



Munich Personal RePEc Archive

# **The myth of economic growth in the United States**

De Koning, Kees

24 October 2016

Online at <https://mpra.ub.uni-muenchen.de/74904/>

MPRA Paper No. 74904, posted 06 Nov 2016 11:12 UTC

---

# **The myth of economic growth in the United States**

**By**

**Drs Kees De Koning**

**24th October 2016**

---

<b>Table of contents</b>	<b>Page</b>
<b>Introduction</b>	<b>3</b>
<b>1. Economic growth and economic reality</b>	<b>4</b>
<b>1.1 The disturbance factors</b>	<b>4</b>
<b>1.2 Economic growth levels before and after the financial crisis</b>	<b>5</b>
<b>1.3 Government debt and long-term household debt in the U.S. as compared to nominal GDP over the period 1997-2015</b>	<b>7</b>
<b>1.4 The economic impact of the overpriced U.S. housing market</b>	<b>9</b>
<b>1.4.1 The process to force households to repay mortgages</b>	<b>9</b>
<b>1.4.2 The impact on U.S. government debt levels</b>	<b>10</b>
<b>1.4.3 The impact on employment levels and home ownership</b>	<b>11</b>
<b>2. Economic policy options</b>	<b>13</b>
<b>2.1 Why did the policy instruments that were used work so poorly?</b>	<b>13</b>
<b>2.2 Fed funds rate</b>	<b>14</b>
<b>2.3 Quantitative easing</b>	<b>15</b>
<b>3. The losses to American society</b>	<b>17</b>
<b>3.1 The losses to individual households</b>	<b>17</b>
<b>3.2 The losses to the whole population of the United States</b>	<b>17</b>
<b>4. Some conclusions and recommendations</b>	<b>18</b>
<b>4.1 The creation of a lender of last resort for individual households</b>	<b>20</b>
<b>4.2 How an NMB could operate</b>	<b>21</b>
<b>4.3 Economic benefits of an NMB</b>	<b>22</b>
<b>5. Preventive measures</b>	<b>23</b>
<b>5.1 An early warning system</b>	<b>23</b>
<b>5.2 Set up a home mortgage quality control system</b>	<b>23</b>
<b>5.3 Marry the early warning system with the home quality control one</b>	<b>24</b>
<b>5.4 Introduce index-linked Treasuries for pension savers and pension funds</b>	<b>25</b>
<b>References</b>	<b>27</b>

## **Introduction**

Many economic philosophies –whether subscribed to by left or right wing politicians or economists- have as their shared aim to promote economic growth rates. Such growth in output is seen as the solution to many problems, including reducing unemployment and increasing household income levels. A key area of contention between right and left is whether such growth should be achieved primarily by actions taken in the private sector or those organized by a government.

Main drivers to support economic growth include the option of additional fiscal spending and/or the use of monetary policy in which a central bank's interest rate plays a key role. After 2008, central banks introduced quantitative easing in the policy mix.

Output growth reflects a short-term positive change in the volume of goods and services produced. Output growth does not reflect the changes taking place in individual household disposable income levels, their debt obligations or their employment status. Output growth does neither reflect government nor corporate debt levels nor does it reflect the savings built up in pension funds and the lending based on such savings.

In the U.S. over the period 1997-2007 total household mortgage debt as a percentage of nominal GDP grew from 43.6% in 1997 to 73.3% by 2007: a debt explosion relative to income growth levels.

The Federal Reserve took no action to slow down this debt accumulation when it was happening. In the aftermath, due to its nature, the Federal Reserve was not equipped to help individual households with their subsequent liquidity crisis. It could do nothing for the 23.250 million households who were confronted with foreclosure proceedings over the period 2005-2014. Lowering interest rates does not solve outstanding household debt problems and neither does buying up government bonds or mortgage-backed securities.

The commercial banking sector was no help either. Their overriding profit objective forced them to claim back outstanding mortgage debt as quickly as possible, irrespective of the economic consequences.

The U.S. government saw its revenues drop by \$3 trillion over the period 2007-2015 as a consequence of the household debt crisis. It also borrowed and spent another \$7 trillion to help restore economic growth over this period. The result was a lack-luster period of economic growth.

Economic evidence supports the view that households should have been helped in overcoming their liquidity squeeze. A lender of last resort for individual households is needed. Once operational, the myth of economic growth will turn into reality.

## 1. Economic growth and economic reality

### 1.1 The disturbance factors

In western societies the main economic theories are based on markets and how markets can adjust themselves. When markets do not deliver the desired results, especially in respect to economic growth levels, fiscal and monetary policies have been devised to help to correct the imbalances.

To help overcome the effects of the 2007-2008 financial crisis, central banks in the U.S., in Europe and in Japan have resorted to lowering interest rates to historical lows. Such lows have been maintained from 2008 to well into 2016 and few indications are at hand that these rates might return to pre 2008 levels any time soon. The same central banks have also entered the government bond markets by initiating substantial programs of buying up such bonds and in the case of the U.S. also of mortgage backed securities. In Europe, the ECB and the Bank of England did buy some corporate bonds as well.

