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Economic System Failures: the U.S. case

By

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Introduction

Tax Freedom Day memorises the day in a calendar year that individual households no longer transfer their income to their government, but start earning an income for the household. In the same manner one could also define a “Debt Freedom Day” as the day that individual households no longer have to repay government debt.

Income and debt are the two economic features which tie together individual households with the company sector, the banks, the central bank, the pension funds and their government.

The process of decision making about incomes and debt levels for individual households is not a transparent process. Companies decide on their own what and where to produce and how many individuals to employ and what to pay them. Companies also decide for themselves how much risk to take with the money -equity and debt- provided to them by the individual households. Their collective decisions determine the outcome of the collective income derived from the company sector both in wages, salaries, dividends and earned interest for the individual households. This normally involves a cross-border element as well; through imports and exports and through international capital flows.

The same type of process applies to banks, a central bank and a government. Banks decide for themselves to whom they lend or accept as risk counterparties and for which amounts. They act individually, but their actions have a collective debt level and value at risk result. Central banks in the U.S., the U.K. and Japan have been aggressively buying up debt titles by printing money. Governments have continued to add substantial debt levels to already historically high levels of debt.

Pension funds have the unenviable task to anticipate how all these uncoordinated decisions can be put together in predicting an outcome for the funds invested on behalf of individual households.

The economic system failures -very evident since 2008- occur as a consequence of the accumulation of debt (its volume), the price paid for the debt, the maturity of the debt entered into as well as the transfer systems used to transfer debt risks back to individual households without them having any say over whether they would like such risks or not. Individual households are always the ultimate income and debt “bearers” in a country.

For most countries the “Debt Freedom Day” is a long way off and many unborn babies will have to carry the implications of current decisions during their future working life. It is for this reason that more thought needs to be given to the volume and the price of different types of debts affecting individual households and to the transfer systems which have been set up to provide benefits for a few but transfer the risks of money flows to the masses.

To draw specific conclusions it is easiest to use a specific country example. In this paper the U.S. situation has been chosen, as it, among developed nations, provides the highest quality of statistically relevant data within the shortest time period.

The analysis focuses on the excessive home mortgage lending levels in the U.S. over the period 2000-2006; excessive in relation to the income growth of individual households. It emphasizes that financial markets in their lending activities are not guided by the same principles as companies; supply of credit is a judgment of the long term income earning capacity, not the use of such household’s income in acquiring products and services. It also points out that collectively the financial sector can easily overestimate such households’ capacity for their own short term gains. No management system is in place to manage the growth and the quality of the national households’ mortgage portfolio, neither in the U.S. nor elsewhere. Once reality sets in and losses are recognised, the reverse process of less credit, lower house building levels and lower house prices set in. Individual households adjust their spending levels by reducing their outstanding debt, to the detriment of demand levels. Companies will react by slowing down investments, laying off workers and reducing pay levels below price rises. The Fed responded by buying up debt titles to the extent of \$ 2 trillion. This money was neither earned, nor borrowed, but just printed.

1 Cause and effects in the U.S. economy

1.1 House funding in the U.S.

In a recently published paper on “Debt, equity and income, limits to the freedom of choice in an economy” (<http://mpira.ub.uni-muenchen.de/47088/>) I alluded to the fact that in the United States over the period 2000-2006 the individual households’ mortgage debt increased from \$4.814 trillion as per the year-end 2000 till \$9.874 trillion as per the end of 2006, an increase 105.1%. During the same period the median income 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 households from 104.705 million in the year 2000 till 114.384 million in 2006 than the average amount of outstanding mortgage debt per individual household moved up from \$45,977 in 2000 till \$86,323 in 2006; an increase of 87.75%. Over this period mortgage debt expanded by a factor practically six times faster than median income levels.

One cause of the house value boom was the effect of lowered interest rates. In 2001 the benchmark rate was lowered from 6% to 1.75% per annum and stayed low till the middle of 2005. Over this period the benchmark interest rate was also lower than the CPI inflation levels. House price rises are not even included in the CPI levels.

