The world's dream, economic growth revisited

De Koning, Kees

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Drs Kees De Koning

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Introduction

Financial sector companies are different from those in the real sector. In the real sector the price for consumer goods and services is a price reflecting all costs which have been made to produce the output. Profits reflect the difference between the sales price and the costs base. The "guiding hand principle" helps entrepreneurs to make rational decisions. In the financial sector the managers do not produce anything else than "considered opinions". The money entrusted to them belongs to the individual households. The prices quoted by the financial sector managers are based on guesses about future cash flows over the funds entrusted to them. There is no clear costs concept in financial sector companies as only future events will determine the true costs picture. The key difference between the two sectors is that real sector companies work with historical costs and the financial sector with future costs. The difference between the two sectors is immense as no one can really predict what the future holds in economic terms.

In the U.S., where the combined balance sheet of individual households has been collected for many years, the statistics show that the financial assets net of liabilities on home mortgages and consumer durable goods are now 81% of total individual household assets. The remainder 19% is constituted by non-financial assets. This 81% was practically four times the annual personal income level of U.S. households in 2012. The net financial assets were also 3.5 times U.S.GDP in 2012. This figure alone shows the dominance of the financial sector over the real sector.

However the picture for jobs and incomes is totally different. Nearly all jobs and incomes out of jobs are derived from the real sector. In 2011 the U.S. financial sector employed 5.8 million out of the 141 million employed persons or 4.1% of the total number of people employed in the States in that year. About 4% of the workforce manages financial assets which are 3.5 times GDP values, while 96% of the labour force works in the real sector.

Job levels and disposable incomes are central to economic prosperity and they are the drivers of demand levels. The experience over the last 10 years has shown that the collective (mis)management of financial assets, especially on the home mortgages front, has been the principal cause of the downturn in jobs and incomes.

The collective mistakes made by the U.S. financial sector in risk taking can be exemplified by the fact that, over the period 2004-2012, 21.4 million households out of the 53 million households in the U.S. who had a mortgage were affected by foreclosure proceedings and 5.4 million of them lost their homes. In all respects the individual households were the losers: on the jobs and incomes front; on the asset prices front as well as on the government debt front

In this paper questions will be raised why no volume control measures were put in place to control the excessive growth in home mortgage volumes as compared to income growth of individual households. Questions will also be raised about quantitative easing policies which main aim was to lower the costs (price) of borrowings, rather than repair the income loss to individual households -a volume loss-. Evidence collected from the individual household statistics over the last 5 years show that individual households wanted and needed to repair their own balance sheets first, before entering into more borrowings, irrespective of the price.

This paper aims to set out how the U.S. financial sector became the key player in causing the U.S. economy and with it most of the world economy to stumble and what can be done to shorten the adjustment period if a financial debacle affecting individual households has taken place.

1. Real markets and financial markets

1.1 The difference in size

The real markets represent the exchanges of goods and services in a single year: GDP. The financial markets represent the savings built up over the years. If one takes the U.S. situation as an example, in 2012 personal income was running at $13.75 trillion. The net worth of individual households in 2012 was $64.185 trillion, a multiple of 4.67 of personal income, which means that savings represented more than 4.5 years of personal income in the U.S. If one deducts the net worth of individual households invested in homes and consumer durable goods of respectively of $8.26 trillion and $2.12 trillion, than the value of the financial assets of U.S. individual households was $53.8 trillion. This implies that the financial assets were just under 4 times the personal income level in 2012.

There has been a shift from individual households assets invested in homes and consumer durables to investments in financial assets. In the U.S. individual households had all through the 1980's about 40% of total assets in non-financial assets, mainly in households' real estate and in consumer durable goods. Since 1990 the distribution between non-financial assets and financial assets changed with a more rapid growth of the latter, so that currently some 31% is constituted by non-financial assets and 69% by financial assets. After deducting home mortgages and consumer credits from the non-financial assets the distribution ends up at about 81% financial assets and 19% non-financial assets as per the end of the 1st quarter 2013. The total individual households' asset base grew from gross $24.4 trillion in 1990 till $83.7 trillion as per the end of the first quarter 2013.

This 80-20 distribution between financial assets and income is in stark contrast to the employment picture. Nearly all jobs and incomes out of jobs are derived from the real sector. In 2011 the U.S. financial sector employed 5.8 million out of the 141 million employed persons or 4.1% of the total number of people employed in the States in that year. The employment picture was that in 2011 there was a 96-4% split in people working in other sectors as compared to those employed by the financial sector.

The conclusion out of the above data is that jobs are practically exclusively created in the non-financial sectors in the U.S. economy, but in terms of importance, the financial sector outweighs income generation out of jobs by a factor of practically 4. Incomes are needed to add to demand levels in an economy, but the use of savings can undermine the creation of jobs as can be concluded out of the causes of the 2008 financial crisis. This will be set out in section 2.

If financial markets represent 80% and personal income 20% of total income plus financial savings, perhaps economists need to pay more attention to what happens in the financial markets and how these markets can influence the real sector.

1.2 What prices mean in the real sector as opposed to the financial sector.

In the real sector a price stands for the remuneration for a good or service delivered to the public. The price represents the value attached to a product or the compensation for a service delivered. Companies can deduct their costs from the sales price and the difference between revenues and costs constitutes the profit level per item and for all sold items together the net income level of the company. Company management can subsequently decide whether it is worthwhile to expand or reduce production. In the real sector price levels are often referred to as the guiding hand and correctly so.

A price in the financial sector is a very different price from one in the real sector. In the financial sector a price: interest rate, exchange rate especially in the latter case a forward, future and options price does not represent the costs of production. The financial sector does not produce savings; those savings are owned by the general public. The only item which the financial sector really produces is: Considered Opinions (CO's). These opinions are judgements about the rate of return on funds borrowed from the public, whether it is on home mortgage loans, on loans to companies or to a government, or on the future developments of exchange rates and commodity prices. If the predictions of the financial sector managers -bankers, insurers, asset managers, hedge fund managers, stockbrokers and pension fund managers- in foreseeing how shares, bonds, commodity prices and exchange rates will develop, do not materialise, the results will not appear in their own profit and loss accounts, but in the changes in the individual households' net worth levels. It is slightly different with loans as loans stay mainly with the lending institutions. If loan losses are not foreseen, such loan losses will find their way into the balance sheets of banks and other financial institutions. However as all funds that banks use are ultimately owned by the individual households, the losses are all borne by the latter households. Some bankers may lose their bonuses or even their jobs, but the value loss on savings ends up with the individual households.

Considered opinions are provided about expected future developments. The price set for a financial product reflects an opinion about the risks to be incurred over the savings provided by the individual households. Such prices could be right, but they could equally be totally wrong. The real "costs of production" will only show up in future years, which may be five, ten, thirty or even more years away. In the real sector the price in the markets is a price for an end product or service, reflecting the reward at the end of the production period. In the financial sector the reward is an uncertain future cash flow, which often stretches out over many years. Hence the price set cannot possibly reflect the "true costs" as such costs are simply unknown. Only in hindsight can such "costs" be assessed. The financial sector cannot and does not work with a "guiding hand". However as the financial sector rules over 80% of individual households' savings and incomes, perhaps the time has come for those, who consider financial sector institutions equal to real sector companies, to review their opinions.

The financial sector -manned by some of the best brains in a country- has developed a number of mechanisms to hide the true nature of the time period that funds need to be used. For instance take the introduction of new shares. Stock exchanges make it possible for companies to have their shares traded. Such trading does not mean that that the company involved wants to increase or reduce their outstanding equity capital; it means that one investor replaces another: the "substitution effect". Stockbrokers provide their considered opinion to their client base on which shares to buy, which to hold and which to sell. There is no guarantee to such advice. Stockbrokers can -and often do- make errors in their predictions. One classic example was the Initial Public Offering of shares in Facebook, which took place in May 2012. The introduction share price was $38.- per share and within the first three months the share price had dropped to half its value.

Another example involves the banking sector. When banks agree to granting a mortgage to a young customer, the repayment period usually stretches out over a period of 30 years. Banks do not have 30 year funding to their disposal, so they use the floating interest rate mechanism, adjusting their costs of funds to their customers on a frequent basis. Even fixed rate deals are often only fixed for 5 years. What banks basically do is to tell their customers that the funding risks are not ones that the banks are willing to take, so the customers are faced with the volatility in interest rates. The true nature of the lending period was a 30 year period and the banks are unwilling or unable to take this maturity period into account. The individual household has to carry the interest rate risks. This is a

very unsatisfactory outcome, since individual households are also unable to predict their own income developments, let alone be experts on interest rate predictions.