The side effects of both these measures have been that the banking sectors on both sides of the Atlantic have been hammered in ways that was unforeseeable back in 2008. Banks' profit levels are, to a large extent, dependent on interest rate margins between the interest rates charged to their borrowing customers and the interest paid to their fund providers. In the environment of stricter central bank rules and a much greater use of Internet banking coupled with a very low base rate, great pressure has been put on the net interest rate margins. If banks can't make sufficient profits out of their core role of lending to their customers, their ability to help finance future borrowings is also impaired. On top of this, the activity of quantitative easing has caused long-term interest rates to drop to very low and sometimes even negative interest rates, especially for governments' borrowings. Again banks are severely hampered in their profit making activities in that under current market conditions having a government bond portfolio on their books can barely add to their profit levels. The banking situation is more fragile in Europe than in the U.S. as U.S. banks have been strongly encouraged to raise more equity capital over the past few years. In the U.S. the level of doubtful debtors is generally lower than in some European countries. The IMF reports that global debt now stands at \$152 trillion, of which two third are carried by liabilities of the private sector.

Not only banks are under pressure, but also life insurance companies and pension funds. The IMF in its global financial stability report of October 5, 2016<sup>1</sup> concludes that: "The solvency of many life insurance companies and pension funds is threatened by a prolonged period of low interest rates." In an article in the Sunday Times of 20 October 2016 another side effect was mentioned: "Dividends set to disappear into a pensions black hole". The corporate sector in the U.K. could be forced to pay substantially more into their defined benefits pension funds as the deficit has hit a record high of £710 billion in August 2016 according to PricewaterhouseCoopers<sup>2</sup>. This deficit was just £250

---

<sup>1</sup> <https://www.imf.org/external/pubs/ft/gfsr/>

<sup>2</sup> [http://pwc.blogs.com/press\\_room/2016/08/pension-deficit-grows-by-100bn-in-a-month-according-to-pwcs-skyval-index-.html](http://pwc.blogs.com/press_room/2016/08/pension-deficit-grows-by-100bn-in-a-month-according-to-pwcs-skyval-index-.html)

million ten years ago. Companies are closing such DB schemes as fast as they can, but this only means that the risks of low interest rates are transferred to individual households, who now face an uphill struggle to provide for a decent pension in old age. The risks to society as a whole do not disappear; they are only transferred to individual households who have no way of defending themselves.

When banks, life insurance companies and pension funds are all under severe pressure, one must wonder whether and how such a situation arose and what could have been done differently.

## **1.2 Economic growth levels in the U.S. before and after the financial crisis**

It is probably appropriate to make a case study of the U.S. experience as the financial crisis originated in that country.

Economic growth figures are based on real GDP data; data that take out the inflation level.

Table 1 provides an overview of U.S. economic growth rates, real GDP levels (2009 = 100) and inflation levels over the period 1997-2015.

**Table 1: U.S economic growth rates, real GDP levels and inflation rates 1997-2015**

Year	Econ. Growth Rate %	Real GDP \$ trillion	Inflation %	Year	Econ. Growth Rate %	Real GDP \$ trillion	Inflation %
1997	4.5%	11.035	1.7%	2007	1.8%	14.874	4.1%
1998	4.5%	11.526	1.6%	2008	-0.3%	14.830	0.1%
1999	4.7%	12.066	2.7%	2009	-2.8%	14.419	2.7%
2000	4.1%	12.560	3.4%	2010	2.5%	14.784	1.5%
2001	1.0%	12.682	1.6%	2011	1.6%	15.021	3.0%
2002	1.8%	12.909	2.4%	2012	2.2%	15.355	1.7%
2003	2.8%	13.271	1.9%	2013	1.7%	15.612	1.5%
2004	3.8%	13.774	0.3%	2014	2.4%	15.982	0.8%
2005	3.3%	14.234	3.4%	2015	2.6%	16.397	0.7%
2006	2.7%	14.674	2.5%				

In the year 2000, a number of Internet companies went under in the so-called dot.com bubble. Another event was that the Federal Reserve raised its base rate to 6.5% in order to reduce inflation pressures. In 2001 the nervousness in the financial markets, the event of 9/11 and the changed political landscape, especially about Iraq, made the company sector slow down investments. The economic growth level dropped to 1% and unemployment was to rise to 6% in 2002. In 2002 the Federal Reserve lowered its base rate to 1%.

The real question is: Are recessions foreseeable and if so what could be done to alleviate the pressures on individuals and on the economy in general.

