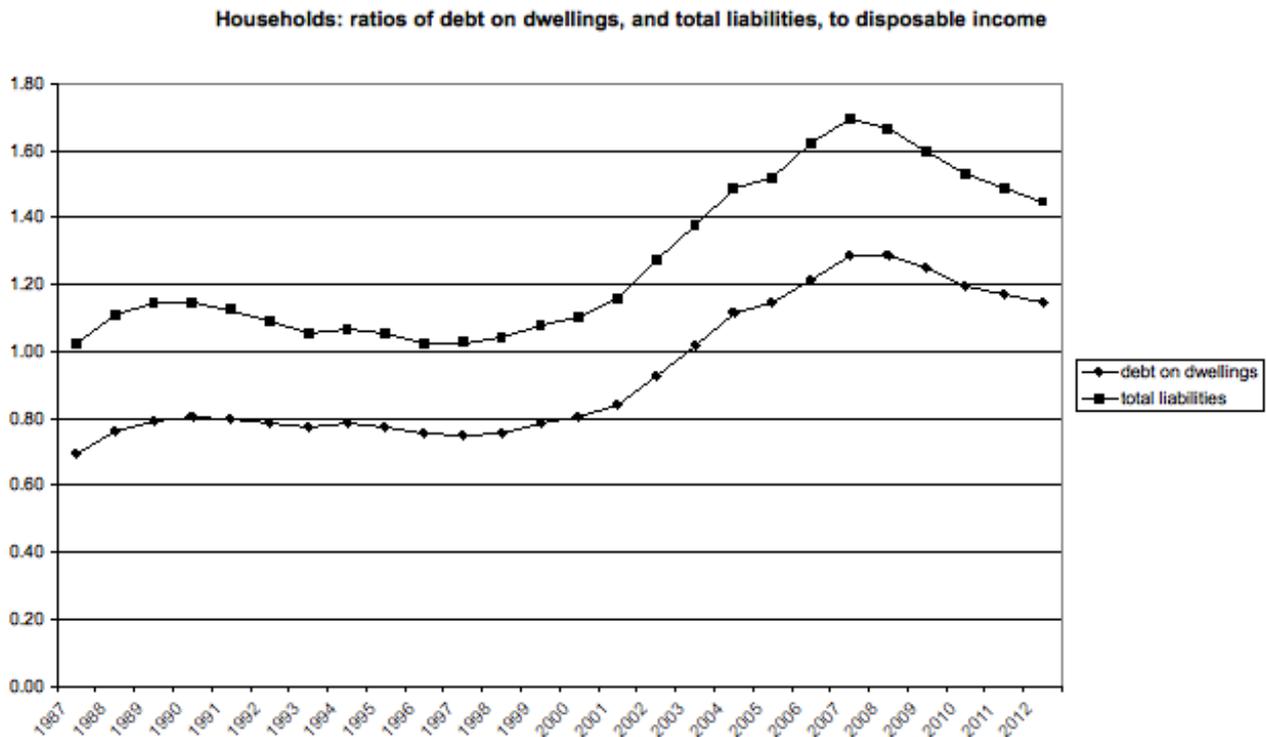
Ratio of median house price to median earnings: England



(source: DCLG data)

As can be seen, this ratio doubled, from 3.5 to over 7, between 1997 and 2007. After a drop in 2009, it then increased again, so that by 2012 it was at 6.7, not far below its previous peak. This is a level which is well above the historic norm: and is also a level which, in normal times, would be regarded as unaffordable.

- Similar conclusions emerge from an examination of household debt relative to disposable income. The following chart shows two ratios: the ratio of debt on dwellings to disposable income, and also the ratio of total household liabilities to disposable income.



(source: based on figures from ONS Blue Book 2013)

Both of these ratios increased by over 50 per cent from the mid 1990s to the mid 2000s: and have only fallen back by a relatively small amount after 2008. The chart also illustrates how debt on dwellings constitutes a high proportion, over 80 per cent, of total household liabilities.

- Both house prices, and household debt (largely consisting of debt on dwellings) are therefore at extremely high levels relative to earnings and disposable income: levels which would normally be regarded as unsustainable. But times, of course, are not normal just now – because of the emergency measures which were taken post-2008 to try to stabilise the financial system. In particular, interest rates have been artificially pushed down to what are unprecedentedly low levels. Since 2009, Bank Rate has been a trivial 0.5 per cent. This has been reflected in the interest rates paid on variable rate mortgages, which have recently been below three per cent. Combined with the prevalence of variable rate mortgages (according to the Financial Services Authority, seven out of 10 outstanding mortgages in 2011 were of the variable rate type), this means that many households are likely to suffer severe financial stress if interest rates rise.
- It is sometimes argued that the overheating in the UK's housing market is primarily a problem of London and the South East: and that a rise in interest rates might take the steam out of the SE housing market, without necessarily resulting in a general decline in the housing

market. It is certainly the case that house prices have risen faster in the South: for example, according to ONS house price data, the ratio of house prices in Q4 2013 to Q4 1997 was 3.74 in London, 3.11 in the East of England, and 2.89 in the South East. But prices have also risen significantly, but not by as much, elsewhere. The smallest increase was in Northern Ireland, where the ratio was 2.12: and every other region (or country) of the UK, apart from the North West, (2.33), had a ratio of greater than 2.5.

8. The fact that house price increases have been so widely spread means that indicators of potential stress in the housing market are not confined to the South East of England. In fact, analysis of DCLG data for England on house prices and earnings shows that, out of 90 English counties in 2012, the ratio of house prices to median earnings was

- greater than six in 55 counties;
- greater than seven in 38 counties;
- greater than eight in 20 counties.

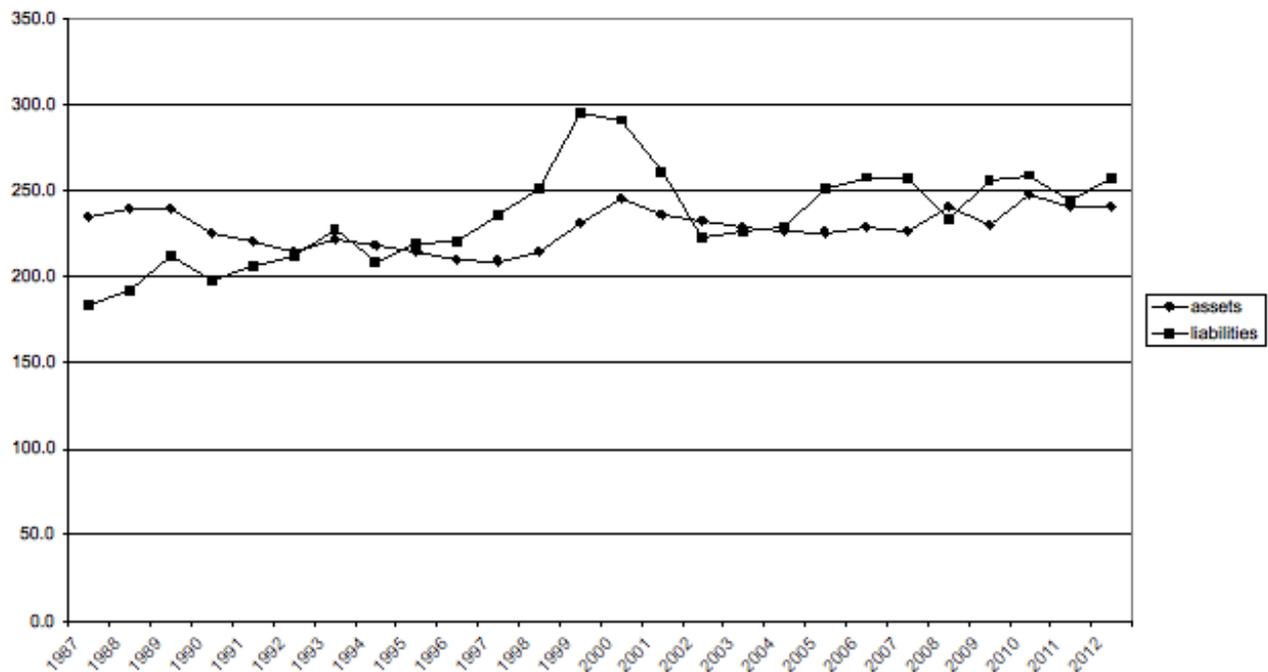
There is indeed a North/South dimension in the group of counties with high ratios: but nevertheless, the group of 55 counties with a ratio of greater than six extends widely from the South, through the Midlands, and well into the North of England. The implication is that those households who are likely to have financial difficulties if interest rates rise are widely spread. So any difficulties which arise in the housing market will not be confined narrowly to the SE of England.