Still another example involves governments funding their deficits. In view of the very high levels of government debt in most developed countries, with government debt having reached levels of 80 to over 100% of GDP levels, the fact is that none of these governments can repay such debts in any shorter period than say 70 or 80 years. The maturity of most western governments' debt is along these lines. However many governments have a tendency to fund most or all of their debt on a fixed rate basis, rather than on an index linked basis. The latter base will provide protection to savers against the vagaries of inflation. Some governments rely heavily on short term paper to fund their government debt. The question is rarely asked whether the fund providers are satisfied with these approaches. It may suit some banks and insurance companies; it certainly does not suit pension funds or the individual households. Again individual households are providing the funds and have to carry the risks of inflation. This issue will be addressed in section 4.4.

Financial products have been engineered to either protect financial asset values or to speculate on future outcomes. In the real sector one cannot buy a good or service with paying a risk margin only. In the financial sector this has been made possible and is encouraged by many financial institutions. Again the U.S led the way and a financial futures exchange was set up to deal in such risks. The real reason that such an exchange had a chance of success was that the monetary base in the U.S. was freed of restrictions and that as a consequence interest rate volatility and exchange rate volatility really took off. The rise in volatility over the last 30 years has made predictions on future developments more difficult. Price setting in the financial sector has been and is faced with greater uncertainties than ever before. The chances of economies going into a decline as a consequence of financial markets collectively making grave errors has been increased. In the analysis below, the reasons for the 2008 crisis, which actually already started in 2004 in the U.S., will be described.

2 The principal causes of the 2008 financial crisis

2.1 The use of funds approach to home mortgages

Making money available to individual households, especially of the long term variety of home mortgages, requires a judgment on the future repayment capabilities of each individual household. There are three aspects to such lending: the first one is that the judgment represents a risk assessment. A risk assessment is different from a price in that the applied price includes the risk premium over costs of funds over a long period. Only future developments will show whether the accepted price was the correct one. The 2008 financial crisis showed that in many cases the price was wrong or even more importantly that based on the income levels of some borrowers no price would have ever matched their ability to repay their home loans. For some 5.4 million U.S. borrowers, representing 10% of those having a mortgage, there was no equilibrium price. Their homes were repossessed. 40% of all American households having a mortgage were faced with foreclosure proceedings over the period 2004-2012.

The second aspect is that the demand for homes is a finite one based on population growth and on the changes in the average household.

The third aspect is that making money available for home mortgages can have two effects: the first one is that money enables families to acquire a home, but the second one is that if supply is not forthcoming in the short run in the places where families want to live, it drives up house prices. To

lend money which is converted into increased house prices has less impact on economic growth than new construction; not only that, but one may question the economic value of rapid rises in house prices. The gain can have two potential causes: one it reflects the scarcity value, but two it represents a misallocation of funds as no economic gain -a gain in output in an economy- is made from the rise in house prices. The latter reflects closely the "black tulip" mania in Holland in the 17th century, where speculation drove up the black tulip price to 3000 or even to 4150 guilders, when a skilled craftsman earned 300 guilders a year.

2.2 The U.S. experience

Over the period 2000-2006 in the United States the combined mortgage debt of individual households increased from $4.814 trillion as per the year-end 2000 till $9.874 trillion as per the end of 2006, an increase of 105.1%. Over the same period the median income level of individual households moved up in nominal terms from $41,186 in 2000 till $47,262 in 2006, an increase of 14.75%. If one takes into account the increase in the number of individual households from 104.705 million in the year 2000 till 114.384 million in 2006 than the average amount of outstanding mortgage debt moved up from $45,977 in 2000 till $86,323 in 2006; an increase of 87.75%. The conclusion can be drawn that mortgage debt expanded by a factor practically six times faster than medium income levels. This excessive speed of lending for home buying purposes plus the packaging of such home loans into daily tradable mortgage backed securities lies at the heart of the causes for the 2008 financial crisis.

- The national home mortgage portfolio

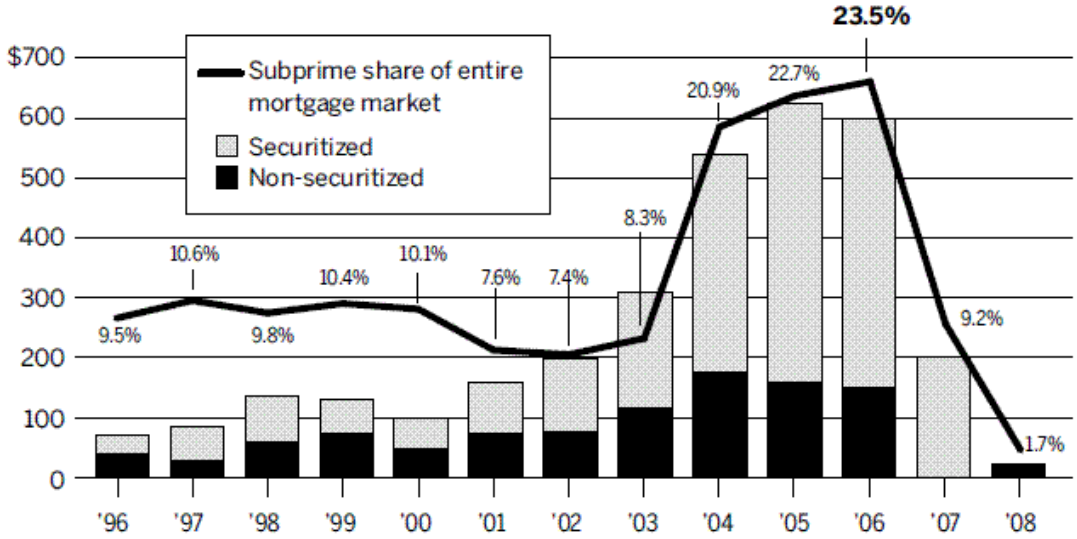
The amounts of $4.8 trillion in 2000 and $9.9 trillion in 2006 represent the national home mortgage portfolio of the U.S. in these years. The quality of the national home mortgage portfolio is strongly influenced by the quality of the borrowers. The graph below shows the rapid growth of the subprime share in new mortgage originations in the years 2004-2006.

Table 1: Sub prime mortgage originations[1]

Subprime Mortgage Originations

In 2006, $600 billion of subprime loans were originated, most of which were securitized. That year, subprime lending accounted for 23.5% of all mortgage originations.

IN BILLIONS OF DOLLARS



NOTE: Percent securitized is defined as subprime securities issued divided by originations in a given year. In 2007, securities issued exceeded originations.

SOURCE: Inside Mortgage Finance

In table 2 the annual outstanding mortgage amounts are provided over the period 1996-2008 as well as the annual increase in outstanding mortgage amounts. Also included in the table are the house price inflation levels on a year over year base and the consumer price inflation levels[2] over same period. Finally the excess of house price inflation over CPI has been displayed.

[1] https://en.wikipedia.org/wiki/Subprime_mortgage_crisis
[2] http://www.bls.gov/data/inflation_calculator.htm

Table 2: U.S. Mortgages outstanding 1996-2008, annual increments in mortgage amounts, house price changes and consumer price inflation levels.

Year	'96	'97	'98	'99	2000	'01	'02	'03	'04	'05	'06	07	'08
Mortgage amounts x US $ trillion	3.54	3.75	4.05	4.43	4.81	5.30	5.98	6.83	7.81	8.91	9.90	10.58	10.5
Year on Year increase x US$ billion	218	216	301	377	383	507	680	850	944	1099	990	683	-57
House Price Inflation % y.o.y	2.24	5.10	4.61	5.81	7.67	6.04	6.48	7.29	11.08	10.44	3.33	-1.95	-13.3
CPI Inflation % y.o.y	2.95	2.29	1.53	2.16	3.25	2.77	1.56	2.23	2.59	3.28	3.12	2.77	3.70
Excess HPI over CPI %	-0.7	2.81	3.08	3.65	4.42	3.27	4.92	5.06	8.49	7.16	0.21	-4.72	-17

- Credit judgment errors.