This is not just a question for the U.S. economy, but for all economies in the world. What has changed is the way that economic growth has been achieved over time. The change is linked to borrowing levels. The IMF in its latest reports<sup>3</sup> estimates the 2016 world's GDP at current prices stands at \$74 trillion. It also assessed that the world's debt levels for 2016 stand at \$152 trillion. Debt to output levels worldwide is currently running at 205%. According to the IMF two third of the debt is taken up by the

<sup>3</sup> <http://www.imf.org/external/pubs/ft/weo/2016/01/pdf/tblparta.pdf>

private sector, or around 140% compared to output levels. These debt levels, especially the changes therein, can cause major disruptions to economic growth rates.

### **1.3 Government debt and long-term household debt in the U.S. compared to nominal GDP over the period 1997-2015**

The two main types of long-term debt that are not linked to profit making are: individual household' mortgage debt and government debt. Student loans are also a type of long-term debt and can be regarded as a debt on future earnings. However since the volume of student loans in the U.S. has only recently exceeded the \$1 trillion mark, they have not been included in the figures below.

Debts of any type need debt servicing out of current income. Hence such debts need to be compared to nominal GDP data.

In table 2 U.S. nominal GDP data are compared to the outstanding mortgage debt and to the U.S. Federal government debt levels over the period 1997-2015.

**Table 2: U.S. nominal GDP in U.S.\$ trillions and the outstanding mortgage levels and Federal Government debt levels as a percentage of nominal GDP 1997-2015**

<b>Year</b>	<b>Nominal GDP x \$ trillion</b>	<b>Total Mortgage Debt as % of GDP</b>	<b>Total Fed. Gvt Debt as % of GDP</b>	<b>Year</b>	<b>Nominal GDP x \$ trillion</b>	<b>Total Mortgage Debt as % of GDP</b>	<b>Total Fed.Gvt Debt as % of GDP</b>
1997	8.609	43.6%	62.6%	2007	14.478	73.3%	62.8%
1998	9.089	44.6%	60.2%	2008	14.719	71.9%	73.5%
1999	9.661	45.9%	58.2%	2009	14.419	72.3%	84.5%
2000	10.285	46.8%	54.1%	2010	14.964	66.3%	92.1%
2001	10.622	50.1%	55.1%	2011	15.518	62.5%	96.4%
2002	10.978	54.9%	57.7%	2012	16.155	58.7%	100.8%
2003	11.511	60.0%	59.2%	2013	16.692	56.3%	100.9%
2004	12.275	64.0%	60.5%	2014	17.393	54.0%	102.5%
2005	13.094	68.1%	61.1%	2015	18.036	52.6%	103.8%
2006	13.856	71.5%	61.7%				



The main conclusion out of tables 1 and 2 is that changes in the long-term debt situation of individual households can have both positive, but also strongly negative effects on short-term economic growth. Table 1 shows a positive short-term growth level for 2010, but the long-term household debt problems, especially mortgage debt levels, had not been solved, as table 2 shows. Another fascinating fact is that U.S. government debt barely changed as a percentage of nominal GDP over the period 1997-2007, but dramatically increased from 2008 onwards.

Households' mortgage debt levels increased very rapidly from 2001 to 2007, both in actual levels and more importantly as a percentage of nominal GDP levels. The national gearing ratio on mortgage debt went up and up over this period. The IMF in its International Financial Statistics overview for the period 1990-2003 assessed U.S. household consumption level at 67.8% of GDP.

The clash that occurred over the period 2001-2007 was that when the growth in long-term household debt far outstripped GDP levels, at some stage the repayment obligations would force consumption levels to be reduced. The statistics on foreclosure filings provide the clearest indication for the start of the turn around point. When the filings level starts to go up, the finance providers put households under increasing pressure to allocate more of their income to debt servicing. This leads to a reduced macro-economic consumption level. If this happens on a large scale as happened in the U.S. over the period 2005 to 2014 when 23.250 million households were confronted with foreclosure filings out of the 51.6 million households who had a mortgage in 2007, then a recession and a slow growth period sets in.

In the U.S. case, the financial markets through their extensive use of mortgage-backed securities accelerated the process. These securities were daily tradable and in 2007 the French bank BNP Paribas stopped trading in three funds as there was no liquidity in the market any longer. U.S. long-term mortgage debt had been converted to daily tradable instruments for sale in the U.S. but also in many countries outside the U.S. In 2007/2008 generally banks around the world did no longer trust one another and the financial system came under immense liquidity pressures. Some banks like Lehman Brothers went under.

What has often been overlooked or just accepted as consequence of a free market philosophy is that the debt service obligations from a mortgage debt do not only affect an individual household but also equally influence the macro-economic situation.