9. The above points to several depressing conclusions. The apparent increase in household wealth during the 2000s was to a large extent the product of a housing bubble. That bubble was not corrected after 2008 – instead, quite the reverse, the effect of policy has been to restore bubble conditions, with house prices above their 2008 level, and rising at 10 per cent per annum. This has led to a position where many households are exposed to potential financial stress on their housing costs if interest rates rise, given that ratios of debt to disposable income, and house prices to median income, are at historically high levels. This position has only been sustainable (and, in turn, has largely been caused) because the effect of the emergency measures post-2008 has been to depress interest rates to unprecedentedly low levels. There is a real danger that any significant rise in interest rates will precipitate widespread financial stress in many households, and lead quite possibly to a collapse in the housing market. Moreover, while house price inflation has been most severe in the South East, the effects of a housing market crisis are likely to be widespread.

## **5. Non-financial Corporations**

1. The following chart shows the assets and liabilities of the non-financial corporation sector, expressed as percentages of GDP, from 1987 to 2012.

Non-financial corporations: assets and liabilities as % GDP



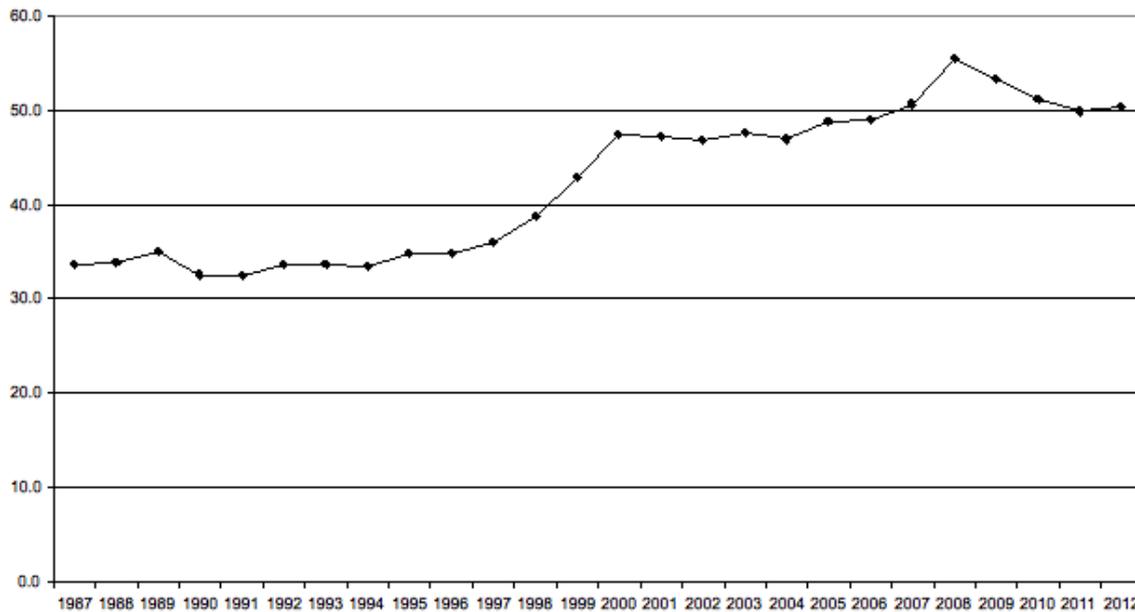
(source: based on figures from ONS Blue Book 2013.)

Assets have been fairly stable, and have fluctuated around 230-240 per cent of GDP throughout the period. Liabilities have fluctuated much more, and for much of the time have actually been greater than assets: this, however, is more a quirk of the way that equity shares issued by companies are treated in the national accounts, rather than being a cause for concern. (Listed shares are valued in the national accounts at market prices, and appear as a liability of the issuing company – even though these shares are not, legally, a liability of the issuer, but are ownership rights to a share in the liquidation value of a corporation. This explains, for example, the apparent increase in the liabilities of non-financial corporations in the dot-com boom of 1999.)

2. A standard measure of the financial risk a company is exposed to is the leverage ratio: that is, the ratio of debt to total assets. The leverage ratio of the non-financial corporations as a whole increased steadily from around 20 per cent in the late 1980s to 44 per cent in 2008: and has subsequently dropped back to just under 40 per cent. The sector as a whole has therefore not de-leveraged significantly since the 2008 crisis. On the other hand, a leverage ratio of 40 per cent is not generally regarded as being particularly high. So the aggregate figures do not in themselves indicate cause for concern.
3. However, despite this overall reassuring position, there are a number of underlying features which do give cause for concern. Four such features in particular are considered here: -
  - a) The increasing proportion of assets which are financial assets.

The following chart shows the percentage of overall assets owned by non-financial corporations which are held in the form of financial assets, (as opposed to real assets like plant and machinery.)

Non-financial corporations: financial assets as percentage of total assets



(source: based on figures from ONS Blue Book 2013.)

This percentage increased steadily over the period, from 34 per cent in 1987 to 55 per cent in 2007, before falling back slightly to around 50 per cent. What this suggests is that a significant number of companies have been choosing to hold their retained profits in the form of financial assets, rather than investing in the development of their businesses. This implies a short term attitude, and has potentially worrying implications for overall competitiveness and productivity. The implication is that the rewards being offered on various financial products exceeded what could be earned by traditional trading.

#### b) Pressure on the Commercial Real Estate sector.

In one specific sub-sector, namely companies investing in commercial real estate (CRE), there is currently cause for real concern. As noted in the Bank of England Financial Stability Report (BoE, 2013) the leverage of CRE companies (the ratio of debt to asset value) is more than 50 per cent higher than for non CRE companies, and the leverage ratio has risen since 2008 for the most leveraged CRE companies. As the BoE report also points out, no less than a third of loans to the CRE sector by value have received forbearance (i.e., had not met the terms of their scheduled payments of interest or principal, but had not been foreclosed by the lender): and many of these companies remain vulnerable. The knock-on effects on the financial sector are potentially serious, since (again, according to the BoE report) loans to the CRE sector account for around 40 per cent of the corporate loans made by UK banks.

