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households - a tale of vulnerability and
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By

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2nd September 2016

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Introduction

Working class households in the U.S., as in a number of other countries, have a weak hand. When the ill winds of an economic downturn blow, their employment chances, their income levels, their chances to build up some savings for a future retirement income and their chances to own a home are all materially diminished. An economic downturn can easily be caused by events in the home mortgage markets that, at the time, appear to amount to little more than benign neglect.

In the U.S., the growth in the level of home mortgages could (and should) have been managed during the period 2002-2003 and even more so during 2004-2005. Neither the Fed nor the Treasury managed the rapid growth levels in the volume of mortgage lending. The financial crisis of 2007-2008 was the direct consequence of such benign neglect. Much has been written about the banking crisis and how such a crisis could have been avoided along with the need for taxpayers to bail out banks or the wider financial markets. Less attention has been paid to the short and long term effects on working class households, notwithstanding the fact that such households bore the brunt of the impact of the crisis through a loss of jobs, through a reduced or even negative income growth and through markedly increased levels of foreclosure proceedings and home repossessions. Their chances to build up an adequate pension reserve were also undermined. On top of this, U.S. government debt levels doubled over the period 2008-2015, storing up more problems for future household income levels.

The reaction of the Fed to the financial crisis, other than helping nearly all banks to survive, was to set a policy of ultra low interest rates plus engaging in quantitative easing. Overlooked by the Fed and others was that rather than managing the economy through setting the price of money, a management control system over mortgage credit volumes would have been much more effective. Some of the consequences of these policies as well as the proposals for future control systems will be discussed in this paper.

Working class households set themselves apart from the more affluent ones in that they need to borrow heavily in order to acquire a home. They are also fully dependent on a regular income from their jobs and on increases in wage levels, which help to cover the costs of inflation. Any disturbance to this pattern has not only a negative impact on the economic survival of individual working class households, but also on macro-economic growth levels.

The after-effects of the financial crisis are still to be felt to-day, especially through lower home ownership levels, through a crisis in the pension sector and through years of below inflation wage increases. The readjustment period has been extremely long and at the costs of a doubling of U.S. government debt over the last seven years and this excludes the approximate \$7 trillion implicit guarantees on mortgage bonds.

The U.S. and other countries' economic management systems need a shake up. Economic tools need to be redefined in order to ensure that rather than working class households being the natural casualties in an economy, they constitute the cornerstone of creating the overall health in economic growth levels.

1. Working class households and the outstanding mortgage levels in the U.S. over the period 1997-2015

1.1 The 'what if' questions

In this paper four economic variables will be considered with a particular focus on working class households.

The first variable is the provision of mortgage credit to these and other households and the link with ownership of homes.

The second variable relates to unemployment levels, as this is a key issue for working class households.

The third variable relates to income growth after taking into account inflation levels.

The fourth variable is the ability of working class households to build up a sufficient pot of savings to last for their retirement period.

1.2 The mortgage credit issue

The relationship between an individual mortgage and the price of a home is an obscure one. Firstly some buyers are able to finance such acquisition fully out of own funds; others may sell their existing home and subsequently part finance their new home with a mortgage. Others try to get on the property ladder for the first time, but need a deposit amount out of own savings. Over time such deposit requirement may vary as a percentage of the purchase price. Working class households nearly always need a mortgage loan.

Broadly, households only deal with one financial institution as their counterpart. The aggregation of all mortgage lending leads to the total outstanding mortgage levels and their annual changes therein. The aggregation process is done per financial institution as well as by all financial institutions together. An individual household has no influence over the volume of mortgage lending. If a household receives a mortgage offer, such offer is based on the risk criteria set by the lender. Lenders set the risk criteria, not the borrowers. Competition between lenders may make them offer slightly different conditions for mortgages at any chosen time. However no individual lender determines the collective growth in outstanding mortgage levels; all lenders together determine such growth.

As table 1 below illustrates, the growth pattern in U.S. mortgage lending¹ was very rapid and uneven over the whole period 1997-2015

¹ <https://fred.stlouisfed.org/categories/32258>

Table 1: Overview of the U.S. outstanding mortgage levels over the period 1997-2015, the annual change in mortgage volumes, the effective Fed Funds Rate and the change in the Households' Real Estate values

Year	Outstanding Mortgage levels X \$trillion	Annual increase In Mortgage Volume X\$billion	Effective Fed Funds Rate %	Increase in Annual Household Real estate Values X\$billion
1997	3.753	216	5.25-5.50	210
1998	4.055	302	5.56-4.68	836
1999	4.431	376	4.63-5.30	946
2000	4.814	383	5.45-6.40	1572
2001	5.322	508	5.98-1.82	1354
2002	6.028	706	1.73-1.24	1298
2003	6.910	882	1.24-0.98	1618
2004	7.859	949	1.00-2.16	2511
2005	8.913	1054	2.28-4.16	3014
2006	9.910	997	4.29-5.24	509
2007	10.613	703	5.25-4.24	- 1813
2008	10.580	- 33	3.94-0.16	- 3197
2009	10.419	- 161	0.15-0.12	- 454
2010	9.921	- 498	0.11-0.18	- 555
2011	9.702	- 219	0.17-0.07	- 293
2012	9.491	- 211	0.08-0.16	1412
2013	9.401	- 90	0.14-0.09	2102
2014	9.400	- 1	0.07-0.12	1096
2015	9.491	91	0.11-0.24	1255

The main conclusion out of table 1 is that the net annual mortgage amounts granted varied greatly over the 18 years under consideration; from a high increase of just over \$1 trillion in 2005 to a low of a net repayment of just under \$500 billion in 2010.

Table 1 reflects the combined activities of the whole U.S. financial sector with regard to lending for the purpose of acquiring homes. To get a more accurate picture of the mortgage lending flows, one has to take into account the annual repayment element out of the outstanding mortgage portfolio. In the U.S., it is usual to take out a 30-year mortgage. If one assumes that the whole portfolio of mortgages is based on such 30-year mortgages and repayments take place on an equal percentage per mortgage per year, than the annual increase/decrease in mortgage volume has to be corrected for both the repayments and new lending that have taken place during a year. The combination of the net increase in mortgage volume as per table 1, plus the repayment of principal element forthcoming out of the outstanding mortgage portfolio constitute the annual new mortgage lending volume. In table 2 such lending volume has been calculated, based on above assumptions. Of course real life figures may deviate somewhat as not all lenders require equal repayment terms, neither do all borrowers wish to borrow for 30 years. As far as the writer is aware, the aggregate of all mortgage repayments during a year are not reported, only the year-end balances.

