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How savings can lower economic growth levels: the U.S. case.

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Introduction

Why is it that the rich seem to get richer over time and the poor cannot keep up with them? This is not only the situation in the U.S. but also in countries like the U.K., Germany, France and Italy. Wealth distribution is even more unequal than income distribution. For instance, in the U.S. according to the U.S Census Bureau¹, median net worth increased between 2000 and 2011 for households in the top two quintiles of the net worth distribution (the wealthiest 40 percent), while declining for those in the lower three quintiles (the bottom 60 percent). The result was a widening wealth gap between those at the top and those in the middle and bottom of the net worth distribution.

The Census Bureau's *Distribution of Household Wealth in the U.S.: 2000 to 2011*, states that the median household net worth decreased by \$5,124 for households in the first (bottom) net worth quintile and increased by \$61,379 (or 10.8 percent) for those in the highest (top) quintile. Median net worth of households in the highest quintile was 39.8 times higher than the second lowest quintile in 2000, and it rose to 86.8 times higher in 2011.

Could there be a link between debt levels, especially of the long-term variety of home mortgages, and wealth inequality levels? From the 116.8 million U.S. households in 2008, 73.6 million had a mortgage in that year, or 63% of all households. 33.3% of the 73.6 million households faced foreclosure proceedings against them during the period 2005-2015. The bottom 40% of all households owned less than 0.1% of all U.S. wealth, the top 1% owned 35.5% and the top 20% owned 87% of all assets.

In servicing mortgage debt, households on a lower income level have only their income to fall back on, while the wealthier households, can -if needed- service debt from accumulated assets. This difference between households has major implications for the economic consequences of excessive lending practices. In a paper: "How the U.S. financial crisis could have been averted"², this author analyses a link between income and mortgage debt and the consequences of ignoring such income link.

The consequence is that mortgagors experience a depreciation of the U.S. dollar in the event house prices rise faster than income levels, thereby impairing their future income capacity to spend on other goods and services.

¹ <https://www.census.gov/newsroom/press-releases/2014/cb14-156.html>

² <https://mpira.ub.uni-muenchen.de/77060/>

1. Household's wealth in the U.S.

1.1 Some key data.

By the end of 1996, the 99.63 million U.S. households had a total net worth of \$30.9 trillion³, or \$310,150 per household. By 2016 the total net worth had grown to \$92.8 trillion and the number of households had increased to 125.82 million. The net worth per household grew on average to \$737,600 by the end of 2016. Per household, net worth rose to an impressive 238% over the twenty-year period.

Non-financial assets grew from \$11.985 trillion to \$32.431 trillion, reflecting a growth rate of 270%. Financial assets grew from \$24.349 trillion to \$75.478 trillion over the same period - a growth rate of 310%.

The accumulation of assets indicates an impressive growth rate on average, but the average did not reflect the developments for those who had to borrow to get on the property ladder.

In 2008, the U.S. had 116.78 million households and 73.58 million of them had a mortgage. The average mortgage was \$142,700 or nearly three times the median earnings per household in 2008. When over 60% of all households in the U.S. are exposed to mortgage risks, one has to consider the links between income only households and income and wealth levels for the others. The borrowers were –to a very large degree- income earner only with a low level of financial assets, if any.

The Statista Portal⁴ has published data both on income and on wealth distribution in the U.S. Over 2016, the wealthiest 1% of the U.S. households owned 35.5% of the country's wealth level., the top 20% of households owned 87%. On the other hand the bottom 40% of U.S. households were in debt or had practically no share in the country's wealth. On income, the top 1% had a combined income of \$1.64 trillion in 2014, while the bottom 40% earned a combined income of \$1.58 trillion in the same year.

1.2 Differences affecting wealthy households and those on income only ones

The difference between a wealthy household and one in the bottom 40% is that the latter have to resort to borrowing in order to get a foot on the housing ladder. Wealth invested in shares and bonds carries the risk of losing value in the event of lower share or bond prices. The wealth owner experiences a paper loss.

³ <https://www.federalreserve.gov/releases/z1/19980911/z1r-5.pdf>

⁴ <https://www.statista.com/statistics/203961/wealth-distribution-for-the-us/>

If the share or bond prices improve, the owner experiences a paper gain. Only the act of actually selling or buying shares or bonds fixes prices. Only when such transactions take place are real gains or losses recorded.

Savings, a wealth category, which via banks and other financial institutions, can be converted into mortgages, have different terms and conditions. Firstly a mortgage is a term loan, rather than an open-ended instrument that can be traded daily on the financial markets. There is no daily market price for a mortgage, notwithstanding that the securitization of mortgage portfolios tried to establish such a collective market price. The latter exercise ended in abject failure, due to the quality mix of such mortgages.