The effect of the rapidly increasing mortgage amounts was that both the price of existing homes and the volume of new housing starts moved up in tandem. The need for new housing starts is a finite need. It is based on population growth and on the changes in household compositions. In 2001 this finite need was met with the level of 1.636 million new housing starts. Based on the population growth, the new housing starts level in 2002 would have needed to grow with 26 000 more housing starts than in 2001. It also required an equal increase for the following four years. The real level of new housing starts showed an excess of 97 000 more housing starts in 2002 over the needed level, 200 000 more in 2003, 263 000 in 2004 and 360 000 more in 2005. Over the period 2002 till the end of 2005 920 000 more housing starts were made than was needed for keeping up with the U.S. population growth.

The second effect of the rapidly increasing mortgage amounts was that not only did the volume of housing starts go up but the average annual house prices went up even faster. Even in 2006 when the new housing starts level dropped by 14.7% over the previous year, house prices still went up by 7.7% over the year. The warning bells started ringing in 2007 when house prices increased by a modest 1.8%, albeit from a highly inflated level and the volume of new housing starts dropped by 23.9%. The turn around had started.

The essential difference in funding new housing starts over and above the level which is needed due to population growth and changes in average family size is that supply rapidly catches up with demand if the funding sources dry up or if it becomes much harder to raise mortgage funds. This already happened in 2006 and 2007 before the official market crash in August 2008. A further effect was that house prices dropped substantially over the period 2008 to 2011 included.

The reaction of U.S. individual households to the crisis was to change their borrowing behaviour. From the end of 2007 till the end of December 2012 these households reduced their outstanding level of home mortgages by \$1.14 trillion or about 10.8% of the outstanding amount per end of 2007. The individual households’ also funded new housing starts out of income and out of own savings to the extent of 3.5 million new homes over this period. This trend continued in the first quarter of 2013 when individual households paid off another net \$ 53 billion of their mortgage debt over the three months period.

Over the period 2008-2012 the reaction of banks was to repossess homes from their doubtful debtors to the extent of 4.5 million homes. Such “second hand sales” drives house prices further down, which was exactly what happened over the period 2008-2011. This was on top of the absorption of the 920 000 over-supply of housing starts from the period 2002-2005.

The reaction of the Fed was to start up quantitative easing in buying up government and some other debt titles with printed money. The U.S. government and the Fed jointly agreed on the Tarp programme, supporting banks and key companies.

1.2 The company sector in the U.S.

When individual households take on more debt than their incomes can afford -especially long term debt-, they sooner or later start changing their spending behaviour to adjust to new realities. What this means in practice is that they start reining in other expenditure in order to keep up debt servicing payments. The reality was brought home in August 2008 when the feel good factor of rising share prices was reversed into a sharp drop. Between June 2008 and March 2009 the Dow Jones index dropped from around 12000 to less than 8000 nine months later. Caution set in and individual households not only serviced their mortgage debts -those who could-, but started to reduce the overall mortgage debt volume by over \$1.1 trillion over the period since 2008. They also funded new house building out of their incomes and savings.

Such a change in household income allocation had substantial implications for the U.S. company sector. They were confronted with a very sizeable drop in demand. In January 2008 the capacity utilisation index stood at 80.4%. In July 2009 it had dropped to 66.8%. Even up till to-day the capacity utilisation index still is below the January 2008 level. Another indication was and is the number of bankruptcies. In the first quarter 2008 the number of company bankruptcies cases stood at 25 925. In the first quarter 2010 it reached 60 837 cases.

The reaction of companies to the drop in demand was to be expected. They strive for profits. Therefore if demand levels are less than expected -as evidenced by the capacity utilisation index- costs will need to be brought down. Investments in capital goods are reduced or put on hold, the labour force is reduced and over time output price adjustments are made, which outstrip the wages paid. A lower level of investment expenditure has an indirect effect on employment levels; the retrenchments of own staff a direct effect. In December 2006 the size of the U.S. labour force was 152.732 million people of which 145.970 million were gainfully employed and 6.762 million were unemployed or 4.4% of the labour force. These figures were seasonally adjusted. In December 2009 the labour force stood at 153.120 million with 138.025 million employed and 15.095 unemployed or 9.9% of the labour force. The labour force participation rate was 66.4% in December 2006 and 64.6% in December 2009. While some demographic factors can play a role in the reduction of the labour force participation rate -early retirement from work for instance- the reduced rate can also occur due to people being so disappointed in finding jobs that they no longer bother. This drop has continued till May this year (2013) when the rate stood at 63.4%. During the latter month the unemployment rate edged up a little to 7.6%.