When individual households get into payment difficulties on their home mortgages, the first action by the lenders is foreclosure, followed by a foreclosure filing and subsequently home repossessions. U.S. statistics on all three can be found on the website of Statistic Brain[3]. The credit judgment problems took off in 2005 with the level of foreclosures increasing by 25% over 2004. In 2006 they were 90% higher than 2004 and in 2007 nearly 3.5 times the 640 000 level of 2004.The peak was reached in 2011 at 3,920,418 which stood at over 6 times the 2004 level. All this led to home repossessions which numbered 269,000 in 2006, 489,000 in 2007, 679,000 in 2008, 945,000 in 2009, 1,125,000 in 2010, 1,147,000 in 2011 and over 700,000 in 2012. All in all nearly 5.4 million credit judgement errors led to the ultimate repossession of homes. The number of households who had to deal with foreclosure proceedings amounted to 21.4 million households over the period

[3] http://www.statisticbrain.com/home-foreclosure-statistics/

2004-2012. The Milken Institute[4] estimated that in June 2008 there were 53 million households having a mortgage and 27 million were outright owners without any mortgage. Of the 53 million just over 40% had to deal with foreclosure proceedings during the 2004-2012 period; a staggering percentage, which really showed the extent of the financial crisis for individual households.

The credit judgment errors were compounded by the securitization process, which, as table 1 showed, really took off in 2003 when nearly two thirds of new home mortgage originations were farmed out to the financial markets. This meant that American financial institutions were able to generate mortgage sales, but did not need the financial reserves as the transactions were packaged and sold off to, among others, overseas banks and pension funds. It is noteworthy in this respect to note that the Bank of Spain, Spain's central bank, did not allow Spanish banks to buy such U.S. mortgage backed bonds. Regretfully, it did not stop its own country's real estate funding disaster. The securitization method also made it very difficult to deal with individual clients as whole portfolios of clients were simultaneously declared insolvent; hence the enormous numbers of foreclosure procedures compared to the number of households having a mortgage.

- Demand for homes

The key determinant in the demand for homes is not the price but the growth in the number of individual households. In the period 2000-2010 the number of households grew in the U.S. from 105.5 million to 116.7 million according to the Census Bureau[5]. On average the U.S. increased the number of individual households by 1.12 million per annum over the period 2000-2010. Of the around 80 million homes used all year around in the U.S., the average lifespan can only be estimated but is probably around 130 years, which means that the total finite demand for homes is somewhere around 1.7 million new housing starts per annum. Table 3 gives an overview of realised annual new housing starts, seasonally adjusted for the period 2000-2013

Table 3: U.S. annual new housing starts[6] per 1 July, seasonally adjusted over the period 2000-2013

Year	Housing starts x 1,000	Year	Housing starts x 1,000
2000	**1463**	**2007**	**1354**
2001	**1670**	**2008**	**923**
2002	**1655**	**2009**	**594**
2003	**1897**	**2010**	**546**
2004	**2002**	**2011**	**623**
2005	**2054**	**2012**	**741**
2006	**1737**	**2013 (1 September)**	**891 (annualised)**

Elements, which "helped" individual households to acquire homes, were the applicable interest rates and other loan conditions attached to the mortgages. Low starts up interest rates were used to entice individual households to sign up to mortgages. Such mortgages had their rates steeply increased after a two year period. 100% mortgages were also used with no repayment obligations. In many cases short term funding rates were applied rather than a 30 year fixed rate. All these elements shifted the credit risks to the individual households. The latter only hoped that house price increases and incomes would grow faster than their payment obligations. When the lending excess

[4] http://www.milkeninstitute.org/pdf/riseandfallexcerpt.pdf
[5] http://www.census.gov/prod/cen2010/briefs/c2010br-14.pdf
[6] http://research.stlouisfed.org/fred2/data/HOUST.txt

came to the boil in 2008, such hopes were shattered and not only did house prices drop rapidly, also income growth stayed behind CPI inflation levels and, of course, the outstanding payment obligations remained the same as before the crisis. Individual households reacted in a way they could. They reduced the total volume of the outstanding national home mortgage portfolio from $10.5 trillion in 2008 till $ 9.38 trillion as per the end of the first quarter of 2013. During the latter period an increased share of households' incomes was diverted to paying off home mortgages as compared to the allocations before the 2008 crisis. This change in income allocation through paying off mortgage debt and acquiring new homes from own income or savings reduced the spending power available for buying other goods and services. This had the effect that demand levels were reduced. The company sector reacted in slowing down employment growth and investments as well as generally following a wages and salary policy of keeping wage increases below price rises. Reduced growth rates in companies' turnover levels and a slower growth in households' incomes led to a rapidly increasing government debt level in the U.S.

While the statistics of other countries, especially on the financial assets base of individual households, is not as complete as the excellent statistics which have been collected over a long period in the U.S., the same financial assets and other economic principles are at work in other countries.

- Conclusions

The conclusions, which can be drawn, are that excessive increases in home mortgage funding in 2003-2005 led to excessive new housing starts, which was simultaneously accompanied by the highest house price inflation seen for several decades. Income growth did not keep up with the excessive debt increases. When the home price levels started to get close to CPI levels, as they did in 2006 and when at the same time more households got into financial difficulties as shown by the increased level in foreclosures, the market turned around, banks became more reluctant to lend themselves as shown by the very high level of mortgage securitisations in 2004-2007. The (international) financial markets absorbed the U.S. home mortgage risks. In August 2008 Lehman Brothers went bankrupt and the trust banks had in one another disappeared altogether. More banks were rescued, including Fannie Mae and Freddy Mac as well as AIG Holdings. The latter had provided a huge volume of credit default swaps on mortgage backed securities to the (international) financial markets.

Was the U.S. national home mortgage portfolio managed, so that these excesses could not have occurred? The answer is no. Could it have been managed, the answer is, of course, yes. There was and still is no single authority in the U.S., the U.K., and The Netherlands or in many other countries which manages the national home mortgage portfolio. A penalty system for lenders and intermediaries in the lending and securitisation process does not exist, at times when such lenders and intermediaries caused excessive lending levels; excessive as compared to income developments of individual households. The current lack of a national home mortgage portfolio management system led to individual households being penalised either from foreclosures, from home repossessions or from drops in house prices after excessive gains as well as from an excessive increase in government debts as a consequence of negative or slow growth economies. Individual households are also penalised by average wage and salary increases below inflation levels. On top of all this they are also the ones who suffered the additional 7.8 million job losses and are responsible for paying back the $5.3 trillion increase in U.S. government debt since the 2009 fiscal year.

3 Government responses

3.1 Actions taken

When Lehman Brothers was declared bankrupt in the U.S. in August 2008, this only represented the culmination of events which had been going on ever since 2004. The regulators did not regard house price inflation or deflation for that matter as a worry for the economy. They never intervened in the securitisation process of home mortgages. They just did not see the financial crisis coming. They allowed the investment banks to undertake transactions at extremely high gearing ratios. They did not manage the national home mortgage portfolio at all. What they did was to rescue Fannie Mae and Freddy Mac as both had taken part in the securitisation process and had their own fair share of doubtful debtors. They also rescued some other investment banks, some commercial banks and General Motors and a few other key companies.

In the U.K. Northern Rock, Lloyds TSB as well as Royal Bank of Scotland had to be rescued. Also in other countries bank rescues took place.

What the U.S. and the U.K. central banks also did was to start up a programme of quantitative easing. In the U.S. the Fed bought up over $2 trillion of mainly government debt and to a much smaller extent securitised mortgage bonds and some corporate bonds. Such bond buying operation represented some 17% of the federal debt outstanding with the public. In the U.K. the Bank of England bought £375 billion of government debt. For the U.K. the quantitative easing operation represented 37.5% of the total government debt of slightly over £1 trillion.

The reasoning behind these operations was that by buying up bonds these central banks would inject cash into the financial markets. This action might subsequently lead to making more money available to invest in real economy activities. What QE also did, was, of course, lower the interest rates applicable for government debt at a time of rapidly rising levels of such debt.

Since the 2008 financial crisis, on the banking side stricter capital requirements were formulated in the Basel III agreement. In the pension sector, many companies gave up their support to their pension funds in covering the inflation (CPI or RPI) risks and switched their pension funds to Defined Contribution schemes instead. In the U.K., where most civil servants pensions are non-funded, the government continues to promise inflation proof pensions; a promise which has to be paid for by all individual households together through their taxes.