#### c) Zombie Companies.

The CRE companies which have received forbearance on non-performing loans are a specific case of a wider feature in the non-financial corporation sector: namely, the so-called zombie companies. These are companies which are under-performing, and are generating enough revenues to keep paying interest on their debts, but not enough to repay the debt principal. Numbers of such companies have increased greatly in the difficult trading circumstances after 2008. According to a report by the Adam Smith Institute (2013) there are now more than 108,000 of such firms in the UK economy. The existence of such firms is likely to inhibit growth and investment, and contribute to poor productivity. Moreover, many such firms would be liable to failure if interest rates rose: the resulting loan defaults

would impact adversely on the balance sheets of banks.

d) Poor Productivity Growth.

A striking feature of the UK corporate sector is its poor productivity performance, where productivity is defined as output per man hour worked. For example, Jeremy Warner, writing in the Telegraph of 27 Feb, 2014, quoting from a figure produced by ONS, noted that *"output per man-hour in the UK is 21 percentage points below the G7 average, - the biggest productivity gap since 1992....Britain is more than 30 percentage points less productive than Germany, France and US... In terms of output per hour, we are still no higher than we were 10 years ago."*

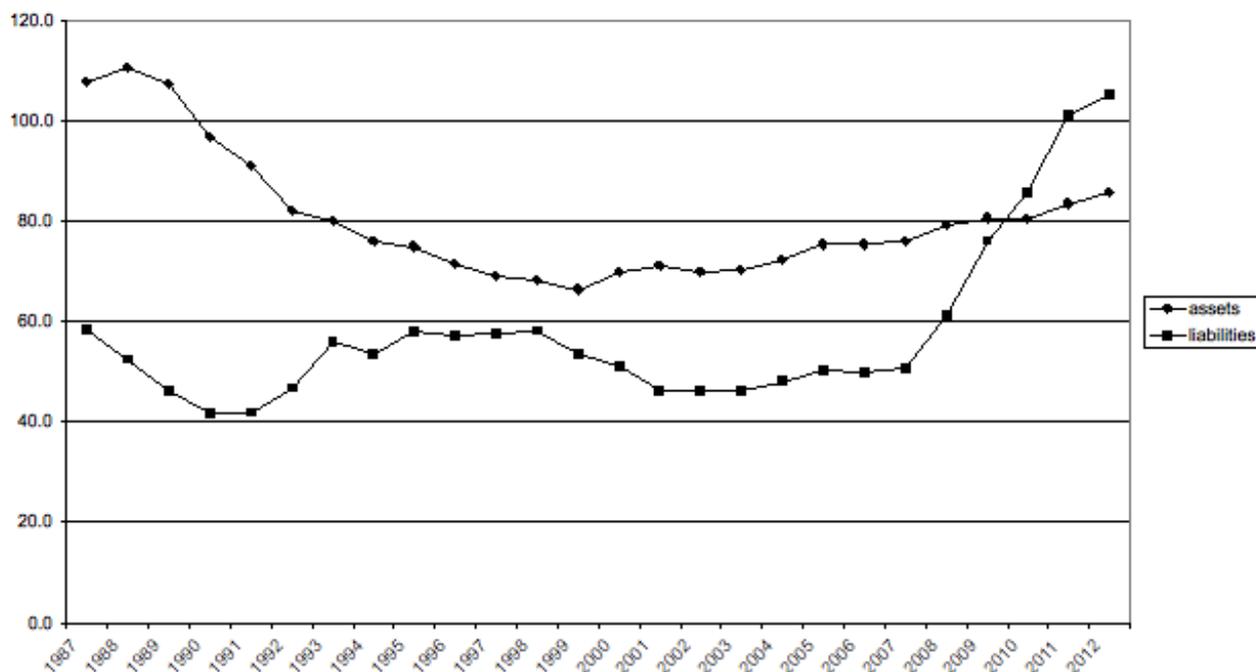
The reasons for the UK's poor recent productivity performance are unclear, and currently the subject of much debate. But two factors which must have played a contributory role have already been noted, at a) and c) above.

4. Overall, the non-financial corporation sector was weakened in the run up to 2008, as the high returns available in financial investments tempted many companies to keep an increasing proportion of retained profits in financial instruments, rather than undertaking productive investment: and was further weakened by the policy response to the crisis, as low interest rates and debt forbearance kept many zombie companies alive. These have contributed to a poor productivity performance by the sector, which means that the economy is that much weaker to respond to any further crisis.

## **6. The General Government Sector.**

1. The general government sector consists of those parts of the public sector which provide services for collective or individual consumption which are not sold at market prices. Thus it includes central and local government, the state education and health services, armed forces, police, and non-departmental public bodies. Public corporations which act as trading bodies are included with non-financial corporations.
2. The following chart shows the history of the assets and liabilities of general government as a percent of GDP.

**Assets and liabilities of General Government, as % GDP**



(source: based on figures from ONS Blue Book 2013.)

During the financial stringency of the 1990s, general government ran down its assets: but assets started to build up again steadily after year 2000. Liabilities fluctuated, but did not increase much overall, until 2008. But in the aftermath of the 2008 crisis, general government liabilities increased rapidly, and are still increasing. The effect was that general government switched in 2010 from having positive net worth to negative net worth: and by 2012 had negative net worth of almost 20 per cent of GDP.

3. About 40 per cent of the assets of general government consist of financial assets: and once these are netted off from general government financial liabilities, the net debt of the public sector in 2012 was about 70 per cent of GDP. This is double the level before the financial crisis: and even on the relatively optimistic forecasts of the Office of Budget Responsibility, (OBR), public sector net debt is projected to increase to over 80 per cent of GDP before starting to fall.
4. There are a number of implications of the present situation:-
  - a) The high current level of public sector debt greatly reduces the public sector's ability to respond to any future crisis. The effect of the 2008 crisis was to increase public sector debt by some 35 per cent or more of GDP. It was remarkable that this could be achieved without destroying the market's confidence in the UK. It is inconceivable that a further increase of similar magnitude could be achieved without destroying that confidence.
  - b) Because the response to the 2008 crisis was to reduce interest rates to virtually zero, and because interest rates cannot then go any lower, this means that a traditional response to past credit crises, of lowering interest rates, is no longer available.
  - c) Further, the innovative quantitative easing response to the 2008 crisis has stored up considerable problems of its own. Under quantitative easing, the Bank of England essentially printed money, and bought back £375 billion (over 30 per cent) of government debt. The theory of quantitative easing says that, as the economy improves, this debt will be sold back

