After the Great Recession; the Laws of Unintended Consequences

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19 March 2019

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The Laws of Unintended Consequences

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19th March 2019

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Introduction

The United States (U.S.) financial crisis of 2008 created a recession: the Great Recession. A recession is technically declared over after two subsequent quarters of economic growth. By Q3 2009 this recession was declared over.

However the laws of unintended consequences show a totally different picture. Between May 2007 and October 2009 nearly 7 million U.S. individuals lost their jobs and thereby their incomes. It took just over ten years before the unemployment rate had dropped again to 4.4% -to what it was in December 2006.

Equally unintended was the development in the real median household income. In 2007 this income was $59,534. It dropped to $54,569 for 2012 and it only returned back to the levels of 2007, by 2016.

Another unintended consequence was the difference between the fix for the banks in trouble and those for individual mortgage borrowers in trouble. Nearly all banks were bailed out in 2008, with the odd one declared bankrupt. For individual households/mortgage borrowers there was no respite in being pursued for outstanding mortgage debt. Over the period 2007-2014 21.228 million U.S. households were confronted with foreclosure proceedings. This number represented 41.4% of all household mortgage holders in the U.S.

House prices tumbled after 2007. The S&P/Case-Shiller national home price index seasonally adjusted stood at 184.52 in January 2007 and for the first time only exceeded this level by November 2018 at 184.87.

New housing starts also dropped significantly. In January 2006 the number was 2.273 million annualized new starts. The trend line moved from annualized 490,000 new starts in January 2009 to 1.230 million by January 2019.

Another main unintended consequence of the financial crisis was the effect on U.S. government borrowings. U.S. Federal debt increased by $4.8 trillion between Q4 2007 and Q4 2010, while real GDP still shrank. In three years the Federal Government's debt increased by more than 50% and its growth did not stop there. Could it be argued that the government's debt increase paid the price for the bankers' follies?

Another major change was in interest rates. Fed funds rates have not been so low for over 60 years, until recently.

All these factors show that a more streamlined approach to economic thinking is needed. The interactions between the financial markets and the real economy can be better handled. Some suggestions are made in this paper.

1. The laws of unintended consequences

The effects of the U.S. financial sector activities on household jobs and incomes; on government debt levels and on other real sector activities such as new housing starts may all be well recognized, but now after a 10 year period after the Great Recession they can be fully analyzed.

The first fact was that the causes of the financial crisis were to be found in the actions of banks, finance companies and of hedge funds. Home mortgage loans cannot be created by hedge funds, so the principal responsibility for excessive mortgage lending can only be attributed to the U.S. banking and finance sector, including foreign banks operating in the U.S.

The second main fact was that U.S. based banks and finance companies wanted to offload mortgage credit risks to third parties in order to be able to underwrite more mortgage loans. They did so in several ways. Hedge funds bought up a sizeable share of these loans. Loan obligations were split and sliced into various components and packaged for sale to the ultimate investors, supported by AA or AA+ ratings from the U.S. credit rating agencies.

Such Mortgage-Backed Securities ("MBS") were bought by pension funds, asset managers and other interested parties around the world. American Insurance Group (AIG), among others, offered credit default swaps, which made such investments a low risk. The second principle was that such securities could be traded on a daily basis, either on stock markets or through market makers. The conversion from long-term lending to daily pricing was complete: the conversion process.

Was daily pricing a necessary evil? It depends on what one buys and what the quality is of the underlying product. A product that is based on other peoples' savings is a totally different product than any consumer good for sale. Generally households do not postpone consumption, if there is any chance of losing the money saved. This applies most of all to the lower income groups as they can least afford such losses. However the lower income groups and nearly all of the younger generation households are the ones that cannot buy homes outright; they have to make use of other peoples' savings.

The securitization of mortgage debt was widespread in the U.S. In 2007 all securitized mortgage debt reached in total a volume of $7.3 trillion. By Q4 2007, the level of households' liabilities on home mortgages reached the level of $10.6 trillion.[1] The securitization level represented nearly 69% of all household mortgages and of which the level of subprime mortgages was $1.3 trillion[2].