In 1997 the total U.S. mortgage debt constituted 43.6% of Nominal GDP. In the same year the number of new housing starts were 1.5 million. If in 1997 all new mortgage lending would have been allocated to newly built homes, each home would have a mortgage attached to it on average of \$227,580 while the average U.S. home sale price was \$ 176,200. The volume of mortgage lending per new home was already slightly above the average price level of existing homes. Such a situation forces the prices of existing homes to go up. If from 1997 average house prices had followed the CPI index,

the 2007 average home sale price would have amounted to \$235,710. The actual level was \$313,600 or 33% above the CPI indexed house price. Such house price inflation, far above the CPI inflation level, can be directly attributed to the increase in the total mortgage debt level as a percentage of nominal GDP. In 1997 this percentage was 43.6%; by 2007 it had reached 73.3%. The volume of mortgage lending over the period 1997-2007 was the cause that in 2007 new homebuyers had to pay a premium of 33% over what their average income could bear. The growth in average income has been assumed as following the nominal growth in GDP of the economy. Those families lucky enough to have sufficient savings to purchase a home outright were not directly affected by the mortgage crisis. Based on past experience many of those richer families were willing to take a punt on a future appreciation in house prices. The real losers were the lower and middle-income classes, not rich enough to buy a home outright out of own funds: the working class households.

## **1.4 The economic impact of the overpriced U.S. housing market**

### **1.4.1 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 individual households. Between 2005 and 2014 over 23.250 million households were confronted with foreclosure filings<sup>4</sup>. This compares to the about 51.6 million households who in 2007 had a mortgage in the U.S. 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. The over 6 million homes repossessed also caused a strong brake on new housing starts. Around 1.5 million new homes were built annually from 1998 to 2006. Over the years 2007-2016 the average output of new homes dropped to nearly 900,000, which accidentally totals up to 6 million less homes being built over the period 2007-2016 as compared to the period 1998-2006. Four years of new housing starts were lost in the period 2007 to to-date: a major loss in output and GDP growth. The latest available data show that in August 2016 the annual new housing starts on a

---

<sup>4</sup> <http://www.statisticbrain.com/home-foreclosure-statistics/>

seasonally adjusted basis reached just 1.142 million new homes. This is still well below the more than the 1.5 million of 1997-2006, reached before the crisis.

Table 2 shows another fascinating fact. Notwithstanding the lowest interest rates on record, individual households were forced or took the initiative upon them to lower their outstanding amount of mortgages by just over \$1 trillion<sup>5</sup>. They did so from 2007, when mortgage debt as a percentage of GDP reached a high of 73.3%, to 2015 when this level was brought back down to 52.6%. Again this action by individual households shows that the adjustment period back to a sound financial situation for such households has taken nearly ten years. The effect was, of course, a subdued growth in GDP.

Another effect of the overfunding process in home mortgages during 1997-2006 manifested itself in the development of the average U.S. home sales price. As stated above, by 2007 average house prices were 33% over the CPI indexed house prices with as base 1997. From its peak of \$313,600 in 2007<sup>6</sup>, average house prices dropped to \$263,400 by 2011, to only gradually reach the 2007 level by 2014. Again such price adjustment shows just how long it took the markets to get back up again; an adjustment period of seven years. Overfunding led to overpricing of homes, which as a consequence led to a period of underfunding, lower output of new homes and stagnation in prices. The latter process shows just how long the house funding cycle has lasted: nearly twenty years. The interlude of mortgage-backed securities should not detract the reader that the risks to the U.S. economy did not originate from the funding side of mortgages but from the lending side. Overfunding and poor quality mortgage products were to blame for the crisis, with overfunding having by far the biggest impact.

#### **1.4.2 The impact on U.S. government debt levels**

Table 2 did illustrate another main effect of the household mortgage crisis: the explosion in U.S. government debt from 62.8% of nominal GDP in 2007 to 103.8% in 2015.

Table 3 will illustrate how U.S. government revenues held up as a percentage of nominal GDP for the years 2007-2015.

---

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

<sup>6</sup> <https://www.census.gov/construction/nrs/pdf/uspricemon.pdf>

**Table 3: U.S Federal Government Revenues as compared to nominal GDP 2007-2015**

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Nominal GDP x \$ trillion</b>	14.478	14.719	14.419	14.964	15.518	16.155	16.692	17.393	18.036
<b>Fed.Govt Revenue x \$ trillion</b>	2.57	2.52	2.10	2.16	2.30	2.45	2.775	3.021	3.250
<b>Revenue As % Nominal GDP</b>	17.57%	17.12%	14.56%	14.43%	14.82%	15.17%	16.62%	17.37%	18.02%

In 1997 the percentage of Federal Government revenues out the nominal GDP was 18.35%. When losses occur both through increased unemployment levels and through company, bank and other institutions losses, the Federal Government will, like all governments, see their revenues flows reduced. Table 3 illustrates this fact very well, especially for the period 2009-2012.

If the Federal Government revenues had been maintained at 18.35% of nominal GDP throughout 2007-2015, it would have brought the total revenue level just about \$3 trillion higher than was experienced. Over the same period the U.S. Federal Government decided to follow the Keynesian method of pumping more money into the economy to the extent of some \$ 7 trillion. The combined figures of around \$ 10 trillion constitute the increase in U.S. Federal Government debt levels from Q1 2007 to Q4 2015. If one studies the nominal growth in GDP from 2010-2015, one can safely say that more than 90% of the growth in GDP originated from the U.S. government reducing its tax take from society (\$3 trillion) and increasing its spending programs (\$7trillion).