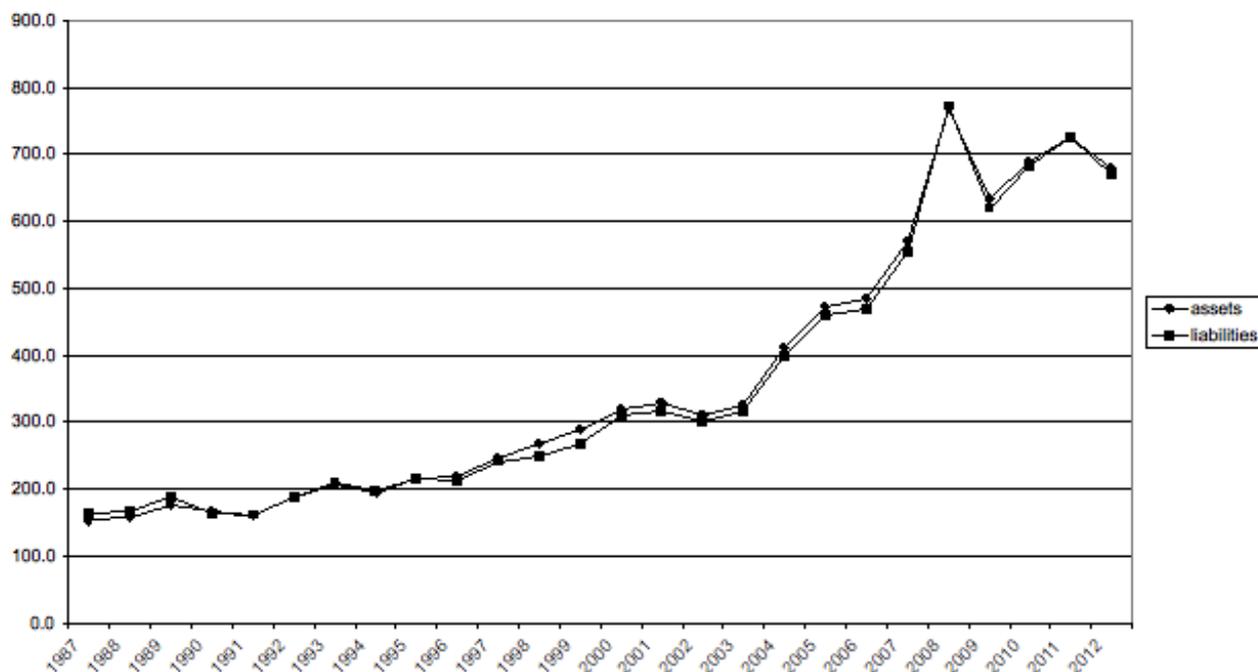
into the market, so removing the liquidity that was created, and so removing any danger of this resulting in inflation. There is an increasing view that this step may never happen: for example, a serious commentator like Ambrose Evans Pritchard, writing in the Telegraph, recently stated that by quantitative easing "*Britain...is in effect wiping out public debt worth 20 per cent to 25 per cent of GDP – on the sly*". If this is the case, then the realisation that the UK government has in effect monetised almost one third of its debt is likely to impact adversely on confidence in Sterling: and it also means that the BoE has a £375 billion hole in its balance sheet which will need to be papered over somehow. On the other hand, if quantitative easing is reversed, the resulting decline in gilt prices will mean a corresponding rise in interest rates: this will impact adversely on the government's debt service costs, and on asset prices generally: this will quite possibly choke off any recovery, or even institute a further crisis.

5. Overall, it is clear that the policy response to the 2008 crisis has not just stored up considerable problems still to be dealt with (associated with quantitative easing) but has greatly weakened the public sector's ability to respond to any future crisis.

## **7. The UK as a Large Bank: The UK's Relationship with the Rest of the World.**

1. So far in this paper, we have been looking at the balance sheet of the non-financial sectors of the UK economy, as we clear the ground for examination of the financial sector itself. Another important bit of ground clearing concerns the relationship between the UK and the rest of the world. So in this section we consider the rest of the world's balance sheet relative to the UK: that is, the assets in the UK held by rest of the world residents, and the liabilities rest of the world residents owe to UK residents.
2. The following chart shows financial assets and liabilities of rest of the world with respect to UK (an example of a rest of world financial asset would be a bank deposit in a UK bank by a non-UK resident: and an example of a rest of world financial liability might be an investment by a UK resident in the shares of a foreign company). Again, figures are expressed as a percentage of UK GDP.

Financial Assets and Liabilities of Rest of World with respect to UK: as percent of UK GDP



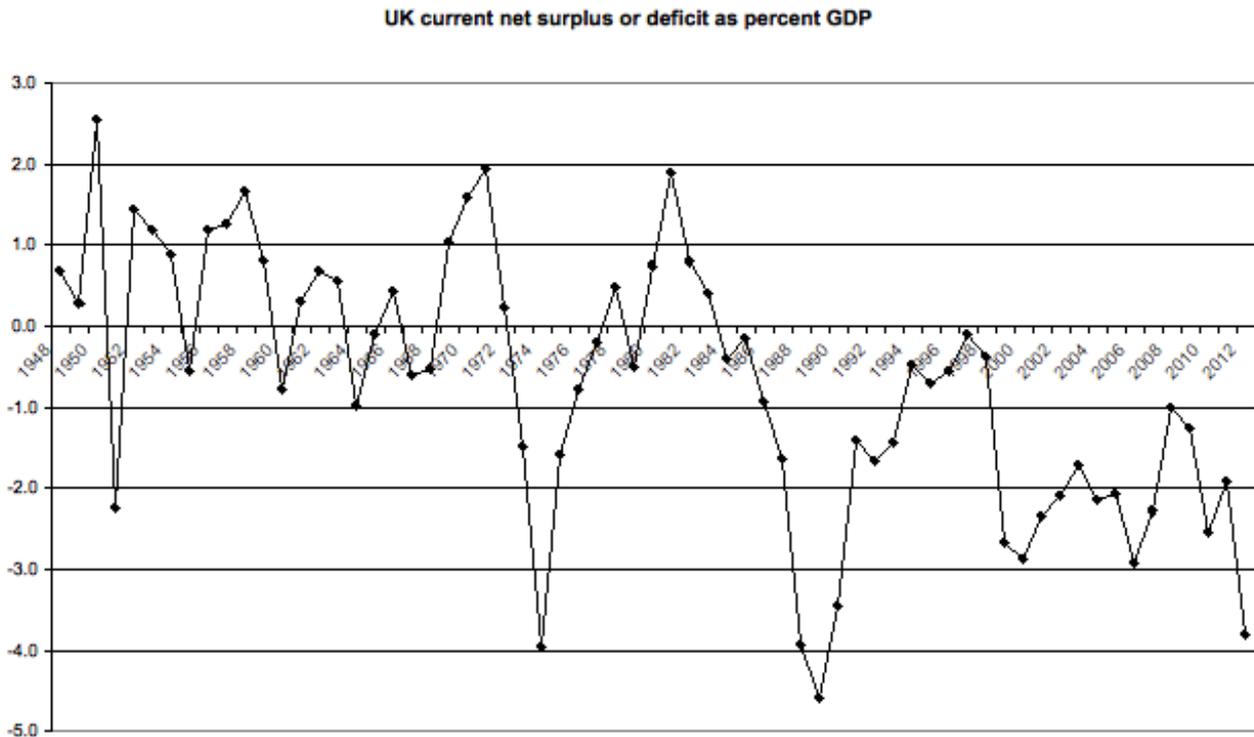
(source: based on figures from ONS Blue Book 2013.)