[1] https://fred.stlouisfed.org/series/HHMSDODNS

[2]https://en.wikipedia.org/wiki/Subprime_mortgage_crisis#Subprime_mortgage_market

If the U.S. financial regulators had decreed that subprime mortgages were not to be included in MBS's, for the simple reason that they represented potentially high levels of losses, then the financial crisis would have had a very different shape. It was not that daily pricing would have been a problem. It was the inclusion of a high level of potentially doubtful debtors, which undermined the whole structure of securitization. If banks and finance companies had been forced to keep subprime mortgages on their books, then the appetite for extending such loans would soon have been lost. One should not equate the freedom of enterprise with the freedom to destroy an economy.

2. The "costs" of the recession

2.1 The costs per household

There are many ways to measure the actual costs of the Great Recession. A "simple" way is to add up all losses into a single figure. Researchers from the Federal Reserve Bank of San Francisco have recently done so[3]. They assessed that each U.S. citizen did lose a lifetime present value of $70,000. This calculation is based on the assertion that GDP growth levels have been 7% below the long-term trend line annually ever since 2008. With an average population number of 314.6 million over the period 2008-2018, the total cost for U.S citizens can be estimated at $22.02 trillion.

The $70,000 is a per capita amount and can be compared to the real median household income developments over the period 2007-2019[4]. The latest January 2019 data indicate that a level of $63,688 was reached, which is 6.98% over the 2007 level. December 2007 represents the official start of the Great Recession. The 2012 level was $54,569 and in 2016 the real median household income had climbed back to just over the 2007 level to reach $60,309. With 2.5 persons on average in a U.S. household, the loss for each U.S. median household has been the equivalent loss of 275% of such U.S. household's median annual income: 2 ¾ years of gross income! For those families with an income below the median, including the 7 million individuals who lost their jobs during the period between May 2007 and October 2009, the impact must have been much higher. In addition the loss in jobs lasted to March 2017 before the 4.4% unemployment rate was reached again.

There is another way to calculate the real income losses suffered cumulatively. One starts again with the real median income levels per household between 2007 and 2015. In 2007 this level was $59,534 per household. It gradually dropped to $54,569 in 2012 and improved to $58,476 by

[3] https://www.frbsf.org/economic-research/publications/economic-letter/2018/august/financial-crisis-at-10-years-will-we-ever-recover/
[4] https://fred.stlouisfed.org/series/MEHOINUSA672N/

2015. Only by 2016 did the real median household income exceed the $59,534 level of 2007. It became $60,309 in 2016. From 2016, households were no longer in a loss position. Taking into account the changing number of households over the years 2007-2015, the total real income losses added up to $3.182 trillion over this period. This figure does not include the losses on home values, on outstanding debts and on the collectively owned U.S. government debt levels.

There are at least three more aspects to be considered. The first is the actual mortgage debt level; the second the decline in U.S. house prices values and the third being the developments in U.S. government debt levels per capita.

The peak in outstanding home mortgage levels was reached in Q1 2008 at a seasonally adjusted level of $10.695 trillion[5]. This outstanding level was reduced to $9.451 trillion by Q3 2014, a net reduction of $1.244 trillion over this period[6]. Whether households paid their debt back or whether the financial institutions accepted write-downs, the result remains the same: the U.S. economy lost $1.2 trillion in the reduction of debts and/or in savings losses over this period. Over the period 2007-2014 5.875 million homes were repossessed[7] out of an approximate level of 53 million households who had a mortgage. One should take into account that many more of the 53 million households with a mortgage were put under immense pressure through foreclosure filings and completed foreclosures to pay back or reduce their mortgage amounts. Incomes that otherwise would have been used for consumption purposes were diverted to reducing outstanding debt levels.