The combination of quantitative easing -which lowered the interest rate levels in many countries- and the recession has put many pension funds under great stress, especially the ones that relied strongly on funding government debt. Again since 2008, many government regulations have been formulated in this respect. Some concerned the discount rate, others the distribution of existing financial assets over those still contributing and those already retired.

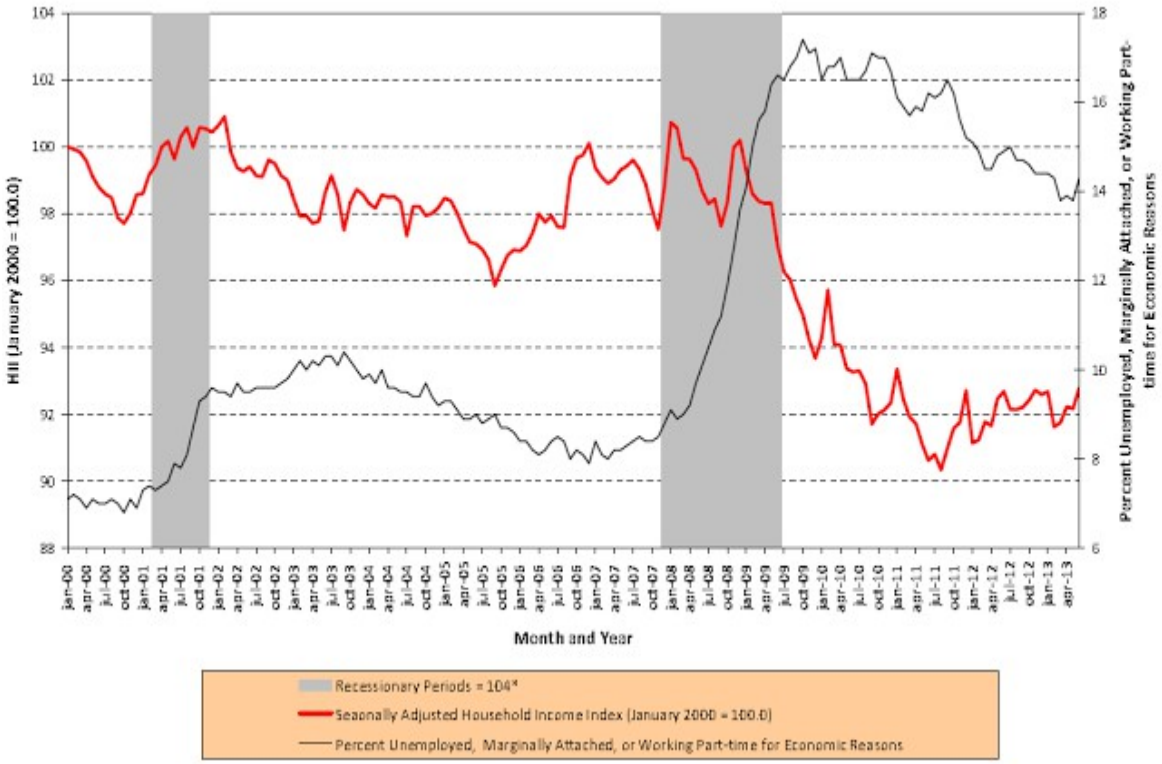
3.2 Effectiveness of actions taken

What has been surprising is that so little attention, apart from lip service, has been paid to the plight of the individual households. In 2008 in the U.S. they lost $12.7 trillion of the value of their financial assets. This amount was substantially higher than the total U.S. home mortgages portfolio of $10.5 trillion in the same year. Since 2008 median household income increases have been lower than inflation levels as the next table[7] shows:

[7] http://www.sentierresearch.com/Charts/HouseholdIncomeIndex_UnemploymentRate_07_2013.jpg

Table 4

Median Household Income Index (HII) and Percent Unemployed, Marginally Attached, or Working Part-time for Economic Reasons by Month, January 2000 to June 2013



The table also shows that unemployment rates have gone up steeply since 2008 and many households have been faced with unemployment or are only able to work part-time.

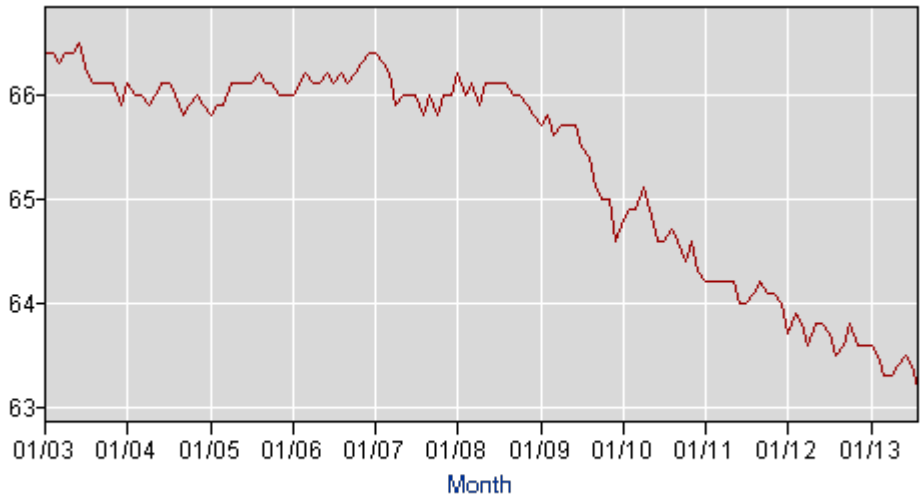
The next table[8] will show the drastic changes in the U.S. labour force participation rate. Such changes may hide the fact that many more people are so disappointed in seeking employment that they no longer bother. If this is the case and it appears to be the case as the trend line before 2008 was relatively stable and the changes only occurred after 2008, than real unemployment levels are much higher than those published. Another consequence of lower labour force participation rates is that income out of work is reduced by the lower number of people actively participating in creating the gross national product. A well known side effect of the 2008 financial crisis has been that many more part time and lower wages jobs have been created since 2008.

[8] http://www.bls.gov/cps/lfcharacteristics.htm#laborforce

Table 5

Labor Force Statistics from the Current Population Survey

Series Id: LNS11300000
Seasonally Adjusted
Series title: (Seas) Labor Force Participation Rate
Labor force status: Civilian labor force participation rate
Type of data: Percent or rate
Age: 16 years and over



The pressures on U.S. individual households have come from all sources:

- Total U.S home values are to-day at the same level as in 2007. They have not increased in absolute terms, notwithstanding a substantial rise in CPI inflation levels over the period 2007-2013. The cumulative CPI inflation rate since 2007 has been 12.7%. U.S. households lost out on their main asset: homes.

- In the period 2008-2012 inclusive, new housing starts in the U.S. have numbered 3.4 million units. At an average price of $150,000 per house sold an estimated value would be $510 billion. Individual households have collectively paid this amount out of incomes or savings. Additionally over the period 2008-31 March 2013 individual households have collectively repaid $1.2 trillion of principal amounts over their outstanding home mortgage portfolio. The combined $1.7 trillion meant that incomes which could have been used for consumption were used for repayment of debt and for funding new homes. The latter would normally have been financed from home mortgages with repayments to be stretched out over 30 years. New housing starts over the period 2008-2012 are well below the levels needed to accommodate the growth in population.

- The 8% drop in seasonally adjusted household incomes from 2008 till April 2013 plus the nearly 3% drop in the labour force participation rate over the same period plus the increase in the number of unemployed since 2008, had the effect that the collective wages sum was under great pressure, which led to a very slow growth in consumer demand. The latter was also negatively affected by the funding of the new housing stock and the reduction in the outstanding home mortgage portfolio.

- Quantitative easing exercises focussed on the long term interest rates by buying up government bonds. Individual households suffered through their pension fund savings and sometimes through their individual holdings of such bonds. Banks and hedge funds benefitted the most, as they were able to anticipate and act upon the expected lowering of long term interest rates. What could have been done is to focus on volume control measures. Such measures could be combined with a policy of issuing index-linked longer term bonds. Such a strategy will be set out in sections 4.4 and 4.7.2.