In 2012, rest of the world assets exceeded liabilities by 10 per cent of UK GDP: in other words, the UK's net debt to the rest of the world was 10 per cent of GDP. However, for technical reasons to do with the valuation of certain assets in the international accounts, this figure may actually overstate the level of the UK's net indebtedness. So the net debt position of the UK in the chart is not in itself necessarily a cause for concern.

3. However, what is very striking about the chart is the growth rate of both assets and liabilities: over the period, both have been growing at over seven per cent per annum, relative to GDP. Also very striking is the large size of both assets and liabilities by the end of the period: both assets and liabilities were around 770 per cent of GDP in 2008, and are currently just under 700 per cent. These are extraordinarily large figures: as long ago as 2006, Nickell noted that the relative size of these figures is much larger for the UK than for any other major economy (Nickell, 2006).
4. The extraordinary size of these figures relates to the UK's role as a global financial centre. In a typical year in the early 2000s, foreign residents would acquire assets in the UK equivalent in value to around 60 per cent of GDP: and UK residents would acquire foreign assets of almost similar magnitude. Moreover, as Nickell pointed out, the foreign assets acquired by UK residents tended to be major stakes in companies, and equity holdings: while the assets acquired by foreign residents in the UK were more of the deposit type. Since the returns on equity investments were usually higher than on deposit type investments, this meant that the UK usually earned a net income surplus on these investments. As Nickell noted, the UK was, in effect, acting like a large bank in international terms.
5. Latterly, the UK has come to rely heavily on this banking-type role to cover its international payments position. A fuller analysis of this topic is given in Cuthbert (2013): but essentially, UK competitiveness has been in decline over an extended period relative to other major economies – and, correspondingly, the UK has developed a persistent, and increasing, deficit in its trade in goods and services. This was partly covered by the positive net income flow which it has usually made on international investments. This still left a chronic current

account deficit, which had risen to be typically around two per cent of GDP by the 2000s, as the following chart demonstrates. This deficit has been funded by net borrowing from abroad.

Worryingly, the current account deficit deteriorated badly in 2012, to 3.8 per cent of GDP. Since the Second World War, a deficit this big has only been experienced twice before: in the mid 1970s (when the UK had to go to the IMF for a bail out) and in 1989.



(Source: based on figures from ONS Pink Book dataset.)

Overall, the picture in this chart of the long running declining trend in the UK's current account position is very striking: and, in fact, the picture would have been much worse, had it not been for the contribution made by North Sea oil, particularly in the early 1980s.

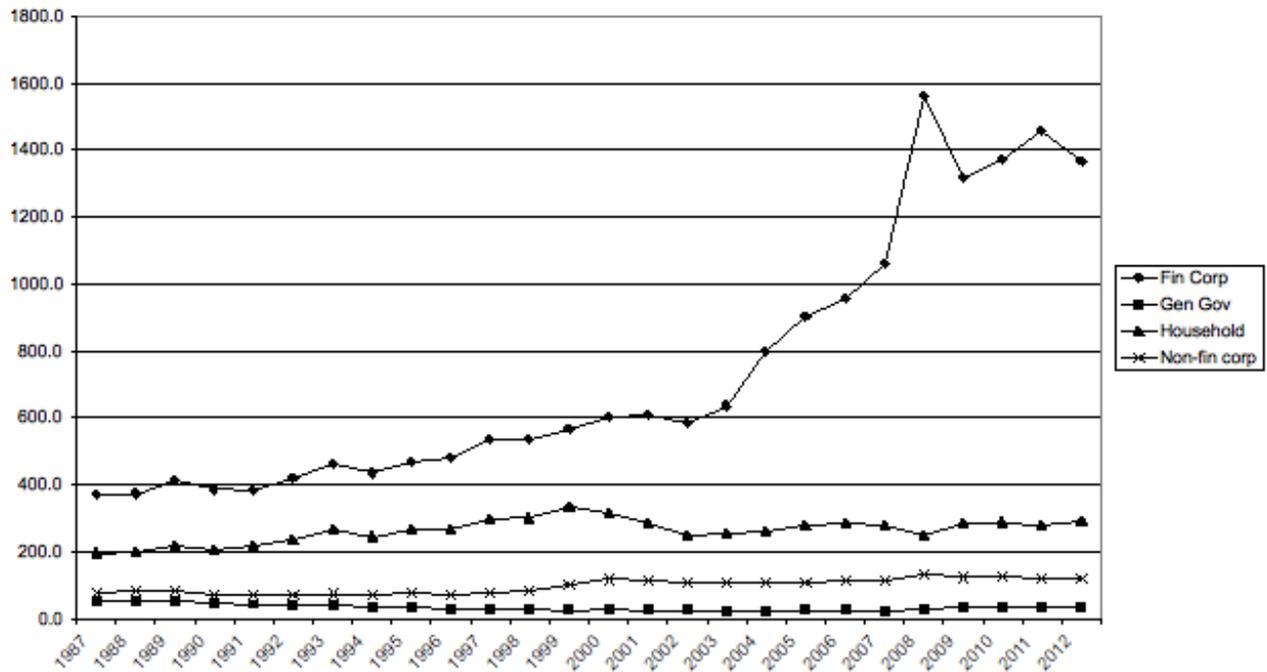
6. The heavy reliance which the UK economy has on what is essentially a role as a large bank, to cover its chronic deficit on its trading position on goods and services, makes the UK vulnerable to any potential instability in the global, or local, financial system. In particular, since the UK has come to rely on net lending from abroad to cover its chronic current account deficit, the UK is particularly vulnerable to any loss of confidence in the UK economy or financial system, which could cause the net lending flow to dry up, or reverse.

## 8. The Financial Sector.

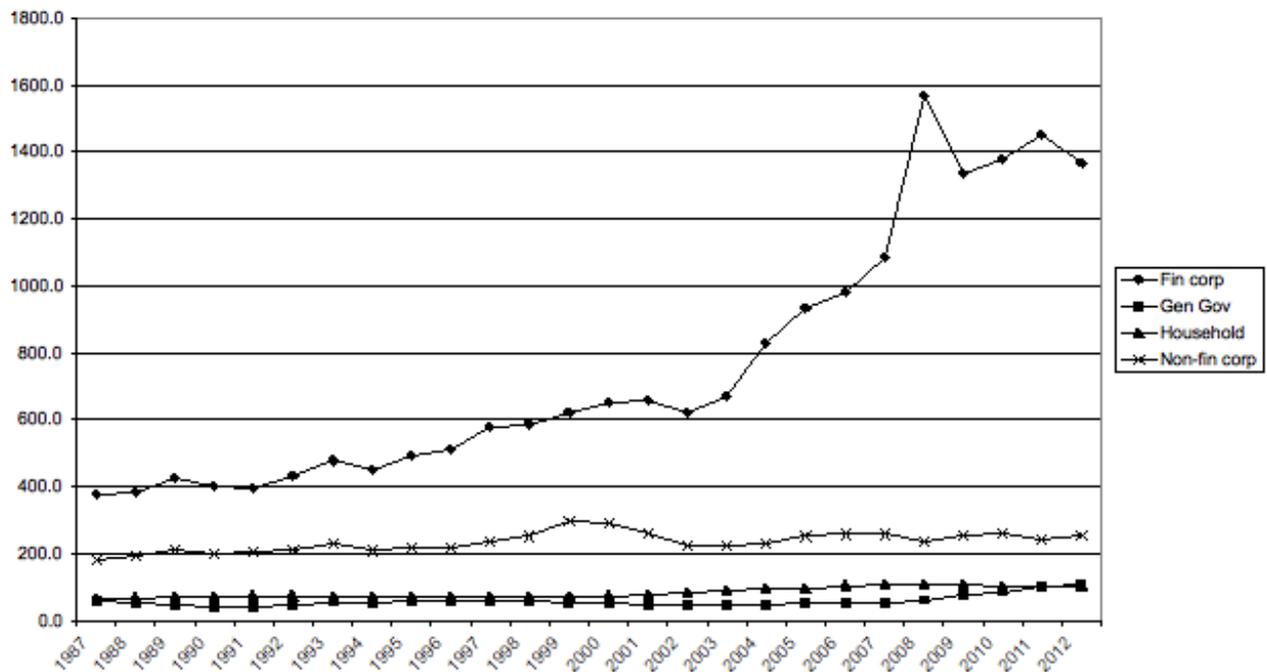
1. In section 3, it was seen how the assets and liabilities of the UK's financial sector in 2012 were both of a magnitude almost fourteen times UK GDP. The following two charts put these figures in their historical, and sectoral, contexts. The first chart shows financial