A second aspect of the Great Recession was the drop in average house prices and a simultaneous drop in new housing starts. Over the period 2007-2014 5.875 million homes were taken away from borrowers and handed back to lenders. This fact had another unintended consequence: it created the drop in new housing starts and the drop in average U.S. home sales prices. Over the period 1997-2007 the average annual new housing starts were at a level of 1.7 million new starts per annum. Over the period 2008-2014 the average annual level was 779,000 new housing starts - running at 46% of the 1997-2007 period average. Another unintended consequence was the drop in actual house prices. The average U.S. home sales price did increase from $176,200 in 1997 to $313,600 by 2007. However this average price dropped by just over 16% between 2007 and 2011 from $313,600 to $263,400. In 2011 there were 132.78 million homes in the U.S. The average loss per home was $50,200 over this period. The (paper) loss was $6.665 trillion over the housing stock. This loss was a paper loss for many families, who had already paid off their mortgages; for others, who were in the early stages of repayment of their mortgages it created a

[5] https://fred.stlouisfed.org/series/HHMSDODNS
[6] https://fred.stlouisfed.org/series/HHMSDODNS
[7] https://www.statisticbrain.com/home-foreclosure-statistics

great problem. The asset values had dropped; their incomes had dropped but the outstanding debt levels had increased relative to house prices and average income levels. No wonder that 11% of all mortgage holders could no longer fulfill their obligations.

The drop in new housing starts to post-Great Recession levels of 779,000 units per annum represented another major loss to the overall economic health of the nation. The lower construction level of 921,000 less new homes per annum represented a loss of $242 billion annually in turnover or over 1.5% of GDP annually over the period 2008-2014.

The U.S. government, just like individual households, also incurred a major loss. In 2007, the U.S. population numbered 301.508 million, the nominal median income was $50,233 and the U.S. Federal government debt was $9.008 trillion. On a per capita basis this was $29,876 per each citizen in the U.S. In 2018 the population had grown to 326.167 million and the U.S government debt had increased to $21,658 trillion or $66,402 per every citizen in the U.S. The nominal median household income was $62,175 in 2018.

Over the 10-year period, the ratio of U.S. government debt per capita deteriorated rapidly. The ratio increased from 59.5% per each American in 2007 to 106.8% by 2018. A substantial share of this deterioration in government debt per capita can be directly attributed to the Great Recession as incomes and economic activities fell. For those who were lucky enough to remain in employment, real median household incomes declined between 2007 and 2015, and only were to begin to recover from 2016 onwards.

The conclusion out of this all is that the losses to individuals, to households, to the government, to the business sector and to investors in mortgage-backed securities was a multiple of the $1.3 trillion of outstanding subprime mortgages. It should also be noted that this only reflects the U.S. situation and not the cost to other economies around the world.

2.2 The economic consequences

One should make a distinction between a market driven and money driven recession. A potential market driven recession arises when the demand for one or another consumer good reduces to the extent that such drop in demand creates a sizable excess capacity for suppliers. This can happen due to an upward pressure on input prices: raw materials, intermediate goods or shortages of labor for instance.

A money-driven recession has a totally different origin. The Great Recession was not caused overnight; rather it was a recession that developed out of a gradual process that commenced from 2004. This process overloaded individual households with debt obligations not on basis of income levels, but on the basis of asset prices. Initially asset prices showed a pattern of the more money

pumped into mortgage loans, the higher the house prices became, especially between 2004 and 2007. The links between incomes levels and mortgage borrowings faded away through the actions of the lenders and also due to the generally irrational exuberance of a substantial share of the mortgage borrowers, who believed or hoped that house prices could only go up.

The history of U.S. market driven or money driven crises is well described in a publication[8] by The Balance. The 1973-1975 recession was caused by a sharp increase in oil prices: a market driven crisis. The 1980-1982 crisis was caused by a steep hike in interest rates to combat inflation as well as Iranian oil export embargo: a money driven and a market driven crisis. The 1990-1992 crisis was a savings and loan crisis: a money driven crisis. The 2001 crisis was also a money driven crisis as the speculation about the values of dot.com companies led to substantial financial losses. The 2008-2009 crisis was clearly a money driven crisis, induced by the realized or anticipated losses on subprime mortgages.

The solutions to a market driven and money driven crises are quite different as will be explained in Chapter 3.