There is a second element. The existing outstanding mortgage portfolio is, per definition, allocated to fund the existing stock of homes. New mortgage lending levels are used for buying new homes; move to more expensive homes or use the mortgage loan for some additional consumption. In table 2 it has been assumed that all new mortgage lending was used for buying new homes.

Table 2 New mortgage lending over the period 1997-2015 compared to funds allocated per new home started and to average home price for homes sold in the U.S.

Year	1 Annual new Mortgage Lending volume X U.S. billion	2 Allocated per each New housing Start X U.S. dollars	3 Average U.S. Home Sales Price X U.S. dollars ²	4 Annual Housing starts X million ³
1997	125 + 216= 341	227,580	176,200	1.494
1998	135 + 302= 437	276,230	181,900	1.582
1999	148 + 376= 524	320,310	195,600	1.635
2000	161 + 383= 544	348,620	207,000	1.559
2001	177 + 508= 685	437,400	213,200	1.567
2002	201 + 706= 907	555,360	228,700	1.633
2003	230 + 882= 1112	635,300	246,300	1.751
2004	262 + 949= 1211	662,480	274,500	1.828
2005	297 + 1054= 1351	653,290	297,000	2.068
2006	330 + 997 = 1327	763,960	305,900	1.737
2007	354 + 703 = 1057	794,740	313,600	1.330
2008	352 - 33 = 319	345,612	292,600	.923
2009	347 - 161 = 186	344,450	270,900	.540
2010	331 - 498 = -167	negative	272,900	.536
2011	323 - 219 = 104	167,580	263,400	.623
2012	316 - 211 = 105	142,430	285,400	.740
2013	313 - 90 = 223	301,890	319,300	.898
2014	313 - 1 = 312	304,480	312,500	1.026
2015	316 + 91 = 407	350,900	352,500	1.161
2016			361,900 (Jan-June)	1.189 (June annualized)

The \$125 billion mentioned for 1997 in column 1 of table 2 reflects the repayments volume out of the total outstanding U.S. home mortgage portfolio, which based on the annual mortgage volume levels must have been lent out again. The same applies for the \$135 billion in 1998, etc. Column 1 reflects the total production volume of new mortgages granted per year. In line with the rapid growth of the total outstanding mortgage portfolio as shown in table 1, the replacement factor of mortgage repayments increases annually to 2008 and shows a slight decline thereafter.

The volume of new mortgage lending for new homes is reflected in column 2 of table 2. This column reflects the amount of money lend per new home started. Each annual figure

² <http://www.census.gov/const/uspriceann.pdf>

³ <https://fred.stlouisfed.org/series/HOUST>

is the result of the total mortgage production levels of the combined financial sector in the U.S. in a particular year. It is important to understand what this column represents. It does not mean that the actual fund flows have solely gone to build and acquire new homes. It does mean that if all new mortgages lending in a particular year were used for buying new homes, the price of such homes would have been in excess of the prices quoted in column 2 of table 2. Such prices would also be far in excess of the average home sales prices as reflected in column 3 of table 2 over the period 1998-2007. This lending pattern implies that over the years 1998-2007 the same stock of homes was encumbered to a higher and higher degree.

Column 3 of table 2 reflects the actual supply and demand levels for U.S. homes sold in that it shows the average prices achieved in the housing real estate markets. Column 3 reflects the real average economic market price; the price based on supply and demand for new and existing homes, irrespective of how such homes were financed.

What is clear out of table 2 is that the annual mortgage production volume of the combined U.S. financial sector bears no resemblance to what happened in the real sector housing markets.

Financial markets and the real sector were on a divergent growth path. Why does this matter? It did and does matter to the financial sector. Lending more than is required to accommodate the volume of new homes being built means that the total housing stock has been used for adding a higher and higher level of debt to it than is necessary to satisfy the demand for new homes. The risk profile over the total U.S. mortgage portfolio deteriorates as a result. If continued for a number of years, the borrowers who need to repay such loans will, in increasing numbers, no longer be able to do so. The volume of lending pattern sowed the seeds of self-destruction for the U.S. banking sector and also for investors who bought mortgage backed securities.

Such a divergent growth path between the average home sales price and the mortgage lending based prices affects those who need to borrow most to buy a home: the working class households. They, even more than others, rely on prudent risk acceptance criteria, including containing the macro-economic risk of excessive lending patterns.

The more than threefold increase in the annual mortgage production levels between 1997 and 2003 should have set alarm bells ringing. The more than \$635,000 allocated per new home built compares poorly –risk wise- with the \$246,000 average house price. No volume control measures were introduced in 2003, nor in the later years to 2007. The excessive lending pattern continued unabated.

In a previous paper: ‘Helicopter money or a risk sharing approach?’⁴ it was shown that banks accelerated the sale of sub-prime mortgages from 2004 and later years. They also offered ‘teaser rates’, which included below market start-up interest rates for some two years followed by a big hike in rates thereafter. Simultaneously the

⁴ <https://ideas.repec.org/p/pramprapa/71922.html>

securitization of mortgage portfolios also went into overdrive from 2004 and later years, as did the growth in the derivatives volumes linked to the mortgage markets.

The home mortgages volume growth from 1997-2007 and the changes in the funding pattern from 2004 onwards were the key elements in the lead up to the most severe financial crisis for nearly a century.

A conclusion, which can be drawn out of the data from tables 1 and 2, is that from 1998 to 2007, the economic price of a home and the funds allocated for new homes went on a divergent growth path to real market prices. During the years 1998-2007, volumes of new home mortgages were loaded onto the U.S. housing market, which exceeded, by far, the need for funds for new homes and thereby undermined the macro-economic risk profile of the total outstanding U.S. mortgage portfolio.

Another conclusion is that the low 'price of money': the effective funds rate, encouraged rather than dampened the growth of the U.S. mortgage portfolio during the period 2002-2005. From 2008-2015 the opposite effect was achieved and the lowest funds rate on record failed to stimulate mortgage lending. More than \$1 trillion, equivalent to more than 10% of the outstanding mortgage portfolio, was repaid over this period. Such repayments impair economic growth rates and discourage new home building levels as is evidenced by the data in table 2.