#### **1.4.3 The impact on employment levels and home ownership**

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 2008<sup>7</sup> to 5.4% in May. By

<sup>7</sup> <http://data.bls.gov/timeseries/LNS14000000>

December 2008 the rate had further risen to 7.3%. 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.

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 rate<sup>8</sup>. 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 and thereby to an economy as a whole.

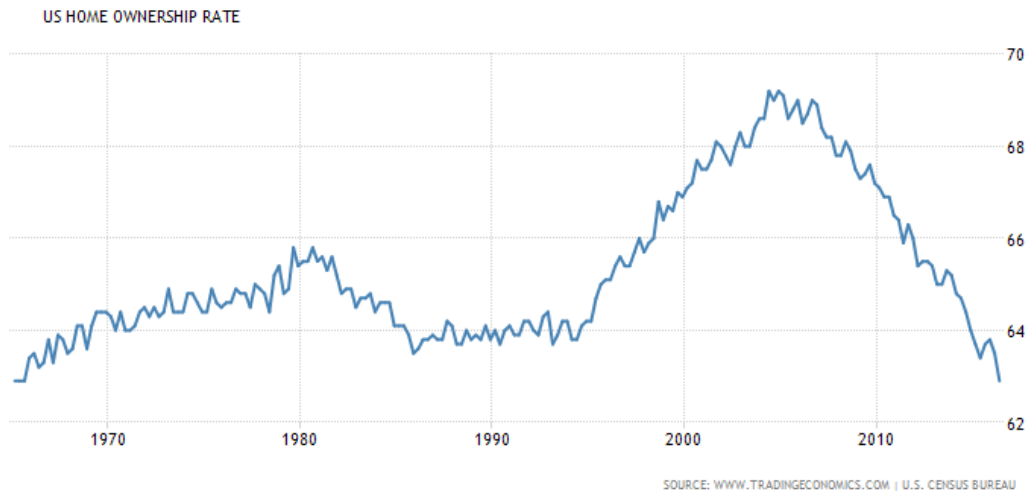
## **Home ownership**

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.

---

<sup>8</sup> <http://data.bls.gov/timeseries/LNS11300000>

Graph 1: U.S. home ownership rate over the period 1965-2016<sup>9</sup>



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 6.145 million repossessed homes played a role in lowering the home ownership percentage. If these homes had not been repossessed, the home ownership level by the second quarter of 2016 would have been at the higher level of 67.46%.

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.

## 2. Economic policy options

### 2.1 Why did the policy instruments that were used work so poorly?

One has to consider what incurring a debt position really means. For individual households it extends their scope of acquiring goods and services. Incurring long-term debt for acquiring a home is for nearly all households the most important debt obligation ever entered into. No individual household can be blamed for taking out a mortgage loan while simultaneously forgetting to consider the wider implications on the total level of

<sup>9</sup> <http://www.tradingeconomics.com/united-states/home-ownership-rate>

mortgages taken up in a particular year. The Fed in raising interest rates can and should not blame individual households in not fully being able to foresee such actions.

If households are no experts in foreseeing interest rate movements, banks generally do not have it within their powers to manage the total volume of new mortgage lending in any year in the U.S.

In his book: “The Courage to Act”<sup>10</sup> Dr. Ben Bernanke states that the Board of the Fed considered monetary policy not to be the right tool for addressing a possible housing bubble. With substantial foreign capital flows coming into the U.S., the use of the interest rate tool was thought to be inappropriate for fighting asset bubbles. He continues: “Unfortunately regulatory and supervisory tools were not used effectively, either by the Fed or by other financial regulators”. “Another problem was the lack of coordination between the various regulatory authorities.”

One can make a few observations about the opinions expressed. Table 2 clearly shows that the core of the problem was the rapid growth in the volume of lending for home mortgages, outstripping the growth in nominal GDP by a large margin. Lending growth for home mortgages was a U.S. based activity, whereby both lenders and borrowers were U.S. based. It was the lending speed that was the cause of the housing crisis, not the way it was funded, either from domestic sources or from abroad.

Secondly the “asset price bubble” was the result of a lending boom, not the origin of it. If the lending boom had been constrained, U.S. house prices would have moved up much more slowly and the speculation effect would also have been dampened.

Thirdly the lending boom was considered a private matter for banks. As long as the banks were kept in a healthy state, i.e. could absorb the losses made on mortgage loans, then the risks were supposed to be manageable. Of course, what banks did was to offload such risks to mortgage backed security buyers. A risk transfer system, which created the additional risk of daily liquidity calls.

What was totally overlooked, were the risks to the income levels of individual households. The question to answer should have been: at which point did mortgage debt become too heavy a burden for incomes to cope with? In the U.S., but also in other countries, it is unclear which unit of government stands up for individual households if they collectively get into financial problems, especially if such problems originate from uncontrolled and excessive mortgage lending volumes?