Banks and finance companies in the U.S. did not set out to cause the Great Recession; neither did the Federal Reserve. It was the cumulative action of the combined banking and financial sector, the mispricing of mortgage risks, the transfer of such risks to third parties, the conversion of long-term debt titles into daily tradable ones and the lack of preventive measures that were responsible for the Great Recession. It was also the total lack of appreciation of what such a lending crisis could and would do to jobs, incomes, government debt and economic growth. Is it not telling that the researchers from the Federal Reserve Bank of San Francisco are wondering whether the U.S. economic growth rate will ever recover to its long-term trend line, after having lost 7% annually over the last 10 years?

The economic consequences were not only restricted to the U.S., but due to the sales of U.S. home mortgage credit risks to overseas buyers, the consequences were experienced widely around the world, both through the financial losses incurred overseas and to the subsequent deterioration in the purchasing power of a large swathe of the U.S. population. Banks had to be rescued not just in the U.S. but also in the U.K., Germany, Belgium, Holland, Spain and some other countries.

If one compares the level of securitized subprime mortgages of $1.3 trillion out of the $7.3 trillion MBS's, one can only be astonished by the destructive capacity to an economy of selling doubtful debtor loans to the financial markets. European countries were also strongly affected by the

[8] https://www.thebalance.com/the-history-of-recessions-in-the-united-states-3306011

subprime mortgage crisis. The first signs that something was amiss came from BNP Paribas in 2007, when it decided in August of that year that there was an absolute lack of liquidity for three of its asset backed investment funds and thereby it stopped trading in these funds. The situation caused by U.S. doubtful debtors had a significant impact on the U.K. and other European markets[9].

Money driven recessions can have a number of causes. For instance, governments can be the cause of a money driven recession. This can happen if a government borrows excessively on international markets, especially if this is done in currencies other than their own. Banks and the whole financial sector (including hedge funds, asset managers, pension funds and others) can also be the cause of a money driven recession if they lend excessively compared to incomes of governments, companies or large sections of individual households. Lending to companies can be in the shape of corporate bonds for instance.

In section 2.1 it was explained that jobs, incomes, home values, new housing starts and government debt levels were all significantly affected long after the recession was declared over. The laws of unintended consequences created a permanent change in economic growth patterns; a permanent change in U.S. government debt levels; a near halving of the new housing starts level after the recession; a very slow recovery of real household incomes and a very sluggish return to full employment levels.

What should also be mentioned is the economic damage that the inclusion of subprime mortgages in MBS's caused. The cost per household over a ten-year period, as set out in section 2.1, was a great multiple of the total volume of securitized sub-prime mortgage levels in 2007. The drop in economic activity, in jobs, in real income levels, in lower levels of new housing starts, in increases in U.S. government debt levels and in lower house prices far exceeded the $1.3 trillion of subprime mortgages included in the marketed $7.3 trillion of MBS's sold to the financial markets.

3. The responses to the money driven recession of 2008-2009

The U.S. government's response to the Great Recession can be described as a reaction to a market driven recession rather than a money driven one.

Its first major step was to sign into law in October 2008, the "Troubled Asset Relief Program": TARP[10]. This Program was originally authorized for an amount of $700 billion. Later in 2010 it was reduced to $450 billion. The Program was

[9] https://www.reuters.com/article/us-bnpparibas-subprime-funds-idUSWEB612920070809

[10] https://www.history.com/topics/21st-century/troubled-asset-relief-program

managed by the Treasury Department. It allocated $250 billion to purchase preference shares in 8 U.S. banks. It allocated $82 billion to support the auto industry; $70 billion to support AIG; $46 billion to help Americans confronted with foreclosure proceedings and $27 billion to restart credit markets.

The Federal Reserve also took action. It rapidly lowered the Fed funds rate from 5.26% in July 2007 to 0.16% by December 2008[11]. The longest period of ultra low interest rates began and only by May 2017 did the interest rate marginally exceeded the previous lowest rate dating back all the way from 1955.

The Fed also took major steps in buying up $3.7 trillion of U.S. Treasuries and mortgage backed securities over the period 2009-2012.[12]

The U.S government spent $4.8 trillion more than it received in taxes over the period Q4 2007-Q4 2013, while real GDP levels still dropped.