- Individual households have tried to restore their personal balance sheets. In the U.S. they lowered their home mortgage loans to such an extent that the owners' equity in household real estate has now returned to 49.2% as per the end of the first quarter 2013, exactly equal to the level of 2007. They also kept their increase in borrowings level for durable consumer goods (+10.2%) below the inflation levels (+12.7%) over the same period. This happened with a population growth over this period of +3.5%, which implies that the debt on consumer durable goods grew less rapidly per individual household than the 10.2% suggests. Individual households can only restore their own balance sheet. They have no influence on the increasing levels of government borrowings. However they are responsible for repaying the additional $5.3 trillion in government debt since the fiscal year 2009.

The key question to be asked is why took it so long to restore the U.S. and other economies to economic growth. It has been five years since the Lehman bankruptcy, but much longer since the start of the excessive mortgage debt growth. An attempt to answer this question will be made in the next section.

4. How to restore economic growth

4.1 Introduction

The financial sector in the U.S. created and organised a sales volume of home mortgages during the period 2003-2006, which far exceeded the repayment capacity out of incomes by the U.S individual households.

Collectively the considered opinions of the banking sector and of their regulators were wrong. The discussion about "too big to fail" is quite irrelevant in this respect as it was not the competition level between banks which failed or the dominance of one or another player in the financial market. It was the collective action of all financial institutions together in pumping money into the home mortgage markets at a speed which far exceeded the repayment capacity of individual households. It was also the ability of the banks to sell such loans to third party funders, which offloaded the risks on their customers to others and thereby avoided the capital requirements which otherwise would have slowed down the lending speed. Table 1 showed that in 2007 banks took no new mortgage loans on their own books, but sold all new mortgages to others; nearly all overseas investors. Again this was not the action of an individual bank but of all banks combined.

If one can accept that the price mechanism in the financial sector works very differently from that in the real sector, than one may also accept that the "guiding hand" in having all banks deliver a sound national home mortgage portfolio is an unrealistic description of reality. It is not that banks are too big to fail, or that competition leads them to do the right thing; it is the accumulative action of all banks together. Such collective action determines whether the speed of lending for the purposes of home mortgages exceeds the income growth capacity of the individual households to absorb the lending volumes. Two dynamic variables -growth in mortgage lending and growth in individual households' incomes- followed a divergent path with catastrophic effects.

The solution therefore needs to be found not in price control mechanisms but in volume control measures. As 96% of all incomes of individual households are generated from the real sector, the volume control measures should take place in the financial sector. The overall speed of growth in the national home mortgage portfolio needs to be managed. In section 4.7.2 the macro-prudential measures will be worked out.

Prevention of a future crisis may be important, but it does not overcome the effects of the current crisis.

As indicated in the above, the effect of the pressures on individual households was that they changed their spending behaviour after 2007. They repaid outstanding mortgage loans and paid for a reduced level of new housing starts out of incomes and savings. They also were confronted with higher unemployment levels and income growth below inflation levels. Individual households had a lower capacity to spend.

The U.S. government was in no position to temporarily raise individual households' incomes as the last time it ran a budget surplus was in 2001. Quantitative easing helped the financial sector, especially the speculative elements of it, but such help was of little use to individual households; they only saw their income growth -in as far as there were jobs- grow more slowly than inflation levels.

The help that could have been given: temporary access to a small part of their savings from their pension pots was not considered. Such help from the financial sector -using individual households' own savings- to overcome the drop in incomes would have been the most sensible policy. Again it would need to involve all pension funds in a similar way as the collective of banks need to be managed in the case of the national home mortgage portfolio. What and how this could work will be explained in the next section.

4.2 Economic easing.

Towers Watson in their global pension assets study[9] have identified the following five countries, excluding Japan, with the highest level of pension assets in 2012. The U.S. has $16.8 trillion in pension assets, the U.K. has the equivalent of $2.7 trillion; Australia has U.S. $1.56 trillion; Canada has U.S. $1.48 trillion and The Netherlands has $1.2 trillion. The pension assets of these five countries combined represent about 80% of the world's pension assets in 2012.

These pension assets are a major part of the financial assets of their respective countries.

[9] http://www.towerswatson.com/en/Insights/IC-Types/Survey-Research-Results/2013/01/Global-Pensions-Asset-Study-2013

Pension savings are influenced by the same characteristics as all financial assets. Economic uncertainties play the key role in assessing the future values of the assets. Life expectancy changes play the most important role on the liabilities side. If bankers and the credit rating agencies cannot predict loan or bond losses as the past experience has shown, than pension funds have an equally difficult task to predict the future values of their asset base. All attempts to do so are bound to fail. The result is a Considered Opinion, just as valid as those of bankers, asset managers and others in the financial sector.

Economic easing has the intention to focus on the individual household's income position in a direct manner. It differs substantially from quantitative easing practices in that it addresses the individual households' income shortfalls rather than going the indirect way of quantitative easing. The real problem of quantitative easing was and is, is that it attacks the price of funds paid rather than the volume of lending. The analysis of the U.S. national home mortgage portfolio developments showed that, yes of course, bankers enticed individual households to sign up to home mortgages with inappropriately low start up mortgage costs, but had the volume of lending been controlled, house price inflation would not have reached 5-8% over CPI inflation rates or dropped by 17% below CPI inflation rates as it did in 2008. Banks and the investing public would not have experienced the same size of home mortgage loan losses as a consequence of such excessive lending as compared to income levels of individual households. In other words the Fed, the Bank of England and the ECB all looked at the wrong variable: the price of credit rather than at the volume of home mortgage credits. If a system had been in place to manage the national home mortgage portfolio, it would have cushioned the economy against the boom-bust scenarios.

This leads back to economic easing, which aim is to support individual households in overcoming their income shortfall when no home mortgage volume controls are in place. This section started with the volume of savings accumulated in pension funds. To stay with the U.S. case, U.S. individual households have accumulated nearly $17 trillion in savings for the purpose of having an income stream available during their retirement years. The future asset values of such savings are strongly influenced by current economic performance. Current economic performance is strongly influenced by individual households having the means to consume real sector goods and services, rather than having to service home mortgage loans at an excessively fast pace out of reduced income levels as compared to CPI inflation levels. For this reason economic easing can act as an economic stabiliser.

The U.S. pension funds could collectively be requested to pay out, say 2% of their asset value, which would mean a cash injection into individual households' incomes of about $330 billion per annum till the economy has fully recovered. Such request needs to be accompanied by a shortfall guarantee from the U.S. government so that pension funds after the pay out would be in no worse position than before the pay out. The increase in households' incomes will bring about an increased demand for goods and services, especially when Americans will be asked to spend the additional income rather than save the amounts in a "Help the Economy" campaign.

Such cash transfer to individual households would represent a 2.4% increase in their annual personal income levels. If such payments are made tax free, made in equal amounts to all pension savers and retired pension beneficiaries and spread over four quarterly instalments, the maximum impact on economic growth would be achieved.

Companies will benefit, job creation will benefit, government tax incomes will benefit, individual households will benefit without increasing their outstanding loan volumes and finally the financial sector savings will benefit with higher share prices based on a better outlook for company

performance and lower home mortgage loan losses as more individual households are able to repay outstanding loans according to the agreed maturity schedules. House prices will also avoid the dramatic dips in home values.

To make economic easing a success only a full co-operation between a government and all the pension fund companies will suffice. The shortfall guarantee could be exercised after a period of say three years and the amounts would only cover the paid out amounts plus the yields over these amounts based on the prevailing 10 year government bond rates. From the potential pay-outs the gains made by the pension funds on their shares investments over the remaining portfolio would be deducted.

The reason to pay all pension savers and retirees an equal amount is that the younger generation will have to save for a much longer period -with all the investment risks attached to it- than those closer to retirement or already in retirement.

Economic easing avoids the sharp increase in government budget deficits, it avoids the very costly adjustments to the capacity utilisation rate of the real sector and it avoids the dramatic increases in unemployment rates. It does not save poorly performing banks, but it counteracts the effects of the explosive growth in home mortgages far above the income growth speed. Economic easing will also result in companies having to spend less on maintaining their contributions to their defined contributions schemes. It will also mean that individuals will be incentivised to join DB or DC pension schemes as only those saving for a future pension will benefit from the temporary pay-outs.