1.3 The consequences of overfunding

The difference between a home as an asset category for individuals and as equipment and know-how as used in the production sector is that the latter case buildings, equipment and know-how are used to generate an income, while in the former case, homeowners are dependent on earning an income out of a participation in the production sector. This applies particularly to the working class households. In the production sectors, companies always have the ability to adjust the level of resources used, be it manpower levels, machineries, raw materials or other costs. Working class households work for a living and if their income pattern is disturbed through unemployment, below inflation wage levels or they are faced with an enforced repayment of outstanding debt levels, they cannot easily fall back on cost cutting. There are only a few expenses that can be cut. Working class households need a minimum income to survive.

Who paid the price for the lack of a macro-economic management structure for the home mortgages market? The banks were nearly all rescued and the temporary decrease in profit levels was, generally speaking, not born by management, but by shareholders. Investors in mortgage backed securities lost some money, which included individuals around the world and so did some pension funds. Insurance companies as underwriters of derivatives also lost money. However, the real direct casualties were individual households who had a mortgage and most of those hit hardest belonged to the working class household sector. The banking sector made the pendulum swing heavily against the debtors, who individually and collectively were forced to repay any overdue interest, plus prepay the remainder of their outstanding mortgage. As explained more fully in the next section, 45% of all mortgage holders were confronted with a foreclosure filing between 2005 and 2014. The more indirect casualties were the workers who lost their jobs, saw their income growth impaired and their

pension savings accumulate at a much slower pace, due to the low interest rate and quantitative easing policies.

A system and structure that fails the needs not of just a small number of borrowers, but of nearly 50% of them over a short period of time, needs to be reshaped and reformed.

1.3.1 The process of forcing households to repay outstanding mortgages

The statistics for foreclosure filings, completed foreclosures and home repossessions all point to the deeply negative economic effects as a result of a period of excess lending to the individual households. Between 2005 and 2014 over 23.250 million households were confronted with foreclosure filings⁵. This compares to the about 51.6 million households who had a mortgage in the U.S. in 2007. More than 45% of homeowners with a mortgage were confronted with a foreclosure filing over this period. It is very likely that the groups most affected were the younger workers, the under 35 generation, and the working class households, as their income and savings levels were generally the lowest. What this amazing figure also shows is how poor the macro-economic risk management structure had been in the run up to 2007. It is very unlikely that an individual household was confronted twice with a foreclosure filing; therefore each filing meant a filing against a different household.

The foreclosure filings led to 18.3 million of completed foreclosures over the period 2005-2014. The ultimate penalty for being unable to service an outstanding mortgage debt is a home repossession. Over the period 2006-2014 6,145,000 homes were repossessed. This represents almost 12% of the total number households who had a mortgage in 2007.

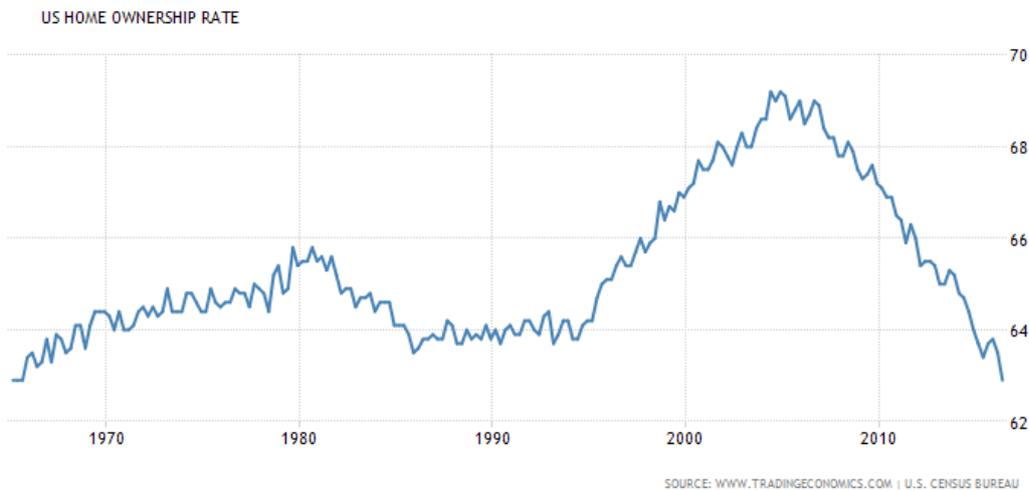
Lending too fast leads to a process of collecting outstanding loans too fast, as the experience over the period 1997-2015 has shown.

1.3.2 Home ownership levels in the U.S.

The Census Bureau publishes quarterly data on the level of home ownership in the U.S. The data over the second quarter of 2016 show that the level of owner-occupier home ownership has dropped to 62.9% at the end of this quarter. This level is the lowest level of owner-occupier home ownership since 1965. Graph 1 shows the developments in home ownership levels over the last 50 years.

⁵ <http://www.statisticbrain.com/home-foreclosure-statistics/>

Graph 1: U.S. home ownership rate over the period 1965-2016⁶



Graph 1 clearly demonstrates that there have been two distinct long-term cycles in home ownership over the period 1965-2016. The first cycle started in 1965 and lasted for some 30 years till about 1994, while the second one started in 1995, reached its peak in 2004 at 69%, stayed close to this top for another two years to 2006 and subsequently set in its strong decline continuing to the second quarter of 2016, when it reached 62.9%; its lowest level for over 50 years.

The aim of this paper is not to try to work out whether a lower or higher level of home ownership is preferable for U.S. households, but rather whether the mortgage credit expansion and subsequent contraction over the period 1998-2016 has something to do with the substantial changes in the level of homeownership in the U.S. and what lessons can be learned as a result of the patterns observed and the drivers for them.

Since 2008, much has been written and action has been taken about how the banking system could be made safer and action has been taken. Certainly the effects of an increased level of capitalization for a number of banks have reduced the risks for most banks. U.S. banks now have \$1.2 trillion of core capital, more than double the level of 2007, according to a recent article in the Economist⁷. However a very large share of the risks over the U.S. mortgage portfolio have been transferred from the banking sector and moved to the mortgage bond markets. The latter now fund and own \$7 trillion of the total outstanding mortgage portfolios of \$9.5 trillion. Fannie Mae, Freddy Mac and the Federal Housing Agency are main players in this area. They are state sponsored enterprises for the first two and a unit of the Federal government for the last one. In essence the U.S. government is guaranteeing the repayment obligations of individual households. Again the lender community is being helped and protected by the U.S. government against the risks of homeowners failing to service their mortgage debts.