The distinction between a market driven recession and a money driven one was not used to help solve the problems caused by the subprime mortgage crisis. Market driven recessions require macro solutions, such as lowering interest rates; even quantitative easing exercises would fall under this heading, as would additional government spending levels. U.S. banks were nearly all rescued, interest rates were lowered to their lowest level for nearly 60 years and U.S. government debts saw their fastest increase from 2008-2013 since war times.

It may be appropriate here to quote an Aristotle saying: "History represents things as they are, while fiction represents them as they might be or ought to be."[13]

Economic history is now known and it is perhaps a good time to discuss what might have been done to avoid the Global Financial Crisis.

Subprime mortgages were a household related debt. The mix of prime, Alt A and subprime mortgages into MBS's increased the risk levels over such MBS's. Had each type of security only contained either Prime or Alt A mortgages, it would have been likely that losses on such loans would have been foreseeable by the buyers and incorporated in the purchase price. Bankers devised more "creative" methods and incorporated all types of mortgages as well as all types of stripping and mixing of such mortgages. Not only that, U.S. credit rating agencies often awarded the products an AA or AA+ rating, of course

[11] https://fred.stlouisfed.org/series/fedfunds
[12] https://www.cnbc.com/2016/06/13/12-trillion-of-qe-and-the-lowest-rates-in-5000-years-for-this.html
[13]http://libertarianfictionauthors.com/

without accepting any risk themselves, in case reality turned out to be less rosy than predicted.

This process created an even higher level of risks for the investors notwithstanding that those investors could obtain credit default swaps from, among others, AIG. The underlying obligors as the ultimate borrowers remained the same: the individual households - a real family or an individual person somewhere in the U.S.

It is for this reason that money driven recession requires actions on the micro level given that individual households were locked into long-term debt problems, due to the excessive lending approvals from banks and financial companies; 69% of all these long-term debts were subsequently converted into daily tradable obligations.

The actual actions that were taken led to the many unintended consequences as has been spelled out in Chapters 1 and 2, resulting in 17.205 million completed foreclosures over the period 2007-2014 and 5.875 million homes being repossessed. A micro financial problem had been turned into a huge macro-economic nightmare. The laws of unintended consequences were many and some of them, like the U.S. government debt situation, have created a near permanent change in economic circumstances. The trajectory of U.S. economic growth has also been altered, at least for over the last 10 years, with a growth level 7% below the long-term growth path.

Could there have been a successful micro approach that could have avoided this major economic upheaval?

It was remarkable that, in 2008, nearly all-economic energy was focused on what happened to the banks and finance companies in the U.S. Nearly all were bailed out and the penalties meted out to them reflected only a fraction of the losses that individual households, companies and the U.S. and overseas governments suffered as a result of their actions. Is it not ironic that the fines collected from banks were not returned to the mortgage borrowers, but were used for public works projects? What was missing was a comprehensive micro approach that would have started with the individual households in financial trouble.

Historically the U.S. government has been actively involved in the funding of home mortgages through its government-sponsored enterprises like Fannie May, Freddy Mac and Ginny May. These enterprises offered guarantees or long-term fixed rate funding. When doubts arose about the mortgage market in the U.S., the U.S. government made it clear that these institutions were of vital importance to the proper functioning of mortgage lending flows. After 2008, the percentage of new mortgages granted with the help of these institutions rose substantially, albeit these levels were far below the pre Great Recession levels.

4. What could have been done?

In order to discuss what could have been done one has to split the mortgage borrowers into two groups: the group of owner-occupiers and the group of "homes for rent" owners.

The TARP program allocated $46 billion to help Americans confronted with foreclosure proceedings. As aforementioned, the level of subprime mortgages outstanding in 2008 stood at $1.3 trillion out of the $7.3 trillion in outstanding MBS. The Tarp allocation was enough for only 3.5% of the outstanding subprime mortgages and for only 0.63% of the $7.3 trillion MBS outstanding. Very few experts could have told any layman what the mix was between subprime and other elements of a specific MBS. When in August 2007, BNP Paribas[14] declared that there was no liquidity any longer in three of its U.S. MBS funds; the fear factor took over. Nearly all MBS structures became suspect, including a fear factor for the banks that were holding portions of these mortgage-backed securities on their own books.