4.3 Quantitative easing

The reason that quantitative easing did not do the job it was supposed to do -reign in excessive lending growth as compared to individual households' incomes- is that it focussed on the wrong variable: it focussed on the price of funds rather than on the volume of lending. The assumption that when the interest rate comes down the volume of lending will go up is based on a misconceived concept. One has just to study the borrowing behaviour of individual households over the last five years to see how misconceived this concept has been. Individual households collectively repaid more than 10% of their total home mortgage portfolio over the period 2008-2013. The Balance Sheet of Households and Nonprofit Organizations as published by the Fed[10] provides the evidence.

It was made clear in the above that an acceptable volume of lending goes hand in hand with the income growth levels of individual households. Excessive levels of lending penalise the individual households in many ways, including unemployment levels and income growth below inflation levels. The guiding hand to real sector companies led to less growth due to slow growth in demand with all the subsequent effects on employment and incomes. The thought that a financial sector solution -printing money- could solve the income and balance sheet problems of individual households was more than optimistic. The great majority of households only hold a connection with the financial sector through their home ownership and pension fund savings. The reduction in interest rates did not help the 40% of U.S. home owners with a mortgage; those who had foreclosure proceedings against them. It also did not help the performance of pension funds.

The Dutch Social Economic Council (SER) -made up of employers' and trade unions' representatives as well as independent experts- in its recent deliberations about the Dutch pension system concluded that "a lowering of interest rates at times of a recession leads to higher pension

[10] http://www.federalreserve.gov/releases/z1/current/accessible/b100.htm

cost covering premiums and lower pension benefits levels. In this manner a reduced interest rate in a recessionary period put consumer spending levels under further pressure. The pension system strengthens the recessionary period; it works in a pro-cyclical manner."

Quantitative easing did little, if anything, for existing home owners with or without a mortgage. In the U.S. and in other countries house prices performed poorly as compared to CPI inflation levels ever since 2008. Only this year house prices picked up somewhat after the individual households had restored their own balance sheets by bringing debt levels in line with income levels. Quantitative easing did even less for the performance of pension funds. As the large majority of the individual households rely on house values and pension funds assets for their future income and have no other additional financial resources, one has to raise the question: Was the quantitative easing system meant to enrich the few or the masses of the population. If its aim was the latter, the system failed miserably.

4.4 The way back from quantitative easing - index linked government bonds

It is a fact that quantitative easing has been used, so one cannot turn the clock back. The "tapering" intentions, in order to reduce the volume of quantitative easing injections, have already had a series of effects. It has led to capital outflows from emerging market economies. 30 year mortgage rates have gone up in the U.S. from 3.54% in May till 4.46% in August this year. As long term fixed mortgage rates move up, so do the interest rates that governments have to pay for their fixed rate borrowings. The U.S. 10 year fixed rate government bond yield has moved up from its absolute low of 1.4% per annum in July 2012 till 2.73% in September 2013.

The implications of such increase in yields are substantial. The existing fixed rate government bond portfolio loses substantial amounts in value on a mark to market basis. In this connection it is interesting to repeat the conclusions of a study[11] made by the U.K.'s Institute of Fiscal Studies in 2006:

"We think real yields on bonds issued by the UK government are significantly more likely to be higher in the future than to stay at current low levels or fall further. Yields on long-dated index-linked bonds have fallen well under 1%. The UK government may look back in 10 years and regret that it issued anything other than long-dated index-linked bonds at yields under 1%. We believe that issuing long-dated inflation-proof debt represents a good deal for future taxpayers. It is not that one can be *sure* that we are in the midst of a bond market bubble and that yields have obviously been driven well under sustainable levels. Indeed, there are some reasons to believe that sustainable real yields may have moved down over the past decade. But the scale of the fall in real yields is so great that the risks have now become asymmetric – the chances of real yields going higher from here are greater than their going lower. Locking in at today's low real yields by issuing long-dated indexed debt is therefore sensible."

These findings are even more important now than in 2006. Quantitative easing has taken place and in the U.S., the U.K. and in the Euro zone countries. To avoid huge losses to all individual households when interest rates on government bonds will rise, as they will, when no further quantitative easing injections will be given, a switch to index-linked bonds (gilts) is all the more desirable.

The next three tables for the U.S., the U.K and The Netherlands show another reason why index-linked bond issuance is not only vital to individual households in their efforts to save for future

[11] http://www.ifs.org.uk/budgets/gb2006/06chap6.pdf

income protection, both individually and in the collective form of pension funds, it is also vital to government efforts to reduce the costs of servicing government debts.

Take the U.S. case as shown in table 6, over the last twenty years only in three years, 2008, 2011 and 2012 have the 10 year government bond fixed rate yields been lower than the CPI rate plus 1% for the index linked yields. 2008 was unusual in the CPI inflation rate was about 1% higher than in 2007 and the fixed yields dropped due to the financial crisis. 2011 and 2012 were strongly influenced by quantitative easing exercises. In the U.K. the RPI is used in calculations for the index linked gilts. They include mortgage costs and council taxes as compared to CPI and are based on different mean values. In 2006, 2007 the RPI values in the U.K. exceeded substantially the CPI values of respectively 2.3% and 2.35%. The same applied to 2010 were the CPI value was 3.4%.In 2011 the CPI was 4.45%, but this was only marginally lower than the RPI. If index linked gilts had been based on CPI plus 1% than in all years such index linked gilts would have been cheaper than the yield on 10 year gilts. The Dutch government has never issued index-linked bonds, but for comparison sake, the CPI levels plus 1% was used as a comparative tool. The individual; households of all three countries would have been substantially better off, if their governments would have opted for a very sizeable share of total government debt to be funded through index linked bonds.

Table 6: The U.S. experience

Year	10 year Average Bond yield %	C.P.I	Effective Yield %	30 Year Tips yield %	Year	10 year Average Bond yield %	C.P.I.	Effective Yield %	30 year Tips yield %
1993	6.26	2.99	3.27	3.99	2004	4.30	2.59	1.77	3.59
1994	6.90	2.56	4.34	3.56	2005	4.13	3.28	0.85	4.28
1995	6.74	2.83	3.91	3.83	2006	4.52	3.12	1.40	4.12
1996	6.07	2.95	3.12	3.95	2007	4.30	2.77	1.53	3.77
1997	6.10	2.29	3.81	3.29	2008	3.18	3.70	-0.52	4.70
1998	5.18	1.53	3.65	2.53	2009	3.16	-0.36	3.52	0.64
1999	5.64	2.16	3.48	3.16	2010	3.60	1.61	1.99	2.61
2000	5.75	3.25	2.50	4.25	2011	2.67	3.06	- 0.39	4.06
2001	5.06	2.77	2.29	3.77	2012	1.92	2.03	-0.11	3.03
2002	4.64	1.56	3.08	2.56	2013 1 July	2.50	1.67	0.83	2.67
2003	4.23	2.23	2.00	3.23					

Table 7: The United Kingdom's experience.

Year	10 year Average Gilt yield %	R.P.I.	Effective Yield %	Index Linked Gilts %	Year	10 year Average Gilt yield %	R.P.I.	Effective Yield %	Index Linked Gilts %
1993	7.69	1.9	5.79	2.1	2004	4.79	3.5	1.29	4.5
1994	8.18	2.9	5.28	3.9	2005	4.45	2.2	2.25	3.2
1995	8.24	3.2	5.04	4.2	2006	4.24	4.4	- 0.16	5.4
1996	8.03	2.5	5.53	3.5	2007	4.62	4.0	0.62	5.0
1997	7.15	3.6	3.55	4.6	2008	4.60	0.9	3.70	1.9
1998	5.59	2.8	2.79	3.8	2009	4.54	2.4	2.14	3.4
1999	4.87	1.8	3.07	2.8	2010	4.66	4.8	- 0.12	5.8
2000	4.93	2.9	2.03	3.9	2011	4.38	4.8	- 0.42	5.8
2001	4.99	0.9	4.09	1.9	2012	3.77	3.1	0.67	4.1
2002	5.04	2.9	2.14	3.9	2013		2.9(est.)		
2003	4.87	2.8	2.07	3.8					