⁶ <http://www.tradingeconomics.com/united-states/home-ownership-rate>

⁷ The Economist, London, August 20th, 2016

What about the borrowers?

The question of a “recapitalization” for working class households never reached the headlines. It seems fair to say there has been no serious discussion about this subject. Still the real sufferers from the lack of macro-economic intervention and management of the mortgage lending process were the individual households, especially the working class households on the lower end of pay scales and savings levels.

From 2007 onwards, home ownership levels did not drop because the American public did not want to own a home, but because the financial sector had collectively lent so much money to individual households over the period 1997-2007 that a huge gap had been created between the average market price for homes and the financial sector price for new homes. The collective of the banking and the financial sectors put the real economic sector and the financial one on a collision course, with the real sector destined to be the loser.

As will be explained later in this paper, a more efficient manner to solve a financial crisis requires a shift in focus away from the lenders and concentrate onto solutions for the borrowers. This has been lacking to date, but it can still be done.

Since 2006 enormous pressure was placed on borrowers to service their mortgage debt. Over 45% of all mortgagors (23.125 million) were confronted with foreclosure filings and 18.3 million of them ended up suffering completed foreclosures. 6.15 million homes were repossessed. Just this latter fact alone accounted for an 11.9% drop in owner occupied homes with a mortgage or an 8.1% drop of all owner occupied homes. The drop in home ownership from 69% in 2004 to 62.9% as at the end of the second quarter 2016 represents a drop of 9.1%. The total picture is somewhat more complicated as new owners enter the market and the stock of homes expands, but it is without doubt that the repossession of over 6 million homes had a very substantial influence on the number of households owning their homes.

1.3.3 The “costs” to households of the overfunding process

Households and especially working class households, which depend on income growth of CPI plus a small margin, are the most vulnerable to average house prices increasing faster than the CPI index. Over the period 1997-2006 average house prices would have increased from \$176,200 in 1997 to \$221,500 in 2006, if house prices had followed the CPI index. However the actual average home sales price was \$305,900 in 2006. This was 38% higher than the CPI based house prices. While it is accepted that like for like needs to be compared and the composition of the average house may have moved somewhat over the nine-year period, it is highly likely that for working class households the financial burden of buying a home did increase substantially. Compounding the trend, lenders introduced “teaser rates” and 100% mortgages, especially from 2004 and later years. These new products enhanced the vulnerability of all households, but especially those belonging to the working classes.

The risks attached to such vulnerability materialized in the shape of foreclosure filings: up by 50% in 2006 over 2005; it affected 1.2 million households in 2006; in 2007 the annual filings

increased to 2.2 million, to 3.1 million in 2008, 3.5 million in 2009, 3.8 million in 2010 and 3.9 million in 2011.

The broader economic costs of such vulnerability reveal itself first and foremost in the income allocation of the households involved. They were under great pressure, with the threat of repossession of their home hanging over them, to keep up the servicing of their debt. Nearly 5 million households succeeded in satisfying the demands from their lenders, but more than 18 million could not meet the debt service commitments and foreclosures were completed. 6.145 million homeowners lost their home altogether. The problem with the recovery of outstanding mortgage debt is that it not only reduces the income levels that households have for “free spending”, but simultaneously such actions affect house prices and new housing starts. Over the period 2007-2011 average house prices dropped from \$313,600 in 2007 to \$263,400 in 2011 and these prices are in nominal amounts, not taking into account the inflation factor. A 16% drop in the nominal value of the average home implies that part of the savings allocated for paying back an outstanding mortgage loan have gone to waste. For those unlucky enough to have their homes repossessed, their savings level in their home would have been totally wiped out. It also implies that mobility of the labor force is impaired as selling in downward market forces sellers to realize such losses. The new housing starts level dropped from just over 1.7 million new homes in 2006 to one-third of this level: 540,000 in 2009 and in 2010.

What the banking system collectively did and for all intents and purposes still does today was to manage mortgage debt levels by comparing them with asset values, rather than manage the debt to income levels. Working class households generally do not use their home to make a profit, but use it in order to have a roof over their heads. The concept that the recovery of an outstanding mortgage loan from owner-occupiers has to come from the sale of an asset is an economically incorrect and inefficient concept. It extends rather than shortens the lengths of a recession or a low growth period. “Recapitalizing” working class households would have been a much better strategy (see Section 4 below).

2. Employment, unemployment, the labor force participation rate and income growth over the period 2006-2015

Only after it became clear to employers that serious economic trouble was on the way, did they reduce recruiting and started to lay off workers. This happened from May 2008 when the unemployment rate increased from 5.0% in April 2008⁸ to 5.4% in May. By year-end 2008 the rate had further risen to 7.3% in December. By December 2009 it had accelerated to 9.9%, after it peaked in October 2009 at 10%. In 2010 a slow recovery started and the unemployment rate dropped during the year to 9.3%, followed its drop to 8.5% by December 2011, to 7.9% in December 2012, to 6.7% in December 2013, to 5.6% in December 2014 and 5.0% in December 2015.

⁸ <http://data.bls.gov/timeseries/LNS14000000>

What is remarkable in this pattern is the speed of the unemployment increase. From 5% in April 2008 to 10% in October 2009 and the slow return back down to 5% for the first time in October 2015. It took 18 months to move from a 5% unemployment rate in April 2008 to 10% by October 2009 but it took 72 months to get the unemployment rate back down to 5% by October 2015.

Another coincidence worth mentioning is the changes in the labor force participation rate⁹. The latter is defined as the percentage of individuals of 16 years and over out of the total population to actively be in a job or be looking for one. By May 2008 this rate was 66.1% of the U.S. population. By October 2009 it had already dropped to 65.0% before sliding to its lowest level of 62.4% in September 2015. In July 2016 the level was slightly higher at 62.8%.

Usually a lower participation rate is the consequence of a disillusionment borne by a large group of individuals in their job search leading to a cessation of job seeking altogether. It can have structural reasons, like retiring baby boomers, a decline in workingwomen and a higher attendance rate at colleges. Whatever the causes may have been, the slow process of getting back to the 5% unemployment rate plus the persistent decrease in the labor force participation rate implies that the recovery in the combined income levels of all income earners took at least 6 years. This is before the drop in household real median income is taken into account.