A possible solution to the Great Recession and thereby the Global Financial Crisis could have started with the micro level group of owner-occupiers. These households clearly had bought for the long-term, but were in the early stages of repayment of their mortgages. Some of them may have been induced by the low start-up variable interest rates in the hope of consolidation of the loan at a later stage.

The aim of such a micro-based scheme could have been to help individual households to avoid foreclosure, stay in their home, to continue to consume and pay taxes. As average house prices differ across the States and cities in the U.S., one can only develop a theoretical case for Mr. and Mrs. Sam.

Mr. and Mrs. Sam are a young couple with one child. They bought a house in March 2006 for $183,000 that was 60% of the average price of a new home in that year. They had a combined income of $48,201 in 2006, which was the median nominal household income. Mr. Sam worked for an insurance company and Mrs. Sam worked part time as a shop assistant. Mr. Sam's parents had helped the young family with a gift of $18,300 to get the family on the property ladder. The mortgage amount needed was $164,700. Their mortgage adviser advised them to take a low cost startup loan for two years at 2.6% per annum and then change to a Freddy Mac loan, which at the time of buying the house would have costs 6.32% per annum. Of course the cheap loan meant that in 2008, the loan amount needed to include at least the difference between the 6.32% and the 2.6% plus costs; i.e. 3.9% per annum.

[14]https://www.reuters.com/article/us-bnpparibas-subprime-funds-idUSWEB612920070809

The payments in year 1 and 2 (to March 2008) would have been interest costs $4,282.20 plus the repayment of $5,490 equaling $9,772.20 in year 1 plus a deferred interest amount of $6,528.60. For the second year the repayment amount would have remained the same at $5,490, the interest amount would have been $4,139.50: in total $9,629.50 plus a deferred interest amount of $6,783.20. The effect of the two-year debt servicing payments of $19,401.70 was substantially wiped out by the amount of deferred interest of $13,311.80.

In 2008 the family obtained a refinancing loan through Freddy Mac. Mr. and Mrs. Sam would have seen their outstanding mortgage debt level only reduced to $158,611 with a jump in annual servicing costs to $15,614 (interest plus principal amount).

From a gross combined salary of $48,201 and a tax take of $6,481, the payment of $15,614 for the mortgage payment represented 37.4% of the Sam's net household income, before costs of insurance, maintenance, transportation, medical care and utility costs are taken into account.

It is widely regarded in the U.S., that any percentage of net income allocated to mortgage debt servicing over 28% of net income exposes families to serious risks in case of unemployment, illness or other disturbances of income flows like childbirth[15]. Very often the lowest income classes are most at risk.

The question arises therefore: "What could have been done to prevent home mortgages debt servicing to be the millstone dragging the whole U.S. economy down?"

There is no need to worry about the top 25% of income earners. They usually have savings to fall back on in case of unemployment, plus their houses are often worth many times the median house price levels.

Economists should have been worried about the lower income families, those with incomes below the median income levels, the very families in the lower quartiles and especially the group of households that acquired a home say between 2004 and 2008.

A possible solution could have been to offer these families the option of a "sale, leaseback and repurchase of their home". Such solution could have worked as follows: a U.S. State agency (either an existing one or a newly created one) offers the affected owner-occupier family the opportunity to sell their home to the U.S government at the outstanding mortgage level. The government subsequently charges the family a rent for staying in the home with a rent limit

[15] https://www.investopedia.com/ask/answers/12/reasonable-amount-of-debt.asp

of 25% of the family's net income after deduction of government income taxes. The U.S. government settles the loans with the loan providers, but deducts 10% for miss-selling costs. Households agree to maintain their temporary leasehold out of their own funds.

Each household participating in the scheme would be given the right to buy back their home at the original transfer price.

Such a sale, lease back and repurchase scheme has many economic advantages.

Firstly it helps young (and median and low income) families to stay in their homes, rather than the upheaval, both in costs and in loss of savings, to have to move, because of repossession. Secondly the costs are spread across the household as well as the lenders via a penalty level. Thirdly the U.S. government is able to borrow at the cheapest rate of all households in the U.S. Finally, and perhaps most importantly, it avoids the economic downturns as described above.

For homeowners with more than one home, the proposed scheme would only apply to the home they lived in. For the other homes they owned it would depend if there were tenants in the home. In such case the rent payers would be treated as potential future homeowners. They could stay in the home with the same 25% of net income rule applied, but with the same proviso that the home repairs and maintenance costs are for their account. The tenants could also be given the option to ultimately buy the property at the price for which the government agency had acquired the property. For homeowners with multiple homes, the scheme would only apply to those, who were in arrears on their mortgage loans.

The U.S. median house price in Q1 2007 was $257,400; by Q3 2008 it had fallen by 12% over 18 months. Rapid action would have been needed to stop an accumulation of delinquencies. Assume that the average outstanding mortgage of the potential delinquents was $180,000 in 2008. Assume that the correct prediction was made about the potential total number of home repossessions of 5,875,000; then the Government agency in charge of the sale, leaseback and repurchase scheme would have needed about $1.06 trillion in funds, to convert the outstanding mortgage debt in cash and repay such funds to the lenders. Each of the originating lenders would be charged a tax of say 10% of the amount provided to their customers. For good order sake, this is less than the fines levied up to 2017 from the various banks for their participation in the sub-prime mortgage crisis[16]. The latter amounted to $150 billion.

[16] https://www.dw.com/en/financial-crisis-bank-fines-hit-record-10-years-after-market-collapse/a-40044540

Assume that the average household involved in the 5,875,000 repossessions had an average income of $30,000 after tax, and then each household would have paid $7,500 per annum for the right to stay in their home, for which the ownership had been transferred to the Government Agency. Such payments would represent an income for the Agency of $44 billion per annum. In effect such income would more than compensate for the government's borrowing costs.

5. Some conclusions

It should be understood that the aim of the sale-leaseback-repurchase scheme is to avoid all of the aforementioned unintended consequences.

Mortgage debt is and should be first and foremost a claim on the income of those who cannot afford to purchase a home outright: mostly the young and lower income earning families. If the income levels become insufficient to service such loans, because of the collective economic error of overloading households with mortgage debts, then the way out to prevent the mentioned unintended consequences is not to let the system sort itself out, but to intervene and help an economy to reduce the fall-out of such economic error. Such intervention should not be based on the usual solutions to a market driven recession: such as lowering interest rates, more general government spending and even quantitative easing. None of these would have helped to keep households in jobs, as the big shift in disposable incomes came from the pressure on households to pay off their mortgage early as debt levels started to exceed the home values.

To regard the Great Recession as a money driven economic crisis would have led to a different type of help: the temporary transfer of mortgage debt obligations to a government body. Such help would have had many benefits, like keeping up demand in an economy as family incomes would not have been reduced; government debt levels would not have increased so fast as tax receipts would have been kept up due to higher economic growth levels and interest rates could have been kept up at a somewhat higher level, so as to stimulate savings, especially for future pensions.

The concept that debts help to create wealth may be true for some companies, but it is certainly an ill-conceived principle for individual households. Savings should create wealth for individual households.

In two previous papers on Conversion Theory, the writer explains the effects of converting long-term mortgage loans into daily tradable obligations (paper I). In paper II the writer sets out a possible solution for a combined economic downturn in a number of world economies. As the Great Recession has shown, money and especially the U.S. dollar has a tendency to be the currency of choice for many overseas countries, therefore a national solution, like the one suggested in this paper is vital, but international co-operation is almost as important. Many U.S. based companies sell their products and services around

the world and so do companies based in other countries. Countries are interdependent these days, much more so then half a century ago!

The choice in economic management is not one between a capitalist system or a socialist one based on government ownership of major industries; the choice is one of correcting the errors made by a capitalist system and reduce the impact of such errors. The money driven corrections as set out above could be helpful.

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