assets by sector, as a percentage of GDP, from 1987 to 2012: and the next chart shows the corresponding information for financial liabilities.

**Financial assets as % GDP, by sector**



**Financial liabilities as % GDP, by sector**

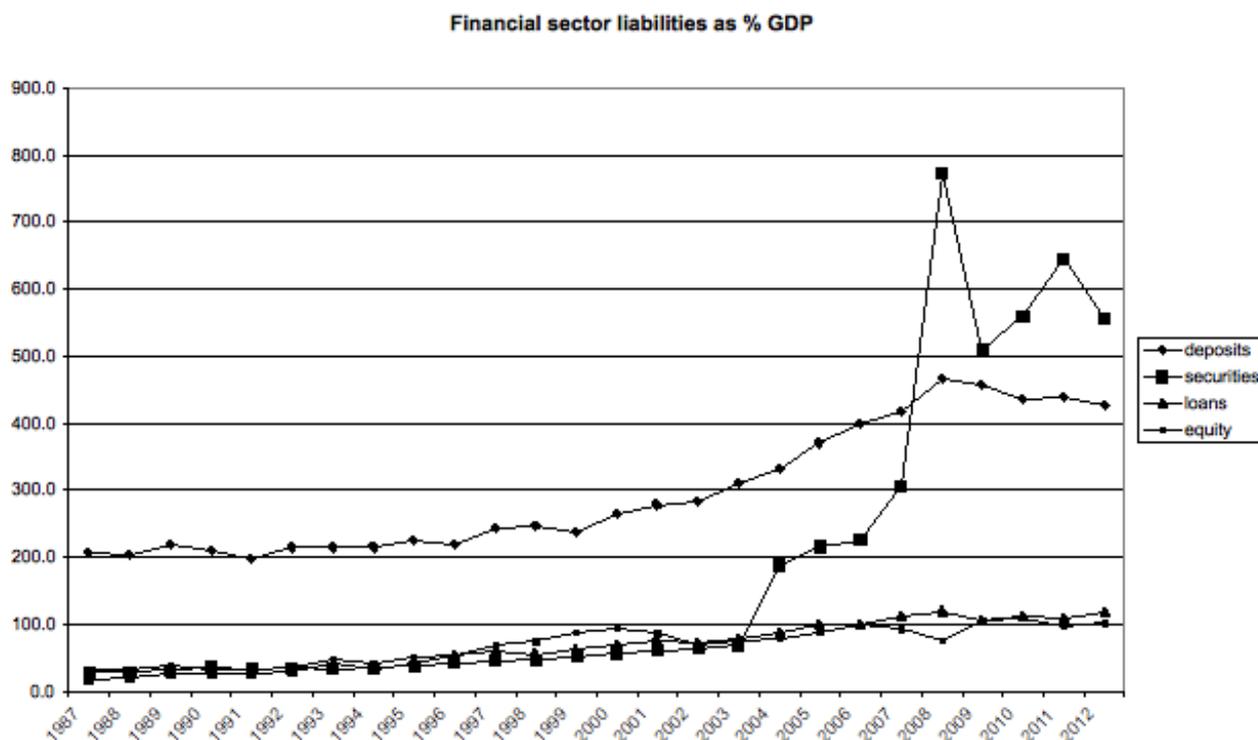


(sources: based on figures from ONS Blue Book 2013.)

- The contrast between the financial sector and the other sectors in these charts is extremely marked. Fluctuations in the other sectors appear minor beside the scale of the growth in the financial sector: financial sector assets (and liabilities) were under 400 per cent of GDP

in 1987: but by 2008 had reached 1600 per cent, and are still just under 1400 per cent. Moreover, most of the growth took place in a sustained period between 2002 and 2008.

- The following chart shows the liabilities of the financial sector since 1987, split down by the main types of liability.



(source: based on figures from ONS Blue Book 2013.)

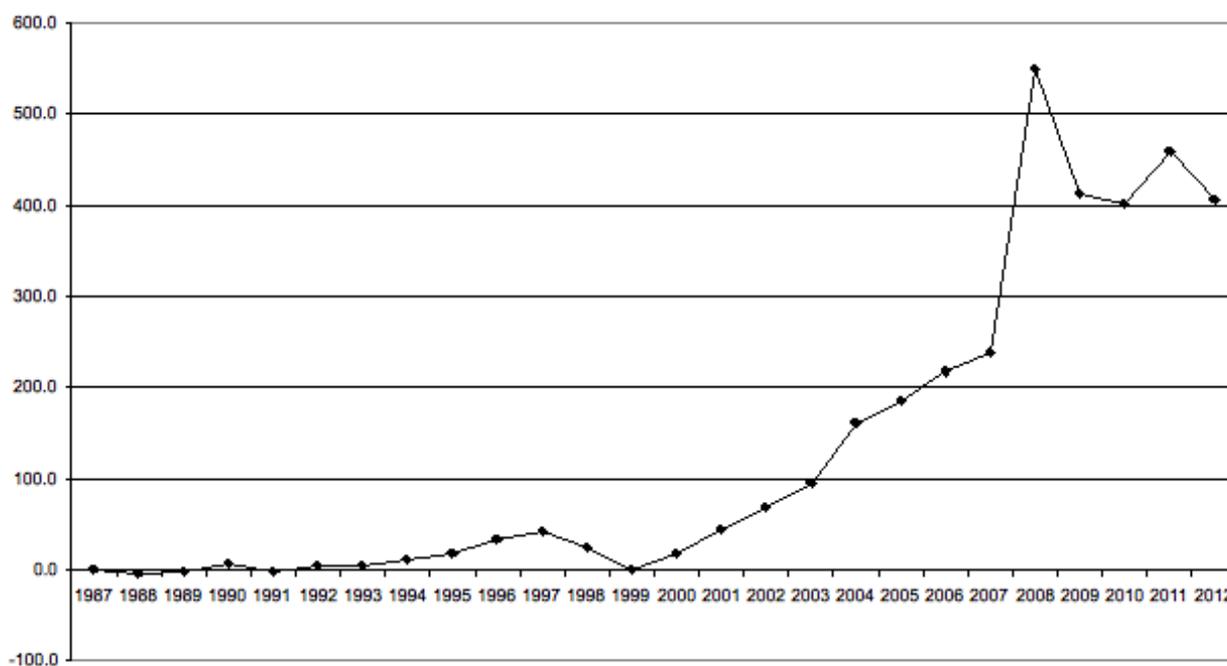
Again, the figures have been expressed as percentages of GDP: The most striking feature is the growth in the “securities” category. This growth is largely accounted for by financial derivatives. These grew from virtually nothing in the early 2000s until, by 2008, they represented almost 85 per cent of the “securities” category: by that stage, liabilities on derivatives were of a magnitude equivalent to almost 650 per cent of GDP: and by 2012 were still over 400 per cent of GDP.