In the debt, equity and income paper quoted above, evidence was provided that the growth in U.S. average salary and wages -for those lucky enough to be employed- lacked behind the inflation level or in other words the price changes introduced by the company sector over the period since 2008 out weighed the income growth of those in jobs. Companies acted in the manner which is natural to them. They aimed and aim to restore their profit levels as soon as they can.

1.3 The U.S. banking and insurance sector

The volume of outstanding mortgages is not the result of a single bank acting on its own. It is the result of all banks and financial intermediaries acting together. Some institutions were more aggressive than others. Some mortgage sales organisations were marketing unsuitable products to low income earners. A Deutsche Bank study assessed that in 2008 the subprime mortgages volume represented about \$1.2 trillion out of a total mortgage market size of \$10 trillion. However the sales of such subprime mortgages started only in earnest in 2004, 2005 and 2006. Before these years the high risk borrowers' element in the new mortgage originations had been kept steady at around 8% of all new mortgages. In 2004 due to the upcoming aggressive shadow banking organisations, this percentage was raised to over 20% and reached 23.4% in 2006. The structure and risk profile of the total U.S. mortgage portfolio was changed with the substantial addition of low quality mortgages over the years 2004-2006. The mortgage conditions were also dramatically

weakened. 37% of the subprime mortgages were interest only mortgages, whereby no repayment plan was put in place; 38% of these mortgages were 100% mortgages requiring no down payment; in 43% of the mortgages granted no income check was made and self certification of incomes is not the best method of checking on the viability of granting a mortgage to an individual household and in 80% of the mortgages an “attractive” low start up interest rate was built into the product for a period of two years after which a steep hike in mortgage interest rate was applied.

Banks, especially with the help of the investment banks and the rating agencies, were transferring the risks to mainly overseas buyers, who subsequently bought credit default swaps (CDS's) to cover the borrowers' default risks. In doing so overseas banks and pension funds thought they had a low risk mortgage portfolio on their books with an attractive yield. Reality turned out to be different. AIG Holding Company was one of the main underwriters of these CDS's. In 2008 it was rescued by the American government as were Fannie Mae and Freddy Mac, the two long term mortgage institutions in the U.S.

When the mortgage backed securities showed large losses, the result was that all parties involved faced a funding crisis. The financial markets liquidity supply disappeared for these parties. The simple truth is that a loan facility intended to be repaid over thirty years cannot be recalled in any shorter period. Liquidity concerns and maturity requirements clashed. The doubtful debtor borrowers -some individual households- could only repay the funds they borrowed by selling their home. However potential new buyers would have had great difficulty in raising the required finance. The effect of mass selling of homes caused steep drop in house prices. In other words a housing crisis occurred and the crisis has still not been overcome.

Banks were subsequently affected by the corporate sector defaults. Bank equity levels became low, which hampered new lending. In the U.S. actions were taken to strengthen the banks' buffers against further erosion, so that currently the U.S. banking system is generally in a better position than that of their European counterparts where action is still due.

1.4 The Federal Reserve Bank

The Federal Reserve publishes some of the best statistics in the world on keeping track of the net worth developments of individual households: the B100 Balance Sheet of Households and Nonprofit Organizations.¹ These statistics are produced on a quarterly and annual basis. Other countries, like the U.K., produce somewhat similar statistics but on an annual basis only, but with a greater time delay and with less detail. In April this year (2013) in the European Union an individual household net worth study was completed which compared the 2011 situation for the Eurozone countries.

The U.S. has a complex system of bank regulations, divided over the individual states and the federation. Secondly the emergence of shadow banking organisations, which got involved in home mortgages, led to even less control over the volume growth, over the rapid deterioration in the overall quality of the U.S. home mortgage portfolio over the period 2004-2006 and over the transfer of risks to foreign banks and pension funds and the risk cover provided by the U.S. insurance sector. In other words some macro developments were missed and preventive action did not take place.

What did take place was corrective action by the Fed through its quantitative easing programme of printing money to buy up government bonds and other debt titles such as mortgage backed bonds. Up till to-day the quantitative easing programme has spent over \$2 trillion.

