

BOOK REVIEW

“HOUSE OF DEBT” BY ATIF MIAN AND AMIR SUFI

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ABSTRACT Through a unique and powerful analysis of the Great Recession, Atif Mian and Amir Sufi establish that the main culprit was the over-indebtedness of households, in contrast with the dominant view that the problems in the financial intermediaries and the resulting disruption of credit were at the core. Their analysis yields a set of novel empirical findings that have solid implications about the mechanisms at play leading the economy towards the catastrophe. This enables the authors to provide a theoretical framework for the researchers that strive to write models capable of generating recessions such as the latest. Furthermore, by the same virtue, they manage to provide a valuable evaluation of the policy responses in the face of the crisis. The authors conclude the book with a groundbreaking policy recommendation to avoid similar recessions in the future: replacement of debt with equity-like instruments that provide a better sharing of aggregate risk.

JEL E21, E60, G01, G18, G21

Keywords: House of debt, Financial crisis, Debt, Economic policy, Book review

öz Atif Mian ve Amir Sufi, son finansal krizin özgün ve güçlü bir çözümlemesini yapmak suretiyle krizin arkasında, baskın görüşün öne sürdüğü gibi, finansal aracılık şirketlerindeki güçlükler ve bunun sonucu oluşan kredi arzındaki problemlerin değil, hanehalkı borçlülüğündeki aşırılığın yattığını tespit etmektedir. Kitaptaki analizler ekonomiyi felakete sürükleyen mekanizmalar hakkında sağlam çıkarım sağlayan ampirik bulgular ortaya koymaktadır. Bu sayede yazarlar son yaşanan durgunluk benzeri ekonomik durgunlukları ortaya çıkarabilecek modeller kurmak isteyen araştırmacılar için teorik bir altyapı önermektedirler. Aynı vesileyle, kriz karşısındaki politika tepkilerinin faydalı bir değerlendirmesi de yazarlar tarafından sunulabilmektedir. Kitap çıkarıcı bir politika önerisi ile sonuçlanmakta ve bu öneride, borcun bir mali araç olarak yerini, genel riskin daha iyi paylaşılmasına olanak tanıyan özsermaye benzeri araçlara bırakmasını sağlayacak şekilde düzenlemelerin yapılması tavsiye edilmektedir.

“HOUSE OF DEBT” ÜZERİNE BİR ELEŞTİRİ

JEL E21, E60, G01, G18, G21

Anahtar kelimeler: House of debt, Finansal krizler, Borç, Ekonomi politikası, Kitap eleştirisi

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1. Introduction

The Great Recession, which lasted for 18 months, was the longest recession that the US economy experienced in the post-war era. Total output contraction from peak to trough was over 4 percent. