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Debt, equity and income: the limits to the freedom of choice in an economy

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16. May 2013

Online at <http://mpa.ub.uni-muenchen.de/47088/>

MPRA Paper No. 47088, posted 20. May 2013 20:31 UTC

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Introduction

In a modern western society many choices are made by different households at different times. What to buy, how much to spend and how much to save, what will be the return over the various types of savings, how much to borrow and will a household's future income be sufficient to repay such debt? Will there be jobs available to earn an income?

A lone sailor shipwrecked on a small tropical island knows what to do. It is the struggle for survival and these struggles relies on his taking the initiative and apply his inventiveness. Western societies are more complex with different households taking decisions which affect the debt, equity or income of other households. For instance the decisions taken by a government on taxes and on creating and increasing government debt affect the financial position of the business sector and of the individual households. So do the decisions made by a central bank in setting interest rates, buying up government bonds and restricting, maintaining or even subsidizing liquidity levels for the banking sector. The banking sector plays a major role in setting the levels of debt available both to the company sector and to individual households. Jointly the banks can lend to individual households amounts which simultaneously encourage home building but also produce price rises in homes. If the lending volumes exceed the growth in personal incomes by a substantial margin, many borrowers will be unable to pay back such loans and the reverse process of lower house prices, higher savings and reduced economic activity will set in. Individually each household has no power to stop such a process. Individual households options are also limited if there no jobs available to them. In case there are jobs, they still have the choice to spend or to save, but these choices are strongly influenced by the choices made by the government, the central bank, banks and the business sectors.

With unemployment rates at record highs in Europe and not far off record highs in the U.S. and still substantial in the U.K., the limits to the freedom of choice for individual households is clear for all to see. Individuals do not choose to be unemployed; individuals do not voluntarily wish to give up their homes; individuals do not wish to lose their life savings in their pension pot due to poor economic management. Individuals also do not wish to have to pay higher taxes due to governments' inability to balance their income and expenditures. Money and especially debt accumulation constitutes the most serious threat to the freedom of choice for individual households, whether it is their own debt or debt imposed upon them by their government. One needs an income to pay back personal, but also government debts: an economic truth that seems mostly forgotten.

The focus of this paper is on individual households and its economic interdependence with the other types of households. The focus is on income levels, on net worth levels and on debt levels over a sufficiently long period to draw some helpful conclusions on what, why and how it happened and when did such events occur. If the interaction between different types of households does not work properly, which could be defined by the number of people who want to work but cannot find jobs, than one has to consider whether this is due to lack of incomes, lack of savings, excess of debt, or lack of growth in the net worth position of individual households. Economic growth depends on it, but rather more importantly individual financial self reliance depends on it.

1. Debt

1.1 The level and purpose of debt

The reasons for individual households to borrow money is usually to buy a home or a durable consumer good, like a car for instance, or to purchase items on a credit card for which payments will have to be made in future. In, for instance, the United States the total household liabilities as per the end of 2012 stood at \$13.453 trillion and 90.8% of these liabilities were used for the three purposes mentioned above. Mortgages alone constituted 70.1% of the total liabilities¹.

Individual household debt nearly always needs to be paid back out of an individual's income. The assets acquired -homes and cars for instance- are not acquired for business purposes, but only for personal use. It is important to stress this point, not because it is not well known, but because it sets individual household debt apart from debt incurred by the business sector. In the latter sector debt finances the capital goods and working capital for a firm which enables a company to earn a cash flow out of which the debt can be repaid.

For individual households the debt taken up in a given year extends the scope of consumption. Without such borrowings the acquisition of homes and consumer goods could most likely not have taken place, especially not for the most expensive personal acquisition: a home. What debt also means is that future income flows are reduced by the repayments of the debt. Future income levels are encumbered.

The only other remaining type of household which incurs debt is a government. On 2 May 2013 total U.S. government debt outstanding was \$16.8 trillion. With an estimated number of households of 127 million this implies a government debt level per household of \$132,300 at the moment. Based on the same number of households the individual household's average outstanding private debt came to \$105,900 as per the end of 2012. Compare this to the average home sales price in the U.S. as per February 2013 which was \$152,000² and one may realise the true extent of U.S. government debt. One should also compare such debt levels to the median households' income in the U.S. which stood at \$45,018 in 2012³.

The purpose of incurring additional government debt is to maintain spending levels over and above tax income levels. The rationale for doing so, especially the extent of doing so, is under fierce debate at the moment. Some say that under current economic circumstances a reduction in government spending levels will cause further hardship on economies which already are under heavy strain. Others maintain that in order for an economy to start growing, governments must reduce their demand for debt, so that the private sector has more resources to grow. A second type of debate is going on -usually between different political parties- over the percentage of government expenditure out of the GDP level which should be consumed by government. The conservative parties -including the U.S Republicans- usually fight for a smaller government role and other parties for more government activities. There is also a great difference between countries, especially between the U.S. and European countries. The latter have a substantially higher percentage of government expenditure to GDP than the U.S. The latest available data over 2011 for U.S Federal and State and Local government spending as compared to GDP points at about 38%⁴. For the U.K. this percentage in the same year stood at 49%, while it was 49.4% on average for the 17 Eurozone countries with the highest two countries: France at 55.9% and Denmark at 57.9%⁵

1.2 Individual household debt and government debt developments in the U.K. and the U.S. over the period 1996-2012

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

² <http://www.statisticbrain.com/home-sales-average-price/>

³ http://en.wikipedia.org/wiki/Household_income_in_the_United_States

⁴ <http://fivethirtyeight.blogs.nytimes.com/2013/01/16/what-is-driving-growth-in-government-spending/>

⁵ http://epp.eurostat.ec.europa.eu/statistics_explained/index.php?

title=File:General_government_expenditure_by_country_as_a_percentage_of_GDP,_2011.png&filetimestamp=20120801091321

In the U.S. the Federal Reserve Bank publishes quarterly and annual data on the debt positions of all individual households as part of its overall assessment of the net worth position of these households. The latest data are the annual data over 2012. In the U.K. the Office of National Statistics publishes debt data of individual households on an annual basis, the latest full year data which are available are for 2011⁶. For the Eurozone the European Central Bank has just published a study: The Eurosystem Household Finance and Consumption Survey (HFCS). (ECB Statistics Paper Series No.2 / April 2013)⁷, which collected data from the 15 Eurozone countries over 2010. Such a study allows a comparison between countries at a single moment in time, but cannot reveal the more important question of how individual household debt levels have moved over time.

In table 1 a summary is provided for the increase or decrease in individual households' debt levels per annum (P) and a government debt level increase or decrease per annum (G) over the same period. P + G data have been compared to the nominal GDP amount from same year. These statistics have been put together for the period 1996-2012 for the U.K. and U.S.

Table 1 U.K and U.S. Changes in Individual households' and Government' borrowing levels as compared to GDP over the period 1996-2012

Year	U.K P (£ billion)	U.K G (£billion)	P+G (£ billion)	% GDP		U.S P (\$ billion)	U.S G (\$ billion)	P+G (\$ billion)	% GDP
1996	21.8	32.1	53.9	6.98%		363	251	614	7.83%
1997	37.2	25.9	63.1	7.60%		362	188	550	6.60%
1998	38.2	4.9	43.1	4.90%		636	114	750	8.53%
1999	51.3	-1.3	50.0	5.38%		442	130	572	6.12%
2000	60.8	-6.2	54.8	5.61%		597	18	615	6.18%
2001	74.2	-33.0	41.2	4.03%		623	133	756	7.10%
2002	107.3	3.1	110.4	10.27%		783	421	1204	11.31%
2003	126.6	31.6	158.2	13.89%		1064	555	1619	14.53%
2004	133.4	35.7	169.1	14.06%		1468	596	2064	17.41%
2005	73.1	41.2	114.3	9.11%		1151	553	1704	13.50%
2006	157.3	39.0	196.3	14.78%		1207	574	1781	13.31%
2007	107.7	37.0	144.7	10.29%		851	501	1352	9.64%
2008	29.5	25.0	54.5	3.80%		-151	1071	920	6.03%
2009	-17.4	91.9	74.5	5.34%		-222	1885	1663	11.93%
2010	8.0	142.6	150.6	10.33%		-179	1652	1473	10.14%
2011	0.6	145.8	146.4	9.70%		-210	1229	1019	6.75%
2012		133.7				32	1276	1308	8.24%

1.3 What happened to the debt volumes over the period 1996-2012?

⁶ Nationalbalancesheetfinaltables_tcm77-276505[1].xls

⁷ <http://www.ecb.int/pub/pdf/other/ecbsp2en.pdf>

One may conclude on basis of these data that individual household debt levels accelerated and decelerated over time. The borrowing boom seems to have been followed by a reduction in outstanding levels of individual household debt.

Home mortgages - as the main borrowing category for households- can have two effects: a volume aspect of building more homes and extending or improving existing homes. It can also have a price effect whereby the money is used to fund a price increase in homes. When companies increase prices and demand levels stay equal, the cash flow position of companies will improve and they will usually make more profits. In the case of individual households, a house price increase does wonders to the equity net worth, but nothing for the owner-occupier's income level. A general house price increase means that the money received from a sale will only allow the acquisition of a similar sized property at the increased price as well. The price has gone up, but the benefits of living in one's own or an identical place have not changed. If individual households see no income benefit, one has to doubt the macro-economic value of such price rises. It certainly makes it more difficult for younger people to get a foot on the property ladder. The volume effect of new home building and extending or improving homes has a direct effect on economic activity. This latter effect supports economic growth.

In the U.S. over the period 2000-2004 individual households' liabilities more than doubled but even more strikingly is that home mortgages as a percentage of total household liabilities increased as well. In 2000 they represented 58.7% of all individual households' liabilities, in 2001 66.7%, in 2002 68.8%, in 2003 70.32% and in 2004 71.44%. The growth in home mortgages was even faster than the growth in total household liabilities.

In table 2 the average annual house price increases or decreases are provided for the U.S. as collected by the Federal Housing Financing Agency⁸ as well as the percentage volume changes in new housing starts.

Table 2: Average annual house price changes in % in U.S. (qtr3 over qtr3) over the years 2000-2012 and volume changes in new housing starts⁹

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Average Annual House Price Changes In %	7.3	8.4	6.16	5.61	13.0	12.0	7.73	1.8	-6.2	-3.8	-3.2	-3.7	+4.0
Volume Changes New Housing Starts In %	-4.28	2.79	6.78	8.10	9.58	4.11	-14.7	-23.9	-35.3	-35.6	3.70	3.22	32.9

1.4 Mortgage debt, house prices and new housing starts: the U.S. case

⁸ <http://www.fhfa.gov/?Page=14>

⁹ http://www.census.gov/construction/nrc/historical_data/

One should make a distinction between the need for new housing starts and the supply and demand for homes. In the U.S., as in other countries, the need for new housing starts is finite as it depends on the number of individual households. The current need is determined by population growth, changes in household composition and replacement of homes which have reached the end of their useful life span. In the U.S. the need for new housing starts hover around 1.6 million homes a year.

In the three year period 1999-2001 this need was fulfilled at an average increase in mortgage debt level of \$422 billion per annum. The need for homes and the supply and demand for homes coincided. With an average sales price of new homes in 2001 of \$213,200¹⁰ for 1.636 million new housing starts, this equates quite closely to the increase in mortgage borrowing levels of 2001. However in 2001 the U.S. benchmark interest rate was lowered during the year from 6% to 1.75% per annum.

The effects of this lowering of interest rates set of a home mortgage borrowing boom. In 2002 6.78% more homes were started than in 2001. If they had been build at the same sales price as in 2001, this would have required an increase in outstanding mortgage volume of \$450 billion. The actual increase in mortgage borrowing levels in 2002 was \$705 billion. Volume increases and house price developments started to deviate. For 2003 this was even more pronounced. With a volume increase of 8.1%, the mortgage amount needed for this would be about \$490 billion, however the actual mortgage amount increased by \$882 billion. This trend continued to and including 2006 when both in 2005 and 2006 home mortgages levels were increased by \$1 trillion in each of the latter two years, far above what would have been needed if house prices had not accelerated so much.

How irresponsible this borrowing binge was both from lenders' and from a borrowers' perspective can be seen if one compares the nominal median income development of individual households over the period 2000 to 2006¹¹. The latter income increased from \$41,186 in 2000 till \$47,262 in 2006, an increase of 14.75%, while the mortgage debt increased by 105.1% from \$4.814 trillion in 2000 till \$9.874 trillion in 2006.

One characteristic of home mortgage debt is that, once taken up, the level of debt can only be reduced out of a household's income, if the owner is at the same time the occupier. The only other alternative is a write-off by the lenders. When house prices started dropping -as they did from 2008-2011- the debt level did not move down. It continued at the same level irrespective of the value of the house. Table 1 showed that the reaction of individual households over this period was to pay back existing home loans and fund new home starts -albeit at a lower level- totally from incomes or savings. From the Balance Sheet of Households one can deduct that \$1.14 trillion was repaid by the end of 2012 compared to the outstanding level as per the end of 2007 or about 10.8%. In the meantime over 3.5 million homes were built for which financing was arranged out of incomes or out of savings.

For those who could afford to pay back their home loans, nearly all did, but there was a category of debtors who could not raise the cash to pay back their home loans. In the period 2008-2012 4.5 million homes were repossessed¹² and had to be sold back to the market.

The conclusion out of the above is that there is a finite need for new homes based on population growth, changes in households' compositions and the "replacement" factor of derelict homes. With a finite need a balance was found in the period 1999-2001 between volume and price movements, whereby \$422 billion in mortgage lending was sufficient to build 1.636 million new homes in 2001. In the subsequent years the amounts needed to finance the "asset inflation", became bigger and bigger, so much so that over the period 2000-2006 average household incomes increased by 14.75%, while the outstanding mortgage debt increased by 105.1%. The debt to income ratio did beat all standards of prudent banking. Regretfully no one in the U.S. -but also in other countries where the same process took place- had overall responsibility for maintaining a

¹⁰ <http://www.census.gov/const/uspriceann.pdf>

¹¹ <http://www.davemanuel.com/median-household-income.php>

¹² <http://www.statisticbrain.com/home-foreclosure-statistics/>

balance between individual income growth and the debt incurred by the individual households: both personal long term debt and the added burden of government debt.

1.5 The equity effect

Individual households have an equity level, just as companies have. It is the net worth level as described in the balance sheet of households as collected by the Fed in the U.S. and the Office of National Statistics in the U.K. It is the assessment of the assets held, the liabilities incurred and the net worth -the equity base-. If such an assessment could have been made on a daily basis, it would also have shown the income earned, how much was used for spending on the same day, how much had to be paid back on outstanding debts and how much was added to the savings.

When in 2007 and 2008, a large number of households in the U.S. became incapable of maintaining payments on their outstanding mortgage loans, it had an effect not only on banks in the U.S. U.S. banks had transferred the risks on a substantial share of such mortgages to others via securitisation. Secondly American banks and insurance companies had underwritten credit risks on such mortgages, through credit default swaps. The losses incurred were no longer restricted to the U.S. alone, but spread over banks, insurance companies and pension funds in many countries.

To understand the full impact of a loss on an outstanding loan, one has to consider the funding side of such loan, which is the savings amount which was provided by other individual households. The non-payment on a loan means that the equivalent value of the savings is written off and that no future interest payments will be made: a loss on principal amount as well as on future cash flows. A bank or a pension fund may hold the funds on behalf of an individual household, but the loss is a loss to other individual households, other than the borrower involved. The loss also affects the borrowing household itself. Some down payments will have been made, which are lost. In the U.S. such loss affected 4.5 million borrowers who lost their homes over the period 2008-2012. Such repossession and subsequent sales depresses house prices and new home starts as can be seen from table 2. What this does is that the effect of the loss is no longer contained to the individual borrower and lender, but is spread over all home owners and savers. An individual loss turns into a loss to all home owners, even for those who do not have a mortgage. Secondly economic activity is depressed as the repossession and sale of “second hand homes” competes with new home starts. The evidence as provided in table 2 is that such economic activity remained depressed for a number of years and only recently there has been an upturn. What, of course, also happens is that banks need to replenish their equity. Such equity capital is owned by the individual households. The losses force banks to -probably temporarily- rein in their lending not only to individual households but also to companies as the outlook for the sales levels of these companies will also be impaired. Unemployment levels will start to rise and the money losses on loans cause income losses to individual households. The financial sector errors did cause the latest crisis and the victims are the individual households, both through their wealth -equity- factors and through their incomes -unemployment-.

To put it in perspective: in 2008 in the U.S. individual households made a loss of \$12.6 trillion to their equity base. On top of this they also lost their “dividend and interest” income, which if one takes the previous 7 years as a guidance worked out at \$3.3 trillion per annum. The total loss came to \$15.9 trillion. The U.S. GDP value was \$13.955 trillion in 2008; therefore the loss represented 111.2% of GDP value. A similar calculation for the U.K. showed an individual household loss of 90.3% as compared to the U.K.’s GDP value in 2008.

A conclusion which has been rarely drawn, is that the collective losses incurred by the individual households far outstripped any losses which the banks made in 2008. However rescue efforts were not directed to the individual households, but to the banks. It is the same case in Europe where bank rescues and government rescues have taken priority over rescuing the individual households. In Europe for most countries the current unemployment situation has no historical equivalent, apart from the Great Depression period.

When irresponsible lending practices by banks and borrowings by governments lead to equity losses and subsequently to income losses for individual households, the solutions need to focus on how such income losses can be reversed, not for the banks or for the governments, but for the individual households.

2. The income effects for individual households: the Income Gap approach

The reactions in an economy to a fall in house prices caused by excessive lending practices include banks reining in their credit exposure to all individual households and to private sector companies. Private sector companies will rein in their investment and employment levels as demand for their goods and services drops. The drive to return to profits by the private sector leads to a series of “losses” for the individual households. Such losses can be quantified under the collective concept of an income gap.

An income gap can be defined as a shortfall in purchasing power to buy all goods and services which could have been produced if all available manpower would have been fully utilised.

There are four variables which determine the outcome of the income gap: the number of people employed, the number of people unemployed, the changes in the labour force participation rates and the income increases of those employed compared to the consumer price inflation levels. Examples will be given for the U.K. and the U.S.

2.1 The income gap and employment and unemployment levels

In the U.K. in 2006 29.025 million people had a job and the labour force participation rate was 72.8% of all individuals in the age group 16-64 years. In 2006 1.674 million people were unemployed, which was 5.4% of the labour force.

When the labour force participation rate drops, it means that less income is generated by the active labour force. For instance take the case of 2009 as an example. In 2009 the actual employment level was 28.960 million people and the labour force participation rate 70.9%. If the rate of 72.8% had been maintained, 776,000 more people would have had a job. At an average income of £23,410 per person, this loss in income amounted to £17.95 billion which was equal to 1.28% of nominal GDP in 2009. Add to this that -compared to 2006- 720,000 more people were registered as unemployed. This meant that unemployment benefits had to be paid for the unemployed, increasing government expenditure by 43% for the unemployed category. The additional unemployment benefits added up to £2.4 billion in 2009 or combined with the change in labour force participation rates a total income loss of £20.35 billion which equalled 1.46% of nominal GDP in the U.K. in 2009.

The income loss by those who could have worked, but could not get employment, as well as the costs of unemployment benefits, leads to a double loss for individual households still in work. The collective labour force earns less -for 2009 it was £17.95 billion less to be precise- and it has to pay more in taxes to support those out of work -again £2.4 billion more in 2009-. One should be reminded that there is no value judgment in this statement; the discussion is not about whether unemployment benefits should be paid and for which amount; this is a political choice. The income loss reflects the actual impact on individual households' incomes for those still in work -the economic impact-.

An element which is often overlooked is that such income loss cannot be recuperated in future years. It is a time related loss: the U.K. labour force did not work and has not worked at full capacity since 2009. The labour factor is different from the production capacity of machinery. Machinery can usually be used in future years until a technical collapse occurs. Since 2009 in the U.K., the labour force participation ratio has not reached 72.8% again and the unemployment rate has not dropped till 5.4%. In the U.K. since 2008 losses on incomes have been accumulating year after year, reducing the prospects for economic growth, the financial health of banks and companies and the health of the U.K. government's finances.

One does not have to make a precise calculation for countries like Spain, Greece and Portugal where unemployment rates have soared, to understand how the very substantial income losses have worked their way into their respective economies.

Just one more country example: the United States. In December 2006 the size of the U.S. labour force stood at 152.732 million people of which 145.970 million were 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 persons and 15.095 million unemployed or 9.9% of the labour force. The labour force participation ratio 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. The latter group are in the right age group 16-64 years, but are no longer actively seeking jobs. In the period December 1997-December 2006 the U.S labour force participation rate dropped from 67.2% till 66.4%. However since 2007 the drop has been much more severe from 66.4% till 63.5% in February this year (2013). This is unlikely to all originate from demographic factors, especially in the U.S. where it is quite common to work past retirement age. The income losses due to the reduced labour force participation rates are substantial. For instance, if in 2009 the labour force participation rate had been sustained at 66.4%, some 1.8% or 2.756 million people could have earned additional incomes. The amount would have been \$45,155 -the average employee income in the private sector- times the 2.756 million, which equals \$124.5 billion in lost income. The rise in unemployment figures from 6.762 million in 2006 to 15.095 million in 2009 -an increase of 8.333 million led to additional unemployment benefits of some \$126.5 billion in income losses to the working population. From these two factors alone, the U.S. economy suffered an income loss of 1.8% of nominal GDP in 2009.

Again, like in the U.K. and other countries, in the U.S. the income losses accumulate. However in the U.S. the unemployment rate has come down to 7.7% in February this year (2013). In the U.K. the latest data indicate a stagnating unemployment rate at 7.8%, while in the Eurozone countries the unemployment rates are still rising.

2.2 The income gap and inflation levels

Inflation -price rises- have a negative effect on the value of the monies earned through employment as well as on the value of savings. In the next table an overview is given for the U.K. for the period 2000-2012 for the retail price index, the average annual nominal earnings and the average annual real earnings.¹³

Table 3: Retail Price Index, Average Annual Nominal Earnings, Average Annual Real Earnings U.K. 2000-2012

Year	RPI (2010=100)	Av. Annual Nominal Earnings (£s)	Av. Annual Real Earnings (in 2010 £s)
2000	76.176	16,545	21,719
2001	77.526	17,403	22,448
2002	78.818	17,953	22,778
2003	81.098	18,525	22,843
2004	83.513	19,331	23,147
2005	85.871	20,215	23,541
2006	88.615	21,164	23,883
2007	92.414	22,217	24,041
2008	93.256	23,019	24,683
2009	95.589	22,975	24,036
2010	100.000	23,504	23,504
2011	104.860	24,087	22,970
2012	108.100	24,472	22,639

¹³ <http://www.measuringworth.com/ukearncpi/>

In the period 2003 till 2008 the average annual earnings went up by 3.7% and inflation by on average 1.6% per annum, which left the average earner with an increase in real earnings before tax. However since 2009 inflation rates increased and the increase in nominal earnings slowed down. In real terms this meant a decline in income levels to the extent that the 2012 average earnings in the U.K. after inflation were no higher than in 2002.

The disposable income levels are also influenced by government tax takes. In fiscal year 2002-2003 the U.K. Government's expenditure levels were at 38.5% of GDP and in fiscal year 2011-2012 such expenditure had gone up to 45.4% of GDP. The fact that the U.K. Government had to borrow a substantial part of such expenditure does not take away the responsibility of individual households to pay back such expenditure.

The conclusion for the U.K. is that since 2009 the real incomes of individual households have been dropping and the tax obligations have gone up, a scissor movement which leaves individual households in a much weaker position to expand consumption and borrowing levels.

For the U.S. the following table shows how the production workers hourly compensation in nominal dollars compares with the U.S. inflation levels over the period 2002-2012.

Table 4 Production Workers Hourly Compensation and U.S. CPI levels 2002-2012

Year	Production Workers Hourly Compensation (Nominal dollars annual increase %)	Consumer Price Inflation %	Households Gain (+) Households Loss (-)
2002	8.57	1.58	+++
2003	2.47	2.28	+
2004	7.10	2.66	+++
2005	3.68	3.39	+
2006	1.88	3.23	--
2007	2.88	2.85	+/-
2008	3.19	3.84	-
2009	1.08	- 0.36	++
2010	1.11	1.64	-
2011	1.67	3.16	---
2012	1.00	2.07	--

This table only gives a partial picture of what happened in the U.S. Firstly it deals with those in work and not with those who could not find jobs any longer. The income shock for those who lost their jobs was significantly more extensive than for those still in jobs or those in self employment. Secondly from 2009 the U.S. Government budget deficit increased from \$458 billion in 2008 to \$1.413 trillion in 2009. In 2010 it was reduced somewhat to \$1.293 trillion and stayed practically at this level in 2011 and 2012. This all means that U.S. individual households not only saw their real income levels drop over the last three years, but also simultaneously saw their debt obligations increase sharply as a consequence of the budget deficits run up by the U.S. Government. Again the scissor movement occurred as was the case in the U.K.: higher debt levels combined with real income drops.

3. The equity gap

An equity gap for individual households arises when savings are not used to the benefit of savers to produce an income: interest and dividends.

In this connection it is important to clarify what are productive assets and which assets do not produce an income -the non-productive assets-. As explained above mortgage debt only adds to an income in an economy if it was used to fund the building costs of new homes or the renovation or extension costs. If existing homes go up in price, such price movement does not create an income for the owner-occupier as his need is to have shelter for his household, either in his current home or another home of similar size and price. What makes things worse is the situation whereby individual households increase their home mortgage borrowings based on higher home prices, rather than on basis of higher incomes. This may lead to a temporary push in demand, but with the added risks of higher default levels in later periods. Higher default levels lead to more volatility in house prices, which is especially harmful when house prices start dropping.

The other main type of debt -government debt- represents assets, which generally speaking also do not produce an income, neither for the government itself nor for any individual household. On the whole government debt should be classified as being of the non-productive asset class. This is not to say that education, defence, police, justice, health care and social security transfers have no value, but only that borrowing for maintaining spending levels for these activities does not produce an income in future. If it did, why not borrow 100% of government expenditure?

In summary: productive assets are assets which create an income in current and/or future years. All lending and other funding sources to companies are included in the productive financial asset class. For individual households only the part of a mortgage debt is included, which helps other households to gain an income. House price rises do not fall into this category and therefore funding such actions from financial sources other than one's own, creates non-productive assets. Government spending adds to creating an income for other households, but if such funding is not based on transfers from individual households in the same period through taxation, the debt created does not add to income in future years as it is based on charging one section of the individual households to pay another. Such financial assets are by nature non-productive. The interest income created equals the interest expense of other households.

The real challenge in an economy is to maintain a balance between the growth in productive assets and the non-productive assets. Both are financial asset classes, but the non-productive assets do not generate an income for individual households.

3.1 Interest rates and productive and non-productive assets

A key question has to be raised about the appropriate interest rate levels for different financial asset classes. Should there be one level suits all or should there be different levels?

Take the case of home mortgages in the U.S. Over the period 2000-2006 incomes increased with 14.75% and the mortgage debt increased by 105.1%. How drastic an increase in interest rates would have been needed to stop mortgage debt accumulating at a much slower pace? A second question would be, if such interest rates were raised to a sufficient degree to stop the home price inflation level from rising substantially above the consumer price index, what would happen to business sector borrowings? Would the business sector not be punished for actions which had nothing to do with them: the changing level of individual households' debt? Another question is why is it that the level of government debt is increasing quite rapidly, like in the U.S and the U.K. and the interest rate these governments pay for their own debts has been dropping substantially?

Concentrating on U.S home mortgages again, in 2001 the base rate was lowered from 6% to 1.75%. Of course this had an effect on home buyers' behaviour. However taking out a mortgage loan has two aspects: the repayment of principal and the applied interest rate. For most individual households it will take some thirty years to repay an outstanding mortgage. It is a very long term commitment. A short term interest rate reduction has some effect, but if it is not guaranteed for thirty years, home owners and the lenders are exposed to interest rate risks, which may lead to all sorts of defaults. What individual households need is a predictable long term cash outflow to pay for their mortgage. Fannie Mae and Freddy Mac were set up to achieve such long term funding at a fixed rate. What the U.S. economy also needs is a balanced growth between income developments and home mortgage funding. Can this be achieved by a one interest rate fits all approach? In my view non-productive asset growth has to be treated differently from productive asset

growth. In the case of home mortgages over the period 2000-2006, credit volume levers should have been built into the system, either through temporary increases in bank reserve requirements or through outright penalties for the lenders for creating excessive market growth levels in home mortgages. Both would have had a temporary cost effect on the supply of mortgages which would have slowed down the pace of lending. The latter measure would have penalised the most aggressive lenders more than the conservative ones.

For government debt the interest rate picture is already one of many interest rates applied. How quickly can U.S. individual households repay the over \$16 trillion government debt? Such debt has a potential repayment period of well over 70 years, as otherwise the whole U.S. economy would come to a halt if any shorter period would be chosen. The U.S. government, in line with many other governments, uses a mixture of debt maturities and a mixture of interest rates. There is not a single applicable interest rate for such debt and none of the interest rates applied do reflect the fact that the ultimate maturity of the debt is probably 70 or more years. All this is possible due to the liquidity level in the U.S government bond market, whereby one lender replaces another on a continuing basis. With the U.S. individual household net worth level of \$66 trillion as per the end of 2012, this can still be seen as a very safe bet. The “equity” level of the individual households can well absorb such government debt. However -just as in the case of home mortgages- one has also to consider the changes in the individual households’ incomes. If government debt increases faster than individual household’ income levels, it will mean that each marginal dollar in tax receipts includes a larger percentage -larger than the household’s income growth percentage- for interest payments. This can be called the interest effect. Such effect reduces the effectiveness of government expenditure on economic growth. The moment the U.S., or any other government for that matter, also starts to reduce their absolute debt level the impact on economic growth will be quite substantial.

In my opinion the logical manner to deal with debt of different groups of obligors -a government, the business sector and the individual households- is to create separate interest rates or other appropriate measures for each group. For the business sector the aim is to ensure that for this sector there is medium term fixed rate financing available at a level slightly above the consumer price inflation level. If needed a central bank could drive down the costs of lending to the business sector by refinancing such business loans made by the banking sector at a specified interest rate: the medium term business interest rate.

For managing the home mortgage levels the central bank could have the powers to rein in such lending when the growth in home debt substantially exceeds the income developments in a society. A bank reserve requirement arrangement probably combined with a penalty system would work most effectively. Also the arrangements made available through Fannie Mae and Freddy Mac -both very successful in ensuring that home mortgages are of a fixed rate nature for thirty years- could be more aligned with income developments.

Finally a government, in setting its own borrowing interest rate, needs to keep in mind the different needs of its constituents: the business sector and the individual households. The practice of quantitative easing used by both the Fed and the Bank of England has been based on the assumption that buying up one type of outstanding debt -gilts or government bonds- will lower the yield on corporate bonds and shares and will lower borrowing costs to individual households. Pension funds and insurance companies are supposed to replace the government debt acquired by a central bank with other investments. The lower yield on the latter assets would make it cheaper for businesses and households to borrow, so that they can absorb more debt and start the economy to grow again.

The whole justification of quantitative easing has been based on the price -the yield- of debt instruments and on the money available to acquire such debt titles. It has not been based on individual households’ and business sector’ incomes and debt levels, not on existing savings levels directly and indirectly available to individual households and also not on existing demand levels in the housing market or in the business sectors in general. It also bypasses the question of how much of these monies will stay in a particular country, as capital markets are the most internationalised of all markets. What the above analysis has shown is that individual households suffer from an income gap and an equity gap. The income gap has caused U.S. households to repay more than 10% of outstanding home mortgage debt since 2008. The equity gap has shown that compensation for savers below inflation levels causes repayment of debt rather than incurring more debt. In the period 2008 till to-day the costs of existing outstanding debt to households outweigh the

benefits of taking on new loans. One should note that individual households on both sides of the Atlantic have experienced below inflation level wage and salary increases over the last few years and are therefore already hard pressed on the income side. The effects of an equity gap can be illustrated by the fact that individual households in the U.S. have reduced their total liabilities levels from \$14.11 trillion by the end of 2008 till \$13.45 trillion by the end of 2012 and percentage wise they have reduced the long term mortgage debt by even more. The Fed's acquisition of debt titles to the extent of over \$2 trillion has not had any incremental effect on household liabilities.

The effect of QE has also been zero on company values. By the end of 2007 the value of corporate equities stood at a nominal \$9.63 trillion and by the end of 2012 the value was \$9.77 trillion, notwithstanding inflation levels above zero for most of this period. Again if borrowing costs for companies did come down, which they did, it certainly did not have any effect on the valuation of U.S. companies. What is more, U.S. conglomerates are reportedly sitting on large piles of cash and are not very much inclined to invest as long as consumer demand is not picking up. In the meantime U.S. government debt is increasing with about \$1.2 trillion a year.

The situation in the U.K. is even more pronounced. The Bank of England has purchased £375 billion of mostly government debt (gilts) out of a total U.K. government debt level of slightly over £1 trillion. Households' liabilities in the period 2007-2011 -the latest available data- did not show any significant change. They were up in nominal terms by £20.7 billion over this period on a total amount per end 2007 of £1.52 trillion notwithstanding significantly higher inflation levels in the U.K. than in the U.S. Total share values were completely identical per end of 2007 as per the end of 2011 at £604 billion.

One has to express serious doubts about the effectiveness of QE. The thesis that replacing one type of debt for another has had any beneficial effect on company values or on individual households' borrowing levels cannot be justified with the statistics which are provided. Rather the contrary. What QE has done, as the Bank of England has acknowledged, is that it has increased the inflation level by 1%. What QE has also done is to widen the equity gap for individual households, by reducing the interest payments to these households in three ways. The first one applies to the volume of interest payments. When one takes out £375 billion out of the gilts market, it means that for these £375 billion, the individual households no longer receive the interest payments, an income loss. Secondly the return over any additional government borrowing has also been brought down, a second type of income loss. Thirdly the price of the alternative investments was supposed to go up. However such price effect never happened. These are three negative effects of QE. In the U.K. many more households are on interest only or on standard variable mortgage rates for their home mortgages, as compared to the U.S. Of course QE has brought down the longer term borrowing rates, not just for the U.K.s' government but also for the rest of the households. The real dangers lie in the reverse process when interest rates start to rise.

What is important to state is that in the period since 2008, individual households already experienced tremendous losses on their net worth and on their future income flows from the lost asset values. The QE policies extended such losses even further. This does not make sense in a period when households' incomes and their equity base are already under severe pressure.

There are solutions to these dilemmas as will be set out in the next section.

4 Possible remedies.

The macro-economic objectives for countries could be formulated as follows:

- Avoid a rise in house prices far in excess of growth of individual households' incomes;
- Set up a system of 30 year fixed rate mortgages for individual households, in line with their mortgage period payback obligations;

- Correct the income gap by using a small part of existing households' savings to add to consumption levels
- Correct the equity gap by issuing index-linked government bonds
- Create a business sector medium term fixed interest rate mechanism
- Turn banks into true risk taking enterprises by paying systematically to all fund providers
- Last but not least, maintain a balance of between the growth of productive assets and non-productive assets.

4.1 Avoid rise in house prices far in excess of growths of individual households' incomes

The key element to manage developments in house prices is not to control house prices directly but to focus on the debt created to fuel the house prices to rise. If like in the U.S. average incomes increase by 14.75% over the period 2000-2006 and mortgage debt increases by 105.1%, one does not need to be a banker to see that debt-to-income ratios have far exceeded any reasonable levels. If like in the U.K. the household debt increased over the same period by about 100% according to a Bank of England report¹⁴ and average nominal incomes by 27.9% (see table 3), then again one may see that the debt-to-income ratio has exceeded any reasonable level. This process coincided with the value of the housing stock in the U.K. increasing by some 88% over the same six years.

The question "why" to avoid an excessive rise in house prices can actually be answered quite simply. In doing so one avoids the losses made to the equity base of individual households due to the inability of a number of individual households to keep up mortgage payments out of incomes. The latter factor creates "losses" to other individual households, both in equity and in future cash flows. Such losses affect banks -owned by individual households- and they affect house prices negatively. The drop in house prices does not only affect the borrowers but all home owners. New housing starts will be reduced as the repossessed homes are returned to the supply of homes. Economic activity will be slowed down as companies try to restore their profitability levels -the income gap phenomenon-. Government deficits will increase.

As stated above, if a volume of lending to individual households exceeds their ability to repay the debt and simultaneously forces up house prices, then a solution cannot be found in adjusting the applicable interest rates upwards. The latter action would affect the cost base of the business sector. Volume control can be achieved by managing the supply side of funds for mortgage lending. There are at least two ways to achieve such goal. The first one is by changing the reserve requirements for banks holding a mortgage portfolio. The second one is to impose fines to the sellers -the mortgage originators, the banks and the investment banks selling such mortgages to third parties. Of course such system could start with a traffic light system. Green stands for continue your home mortgage lending activities, amber stands for slow down and red stands for excessive speed and remedial actions.

Managing specific lending levels, like the lending volume for home acquisitions, involves all institutions (banks etc.) collectively, which carry out such lending levels. It represents a system risk, rather than an individual bank risk, notwithstanding that some institutions might have been more aggressive than others. In carrying out above managerial activities, the system risks for individual households and for the banking system will be reduced. There will be fewer losses to overcome.

4.2 Set up a system of fixed rate 30 year mortgages for individual households

¹⁴ <http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/qb070105.pdf>

The mortgage loan period over which nearly all individual households can afford to pay back their mortgage is some 30 years. Therefore there is the need to create funding mechanisms which take such repayment period into account. A second consideration is to expose individual households to the least possible interest rate risks, so that they can plan their cash outflow out of their income base for a long period to come. Banks do not have 30 year fixed rate funding at their disposal; some might take the maturity mismatch risks. However from a prudent banking perspective such mismatch risks can put the whole bank at risk of default. Quite a few banks have learned the hard way that such actions can be very risky. What banks have done is to offer standard variable interest rates based on the central banks base rate. What happened in the United States in the run up to 2007 is that banks rolled up part of the interest payments due for the first two years, so that a low attractive interest rate could be offered, followed by a steep hike in interest rates. In the U.K. a substantial number of mortgages are interest only mortgages, which do not foresee in a repayment plan, other than by selling the property.

All these lending methods expose individual households, but also the whole economy to interest rate risks (followed by house price risks and full blown recession risks) which are unnecessary and can be avoided.

Any country has the option to set up a National Mortgage Bank, like Fannie Mae and Freddy Mac in the U.S. Such an NMB can be set up as a semi-state owned organisation, which means that all individual households are the joint owners and collectively liable for the NMBs' obligations. Funding can be attracted in the same manner as Fannie Mae and Freddy Mac attract their funds. One difference to the latter two organisations can be that such NMB does not take the client credit risk; this should be the activity of the mortgage providers, usually the banks; they would charge a margin over the funding provided by the NMB.

In 2008, both Fannie Mae and Freddy Mac had to be rescued by the U.S. Government. The reason was that both organisations took the funding plus the credit risks on selected clients and a steep drop in house prices was not foreseen in the scenarios. By having banks judging the income risks and the NMB the funding risks, one gets the best of both worlds. Banks can always participate in the various funding activities of a National Mortgage Bank. What is equally important is that a long term funding institution, like an NMB, can help avoid the boom-bust scenarios in home mortgage lending which occurred in the period 2000-2008.

4.3 Correct the income gap by converting a small part of individual households' own savings into consumption

A structural change has taken place both in the U.S. and in the U.K. This change has been the accumulation of financial resources in pension reserves. Pension reserves are assets owned by individual households and invested in financial assets. In line with the objective to build up a pension pot sufficient to cover the income needs over the retirement period, the build up sum of financial assets is only very gradually released back to incomes. This all means is that individual households have substantial financial savings, but are unable to access any of such savings, even at times when an income gap occurs.

How important these savings are can be illustrated by the most recent figures in the U.S. At the end of the fourth quarter 2012 pension reserves stood at \$14.06 trillion, while all liabilities by individual households, excluding government debt, stood at \$13.45 trillion per same date. Individual households in the U.S. have been saving very substantially over the period 2008-2012. As per the end of 2008 these figures were: pension reserves: \$10.51 trillion and collective household liabilities \$14.11 trillion.

For the U.K. the figures are equally striking. At the end of 2011 the insurance technical reserves stood at £2.21 trillion, of which pension reserves at over £2 trillion, and total household liabilities -excluding government debt- at £1.54 trillion. Per end 2008 the comparable figures were insurance technical reserves: £1.90 trillion and financial liabilities: £1.55 trillion.

The assets of nearly all pension funds are practically completely invested in marketable financial assets. Pension funds allocate their financial resources over a portfolio of shares, bonds, mortgage backed securities or other securities. Such investments represent the liabilities of banks, companies, government entities and, to a very limited extent, individual households. Such investments help economic growth, but only in periods that individual households do not experience the income gap phenomenon. Collectively pension funds are pro cyclical institutions, in good times they raise the pay-out to pensioners, in bad times they reduce the pay-out. Under defined benefit schemes companies have to cough up additional financial resources in bad times in order to close the pension deficit; not a particularly intelligent use of company resources. In conclusion individual savings in pension funds are not used to help close the income gap; in effect they help to widen the gap when such a gap occurs.

The phenomenon of the income gap was caused by companies adjusting their output levels to the lower demand levels after the 2008 economic crash. Companies tried to improve their efficiency levels as a result of lower prospects for profits. However, from a macro-economic perspective, such actions are self defeating. Companies reduce their intake of employees and thereby reduce the monies available to maintain demand levels. Companies reduce their financial risks by borrowing and investing less in plant and machinery. The result is that companies benefit from becoming leaner and meaner, but that individual households suffer from reduced opportunities to earn an income. Also governments will receive less tax revenues and generally see their deficits increase. An increasing number of individual mortgage borrowers will become unable to keep up their mortgage payments, more companies will go bankrupt, and government debt keeps on increasing. The growth in productive financial assets is reduced and the growth in non-productive financial assets accelerates, including the losses encountered on financial assets. This is, macro-economically speaking, a very inefficient manner to adjust an economy.

The question should be raised can the financial muscle of pension funds be used to adjust an economy in a more efficient manner? Why are pension funds assets so important? Firstly it is the scale of such savings levels. Both in the U.K. and in the U.S., but also in countries like The Netherlands and Australia such saving levels exceed the total volume of individual household liabilities, excluding government debt. They are now at a level where they are close or even above annual GDP levels.

Secondly pension funds assets are supposed to help secure a future income level for individual households. However does the future not start to-day?

With their giant collective size, often a number of times annual government revenue levels, one has to wonder why not more thought has been given to the role that such savings institutions can collectively play to redress the income gap. There are some recent indications that discussions are going on. In a bulletin issued on the 14th May 2013 The Dutch Central Bank (DNB) has suggested that due the reduced tax incentives given to pension savings in the Netherlands from 2015 onwards and the extended savings period for younger people, an amount of Euro 9 billion will not be needed from the pension reserves built up by Dutch pension funds. The Dutch Central Bank suggests in its bulletin¹⁵ to use these funds for stimulating economic growth by returning such funds to the pension savers now in order increase consumption. This is a suggested specific solution for a pension surplus which arises out of a change in regulations.

In more general terms I suggested in several previous papers to use “economic easing” as a method to overcome the income gap. Why would it be to the benefit of pension savers and pension funds to participate in such a scheme? The purpose of pension savings is to provide an income in future years. The future is however closely linked to the current performance of the financial assets, especially if there is no backing from companies to overcome any shortfall in pension reserves. Defined contribution schemes do not have such backing, but defined benefit schemes are also at a disadvantage to companies when the latter have to pledge substantial financial resources at times of low or no economic growth. Money which could be used for investments is redirected to add to savings.

¹⁵ <http://www.dnb.nl/nieuws/nieuwsoverzicht-en-archief/dnbulletin-2013/dnb291008.jsp>

In 2008 pension funds in the U.S lost practically \$3 trillion of their savings values and this was after the pension contributions of 2008. This was a 22.4% value loss over the previous year. If, in 2009, the pension funds would collectively have decided that the income gap situation was avoidable if their savers and pensioners got a pension dividend - a return of a small percentage of the total pension savings, say \$150 billion or 1.5% of total savings- than a series of effects would have taken place. Such pension dividend would have increased the median household income of \$ 49,777 with \$1350 or 2.7% for the 113.6 million households. If all was used for consumption purposes than the economy would have gotten a boost of 1.08% in consumer spending. No individual household would be worse off as only their own savings were used, so no additional borrowings. Companies would not have panicked as much as they did in 2009 and would have kept more employees on the payroll and still made more profits. The U.S. government would not have experienced such a drop in tax income and the deficit would have been significantly smaller. There would have been no need for quantitative easing, which in the U.S. alone absorbed more than 13 times the amount which would make “economic easing” effective. The savers would at least have had a positive return over inflation levels. The real economy in which incomes are earned would have been the winner.

What about the pension reserve pots, the sources of future pay-outs? Would the pension funds be the losers? Pension funds benefit from higher levels of economic growth, as do individual households, companies and the government. However if a system was devised that guaranteed that pension funds would be compensated if their portfolio value growth was less than the 10 year government bond yield over a period of three years, than it would have been more likely that pension funds would have participated in the national interest. Such risk is similar to the U.S. government increasing its debt level. All individual households will ultimately have to pay. As it turned out the pension contributions plus the value increases did already increase the values of pension funds by 34.3% over the period 2008 till the end of December 2012 an increase of \$3.6 trillion.

If the pay outs would have been restricted to all participants in funded pension schemes (savers and retirees), than the income increase for those households within a funded pension scheme would have been higher, as those who are not in such schemes would not receive a cent. This would be a strong incentive to join a pension scheme as such “economic easing” exercise might be repeated if the income gap continued to exist.