Table 8: The Netherlands' experience

Year	5 longest Dutch Govt. bond Yields %	CPI %	Effective Yield %	Index Linked Yield %	Year	5 longest Dutch Govt. bond Yields %	CPI %	Effective Yield %	Index Linked Yield %
1993	6.69	2.61	4.08	3.61	2004	4.14	1.12	3.02	2.12
1994	7.20	2.64	4.56	3.64	2005	3.44	2.04	1.40	3.04
1995	7.19	1.68	5.51	2.68	2006	3.86	1.00	2.86	2.00
1996	6.49	2.29	4.20	3.29	2007	4.33	1.87	2.46	2.87
1997	5.80	2.32	3.48	3.32	2008	4.36	1.94	2.42	2.94
1998	4.87	1.78	3.09	2.78	2009	4.03	1.11	2.92	2.11
1999	4.92	2.15	2.77	3.15	2010	3.79	1.93	1.86	2.93
2000	5.51	2.60	2.91	3.60	2011	4.31	2.38	1.93	3.38
2001	5.17	4.15	1.02	5.15	2012	3.06	2.90	0.16	3.90
2002	4.99	2.75	2.24	3.75	2013		2.00 (est.)		
2003	4.27	1.70	2.57	2.70					

The U.S. and the U.K. have been both heavily involved in quantitative easing activities. For both of them the most sensible way out of the low interest rate environment, once quantitative easing has been stopped, would be to convert the existing holdings of fixed rate bonds which are held by respectively the Federal Reserve Bank and the Bank of England into index-linked bonds and gilts. Secondly for a few years their National Debt Issuing institutions could issue index-linked bonds and gilts, so that pension funds and individual households would have a chance to build up their stock of

such bonds. The Bank of England's own pension fund has already done so, as it has, according to its latest annual report[12], 91.9% of all its assets are invested in index-linked instruments: 78.9% in gilts plus 13% in corporate index linked bonds.

4.5 Pension funds

In all the three countries used in the example, the pension fund sector has taken on a great importance. For all these countries the asset values of the pension funds exceed the national debt by a substantial margin, especially in The Netherlands. It is in this country where the debate about the role and the valuations of the pension savings is the most intense. It is also in this country that the SER concluded recently that the nominal interest rate plus fixed risk premium was an inappropriate measure for assessing future values of the current assets. It wants to have this method of assessing future values changed into a "stable rate of return on shares". The Dutch Central Bank (DNB) does not agree with such methodology due to the high degree of uncertainty about the returns on share and bond assets.

Discussions of this type show how difficult it is for experts to agree on a methodology that values current assets at future levels. In the above this uncertainty was spelled out for the whole financial sector. There is no "price" or "discount rate" which can capture all eventualities, as has been shown over the last ten years.

The SER's assessment that pension funds are by their nature pro-cyclical does not only apply to The Netherlands; it applies equally to all other pension saving nations. Pension contributions need to go up in recession periods, either by increased corporate contributions in case of defined benefit schemes or by increased contributions from individual households in case of the defined contribution schemes. Secondly pension payments to those in retirement will in the best case be frozen or even reduced in a recession period. The latter is especially striking in the U.K. where the proceeds of pension savings have to be invested in annuity insurance to be bought at the time close to retirement. In recession periods the acquired income cash flow is substantially lower than the same amount of savings would have bought in good economic times.

The first suggestion to counteract such a pro-cyclical nature cannot be done by pension funds, but can be done by governments. Governments can increase the proportion of index-linked government bonds to a level much closer to the assets accumulated in their national pension schemes and the asset allocation percentage that such pension funds invest in domestic government bonds.

The second suggestion is to turn pension funds from pro-cyclical savings institutions into anti-cyclical ones. Economic easing will not only help the performance of pension funds, but also on job creation, increasing government revenues and increased economic activity: GDP growth rates. It does need the cooperation of individual households to ensure that income created out of their own savings is used as income to be spent in times of recession, rather than turned back into savings.

4.6 The Euro zone countries.

Each country in the Euro zone is different from all others in three major factors: the national home mortgage portfolio, the government debt level and the assets accumulated in their national pension funds. They may share the same currency, have the same central bank, but individual households in the various countries have very different levels of indebtedness or employment status for instance.

[12] http://www.bankofengland.co.uk/about/Pages/humanresources/default.aspx

They also do not share the same inflation level or the same average increase in households' income growth.

For instance the Spanish banking crisis was not caused by any outside factor, but by the Spanish banking sector together lending excessively so that 880,000 homes were constructed for which there were no buyers. This was clearly a domestically created financial sector problem, which had no links to countries outside Spain. The only link was that the currency used was the Euro.

What EC policymakers usually aim to do is to define common rules for all member states. Regretfully in the financial sector, rules on a national basis work better as each country has a different set of parameters which are unique to the country concerned. When one wants to stop Spanish banks to overextend themselves in the home mortgage markets, such action does not involve French, German, Italian or Dutch banks for instance. Macro-prudential rules can be set and need to be set for each individual country rather than for all Euro zone countries together. This applies equally to many other aspects of the financial markets, especially those that affect individual households. Economic growth is first and foremost linked with local developments. International trade is the only real sector link that involves more than one country, while international capital flows constitute the financial sector link. Labour can move across borders, but the reason for this is often negative in that there are insufficient job opportunities at home.

It is at times of recession that international capital flows go the least risky country, especially within the Euro zone, as no currency risk is involved. Such capital flows enhance the recession periods for the countries involved. International support mechanisms do not focus on the effects on individual households through unemployment and income growth below inflation levels. Their solutions emphasize financial flows to governments rather than a savings to income transfer to the individual households.

4.7 Preventive measures

4.7.1 Long term fixed rate mortgages

The fact that banks are unable to provide 30 year fixed rate mortgages, due to their funding structure and private ownership, should not prevent society from setting up a National Mortgage Bank, which could be owned collectively by all individual households. In the U.S. such institutions exist already: Fannie Mae and Freddy Mac.

However in line with the above, there are some system shortcomings in both Fannie Mae and Freddy Mac. They are that these two institutions took on the credit risks as well as the funding risks on their selected client base, which due to their mandate was to help the lower income classes to acquire homes. What could be done is to turn Fannie Mae and Freddy Mac into pure funding organisations, without the selection of whom to lend to. Commercial banks could apply, on behalf of their clients, for a Fannie Mae or Freddy Mac 30 year fixed rate loan. Such loans would be granted on basis of a bank guarantee provided to either institution. Banks would add their credit risk margin on top of the funding costs charged by the two institutions and the clients would have acquired a 30 year fixed rate mortgage.

Another element which led in 2008 to the government's rescue of Fannie Mae and Freddy Mac was that the latter institutions had -just like commercial banks- sold part of their mortgage portfolios as Collateralised Debt Obligations. When the financial markets did no longer want to refinance such

capital market instruments, Fannie Mae and Freddy Mac ran into liquidity problems. Liquidity considerations and maturity requirements clashed. In the above described arrangements for funding long term fixed rate mortgages, such liquidity requirements would be the banks' responsibility as overseen by the U.S. bank supervisors.

In conclusion, in the U.S. generally and for the individual households in particular, the latter would be better off with a mortgage product of a 30 year fixed rate nature, available to anyone whose income could support the debt servicing of the mortgage without having to rely on the value changes in house prices. Such split responsibility between the fund providers -Fannie Mae and Freddy Mac- and the banking sector as the credit judgment institutions would serve all households best in reducing their long term interest rate risks. This does not take away the possibility that banks or the shadow banking sector pushes too hard on the sales organisations to sell mortgages. This is the subject of the next item.

4.7.2. How to manage the volume increase in the national home mortgage portfolio

The interest rate setting system as it operates currently through the Federal Open Market Committee assesses a price for liquidity in the financial markets. It is not a suitable price indicator for maturity or for solvency levels. When Fannie Mae and Freddy Mac attract funds in the same manner as they currently do, a cost of funds figure will emerge. This cost of funds percentage plus their administration fee, will be the guideline for the cost base charged to the customer. Individual banks will add their risk premium to it, which should be a 30 year fixed rate percentage as well. In this manner a price will have been established well removed from short term liquidity considerations and in line with maturity and solvency requirements.

In case the sales efforts of home mortgages are too "successful", or in other words exceed the income growth capacity of individual households, a traffic light system could be introduced by the Fed. Green should stand for please continue, amber for slow down and red for a cash penalty system for all banks and intermediaries, including investment banks, which continue to sell mortgage risks either to individual households or to the financial markets. If the penalties are set high enough, it will force through the message that the national home mortgage portfolio needs managing and restraint is needed. The interest rate applied to home mortgage borrowers does not change; it is the charge to the sellers of such mortgages which changes.