- Interpreting these financial sector figures is not, however, easy. On the one hand (as was noted in section 3) we might expect the financial sector balance sheet to grow rapidly as the economy develops, because the financial sector acts as an intermediary between the other parts of the economy. And in the case of the UK, there is the complicating factor of the UK’s global financial role.

On the other hand, an increasing amount of activity in modern financial systems is internal to the financial sector itself: that is, it involves financial institutions undertaking various types of transaction with other financial institutions. One such type of activity takes place in the creation of what are known as asset-backed securities: where, for example, a bank might bundle together a group of loans it has made (e.g., mortgages) and sell the bundle of loans to a special financial company set up for the purpose, which then finances the deal by borrowing on the security of the bundled loans. And another type of internal financial sector activity arises when one financial institution insures itself against various types of risk (e.g., risk of a debtor defaulting, or risk of change in interest rate) through derivative transactions with another financial institution.

5. What this means is that a modern financial system has an increasing amount of internal connectivity. As we will see later, this has significant implications for the overall stability of the system: so it is something which it is important to measure. One thing we would like to know would be what might be called the internal balance sheet of the financial sector. That is, the aggregate of the assets and liabilities in the financial sector which have their counterpart liabilities and assets also in the financial sector.
6. It is difficult to measure the internal balance sheet of the UK financial sector: but it is possible to make an estimate of how the internal balance sheet has grown. The following chart shows the estimated change in the UK financial sector's internal balance sheet since 1987: the chart actually shows only the liability side of the balance sheet – the picture for assets is similar. (The figures are again expressed as percentages of GDP.) These estimates have been calculated by subtracting from the overall liabilities of the UK financial sector the financial assets of the other sectors of the economy (and of those assets of the rest of the world sector which are liabilities of the UK). Where one sector held an asset which was a direct liability of another non-financial sector (e.g., where households directly held UK government debt) and where such holdings could be identified from the published figures in the Blue Book, such cross-holdings were excluded from the process. Since not all such cross-holdings are identifiable from the published figures in the Blue Book, the chart is likely to understate the true growth in the financial sector's internal balance sheet.

**Change since 1987 in estimated internal liabilities of financial sector: % of GDP**



(source: based on figures from ONS Blue Book 2013.)

7. The picture in this chart is striking: and divides into distinct phases.
  - (i) Up until 1999, there was little growth in the internal balance sheet of the financial sector. What this implies is that the overall growth in the financial sector in this period (as illustrated in the charts in para 1 in this section) reflected growth in the financial sector's intermediary role between other sectors, (including the rest of the world.)
  - (ii) From 1999 to 2007 there was a period of rapid, and steady, growth in the internal balance sheet. With hindsight, it is now clear that what was happening during this period was an

example of an upswing in what Martin Wolf described as “*the self reinforcing dynamics of credit creation and asset price inflation*”, (Wolf, 2013). During such an upswing, increasing asset prices improve banks’ capital ratios: which means they can lend more: which leads to more purchases of assets: which increases asset prices even further: and so on. During this period, there was much activity in asset-backed securities, and the internal balance sheet of the financial sector increased by about 250 per cent of GDP.

(iii) While this was a striking enough expansion, it was dwarfed by what happened in 2008. In one year, the internal balance sheet increased by a further 210 per cent of GDP. The immediate increase in 2008 was due to a huge increase in the potential liabilities under financial derivatives.

(iv) In the aftermath of the 2008 crisis, the policy responses of reducing interest rates and quantitative easing had major effects. Low interest rates prevented default on many loans which would otherwise have defaulted. Further, because of the inverse relationship between low interest rates and asset values, the values of any assets which were secured on a future stream of payments were inflated: and, in particular, the prices of government bonds were inflated by direct purchases through quantitative easing. The result was that the great danger of 2008, the emergence of a negative feedback loop involving catastrophic destruction of asset values and credit, did not happen. But the converse effect is that there was only modest shrinkage in the internal balance sheet of the financial sector: it has only fallen by 140 per cent of GDP since 2008, and the overall increase since 1999 is still more than 400 per cent of GDP.

8. The implication is that the internal credit bubble which the financial sector blew up prior to 2008 has not been significantly deflated. Is this a worrying situation? As we will see, the current situation is indeed potentially unstable, for two main reasons: these relate to inherent characteristics of the way modern financial systems work, and how these characteristics interact with policy measures, particularly quantitative easing, taken to counter the 2008 crisis.
9. The first of these characteristics has already been encountered, in the shape of the positive feedback loop between credit creation and asset prices. Essentially, what happened after 2008 was that this cycle was paused at the end of a massive upswing: and the succeeding threatened downswing was prevented from occurring by reducing interest rates, and by quantitative easing. But interest rates cannot now go any lower: the only possible change is upwards. And given the inverse relationship between asset values and interest rates, the danger is that a rise in interest rates might restart a negative feedback loop involving declining asset values and restriction of credit.
10. As authoritative evidence of the reality of this type of danger, this is what Andy Haldane, the Bank of England’s Director for Financial Stability, said, when he gave oral evidence to the Treasury Select Committee on 12 June 2013:-

*“If I were to single out what for me would be the biggest risk to global financial stability just now it would be a disorderly reversion in the yields of government bonds globally.... Let’s be clear, we have intentionally blown up the biggest bond bubble in history.”*

What Haldane is identifying here is the danger that is posed by the bond bubble which has been inflated as a result of quantitative easing (not just in the UK, but in other economies which practised quantitative easing, like the US). Once bond prices start to fall, and correspondingly, interest rates start to rise, there is a renewed danger of a catastrophic negative feedback loop, involving contraction of credit, and falling asset values. While

Haldane was talking about the global financial system, it is clear that the potential instability he identifies applies also to the UK.