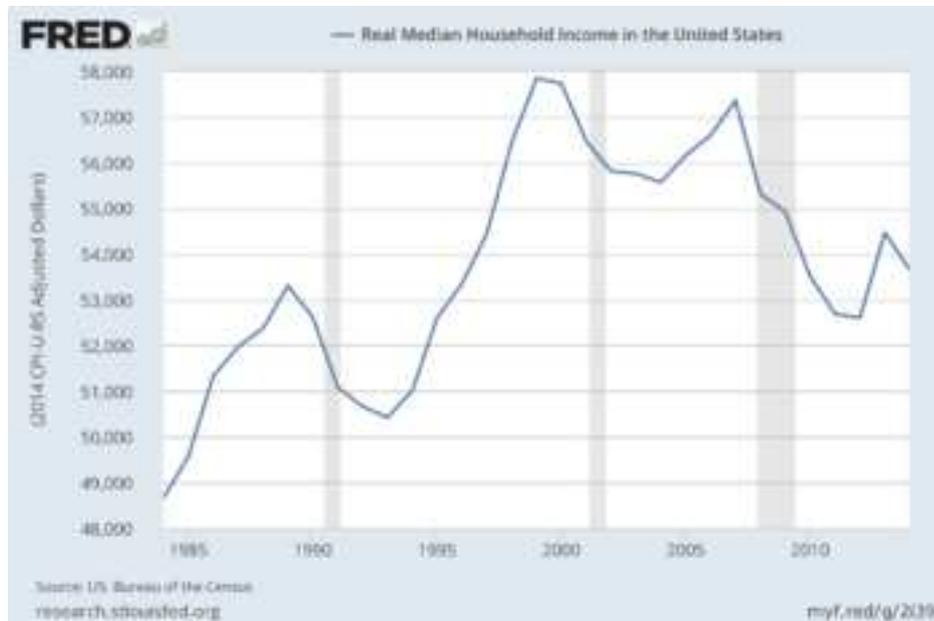
Combined incomes were not only under pressure from the foreclosure filings, but also from the loss of jobs and the lowering of the labor force participation rate. All this explains why an aggressive mortgage-lending boom is particularly destructive to working class households.

2.1 Income level developments

The U.S. Census Bureau collects data about the household income developments. The Federal Reserve of St. Louis publishes charts of such data.

⁹ <http://data.bls.gov/timeseries/LNS11300000>

Graph 2: Real Median Household Income developments over the period 1985-2014



In 1997 the real median household income was \$54,463 per household. On a CPI inflation corrected basis it became \$57,843 in 1999. After 1999 it dropped back to \$55,565 in 2004. It subsequently started improving to \$57,357 in 2007. From 2007 onwards it dropped to \$53,657 in 2014 (latest data available) via a low of \$52,605 in 2012.

The highest levels of real household incomes were reached in 1999 and 2000, with some upward movements from 2004-2007 and a strongly downward movement from 2007. This is yet another sign of the impact that the financial crisis had on working class households. Unemployment levels were rising steeply from 2008-2009, the labor force participation rate was on a downward trend and median incomes could not even hold up after inflation levels were taken into account. All signs indicate that 6 years on, the recuperation period is not over yet for individual households.

3. Savings for retirement

In the Balance Sheet of Households and Non-profit Organizations as published by the Federal Reserve a category is included which reflects pension entitlements. Such entitlements include public and private defined benefit and defined contribution pension plans and annuities, including those in IRA's and at life insurance companies. It excludes social security.

At year-end 1997 such entitlements were worth \$8.0 trillion. They grew to \$9.7 trillion as per the year-end 1999. From 2000-2002 there was barely any growth as such

entitlements grew from \$10.0 trillion by year-end 2000 to \$10.2 trillion by year-end 2002. From 2003-2007 a rapid growth rate occurred when the entitlements increased from \$11.3 trillion end 2003 to \$15.1 trillion end 2007. The average growth rate was 8.9% over the period 1997-2007. From 2007-2015 the entitlements increased to \$20.9 trillion by end 2015. The average growth rate over this period was 4.8% per year. The future growth rate is to be expected to be substantially lower than 4.8% as interest rates –including for U.S. Treasuries– are at or near their lowest level ever.

There have been structural changes to the supply of pensions. Companies used to take responsibility for the ‘pension promise’ through the use of defined benefit (DB) schemes. Companies, out of their profit margins, compensated workers for the fluctuations in investment and inflation risks. In the U.S. in the early 80’s 60% of employees were participating in a defined benefit scheme. In 2016 it is estimated that no more than 4% are. 14% of companies in the U.S. still operate DB next to Defined Contribution (DC) schemes. Companies that still have DB schemes are anxious to terminate such schemes. A good explanation of the implications of Defined Benefit Pension Plans can be found in Dylan G. Rassier’s article¹⁰ written for the U.S. Bureau of Economic Analysis in August 2014.

In the DC schemes, the investment and inflation risks are for the account of the individual. What has changed since 2007 is the interest rate environment. On 6th July 2007 10 year U.S. Treasuries yielded 5.19% per annum. On the same date in 2016 the yield was 1.38% per annum. The gross U.S. government debt doubled over this period from \$11.36 trillion in 2007 (Federal, State and Local) to \$22.52 trillion in 2016 while the yield on 10 year U.S. Treasuries dropped dramatically. Year-to-date inflation rate is running at 0.84%, therefore there is still a small positive margin between the yield on 10 year Treasuries and inflation level. However if the individual needs to invest for the short period from 1 month to three years Treasuries, on 6th July 2016 all these Treasury holdings were yielding less than the inflation level. To quote Allister Heath, Deputy Editor of the U.K’s Daily Telegraph¹¹, in a recent article: “Cheap money is destroying all our futures and killing capitalism” He adds that it has become impossible to live off interest or dividends. As an example he states that a decade ago anybody seeking to enjoy a £35,000 annuity in retirement needed to accumulate £761,000 to do so. Today, the savings pot required would be worth £1.4million, beyond the reach of almost everybody. He concludes that “free credit” sought by governments comes at a crippling hidden cost.

Again, who are the biggest casualties from the financial crisis among U.S. households: the working class households! They lost out on employment opportunities for at least 6 years since 2008; they saw their incomes grow at a level below inflation levels over the same period; over 6 million households lost their homes and their savings in it; and due

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<https://www.bea.gov/papers/pdf/Private%20DB%20Pension%20Plan%20Benchmark%20Methodology%20August%202014.pdf>

¹¹ Allister Heath, Deputy Editor, The Daily Telegraph, “Cheap money is destroying all our futures and killing capitalism”, London 25 August 2016

to quantitative easing policies of central banks in the U.S., U.K and the ECB for the Eurozone countries, they also lost the opportunity to save for a decent pension provision in old age.