Secondly, banks do not behave like wealthy owners of an asset. They don't wait to see whether a mortgagor might become capable again to service their debt, if the latter fails to keep up with the payments on the term loan. Banks also arrange for the property to be used as collateral.

Thirdly, banks and other financial institutions compete for business. The collective of banks were acting like lemmings running over a cliff in the run up to 2007. No lending restraints seem to have been applied from 1999 on. On top of this, from 2004 mortgage risks were increasingly sold to investors through mortgage-backed securities.

A mortgage borrower who no longer has the necessary income to support the debt servicing of his/her mortgage, does not only make a loss on paper, but suffers an actual reduction in income and may lose past savings accumulated in the value of the home as well: a double whammy.

It is this vital difference between savings used for own investments and savings allocated to help the lower income classes to acquire a home by taking on a loan-servicing obligation.

2. The past experience

In the paper: "How the U.S. financial crisis could have been averted", the underlying financial and other statistics were discussed. Firstly, the annual volume of home mortgage lending was calculated on the basis that the lending volume consists of two elements: (i) the net increase/decrease in outstanding mortgage amounts as provided in the Balance Sheet of Households and Nonprofit Organizations as published quarterly by the Federal Reserve in St. Louis⁵, and (ii) the annual volume of repayments of outstanding mortgages, replaced by new mortgages.

⁵ <https://www.federalreserve.gov/releases/z1/current/html/b101.htm>

In total, these two elements combined, reflect the volume of new mortgages written each single year. In above study, such volumes were reflected in the time series from 1996-2016.

The volume of mortgage lending can have an effect on the annual volume of new housing starts as well as on the average home sales price in the U.S.

Statistics for the Annual Housing Starts and average U.S. Home Sales Price were provided in the paper over the same period. Statistics for the Median Household Nominal Income were also given as an indication of the affordability of mortgage payments. 1996 was chosen as the start date. During 1996, housing starts were roughly in line with the population growth level. Secondly, the average home sale prices were close to the income affordability level. For the subsequent 20 years, the affordable level of average house prices was calculated on basis of the growth level in the nominal Median Household Income.

In 1996, the annual volume of new home loans amounted to \$329 billion. By 2003, the volume had increased to \$1.112 trillion. The \$329 billion was accompanied by 1.370 million new housing starts. By 2003, the \$1.112 trillion meant 2.057 million new homes being started. Incidentally, 2003 was also the top year for new housing starts during the whole period 1996-2016.

The key characteristic of the period 1996-2007 was a rapid growth in the volume of home mortgage lending, especially between 1997 and 2003, and remained at or above the 2003 level until 2007. The second defining characteristic was that the volume of lending had a substantial effect on average house prices, taking them far above the affordable level on basis of nominal median income growth levels. Over this period, nominal median incomes grew much more slowly than the average house prices.

3. The relationship between mortgage borrowing, income developments and house prices

Nearly all households that have to borrow to acquire a home are in the lower three quintiles (lower 60% of income brackets). This means that they are also nearly all in the lower wealth categories. As stated above, the lowest two quintiles –the bottom 40% of households- own practically nothing of the U.S. wealth levels. At least this was the status in 2014 and early indications are that only a slight improvement has taken place since.

When income is practically the only source of servicing debt levels, it makes sense to compare income growth with prices. This is done extensively through measuring consumer price developments with income growth.

What has been missing so far, or has been ignored to take into account for economic strategy purposes, is to compare income growth with house price inflation levels. In most countries, including in the U.S., house prices are compared to incomes. The (average) house price is divided by the current income and a multiple is established. What –to my knowledge- has not been done is to relate the annual volume of mortgage lending with the changes in income levels over time.

The consequences of house prices rising faster than the growth in incomes include a depreciation in the value of each U.S. dollar used for acquiring a (new) home. If mortgage borrowings are used to assist a household in acquiring a home and such household is depending on future income flows to repay such mortgage, then, by definition, the values of future income flows are reduced by the depreciation in current values as a consequence of the excess house price inflation levels over income growth levels. Less affordability means that for all entrants to the housing market a larger share of income needs to be allocated to acquire a home: this translates to depreciation in the value of each borrowed U.S. dollar used. Such depreciation applies equally to tenants. Rents, generally speaking, do go up in line with house price inflation. If potential mortgagors can no longer afford to buy, their only alternative is to rent.