## **2.2 Fed funds rate**

The Fed did not regard monetary policy the right tool to restrain mortgage lending as Dr. Bernanke indicated in his book. However one should not underestimate the effect of the interest rate policy on the mortgage volume over the period 2001-2006.

---

<sup>10</sup> <http://couragetoactbook.com>

In 2001 the Fed lowered its Fed Funds rate from nearly 6% to 1.8%. In 2002 and 2003 it lowered these rates even further to just below 1% by the end of 2003. The total mortgage debt as a percentage of nominal GDP rose by 1 percentage point in 1998 over 1997, by 1.3 percentage points in 1999, by 0.9 percentage point in 2000, to jump by 3.3 percentage points in 2001, 4.8 percentage points in 2002, by 5.1 percentage point in 2003 and another 4 and 4.1 percentage points in respectively 2004 and 2005. In 2005 the Fed increased the Fed funds rate to end the year at 4.16%. In 2006 this move slowed down the growth rate in mortgage lending somewhat, albeit to reach the very high level of 71.5% of the nominal GDP level.

The foreclosure filings tell the full story of how households were able to cope with the extreme levels of mortgage lending. In 2004 there were 640,000 foreclosure filings, in 2005 802,000 and by 2006 there were 1.215,000 filings; nearly double the 2004 level. And this was just the beginning of mass filings.

One can safely say that the low interest rate environment from 2001-2005, which may have been agreed upon for reasons other than the home mortgage market developments, certainly seems to have encouraged an accelerated growth in home mortgage lending, rather than restraining the volume of new mortgages. As Dr. Bernanke admits in his book: regulatory and supervisory tools were not used effectively.

What is remarkable is that low interest rates may have been an influential factor in stimulating the mortgage market over the period 2001-2006, but that the same low interest rates over the period 2008-2015 had a totally different effect. Over the latter years the mortgagors paid back a net \$1 trillion and reduced the total mortgage debt as a percentage of nominal GDP from 73.3% in 2007 to 52.6% by 2015.

The reason for this development is quite simple. Individual households were forced or took it upon themselves to reduce their mortgage borrowing levels. The appreciation of house prices had gone with the over 6 million repossessed homes coming on the market. On top of this, the pressure by lenders to repay outstanding mortgages had intensified immensely. No low interest rate level could either entice more borrowers or induce lenders.

The forced reduction in debt, the strongly increased level of unemployment and the reduced labor force participation rate all added up to a lower level of disposable income for individual households; a situation which only slowly improved between 2008 and to date.

## **2.3 Quantitative easing**

The Federal Reserve decided to acquire both U.S. Treasuries as well as mortgage backed securities. Over several tranches \$2.5 trillion in Treasuries and \$1.7 trillion in mortgage backed securities were acquired. These bonds are still on the balance sheet of the Federal Reserve as of the end of October 2016.



Just using two data can show the effects of quantitative easing on the yield of U.S. treasuries: on 12<sup>th</sup> June 2007 the 10-year yield was 5.26%. Precisely nine years later on the 13<sup>th</sup> of June 2016 -after the U.S. government debt had doubled between 2007 and 2016- the 10-year yield had dropped to 1.62%.

The act of buying U.S. Treasuries did lower long-term rates dramatically; but did it help individual households to service their mortgage debt obligations? The same question can be asked about the acquisition of mortgage-backed securities. In both cases the winners were the owners of such Treasuries and mortgage bondholders and not the individual households who had a mortgage. The lenders won, the borrowers lost out.

Quantitative easing has had a number of serious side effects: Pension funds make poor returns and are often forced to cut the payout to their pensioners. Companies running defined benefit pension schemes are forced to allocate a larger share of their profits to filling the black hole that is the actuarial deficit run up by these pension funds. In this manner company profits are not used for investment purposes to grow the business. When interest rates will start to rise, holders of such securities –including pension funds, insurance companies, banks and central banks- will sit on substantial mark to market losses. Maintaining low interest rates is also not an option as savers will have to put more money in their defined contribution schemes to ensure that they might have a reasonable pension payment in old age. Buying up corporate bonds is fraught with danger as it gives preferential treatment to some companies over other ones. Why should large companies be helped over small and median sized ones, as the latter are the main creators of employment opportunities?

The main mistake about QE was that it did help the lenders and owners of bonds, but did nothing to soften the blow to individual households that got into financial difficulties as a result of the overfunding and thereby overpricing of homes as was shown in table 2 and above text. QE was an afterthought after the lending horse had bolted. During 2003-2006 the courage to act was not there to prevent the mortgage-lending boom taking place.

In a recent study by the Bank of England on the effects of quantitative easing, it concluded that it had a material impact on financial markets, generating a significant loosening in credit conditions and it served to boost temporarily output and prices. Although growth and inflation have not taken off dramatically, the research found that QE did boost corporate borrowing, reducing costs for companies and encouraging investments, and thus the economy.