4. Recapitalization of individual households

Loans, including mortgage loans, are a temporary extension of income levels. For company loans, the banking sector has always looked hard at future cash flows out of the activities undertaken. Shareholders were and are asked to take the primary risk if activities do not generate the cash flows according to plans. Shareholders constitute the buffer in risk taking. Hence it was logical that after the financial crisis, U.S. banks had to increase their buffers by attracting new shareholder funding. Some banks, including investment banks, were also penalized for misleading their client base about the risks that were transferred to mortgage bondholders.

The real difference between a household taking up a mortgage loan or a company getting a loan is that in a household the role of shareholder is intertwined with the role as borrower. There is no outside shareholder in the owner-occupier situation. The debt servicing risks are totally dependent on the income earning capacity of the household. As has been demonstrated in previous chapters, lending more to the housing markets over a few years than is needed to build the required new homes at market rates, leads to individual households being burdened with long-term debts they, in large numbers, can no longer afford. Unemployment levels increase, the recovery of overdue payments start, home repossessions go up, house prices drop and new housing start levels drop. Income levels grow less than inflation levels. Interest rates drop but the down hill speed of increased unemployment was four times faster than the recovery speed. Pension provision arrangements are made much harder.

The short and long-term costs to the working class households do not only affect them, but such costs directly influence economic growth levels, government tax receipts and company profitability levels.

Saving the banks might have been necessary in order for the U.S. economy to continue to function, but such action should not be confused with saving economic growth levels. Only an economic management system that corrects the error of “excessive lending” to individual households, can save economic growth levels and enable them to continue without major disruption.

The current approach of ensuring that nearly all banks were saved and that current mortgage bondholders can count on government support do little, if anything, for individual households. However helping households to overcome short term cash flow problems in keeping up with mortgage payments, not only avoids a serious economic downturn, but keeps people in their jobs, avoids a dangerous downturn in house prices, removes the need for extremely low interest rates and a program of quantitative easing, improves the tax take of the U.S. government and lowers its deficit funding.

The result is that taking such action negates the macro-economic domino effect described above at source, thereby extending the period of prosperity for not only working class households but for all households.

In order to solve the problem of increased levels of insolvency among individual households in relation to mortgage debt in times of economic distress, a risk partner needs to be introduced. Households would benefit greatly from a temporary boost in their liquidity to overcome the shortfall in cash. They need a form of recapitalization.

It is obvious that such recapitalization will not come from the lenders, whose only objective is to recoup as much of their outstanding loans as possible and in the quickest possible time period. For financial institutions profit levels drive their actions, not the macro-economic impact of such actions.

The only solution is a state sponsored one. To date, the state sponsored choice has been to guarantee (implicitly or explicitly) the outstanding mortgage bonds to the extent of some \$7 trillion, which on a mortgage portfolio of \$9.5 trillion is a very sizeable commitment. Of the \$7 trillion \$1.763 trillion is on the balance sheet of the Federal Reserve per August 25, 2016. The lenders have been implicitly guaranteed that they will receive their money back in due course.

There is another, a cheaper and more effective solution. To make an arrangement with the borrowers, one needs a state owned institution to do so: A U.S. National Mortgage Bank (NMB). The NMB can be the risk partner of individual households when needed. It needs to be set up now in order to be ready for the next recession.

How setting up a National Mortgage Bank may serve as a macro-economic tool.

4.1 The creation of a lender of last resort for individual households

A National Mortgage Bank (NMB) would not be a mortgage lender or originator in the normal sense. One could not visit its office to obtain a mortgage. It is also not a Fannie Mae or Freddy Mac, organizations that facilitate long-term fixed rate mortgages. What it would be, is an instrument of economic policy, only to be called into action as and when the number of foreclosure proceedings start to grow substantially. An NMB would be the temporary “joint shareholder” for those in need when lending volumes have run out of hand. An NMB would temporarily improve the cash flow position of working class households and reduce the pressure on selling homes.

In preparation for countering the next recession, the U.S. could take the step to legislate for and subsequently set up a National Mortgage Bank.

4.2 How an NMB could operate

The mortgage crisis originated in the U.S., therefore it is probably appropriate to formulate for this country of how an NMB could work:

- Legal framework: A law could be enacted, which sets out the operating structure for an NMB, its legal rights and obligations, its funding structure and its first management set up;
- Ownership: Due to its character as a tool of economic policy, the NMB needs to be a 100% owned U.S. government entity;
- Start and closure of the operating period: A designated team from the U.S. government charged with economic policy decisions could instruct the NMB to start operating. The basis for such decision is a rapid increase in the level of foreclosure proceedings. The same team would decide when to close the operating period when the level of foreclosures drops off rapidly;
- Tools: The tools handed to the NMB will be to provide cash to individual households confronted with foreclosure proceedings. The quantum of cash received could vary from income class to income class, with for instance the lowest income class to receive up to 60% of monthly payments, the second group 50%, etc. These payments vary per mortgagor, but include an interest and a principal element. The duration of such payments could be decided by above designated team on basis of the status of the recovery. Company owned or other buy-to-let mortgagors may not qualify. During the economic recovery period the funds provided could be granted at 0% interest rate. During the designated 'economic recovery period' and thereafter a sub-ordinated mortgage would be granted to the NMB as security over the accumulated principal amount lent. Such sub-ordination would be to the existing level of an outstanding mortgage only. After the closure of the economic recovery period all amounts granted to households would increase their mortgage debt to the NMB. The NMB could fund itself with funds from the Federal Reserve, based on a U.S. government guarantee. In the period after recovery, the payments could be gradually lowered to zero, and the interest rate of the loan set at the ten-year government bond rate plus a small margin. After the official end of the recovery period mortgagors could be asked to gradually fully service their interest payments. The ultimate repayment of the outstanding principal amount could take place as and when the borrower wishes and is alive. Upon death the full amount outstanding becomes payable;
- Referral process: As soon as banks or financial institutions declare that a individual mortgagor has been informed about foreclosure, the case should be transferred to the NMB;
- Beneficiaries: Significant beneficiaries of the risk sharing approach would be the lending banks and mortgage bondholders. The NMB should be placed in a position to charge the fund providers for the reduced risks over their mortgage related portfolios.