From a lenders point of view, no depreciation in the value of a dollar lend takes place. This is because each dollar returned from a mortgagor has the same purchasing power for consumer goods and services as it had before the mortgage transaction. Lenders –banks and indirectly other households supplying the funds- are compensated with an interest margin for their mortgage provision. Landlords are equally compensated through higher rentals.

The key to understanding the economic events over the period 1996-2007 are reflected in this difference in the dollar values of future incomes for households acting as borrowers or tenants and those that supply the monies. The households needing to borrow to get onto the housing ladder as well as tenants see their future incomes reduced by the excessive growth of house prices as compared to income levels. On the other hand banks and indirectly households who provide the funds do not experience a similar decline in disposable incomes. The depreciation risks in dollar values –the relative reduction in future income flows- are clearly sat with the households that can least afford it.

House price rises above average income growth levels -as was the case from 1999-2007- undermine future income flows of all mortgagors, but especially the current and potential future borrowers. They also undermine the future incomes of all tenants. House price rises can be caused by two factors: a shortage of new homes being constructed -the U.K. case- or like in the case of the U.S., a sufficient level of new homes coming on the market with an excessive amount of mortgages attached to these homes.

Bankers and regulators should base their actions not on whether the banks will survive a house price crash, but whether the mortgage borrowers will survive such a crash. The latter determine future economic growth rates, while the banking sector has the ability -by excessive lending practices- to cause such a crash.

In this context, questions should be raised as to why banks and regulators rely so heavily on the collateral values of homes as security for their mortgages. When the financial sector oversupplied households with mortgage funds –as was the case from 1999-2007-, house prices rose faster than income levels. The collateral values were inflated thereby distorting loan to asset values. Credit risks go up, rather than come down under such a scenario. What is worse, of course, is the unwinding of such an overfunding situation, which happened from 2007 to 2015. 6.1 million homes were repossessed over the period 2006-2015. Such an unwinding process is economically toxic. Many jobs were lost; only by 2012 did the household median nominal income level surpass the 2007 level; over the whole period 2007-2016 new housing starts never reached the moderate level of 1.370 million of 1996. House prices started rising, especially from 2013 on, not because of an oversupply of new housing starts, but rather as a consequence of the opposite movement. Such undersupply particularly affects the lower income groups as ownership becomes an even more distant dream and rentals go up faster than incomes. The gap between high and low-income classes –both in terms of disposable income and in wealth levels- was further widened as a consequence of this whole cycle. Economic growth levels were significantly stymied.

Regulators need to oversee that the link between income growth and house price inflation is not caused by excessive lending actions by the banking system. Excessive lending is defined as causing house prices to rise faster than income growth levels.

The main driver for U.S. house prices rising faster than income levels over the period 1996-2003 was not that there was a shortage of homes for sale as actual housing starts moved up from 1.370 million in 1996 to 2.057 million in 2003, rather the volume of mortgage lending grew from \$329 billion in 1996 to \$1.112 trillion by 2003.

The consequence of this lending spree was that many households in the lower income groups saw their disposable income reduced, after mortgage debt servicing. In the paper: “How the U.S. financial crisis could have been averted”, it was calculated that by 2003 the cumulative impact over the period 1999, when this started, to 2003 was \$2.19 trillion, which represented 31.7% of the total mortgage level outstanding at the time.

Economic thinking during the period 1996-2003 was flawed in several respects. Lenders based judgments on households' income projections over the coming 30 years and on the loan to asset values as a fall back position in the event that their borrower clients could no longer service their mortgage debts. When the collective of banks influence the price level of homes by heavily increasing their collective lending levels, they, in a manner of speaking, were creating their own source of repayment; bypassing the core notion of affordability on the part of the obligors. The regulators made another key misjudgment. They failed to see the dangers of the resultant depreciation in the value of the dollar in the hands of real estate debtors. This manifested itself in a reduced level of disposable household income, a material factor in a future slow down in economic growth levels.

The use of the interest rate instrument does not correct past mortgage lending excesses. In case of a rate increase, the results are rather the opposite of what is intended: households have to pay more for having a similar size mortgage as in the past, thereby further reducing their disposable income levels. Mortgage lending volume control measures were needed by 2003, influencing bankers to collectively lend less, but not by simultaneously increasing the costs of a mortgage to households. It did not help that the effective Fed funds rate went up from 1% in January 2004 to 5.25% by May 2007. On top of this, bankers were able to postpone the impact of the interest rate increase by providing 100% mortgages, or by low start up interest rate mortgages for a few years, followed by a steep rate hike thereafter. Only by 2007, did the annual mortgage lending volume drop slightly as compared to the high mortgage lending volume of 2003.

4 How the U.S. financial crisis could have been averted.

The U.S. financial crisis has often been regarded as a banking crisis, which it was in 2007-2008. However the real crisis was a households' income related crisis, which preceded the financial crisis by at least four years.