This may all be true, but as the case of the U.S. demonstrates, the consumer demand side was severely affected by the excessive mortgage-lending boom and subsequent reversal of this process from 2008 and later years. To help supply grow seems somehow irrelevant when major debt factors restrain individual households in their consumption level.

### **3 The losses to American society**

#### **3.1 The losses to individual households**

Individual households were and have been the main losers in the adjustment process. They lost over 8 million jobs between April 2008 and October 2009. It took from April 2008 to October 2015 to reach the 5% unemployment rate again. 23.250 million households were confronted with foreclosure proceedings or 45% of all households with a mortgage. All these households had to prioritize debt servicing out of their incomes over consumer spending. Individual households lost 6.145 million homes due to repossession over the period 2006-2014. The real median household income was \$57,423 in 2007 and up to date this level has not been exceeded yet. In other words household incomes have dropped in real terms. The labor force participation rate has dropped from 66.1% in May 2008 to 62.8% by July 2016.

Individual households lost jobs, homes, incomes and to some extent the chance to participate in the labor force. This happened all as a result of the unchecked excessive mortgage-lending pattern that took place from 2002-2007. If this was not enough, the consequences of the deterioration in individual households' financial position led to even greater losses for the U.S. government.

#### **3.2 The losses to the whole population of the United States**

When individual households lose jobs, incomes and homes, the performance of companies and the financial sector also take a battering. Company losses are made. According to tax rules in the U.S. as in many other countries, such company losses can be offset against profits in subsequent years. Table 3 shows the effects of such losses on Federal Government revenues. The size of this loss over the period 2008-2015 was calculated as adding up to \$3 trillion. In other words the financial crisis caused a loss to the whole U.S. population of \$3 trillion. In 2015 there were 124.6 million households in the U.S., therefore the loss was \$24,077 for each household.

As a result of the financial crisis not only did individual households lose jobs, income and over 6 million homes, they each were faced with an additional debt of over \$24,000 to be paid off out of future income.

It did not stop there. The U.S. government in its desire to get the economy back on track subsequently spent an extra \$7 trillion on economic stimulus measures over the period 2009-2015. This fact adds another \$56,180 to the debt per household. The financial crisis increased government debt per household by over \$80,000!

One may have to consider whether such tax loss absorption reflects a fair distribution of incomes between companies and individual households. Fair taxation rules would give individual households the same rights as companies to offset losses against future

incomes. However, this would leave the U.S. government seriously out of money and would probably not be very practical.

The monetary policies pursued (lowest interest rates on record and quantitative easing) led to further losses in income for companies with DB pension schemes, for individuals within DC pension arrangements, for life insurance companies with guaranteed payouts on annuity contracts and for all institutions holding government bonds when long-term interest rates start to rise. The size of such losses are not so easily quantifiable, but the very fact that the IMF warns for large scale insolvencies for these pension funds and life insurance companies if current low rates are maintained, is sufficient to take these threats seriously.

For the U.S. economy the economic focus need a shift towards loss avoidance and in case losses were not avoided a loss prevention strategy.

The best option would have been to prevent the financial crisis occurring in the first place, however this was not done. The second best option would have been to help individual households in meeting their financial obligations, with conditions attached. In the next section proposals of how this could have been done have been set out.

What should be clear from above losses is that individual households have been the clear losers both individually and collectively. Macro-economic debt management arrangements for them have failed to the detriment of all households.

#### **4 Some conclusions and recommendations**

The main conclusion that can be drawn from the events explained in this paper is that it does not make economic sense to let individual households drown in mortgage debt, only to see the economy create much bigger losses in order to get economic growth back on track.

The focus on economic growth rather than on debt management has led to the wrong policy applications in order to try to get the U.S. economy growing again. Initially the unfettered growth in mortgage lending, especially from 2003-2007, which was left unchallenged, caused households to be exposed to a debt level that they could not service any longer. The policy responses from 2008 onwards, setting the lowest interest rates on record and the use of quantitative easing did not address the existing debt management issues for individual households. The system of letting a privately owned banking system sort out such debt management situation did exacerbate the problem, rather than solving it in the best interest of the whole nation. The losses created by such faulty economic solutions did cost the U.S. (and also other nations following the U.S. lead) far more than any adjustment to the cash flows of individual households would have costs. The period after 2008 has been one of a slow economic growth pattern, a huge increase in U.S government debt, extremely poor returns for savers, including for the many who try to build up a decent pension pot and finally real wage levels that did drop since 2008.

For the U.S. economy the economic focus needs a shift towards loss avoidance and in case losses were not avoided a loss prevention strategy. This focus is a focus on particularly individual households. They suffer the prime losses in case of excessive mortgage lending growth levels. Their losses cause companies and after that the government to start losing incomes.