4.3 Economic benefits of having an NMB

There will be a number of core benefits from having an NMB in operation. A first one is related to the spending power of individual households. The cash injection will help mortgagors to fulfill their mortgage obligations, and equally it enables them to continue to spend on other goods and services. Had the NMB been in place in 2007, such increased levels of economic activity would have increased government tax revenues. As a consequence, the NMB's operation would have markedly slowed down the U.S. government debt increase. The level of Federal government debt however increased from \$9 trillion in 2007 to \$19 trillion (May 2016).

A second benefit is related to house prices. When the majority of foreclosure proceedings no longer lead to home repossessions, house prices will drop less forcefully and be more stable. Such stability will encourage potential homeowners to come to the housing market. This may also lead to a more stable level of new housing starts.

Introducing the NMB system makes individual households less reliant on extremely low interest rates. The aim of the NMB is not to attract more households to the housing market. Commercial banks do that. The NMB's aim is to help existing homeowners to fulfil their mortgage obligations. For these homeowners, it will turn a long-term borrowing position into a temporary favorable cash flow position, independent of the current prevailing interest rate. When consumer demand levels fluctuate less, there is less need for an interest rate stimulus.

With the existence of an NMB, the Fed's interest rate setting policy can move more freely.

Quantitative easing injections are an indirect method of encouraging borrowings. Setting up an NMB helps households in need to fulfill their existing mortgage obligations in a direct manner, rather than involve them in more private sector borrowings. It re-aligns outstanding debt with future earnings levels. An NMB creates a direct link between maintaining consumption levels and existing household debt levels. The economy will become less dependent on QE injections.

In a previous paper: "Why borrowers rather than banks should have been rescued"¹², the author did calculate that the total NMB lending level during the operating period 2006-2013 would have been about \$1.2 trillion. This amount consists partly of the zero interest rate subsidy during the period classified as the recovery period; for the remainder it covers principal amount payments as advanced by the NMB to the borrower. The combined amount is still \$500 billion less than the Fed –as a result of its quantitative easing operations–has currently in mortgage-backed securities on its books.

The team in charge of setting the starting and end date of the intervention period could make proposals to Congress about the desirable levels of subsidy and loan amounts for

¹² <https://mpra.ub.uni-muenchen.de/68990/>

each income group. The key cash transfer element would have been a very welcome rearrangement of an individual household's cash flows. Improvements in short-term liquidity will help long-term solvency for households.

5. Preventive measures

The fact that no preventive measures were taken in 2003-2007 to stem the annual volume of the home mortgage production levels, does not mean that such measures cannot be put in place today. The first issue is that the overall management of such a system should be entrusted to one U.S. wide regulator, rather than have different central and state authorities each deciding for themselves what is the optimal mortgage production level for their area.

5.1 An early warning system

An 'early warning' system could be installed which sounds an alarm once it becomes clear that the mortgage allocation for new homes by far exceeds the real market house prices. Such a system could use 'traffic lights' to warn banks that caution is required.

Green would indicate that the mortgage markets are not growing too fast and may continue to grow until further notice. Amber for when the speed of mortgage lending growth is becoming excessive and signaling those lenders should slow down their lending volumes with red reserved for when mortgage volumes are growing too fast. The Fed could indicate the rate at which the mortgage market may safely grow. Any institution exceeding such speed of growth might be penalized as it risks undermining the volume targets needed to avoid a boom-bust situation.

Banks cannot be expected to stop mortgage lending volumes to grow voluntarily, hence a simple but effective traffic management system helps to avoid that the U.S. economy will not return to the 2007-2008 financial crisis situation again.

5.2 Set up a home mortgage quality control system

Banks and other financial institutions are very adept in developing products that help their profits rise in the short term. Subprime mortgages and 'teaser' rates are just a few of the examples that come to mind. Mortgage backed securitization is another example. There is nothing wrong with the principle of finding investors other than banks to fund mortgage portfolios. However the practice as executed in the U.S. from 2004-2007 left much to be desired.

Banks may prefer their freedom of the markets, but market freedoms should not come with a price tag for society as a whole, which is at odds with the benefit of the entrepreneurial freedoms acquired. For instance it cannot be right that over the period 2006-2013 as a result of bad bank practices 21.3 million U.S. households were

confronted with foreclosure proceedings or nearly 45% of all mortgagors. It can also not be right that 1 out of every 8 households with a mortgage lost their home over the same period. It cannot be right that 7.8 million workers lost their jobs between 2008 and 2010¹³ as a consequence of the financial crisis. Finally it cannot be right that as a consequence of the financial crisis U.S. government debt more than doubled from \$9.22 trillion by the end of 2007 to \$18.922 trillion by the end of 2015¹⁴.

For these reasons a mortgage quality control system could be put in place. In 1994 Congress with the support of the Fed passed the Home Ownership and Equity Protection Act (HOEPA), to outlaw abusive mortgage lending practices. However this Act concentrated on predatory lending practices and it did not intend to impede 'legitimate' access to the subprime mortgage markets. When the Act was drafted no one had foreseen the volume-lending boom of the early 2000s. Furthermore implementation of the Act was not helped by the fact that implementation was executed by many regulatory bodies, without anyone of them having full management control.

A major flaw of the Act is that it dealt only with individual household cases and not with the macro economic impact of a mortgage lending boom supported by banking practices often no longer based on the ability of households to repay outstanding mortgages out of current income, but out of future expected values of the home being financed. The 'crime', which the Act failed to cover, is an 'economic crime', committed by wantonly placing customers in a 'loss' situation when it was known or could be expected that house prices were no longer rising.

5.3 Marry the early warning system with the quality control one

Mortgage lending was at the amber level in 2002-2003. The policy measures needed at that point would have been twofold: to introduce a product liability system for banks and introduce a macro-economic reserve policy (MERP).

Most companies, when they sell a product, provide a guarantee that the product will operate satisfactorily during the lifetime of the product. Banks cannot guarantee that the home mortgage client will not default on home mortgage payments. However the amber stage in home mortgage lending indicates that the net volume growth in new lending is reaching a dangerous pitch. The Fed and with it all other bank and financial sector regulators could stipulate that any new home mortgage requires a financial reserve set aside within the originating institution at a higher level than the previous one. For instance, if 3% was the expectation of the annual level of doubtful debtors before the amber stage, the

¹³ <http://fpc.state.gov/documents/organization/203740.pdf>

¹⁴

<http://www.treasurydirect.gov/NP/debt/search?startMonth=12&startDay=31&startYear=2007&endMonth=12&endDay=31&endYear=2015>

Fed could dictate that 5% is added to the reserves for any new home mortgage. The second stipulation could be that such reserves have to be kept in place until the home mortgage has been fully repaid. Selling the funding side of the mortgage to third parties should not be a factor in releasing such reserves. They should stay in place until the end of the mortgage period.