The real question to be asked is whether buying up financial assets can and did change the behavioural patterns of American individual households. Buying up financial assets does not change incomes for individual households, nor house prices; it does not change the risks that banks face on their corporate or individual household clients, hence the 4.5 million repossessions of homes on doubtful debtors over the last five years; it does not change the corporate wish to increase profits by keeping staffing levels as low as

¹ <http://www.federalreserve.gov/releases/z1/current/z1r-5.pdf>

possible and keep a tight lid on remuneration levels and try to keep them below their own price rises. It is doubtful if it changed corporate attitudes to accelerate investment levels.

What quantitative easing has done is to artificially lower the return over U.S. government bonds. The yield over the 10 year government bond was 4.5% by the end of October 2007 and reached its lowest point in July 2012 when the yield only delivered 1.4%. The latest yield has moved up to 2.2%, which is still less than half the October 2007 yield. In the meantime U.S. government debt has seen its fastest growth rate since World War Two. In 2006 the gross debt of the U.S. federal, state and local government breached the \$10trillion level and in 2013 it will breach the \$20 trillion level; a doubling in a very short period of time and growing much faster than GDP growth. Of course immediately after the crash of 2008 there was a flight to safety out of shares and into government bonds, but with companies returning to higher profitability levels such safety precaution applies to a much lesser degree in the financial markets of to-day.

An artificial lowering of government bond yields does have an effect on long term savers, especially through their pension fund savings. It also has an effect on companies as those companies which support Defined Benefit pension schemes will have to fork out substantial sums to keep the solvency rates up for those schemes; this is money that is diverted from company profits, which could otherwise have been used for investments in plant and machinery.

Perhaps the conclusion needs to be drawn that money can buy financial assets but it cannot buy an income for individual households or change their debt levels. If this conclusion is correct than other measures outside the Fed's scope of activities would have been needed to correct the failures of lending too fast; with inappropriate products and with a rapidly deteriorating average quality of individual borrowers.

2 Some important questions

2.1 Maturity of debt and interest rates

Why should a 30 year debt to an individual household carry the same interest rate as an 80 year debt obligation of the U.S. government or a 10 year debt of a company? If one put the question like this, most people would agree that as a matter of course such interest rates should differ. Why is it suitable for individual households to have a standard variable mortgage rate, but not for governments? After all, government' borrowings have all the characters of a mortgage. It is just like a home mortgage for personal use; it does not create an income for the debtor. U.S. Government debt stretches out over much longer periods than home mortgages and over such periods inflation levels may vary considerably. It is not without reason that banks try to protect themselves against funding costs fluctuations in case of granting home mortgages. Banks do not have long term fixed rate funds and they therefore sell mortgage products that suit their needs, rather than that of their customers. Governments do not like to talk about the maturity of their debt. They assume that they can roll-over such debt from the financial markets for the whole period which is an unspecified period anyway. In a way governments behave in the same way as bankers do. They, just like the banks, assume that liquidity is always there and that one can roll-over debt over as long a period as it suits them. Again governments in general, but also the U.S. government, do not take into account the needs of their customers: the individual households. If they did they would change their behaviour.

2.2 Appropriate mortgage rates and mortgage system

When Fannie Mae and later Freddy Mac were set up, the same question was asked as it is to-day: How can one help those who need a home, but find it hard to obtain finance for such a purchase. It should clearly not be done in the way as was done by some mortgage underwriters in the years 2004-2006 with stuffing their clients with inappropriate products. It turned out that the existing Fannie Mae and Freddy Mac methods could also not stand up to the 2007-2008 turmoil in the subprime mortgage markets.

On the very strong plus side for Fannie Mae and Freddy Mac is the fact that they arranged long term fixed rate mortgages, something commercial banks cannot do and should not wish to do within the privately held share ownership structure of these banks. Fannie Mae and Freddy Mac are now under state control, in other

words owned by all individual households together. Within the latter structure it is appropriate that some interest rate risks can be taken to achieve the aim of long term fixed rate funding for individual households.

On the negative side Fannie Mae and Freddy Mac also accepted the income risks on their clients over and above arranging their funding. This was the Achilles heel in their activities, which showed up in 2008. Fannie Mae and Freddy Mac, in line with commercial banks, used the collateralised mortgage bonds structure as one of their funding methods. In hindsight this was a system error as well.

In section 3.2 it will be explained why selecting their own clients, rather than leaving it to the commercial banks, led to the problems.

In conclusion individual households are best served by a 30 year fixed rate mortgage funding structure.