### **Institutional set up**

The question needs to be raised whether the Fed was the logical U.S. entity to deal with the individual household mortgage debt crisis. Of course it is logical that, over the period 1997-2007, the Fed in its role as main U.S. banking supervisor could have acted to restrain banks in their home mortgages' lending volumes. However, during this period banking supervision was a fragmented activity between the twelve individual Reserve Banks, the Office of the Controller of Currency for banks chartered at the federal level, State-banking supervisors for banks with a state charter, the Federal Deposit Insurance Corporation examining some state chartered banks, the Office of Thrift Supervision regulating savings institutions and the National Credit Union Association overseeing credit unions. With this fragmentation, enforcing volume control measures over a mortgage-lending boom became an institutional nightmare. It did not happen.

A second question could be: For the period 2008-2016 was the Fed the logical entity to deal with the liquidity crisis of over 23 million individual households? The obvious answer is negative. Banking supervision, inflation management, combatting unemployment levels, liquidity management for the banking system are all tasks entrusted to the Fed, but solving individual households' liquidity problems is not one of them and logically speaking neither should it be.

Over the same period, the second issue concerned the banking sector and the mortgage bondholders. The problem was, and still is, that lenders, be they banks or mortgage backed securities holders, require households to pay on time and in agreed amounts to service their mortgage debt. For banks it affects their profit levels if their borrowers do not repay in line with the agreed contracts. For mortgage bondholders, whom have no direct relationship with individual households, late or no payments caused an immediate loss in bond values.

Banks' drive for short-term profits and the value orientation from mortgage bondholders do not square easily with the subsequent losses to households, the government and ultimately to the whole economy in lost growth periods. Over the period 1997-2007 banks benefitted excessively from the mortgage-lending boom. During the current adjustment period for individual households, which lasted from 2008 to this year, banks and bondholders were the least likely to work for the common goal of economic growth. The short-term interest of each bank or bondholder in managing profits or values motivates banks to call their loans as soon as they become overdue. The longer-term repercussions on the economy are not taken into account as they are in conflict with the short-term profit/value objectives of banks and bondholders. A new system of risk sharing is needed to avoid economic downturns.

## **Risk sharing**

In the U.S case, prevention of the mortgage debt crisis was not undertaken. A loss prevention strategy could have worked, as will be set out later, but a loss avoidance strategy is also needed.

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 October 13th, 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. As it was: the level of Federal government debt 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 fulfill 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"<sup>11</sup>, 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.

---

<sup>11</sup><https://mpira.ub.uni-muenchen.de/68990/>

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 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 and nominal GDP growth. 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 2010<sup>12</sup> 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 2015<sup>13</sup>.

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,

---

<sup>12</sup> <http://fpc.state.gov/documents/organization/203740.pdf>

<sup>13</sup>

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

If 3% was the expectation of the annual level of doubtful debtors before the amber stage, the 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. 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 1.5 million new homes were needed, the cumulative shortfall over the period 2008-2015 reached 6 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.

Drs Kees De Koning  
Chorleywood, U.K.  
24<sup>th</sup> October 2016

## References

- I.M.F. Washington. D.C. Global Financial Stability Report, October 5, 2016  
<https://www.imf.org/external/pubs/ft/gfsr/>
- PricewaterhouseCoopers, London. Pension deficit growths by £100 billion in a month, according to PWC's Skyval Index, 1 September 2016, Pressroom
- I.M.F. Washington D.C. World Economic Outlook April 2016, Table 1.  
<http://www.imf.org/external/pubs/ft/weo/2016/01/pdf/tblparta.pdf>
- Statistic Brain Research Institute, California, Home foreclosure statistics;  
<http://www.statisticbrain.com/home-foreclosure-statistics/>
- U.S. Federal Reserve Bank of St. Louis, B101, Balance Sheet of Households and Non-profit Organizations, historical data on outstanding mortgage borrowings;  
<http://www.federalreserve.gov/releases/z1/current/z1r-5.pdf>
- U.S. Census Bureau, Washington D.C. Average house prices in the U.S,  
<https://www.census.gov/construction/nrs/pdf/uspricemon.pdf>
- 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>
- U.S. Census Bureau, Washington D.C. , Trading Economics: U.S. Home ownership statistics 1965-2016;  
<http://www.tradingeconomics.com/united-states/home-ownership-rate>
- Ben S. Bernanke, The Courage to Act, 2015, ISBN 978-0-393-24721-3, W.W.Norton & Company, New York  
<http://couragetoactbook.com>
- C.J. De Koning, 'Why borrowers rather than banks should have been rescued', 23rd January 2016, MPRA paper 68990  
<https://mpra.ub.uni-muenchen.de/68990/>
- Linda Levene, Congressional Research Service, The Increase in Unemployment Since 2007: Is it Cyclical or Structural?  
<http://fpc.state.gov/documents/organization/203740.pdf> January 24<sup>th</sup> 2013
- U.S. Department of the Treasury, Bureau of Fiscal Services, History of Public Debt  
<http://www.treasurydirect.gov/NP/debt/search?startMonth=12&startDay=31&startYear=2007&endMonth=12&endDay=31&endYear=>