The benefits to overcome the income gap as soon as it appears should be clear. A much reduced loss in jobs; higher combined incomes for all households; more production output and higher company efficiency ratios; lower government deficits and a lower rate of growth in the government debt level; also less bank losses.

Even now a boost in income to help consumption levels would speed up the recovery period. The quicker an economy is back using all its resources, especially its labour force, the better it is for all types of households.

4.4 Correct the equity gap by issuing more index-linked bonds

In the above a distinction was made between productive financial assets and non-productive ones. The difference was that the first category created an income in the current and future years for individual households and the latter did not. In the case of government debt, the payment of interest over such debt is left to individual households paying the adequate amounts as part of their tax bills. The holders of such debt, often the same individual households owning such debt through their pension pots, receive such tax back in the form of an interest payment. This is a transfer payment system that does not make the collective of individual households any better off. No income is created that does not represent an expense of other individual households. Does it make any difference if interest is paid 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. In this connection it is interesting to study the pension fund report of the Bank of England¹⁶. 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

¹⁶ <http://www.bankofengland.co.uk/about/Documents/humanresources/pensionreport.pdf>

index linked gilts and 14% were corporate index linked assets. The Bank of England's pension fund trustees clearly believe that future incomes 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 Office¹⁷ 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.

The proposal would be to issue say 80% of all U.K. and other government debt in index-linked bonds for the benefit of the pension funds and for the governments themselves. Index-linked issues allow longer maturity periods, which is more in line with the character of government debt. For most countries with a government debt approaching or over 100% of GDP, the potential repayment period of such government stretches out over well over 70 years, if not longer. In the U.K. long dated index-linked gilts pay 1 ¼ % over inflation levels.

The same Bank of England, but not its pension fund, bought up conventional gilts when it undertook its QE activities to the extent of £375 billion.

4.5 Establish a medium term fixed interest rate instrument for the business sector

Businesses use individual households' monies to create output with the objective to earn a profit. Sometimes it is the form of equities and more often than not it is also in the form of debt. For business planning it is important to know the current interest rate, but more importantly whether debt funds are available and at which fixed costs. When economies need a boost, central banks in co-operation with the respective governments, have several options. They can apply a "Funding for Lending Scheme", as the U.K. Treasury has set up with the help of the Bank of England. In the U.K. this scheme is not restricted to business households only, including Small and Medium Sized enterprises. Promotional measures for individual households are best separated from those for businesses. In the U.K. banks and other financial institutions are and will be incentivised to extend their lending activities to the company sector. What is equally important is not just availability, but also the terms of the loans. Here governments and central banks can help companies to obtain medium term fixed rate loans, whereby banks can swap their variable interest rate book into a fixed rate one offered through interest rate swaps from the central bank or government.

4.6 Turn banks into "true" risk taking companies

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 M&A and stock market listings, for instance.

¹⁷ http://www.dmo.gov.uk/index.aspx?page=Gilts/Portfolio_Statistics

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 made 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 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 -in a declining time scale- that their judgments are correct. If not they will need to buy back part of the issued stock for instance.

Collectively banks make judgments which affect all banks. The role of the economy managers - regulators, central bankers and finance ministers- is to maintain a balance between the growth of productive assets as compared to the growth in non-productive assets. This is the subject of the next section.

4.7 Maintain a balance of between the growths of productive as compared to non-productive assets

The key in maintaining a balance between the growths of productive as compared to non-productive assets lies in the debt obligations taken on and/or imposed upon the individual households by their respective governments. Debts which create an income for other households -the productive assets- include household debt for the acquisition of cars and of other consumer goods. They also include mortgage debt to acquire or improve or extend homes, but only to the extent that such debt does not inflate house prices. All debt to

individual companies, either in the production or services sector -except for financial institutions- can be classified as productive assets as the companies' aims are to make profits, which represents incomes for individual households, either directly as employees and/or indirectly as a shareholder. As stated before government debt can be classified as non-productive assets for the holders of such debt as those who pay -individual households- transfer identical amounts to those who receive government debt payments.

In the above the experiences in the U.S. and the U.K. were quoted. These experiences showed that excessive credit growth -excessive to the extent that such growth level far exceeded the income growth of individual households- was to blame for the current economic woes. Regretfully the result was that many households could no longer afford the mortgage payments, leading to a mortgage backed securities collapse and banks in deep trouble. This led to individual households repaying their borrowings, house and share prices dropping and companies reducing their capacities, including laying off sizeable numbers of staff. Governments saw their deficits increase rapidly.

In terms of productive and non-productive assets, the excess lending created a substantial increase in non-productive assets: financing the rise in house price rises rather than funding new housing starts. As these price rises were funded by borrowings, higher and higher amounts were needed to get on or move further on to the property ladder with income growth lagging further and further behind. The households' gearing ratio went up and up till breaking point and substantial losses on savings were made. Such losses in banks combined with sharp drops in share and in home price levels caused the economy to retract. The financial losses encouraged the economy to move further away from a balanced growth path of productive assets over non-productive ones. Companies retracted and governments increased their borrowings substantially.

This economic situation can be overcome, if one accepts the need for boosting productive assets. The most effective manner is by using a small part of the pension savings as a temporary boost to demand levels. This does not lead to more indebtedness for individual households as these savings are already their own savings. It needs collective action from the pension fund industry as it cannot be achieved by one or two pension funds alone.

Both the U.S. and the U.K. are in the fortunate position that they have huge pension savings. Other countries like Spain do not have such resources. They need help from the richer neighbours in the Eurozone. The adjustment path that is currently followed, focussing on governments and banks, does nothing to redress the balance between productive and non-productive assets. In the current situation non-productive assets are increasing and productive assets are retracting. Individual households need incomes and jobs. For countries like Spain they need an income boost for individual households from abroad. The amounts are much smaller than bank or government rescues, but will be much more effective. Productive assets will be expanded and non-productive assets will grow less rapidly. Employment levels will be boosted and the economy will be on the mend. For Spain with a 2012 GDP level of just over Euro 1 trillion, the amount needed in year one is around Euro 25 billion, a much smaller amount than the money provided for rescuing Spanish banks. Such transfers from the richer countries will also increase demand for imports by Spain, setting off a positive chain reaction in Europe.

Putting productive assets and non-productive assets as well as incomes for individual households at the heart of economic analysis will lead to the right kind of adjustment strategies. Individual households have limited economic options, but collective choices can turn economies around.

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Tables and references:

Table 1: U.K. and U.S. Changes in individual households' and Government borrowing levels as compared to GDP over the period 1996-2012

Table 2: Average annual house price changes in % in U.S. over the years 2000-2012 and volume changes in new housing starts

Table 3: Retail price index, Average annual nominal earnings, Average annual real earnings U.K. 2000-2012

Table 4: Production workers hourly compensation and U.S. CPI levels 2002-2012

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