3 Some policy recommendations

3.1 Introduction

The system errors made in the U.S., but equally in other countries, was that in the period 2000-2006 the financial markets provided the American individual households with too much mortgage debt, too quickly, of the wrong type and also with a risk profile on these households which substantially lowered the quality of the national combined home mortgage portfolio. Another system error was that the Fed and the banking system use an interest base rate method which does not distinguish between lending to individual households, to companies and to the government. Each of these households borrows with a totally different maturity structure. Banks happily transfer interest rate risks linked to their liquidity supply to their individual household clients, by imposing standard variable rate structures or step up interest rate structures. Such transfer mechanism is not in the best interest of individual households. The Fed happily created \$ 2 trillion of new funds, which were neither earned nor borrowed, just printed.

The main system error however was that it was not realised that supply and demand for credits does not work like a market for goods and services. The supply of funds to individual households went on far beyond their capacity to service their debts. The growth in incomes should have been the restraining factor, not the supply in funds to acquire homes or even worse finance house price inflation. In the U.S., but again equally in other countries, there is no management system in place to link the sales of long term debt with short term income levels of individual households. No one person or institution is responsible for managing such balance.

The consequences of this lack of management were and are severe. When the fact surfaced that too much mortgage lending had been instigated, banks and other intermediaries were forced to write off substantial amounts of their credit portfolios. Such write offs are write offs not just for banks, but the losses are losses to the savings level of individual households. Share levels dropped substantially as well. Individual households reacted by reining in their spending and collectively started paying off mortgage debt. Of course demand levels for the output of the company sector dropped and they started slowing down investments and reducing their staff levels and the latter wage and salary packages, below inflation levels. House prices dropped also. The collective financial sector had caused the crisis and the individual households paid the price through unemployment, wages and salaries restraint and low returns over government bonds and shares.

What can be done to prevent another crisis of this kind occurring and what can be done to temporarily improve the income situation of individual households is the subject of the next sections.

3.2 Preventive measures

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 earning 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 judgement 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.

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.

Quality control of 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.

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 deductible; 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 free fall 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’ judgements. 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 judgements are correct. If not they will need to buy back part of the issued stock for instance.

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

3.3 Corrective measures

Interest rates

With debt obligations of widely different maturity levels and with different borrowing groups -individual households, the company sector excluding the banks and the government-, it easy to understand that different interest rates should apply for different groups. For instance, as set out above, individual households are well served by a 30 year fixed rate mortgage product. The company sector needs funding for much shorter periods; its working capital can be provided at floating interest rates but investment funding should best be on a fixed rate basis. For the company sector often thorough cash flow investigations are made before banks or the financial markets agree to provide longer term funding. Such funding rarely exceeds ten years.

The U.S. Treasury in funding its debt obligations applies a wide variety of interest rates and maturities. There is an average cost of funds, which might be very different from the prevailing yield over 10 year bonds. There is also a small element of Treasury Inflation Protected Securities (TIPS) of which around \$ 730 billion was outstanding per 30 September 2012, compared to the total U.S. Federal Government debt of just over \$16trillion as per same date. Inflation protection is only provided over 4.6% of the government debt portfolio. The U.S. method of assessing what needs to be paid for TIPS is different from the U.K. method of index-linked gilts. The latter have a fixed nominal value and the interest rate is variable with a margin of 1.25% over the inflation level. The U.S. varies the principal amount based on the experienced inflation level and pays a fixed interest rate. In the U.K. the volume of outstanding index-linked gilts is higher than in the U.S. It stands at 24% with 76% in standard fixed rate gilts out of a total government debt of slightly over £ 1 trillion.

What needs to be considered is that individual households can act in different capacities. They can act as borrowers for funding the acquisition of homes. In this income based capacity they are best off to have a 30 year fixed rate loan made available to them. Individual households, often indirectly through their pension schemes, are also the ultimate lenders to a government, including the U.S. government. However when individual households save by providing a government with the financial resources to run a budget deficit and increase its borrowing level, than such households are exposed to an 80 year risk. They should be given the chance to buy index-linked bonds or gilts. The reason is not for liquidity reasons, but for the fact that an 80 year maturity exposes the savings level to the vagaries of inflation. Why should the savers pay for the

risks on the management of an economy; isn't it a government task to keep inflation levels under control? With \$15 trillion in pension savings in the U.S. as per 31 March 2013 and a U.S. government debt of a higher amount, it makes sense to make savings in government bonds risk free; risk free from inflation levels. My suggestion is that at current U.S. government debt levels it makes sense to gradually move to a share of 50% of all debt to be issued as index-linked bonds.