11. The second factor which makes the present situation potentially unstable relates to flaws in the financial system's role in risk management. Much of the activity which inflated the financial sector's internal balance sheet in the period from 1999 to 2007 was involved with what were seen as improved techniques for managing risk. In particular, new forms of risk insurance were devised through the development of various types of financial derivatives. In a normal insurance market, risks are insurable because the risk events are effectively independent, and so can be actuarially predicted. In the financial derivatives market, however, risk events are not independent. A change in underlying market conditions can mean, for example, that large numbers of mortgage payers may at the same time fail to meet their payments, or significant numbers of companies default on their debts: in such circumstances, it is quite possible for the issuers of insurance against such events to be overwhelmed (as, indeed, happened with the insurer AIG during the 2008 crisis).
12. If an adverse market event crystallised a significant number of derivative obligations (that is, potential liabilities became real) and if the resulting liabilities could not be honoured, then this could cause widespread chaos in the financial system. As an indication of the scale of what is involved, it will be recalled from para 3 above that derivatives obligations as measured in the Blue Book currently stand at 400 per cent of GDP. But this almost certainly understates the true scale of the potential liability. What is recorded as exposure to a derivative in the national accounts is the amount which one party to the derivative would have to pay (or be paid) to be relieved of their obligation under the derivative: (the other party to the derivative has a corresponding, but oppositely signed, asset or liability). But this way of assessing the scale of derivative exposure gives little or no indication of the potential underlying scale of exposure of the various parties if things go badly wrong. There is a neat illustration in Barth and Landsman (2010) which shows how the conventional way of valuing derivatives conceals the true underlying effect on a derivative holder's balance sheet.

## **9. How likely is a further financial crisis, and how well placed is the UK to respond?**

1. There is little doubt, therefore, that the financial system is in a potentially unstable situation: to assess the actual risks, it is necessary to consider:-
  - a) what is the likelihood of a trigger which might threaten to precipitate a crisis.
  - b) do UK policy makers have the freedom of manoeuvre that would make it likely that they could take effective action?
2. The question of potential triggers for a global crisis was something that Andy Haldane addressed in his oral evidence to the Treasury Committee. In fact, Haldane was actually quite pessimistic. In his exact words "*I think there is any one of a number of things which might potentially trigger*". The specific things identified by Haldane in his oral evidence related to events which could precipitate a rise in interest rates. One was the ending of quantitative easing (which he rather discounted) and another being a reversal in what he called a "*collective flight to safety*" in recent years, which had depressed long term interest rates.

It does not take much imagination, however, to add to Haldane's list of potential triggers for a UK crisis. One trigger, for example, could paradoxically enough be an increased flight to safety, if that took an asymmetric form: for example, if investors, possibly prompted by a recovery in the US economy, were to seek safety there, so leading to a flight of funds from the UK. Other possible sets of triggers might relate to a shock to a specific class of assets: e.g., a widespread default on Chinese securities, or on European bonds: or the bursting of a domestic housing or commercial real estate bubble. Or political events could provide a trigger: e.g., a worsening of the crises in Ukraine or the Middle East, or even the imminence of a domestic UK referendum on EU membership.

3. The overall conclusion must be that there are plenty of potential triggers: the essential question, therefore, is how well placed are UK policy makers to respond. And here the news is not good.

a) First of all, one traditional response by central banks to successive credit crises since the 1990s has been to lower interest rates. With interest rates now close to zero, that approach has run out of road.

b) Secondly, the natural extension of the low interest rate response – namely, quantitative easing – may not be available to policy makers in a future crisis. This will depend crucially on the nature of any crisis. Quantitative easing was only possible in the 2008 crisis because the crisis was truly global. If a future crisis in the UK was accompanied by a movement of capital to the US because of a recovering US economy, then an attempt at further quantitative easing in the UK would exacerbate this flight.

4. But in addition, as has been seen in the earlier sections of this paper, in each of the other sectors of the economy there are underlying problems which relate back to the pre-2008 boom, and/or to the policy steps which have been taken since 2008. These factors have the effect of reducing the economy's ability to cope with any further financial crisis. In particular:

i) It is, of course, perfectly possible that a future crisis originates in the household sector, through the bursting of the domestic house price bubble. But even if the crisis did not originate there, any rise in interest rates associated with a future crisis is likely to trigger events in the household sector which will tend to accentuate problems: events like a reduction in the disposable incomes of many households as mortgage interest rates rise: like potential mortgage defaults further undermining financial sector stability: and the potential for a collapse in house prices.

ii) The underlying strength of the real economy has been compromised by the severe damage to productivity post-2008, which came on top of a long running trend of declining competitiveness. Given this, the real economy is not well placed, either to generate the tax revenues, or to institute the export led growth, which would help to counter a future crisis.

iii) The ability of the public sector to shoulder further debts of the financial sector is severely weakened, because the damage to the other sectors of the economy has reduced the economy's tax paying capacity, and because of the greatly increased burden of public debt post 2008. And any step taken by UK public authorities which weakens international confidence in the UK (like a further episode of quantitative easing which happened to misjudge the market mood) could prejudice the net lending flow on which the UK depends to fund its chronic current account deficit.

5. An optimist might argue that one thing that will prevent a future crisis in the financial sector is

that we have now learned the lessons of 2008, and have put appropriate counter-measures in train. In particular, we have learned the dangers of having financial institutions which are 'too big to fail', and are taking steps to counter this. And we also have new regulatory arrangements, and an emphasis on macro-prudential regulation (which presumably means taking a holistic view of overall dangers to the financial system.)

6. What this optimistic view neglects, however, is the massive degree of internal connectivity within the financial system. As was noted in section 8, the internal balance sheet of the UK financial system (i.e., the extent to which it conducts deals with itself) is very large – of the order of 400 per cent or more of GDP. Given the degree of internal connectivity which this extraordinary figure suggests, the danger is that a financial crisis will involve a chain reaction of multiple failures of financial institutions: while none of the components in such a chain might in itself be too large, the cumulative effect might nevertheless be devastating. The basic problem is not that we have individual financial institutions which are too large to fail – that was yesterday's battle. What we have now is a financial sector which in itself is too big, and inter-connected, to fail. And this is arguably an even more dangerous proposition.
7. And the high degree of internal connectedness within the financial sector points to the problems of implementing effective macro-prudential regulation. To be effective, such a policy would need to be based on a thorough understanding of the links between the different parts of the financial sector, and of the associated vulnerabilities. As far as one can gather (e.g., from reading the Bank of England's Financial Stability Report) the relevant authorities seem to be very far from having the necessary analytical tools to achieve such an understanding.

## **10. Conclusions.**

1. The UK is unique among major economies in the dominance of the financial sector. During the early 2000s, that financial sector participated in a classic cycle of asset inflation and credit creation, and in the process expanded its internal balance sheet out of all proportion to the financial sector's role as a financial intermediary. The crisis of 2008, however, did not cure the problem: the emergency measures taken at that time prevented systemic collapse, but only at the expense of shoring up the financial sector's balance sheet by quantitative easing, and by unprecedentedly low interest rates. In the process, the other sectors of the economy, which had already been weakened by the expansion of the financial sector, were further distorted.
2. We are now in a position where the dangers of a further shock to the system are large: and where the potential of policy makers, and the wider economy, to respond to such a shock have been severely weakened. Moreover, the idea that the problems of 2008 arose because we had individual institutions which were too big to fail is too simplistic: our problem now is that we have a financial sector which in itself is too big and inter-connected to fail. Overall, there must therefore be a serious risk of the occurrence of a systemic crisis in the UK financial sector, and wider economy, in the near future.

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