The households' income related crisis was -in the U.S. case- caused by the collective banking sector increasing annual mortgage volumes from \$341 billion in 1997 to \$1.112 trillion in 2003. This single factor caused U.S. average house prices to rise from \$176,200 in 1997 to \$246,300 in 2003. No shortage of new housing starts were experienced in that U.S. population growth needed approximately 1.6 million new homes and 2.057 new homes were started to be built in 2003. The \$246,300 average home sales price in 2003 should be seen in the context of an affordable average home sales price of \$203,089, the latter price was based on the increases in Nominal Median Household Income over the period 1997-2003.

In ignoring the real reason of the economic crisis, policy makers made matters worse over the period 2003-2007. In order to slow down the volume of

mortgage lending, the Fed raised the base rate from 1% in January 2004 to 5.25% by May 2007. A major interest rate hike in the costs of a mortgage is supposed to slow down lending volumes. It did not work as mortgage volumes in 2004, 2005 and 2006 all exceeded the very high level of 2003. Secondly, if the real crisis was a household income related crisis caused through a depreciation of the dollar for mortgage borrowers and tenants, then an interest rate costs increase only serves to exacerbate such depreciation level. Bankers further postponed the day of reckoning by increasing the level of subprime mortgages, especially during the period 2004-2007. They also devised mortgage-based derivative products that did not immediately reflect the changes in the costs of funds.

Over the period 1997-2007, all these actions –or lack of them- by the Fed and the collective of banks made the depreciation of future incomes of mortgagors and tenants go much deeper than was safe for a stable and continued economic growth pattern. Households in the lower income brackets were made to absorb a higher and higher level of housing costs, far above their income growth levels, leaving them with a reduced level of income to be deployed for the consumption of consumer goods and services. The excessive conversion level of savings into mortgage lending led to this disastrous outcome. The utilization of savings was undermining economic growth levels. The same process also led to widening the gap between the rich and the poor as the latter were –by necessity- the mortgage borrowers or tenants.

In previous papers by this author some obvious solutions were suggested. It is useful to highlight that the household income crisis and its mortgage crisis in the U.S. was not caused by a single bank or a few banking or financial institutions; it was caused by the collective financial sector and failures by the regulators to intervene effectively. Competition between banks can never solve such a crisis, only supervisory guidance can.

It was suggested that a “traffic light system” could work, indicating to all financial institutions operating in the mortgage markets that the economic growth factors were not under threat –the green light-; were entering the danger zone –the amber light system- or were under serious threat –the red light warning system-. If combined with reserve requirements and/or penalties for those institutions most aggressive in their lending behavior, the collective lending behavior could be adjusted so that house price inflation would follow the speed of income growth in society.

The second suggestion was for a correction mechanism in case the lending pattern had run out of hand. Its aim would be to ensure that most of the 24.5 million households who faced foreclosure proceedings, would be helped by a government owned institution -A National Mortgage Bank was suggested-. Such help would be to alleviate the cash flow problems encountered by households as a consequence of the excessive mortgage lending volumes in previous times.

A subordinated mortgage element could be introduced to protect taxpayers from excessive risks. On the other hand an element of temporary subsidy could also be built into such program. Banks could be forced to pay into such system as they benefit from the reduction in risks over their outstanding mortgage portfolio.

If such a curative system had been in place from 2007 onwards, the economic downturn would have been much less severe. It would have helped to stabilize the financial position of most households under threat, thereby alleviating the excessive pressure by banks to recoup their outstanding mortgage loans. Disposable income levels for the lower income groups would have been less affected and the threat to economic growth levels, reduced. Companies would have had less reason to lay off millions of workers, as demand levels would have been stabilized.

The experience of extremely low interest rates since 2007 did not induce households to borrow more, rather the opposite. Households reduced their outstanding mortgage volume by over \$1 trillion over the period 2007-2016. Again, an undesirable development when the number of households are growing and the need for new housing starts requires around 1.6 million new homes a year. Over the period 2008-2016 only 7.827 million new housing starts were made rather than the needed 14.4 million units. The oversupply of mortgage funds was followed by an undersupply period in the years after 2008. Both situations are undesirable from the point of view of steady economic growth.

In summary, more stable economic growth can be achieved if the protective regulatory focus is shifted onto mortgage borrowers and tenants, especially in regulating the relationship between income levels and house price growth. This will help to avoid the situation where the value of a borrower/tenant's money is depreciated disproportionately with potential damaging consequences for the broader economy. Income and wealth distribution would benefit from such an approach.

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