If such action had been taken in the past, government expenditure would have included such interest expenses. As a consequence the pension funds would have had strong results in a recession period, eliminating the need for cutting pension entitlements due to poor investment results.

Does it make any difference if interest is paid over government debt at a fixed rate or as an index linked rate, especially in the event that the long term fixed rate no longer protects against the debasing value of inflation? The answer is yes, it does make a difference for those households postponing consumption levels in order to build up a pension pot for future incomes. It does make even more sense when quantitative easing policies artificially lower the fixed rate returns below inflation levels

In this connection it is interesting to study the pension fund report of the Bank of England². From the total pension pot of slightly over £3 billion at the reporting date of 29th February 2012, 94.7% had been invested in index linked financial assets, of which 86% were index linked gilts and 14% were corporate index linked assets. The Bank of England's pension fund trustees clearly believed that future incomes were and are best secured by protecting the assets against the vagaries of inflation levels. Why do other pension funds not follow -at least partly- the Bank of England's trustee actions? The answer lies in the breakdown of the outstanding gilts portfolio. According to the U.K. Debt Management Office³ the most recently reported breakdown of index-linked gilts issued and conventional (mostly fixed rate) gilts was 24% for index-linked gilts and 76% for conventional ones. In actual amounts around £240 billion is outstanding in index-linked gilts. The total pension reserves of U.K. pension funds are currently estimated to be over £2 trillion, which makes it quite impossible to come even close to maintaining a relevant share of the pension assets in index-linked gilts.

Quantitative easing

The question was already raised whether quantitative easing has had any effect on the income growth of individual households, on their income allocation over repayments of debt or current consumption or on their debt situation?

The statistical evidence as provided by the Fed in its Balance Sheet of Households and Nonprofit Organizations showed that ever since 2007 individual households have followed the pattern of reducing mortgage levels to the detriment of their consumption levels. Regretfully one has to come to the conclusion that buying up financial assets with printed money to the extent of \$2 trillion has not made the slightest difference to individual households, with two exceptions. The first one is that the Fed in taking over these assets out of the financial markets does not reduce the obligations of individual households to ultimately having to repay outstanding government debt levels. Future tax income levels will still be needed to reduce the outstanding government debt, other wise a Weimar Republic situation would have been created by funding government debt through the money printing press. The second one is that absorption of \$2 trillion in debt titles reduced individual households' incomes by at least some \$ 40 billion per annum. This amount reflects the difference on the 10 year yield in 2007 with the current yield on fixed rate government bonds. In current terms this represents about 0.25% of missed GDP income.

My conclusion is that the Fed can take care of the preventive measures as described in the above, and is also well placed to encourage the U.S. government to switch its borrowing interest rate strategy to one which is more closely linked with protection against inflation, but the Fed is poorly placed to solve the individual households' dilemma of choosing between debt and consumption, especially when jobs and incomes are

² <http://www.bankofengland.co.uk/about/Documents/humanresources/pensionreport.pdf>

³ http://www.dmo.gov.uk/index.aspx?page=Gilts/Portfolio_Statistics

under pressure. The Fed's printing of money was an unsuitable instrument to correct the individual households' income and mortgage debt situation. Not only that, this programme had serious side effects.

In the U.S. overseas funding of the U.S. government debt has been taking place to a significant degree. However quantitative easing policies made holding such debt less attractive as yields were drastically reduced. When the overseas financial markets expects the start of the unwinding process of quantitative easing than capital flows will reverse. This effect has already been noticed by a number of emerging markets economies like Brazil and Indonesia. Quantitative easing policies affect not only U.S. individual households.

Economic easing

In the past it was usual to use an increased government deficit policy to create employment through additional infrastructure works programmes -the Keynesian solution-. Such policy has worked well, but it had and still has a major draw back; it is based on more borrowing. What the past has also shown is that governments in many countries have not had the fiscal discipline to repay such debt when economic growth would have allowed such repayments of debt. Governments around the world use other peoples' money -the income and savings levels of individual households-. The Tax Freedom Day in the U.K. can only be celebrated after 150 days of working for the government. In the European Union it has on average already reached 180 days in a calendar year. In the U.S. it is historically somewhat lower, but the current level of government debt to GDP is pushing the Tax Freedom Day closer to the U.K.'s situation.