4.7.3 Quality control over the national home mortgage portfolio

It matters whether a standard variable rate interest rate structure is sold compared to a 30 year fixed rate structure. It matters whether there is a repayment plan or an interest only plan. It matters whether the income of the borrower is checked by outside sources or provided by the borrower himself. It matters whether there is a 100% financing of the home, or even more, or whether the mortgagee has to take an equity share in the property himself. It matters whether the interest rate structure is skewed towards higher future interest payments rather than starting up with the long term rate. The quality of the national home mortgage portfolio changes through each of these products. What is important is not to try to micro manage each and every decision by banks in their mortgage offers, but to have the powers to intervene if such mortgage offers substantially undermine the overall quality of the national home mortgage portfolio. Again this would be part of a new management structure for the national home mortgage portfolio.

4.7.4 Turn banks into "true" risk taking companies

In the U.S. banks have already undergone rigorous tests to ensure that they have the capacity to absorb any foreseeable future event. However the question may be raised if the current bank equity based structure is the most efficient in sharing risks and income between the bank management and staff, the owners and the other fund providers.

Banks are different from any other company in that their assets and liabilities are monies only. Their activities are all related to money products, such as lending, trading currencies, trading in interest rates and providing other money services.

The art of risk taking implies that banks are able to predict a future outcome for their loans, for their currency and interest rate positions and for their stock and bond markets listings, mergers and acquisitions actions and corporate or government advisory activities and finally for their trading for own account.

Two elements set banks apart from ordinary companies. Firstly banks are the originators of debt for businesses and individual households. The decision to lend is solely a decision taken by the banks. In lending to businesses, banks try to protect themselves from other banks adding more debt to the same business. In lending to individual households the market is a free for all. Secondly banks assume from the outset that they have made the right decisions, in other words there will be no loan losses or losses to other market participants from their lending, M&A and stock market listings, for instance.

Banks and the regulators use the Value at Risk (VaR) approach, which is supposed to predict the outcome of the decisions by the bankers with some degree of certainty. Volatility, worst case scenarios, maximum loss assessments are based on time periods, confidence level and potential loss amounts. To give some scant confidence to the markets, one of the VaR assessment methods, which is used, is called the Monte Carlo simulation, hence the term casino banking.

"True" risk taking is based on foresight, rather than on adjustable versions which can be changed on a daily basis depending on how economic and political factors change. In hindsight it has been clear that the collective of banks in a number of countries created a lending boom to individual households which was far in excess of the average income growth of these households. VaR assessments are made by individual banks, not by the collective of banks jointly. However the current economic problems were caused by the collective of banks, including the investment banks.

A way to solve this dilemma between individual and collective actions is to force individual banks to set their "foresight" in stone. This can be done by allowing banks to deduct from their profit levels an amount of "loss provision" for every loan or other activity at the moment the loan or other agreement is signed. In effect the VaR is assessed at the moment of taking the risk and cannot be changed later. No excuses for wrong assessments.

If such VaR assessments are made tax deductible also from the day the loan or other agreement is entered into and cannot be changed over the lifetime of the loan or contract, the skills of individual banks and their bankers in predicting future outcomes will be reflected in the profit levels made. If banks make mistakes by underestimating VaR requirements, than such mistakes would no longer be tax deductable; they would have to be funded from the accumulated level of deferred staff bonuses and from a write down in the value of shareholders equity. If banks had been too conservative, a

freefall of the excess VaR amounts would not be taxed and could be paid to shareholders and to the bankers who took the decisions in the past.

This leads to the concept of "shareholders" in a bank. Banks are income and expense based institutions, whereby incomes and expenses have all to come from financial assets and liabilities. Such liabilities include the "risk" taking category of shareholders. Banks are cash-flow based institutions and the individual households -or their representatives in the form of pension funds and mutual funds- should get priority over bankers' pay. Their value at risk is the amount of money provided to a bank in order to take the risks banks take. The best way to achieve such priority is to turn share capital into non-redeemable perpetual notes with pay out an annual fixed rate of return. Such notes could be stock market listed and the price of such notes would reflect the market perception of the skills of the bankers. Around par or slightly above indicates a well-managed bank. A steep discount to par reflects poor bankers' judgments. More perpetual notes will be needed to overcome the unforeseen losses and the price for getting such risk capital will need to go up. All regulators need to do is to ensure that banks cannot expand unless their latest perpetual notes issues are quoted at around par. Investment banks should be forced to make the same VaR arrangements for their stock market introductions and mergers and acquisition activities. They make risk assessments that can affect the money put out at risk by individual households. They -just like commercial bankers- should be held responsible for their advice to the markets, in that they guarantee -over a declining time scale- that their judgments are correct. If not they will need to buy back part of the issued stock for instance.

Individually banks make judgments which often affect all banks, but also all fund providers, the savers.

5. Conclusions

The first conclusion is that the recession was caused by excessive mortgage lending, excessive as compared to income growth of the individual households.

The second conclusion is that not a single bank or financial institution was responsible, but the collective of banks, even those who had sufficient equity capital to absorb the subsequent losses.

The third conclusion is that the real question in managing the national home mortgage portfolio is not to bolster the capital ratios of the banks so they can absorb any volume of losses - a noble aim in its own right- but to manage the national home mortgage portfolio in relationship with the growth in the income levels of individual households. This was not done in the run up to 2008, but can be done by a traffic light system for the banks with penalties for excessive speeding.

The fourth conclusion is that individual households will benefit from 30 year fixed rate mortgages. Each country can set up a national mortgage bank to provide long term fixed rate funding to the national banking sector. The latter will have the client risk and charge customers accordingly.

The fifth conclusion is that financial sector companies are fundamentally different from real sector companies. For real sector companies the cost base is based on past expenditure; for financial sector companies the true costs of funds will only show up in the future, which may be many years away. Future cash flows for financial sector companies are based on considered opinions of the fund managers. They may be right but they may equally be very far removed of the ultimate outcome.

The sixth conclusion is that the reactions of central banks and governments did not solve the key issue caused by the financial crisis: the reduced capacity of the individual households to consume goods and services from the real sector. The individual households lost a substantial number of jobs; they reduced their participation level in the labour force; they collectively reduced their mortgages level in order to restore their own balance sheets; they funded new house buildings -albeit at a reduced level- from their own income and savings and in the meantime they saw the growth in their own income stay behind the inflation levels.

The seventh conclusion is that quantitative easing focussed on the wrong variable: interest rates rather than on credit volume growth to individual households. Lower interest rates did not lead to more borrowings as the theory suggested, but to more repayments as individual households wanted to restore their own balance sheets.

The eighth conclusion is that the way back from quantitative easing -the low interest rate scenario- is to increase the volume of index-linked bonds substantially, partially by swapping the existing volumes of fixed interest rate bonds held by central banks into index-linked bonds and partially by only issuing new and replacement government debt as index-linked bonds. The experiences over the last twenty years show that such issuance is substantially cheaper for governments and taxpayers alike.

The ninth conclusion is that there is the opportunity to move much faster to renewed economic growth with economic easing. This method uses a transfer system from existing savings in the financial sector to incomes of the individual households without incurring any increase in debts. A small part of the pension savings, which are currently locked up through government regulations, can be released into individual household incomes. A government short fall guarantee can be issued if after say three years the asset base of individual pension funds has not recouped the cash outflow through improved share and bond prices. Just like all banks need to cooperate to avoid an excessive home mortgage boom, so do all pension funds need to cooperate to make economic easing a success to their collective benefit.

The tenth conclusion is related to financial sector companies, including banks. The managers of these companies could be forced to put their considered opinions into stone from day one that a banking' or share issue' or merger and acquisitions' proposal has been decided upon. All financial company shares could be converted into non-redeemable perpetual notes paying a fixed interest rate from day one of issue. If managers cannot change the risk provisions for expected doubtful debtors or mergers or share IPO's than their true forecasting skills will come through in the perpetual notes prices of the listed instruments. The worst case scenario is a value zero for the perpetual notes. Taxation rules could be brought in line with such approach.

Drs Kees De Koning
25th September 2013
Chorleywood U.K.
E-mail: keesdekoning008@hotmail.com

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