The 'red' stage requires a more drastic approach, as this stage reflects the fact that the macro-economic development of the relevant country is at serious risk. This happened during 2004-2006 in the U.S. A material macro-economic risk necessitates a quite different counter-measure.

Jobs are at risks. 7.8 million people lost their jobs as a consequence of the financial crisis. Government funding is at risk as demonstrated by the doubling of government debt from \$9 trillion to nearly \$19 trillion over the period 2007-2015. The financial stability of 25 million households was at risk as foreclosure proceedings were started against them. Building enough new homes was put at risk. If annually 1.8 million new homes were needed, the cumulative shortfall over the period 2008-2015 reached 7.830 million.

The macro-economic risks caused by an excessive speed of lending put not only banks at risk, but also jobs, incomes, pension savings, government expenditure, home building and of course companies due to a reduced demand for goods and services.

A well considered response would be to ensure that at the red stage the new reserves built up for doubtful debtors on home mortgages are available not just to the banks and their shareholders, but to the population at large: from Wall Street to Main Street. Such a MERP would consist of two elements: firstly, it would increase the reserve ratio to some 8% for all new home mortgage lending and secondly, the reserves should be placed away from the lender and at the Fed in the form of U.S. government securities. It could be decided that such reserves have to stay at the Fed until the mortgage loans have been repaid. Furthermore as the threat is one to the macro-economy of the U.S., such reserves should be pledged to the Fed and the U.S. government in case of bank failure. In effect the transfer of reserves to the Fed would constitute a provisional penalty for the financial institution involved in order to get the micro and the macro policies in line. Rather than issuing penalties after the recession period as is being done currently, a preventive method would be the up-front transfer of reserve amounts based on net new home mortgage lending. The return of such reserve funds to the financial institution involved should only take place once the performance of the underlying mortgages can be assessed as satisfactory with 'satisfactory' denoting a portfolio performance in line with that of the best lending years.

5.4 Introduce index-linked Treasuries especially for pension savers and pension funds

The U.S. government will need to decide whether it has struck the right balance between getting its government debt level funded at the lowest possible costs and thereby benefitting tax payers in the short run, or should it acknowledge that borrowing

at costs close to or below inflation level constitutes a penalty for savers who wish to build up a pension pot for future expenditure.

The U.S. and other governments already employ many different rates to reward savers depending on the length of commitment of such savers to fund government debt levels. No government wants to fund its debt on a daily rollover basis, notwithstanding that it is easily the cheapest alternative in the short term.

Among all these different rates, it must be possible to create a special category for savers and savings institutions (pension funds) on their behalf to have the benefit of an index linked Treasury product, which caters for long-term savers who wish to build up and maintain a financial reserve for future use. Such index linked Treasuries could be devised especially for one category of savers: those households or institutions on their behalf who want to build up such funds for use in retirement. This means that trading restrictions could be applied to prevent using such Treasuries for other purposes than intended. The benefit to households would be substantial as the risk of inflation level developments is taken away from their investment worries.

6. Some conclusions

As this paper has demonstrated, economic growth levels based on the quicksand-like and toxic foundations of a mortgage-borrowing binge can lead to disastrous consequences, especially for working class households. The whole mortgage super-cycle took nine years to develop and eventually, implode (from 1998-2007). It has taken a further nine years to return to something approximating normality. In 2015, the average house price in the U.S. and the mortgage funded price for new homes were almost equal for the first time since 1997. The unemployment cycle took just 18 months to move up from 5% in 2008 to 10% in 2009 but 72 months to reach the 5% level again.

All these long and short-term movements require correction from time to time. Prevention would have been the best strategy. Correction in the form of establishing and operating a National Mortgage Bank would have prevented the errors of the past becoming a burden for the future. The main beneficiaries would have been those households that have the least buffer in economic downturns and the most to lose: the working class households!

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References

- U.S. Federal Reserve Bank St. Louis, B101, Balance Sheet of Households and Nonprofit Organizations; <https://fred.stlouisfed.org/categories/32258>
- U.S. Census Bureau Washington D.C., Average U.S. Home Sales Price, <http://www.census.gov/const/uspriceann.pdf>
- U.S. Federal Reserve Bank St. KLouis, Annual Housing starts statistics; <https://fred.stlouisfed.org/series/HOUST>
- Kees De Koning, Helicopter money or a risk sharing approach, MPRA paper 71922, 8 June 2016; <https://ideas.repec.org/p/pramprapa/71922.html>
- Statistic Brain Research Institute, California, Home foreclosure statistics; <http://www.statisticbrain.com/home-foreclosure-statistics/>
- U.S. Census Bureau and Trading Economics, Home ownership; <http://www.tradingeconomics.com/united-states/home-ownership-rate>
- The Economist, London, U.K. “Nightmare on Main Street”, August 20th 2016
- U.S. Bureau of Labor Statistics, Washington D.C. Time series unemployment rate and labor force participation rate; <http://data.bls.gov/timeseries/LNS14000000>; <http://data.bls.gov/timeseries/LNS11300000>.
- Dylan G. Rassier, U.S. Bureau of Economic Analysis, Washington D.C. Private Defined Benefit Pension Plans in the U.S. National Accounts; Accrual Measures for the 2013 Comprehensive Revision, August 2014; <https://www.bea.gov/papers/pdf/Private%20DB%20Pension%20Plan%20Benchmark%20Methodology%20August%202014.pdf>
- Allister Heath; Deputy Editor, The Daily Telegraph, London, U.K. “Cheap money is destroying all our futures and killing capitalism” August 25th 2016
- Kees De Koning, Why borrowers rather than banks should have been rescued, MPRA paper 68990, 23 January 2016, <https://mpra.ub.uni-muenchen.de/68990/>
- Linda Levene, Congressional Research Service, The Increase in Unemployment Since 2007: Is it Cyclical or Structural? January 24th 2013. <http://fpc.state.gov/documents/organization/203740.pdf>

- U.S Treasury, Treasury Direct, Government debt outstanding;
<http://www.treasurydirect.gov/NP/debt/search?startMonth=12&startDay=31&startYear=2007&endMonth=12&endDay=31&endYear=2015>