What is essential and what has not been achieved up till now is to shorten the adjustment period after an oversell of mortgage debt. When a government is no longer in a position or should no longer attempt to add more government debt to an already heavily indebted society; when the private sector companies experience a drop in demand and restructure their operations, than the current only real option which exists is to use the individual households' own savings to stimulate demand.

The current savings levels of individual households in the U.S. are divided over four main categories: households' real estate, deposits, corporate equities and equities in noncorporate business and pension savings. According to the June 6 2013 data of the Fed, of the slightly over \$ 70 trillion of net worth of individual households -which excludes government debt- \$18.5 trillion was invested in households' real estate with a mortgage debt level of \$ 9.4 trillion; \$ 14.6 trillion in deposits and credit market instruments; \$19.4 trillion in equities in businesses and \$ 15 trillion in pension reserves plus \$ 5.8 trillion in mutual funds.

To turn homes into cash is impossible for all households together. To turn all equities into cash can also not be done and would harm the productive sector seriously. The current level of deposits and credit market instruments is not owned by the masses, but generally speaking by the privileged few. This leaves the pension reserves as the most significant savings element, of which ownership is wide spread. However the collective of pension funds is not allowed to use any of these funds to help individual households on a temporary and short term basis. The "not allowed" phrase was used as government regulations forbid the use of such pension savings at any earlier time than the start of the retirement period. Even than only a gradual release of income can take place in line with average life expectancy.

The collective of banks caused the current economic crisis by excessive sales of mortgage debt compared to income growth. If the U.S. government would approve economic easing as a plan to, on a temporary basis, help increase the incomes of individual households than the downward spiral of reduced demand, reduced employment opportunities, wage settlements below inflation levels and lower labour force participation rates could be broken. Higher economic activity levels would also lead to lower government deficit levels and reduced risks for the banking sector. If such economic easing could simultaneously be achieved without adding to either the individual household or to the government debt levels, this would make such action plan even more attractive. Quantitative easing would not be needed.

How could all this be achieved?

The U.S. Government could change the rules for pension funds so that “under specific economic circumstances” such pension funds would be requested and be allowed to transfer a small percentage of their financial assets back to their pension savers. It would specify the period for which such payments are allowed -say one or two years- and the percentage of the financial assets to be transferred -as an example say 2%-. As this transfer of financial assets into cash will help the economy and is intended to help improve the financial position of individual households, the government could allow such transfer to be tax-free.

In order not to harm the long term savings objective of pension funds and their solvency levels, the U.S. government could provide a shortfall guarantee to each individual pension fund or pension account. Such short fall guarantee would ensure that if, after -say- a three year period, the remainder investment portfolio has yielded less than the cash amount paid out plus the return which would have been earned if such paid out amounts would have been invested in a 10 year TIPS investment, than the shortfall would be covered by the U.S. Treasury.

The ultimate risk bearers for such Treasury guarantee are the individual households. In releasing \$300 billion of their (own) savings into disposable cash, the pressure on the current income levels of individual households is substantially reduced. If the U.S. Government’s requests individual households to spend the money on goods and services, the effect will be an increase in demand levels; it will help increase employment levels, improve their chances for earnings increases above inflation levels and entice more people back into the work sphere. Tax revenues will rise and the total unemployment benefit pay-out level will drop. Banks will experience a lower level of doubtful debtors as both the corporate sector and most individual households will have a higher level of income. Companies supporting Defined Benefit schemes will have lower amounts to pay as a supplement to the portfolio returns. Share prices will rise.

This leaves the decision about which amount needs to be paid to each pension fund participant and with which time interval. Taking into account that younger pension savers have to contribute for the longest periods in which they run the highest investment risks, it might be advisable to pay an equal amount for each participant per pension fund. Secondly the economic easing payments could be spread out over four quarterly instalments, rather than a single payment.

The U.S. is in the fortunate position that it can arrange for economic easing to take place when economic circumstances require it. The current economic situation would still justify its application. U.S. pension savings are substantial and allow for a small percentage to be turned in to current cash, for the benefit of all without increasing the debt levels in society. It is a corrective action for the situation that the markets do not produce a return to full employment in the shortest possible period of time.

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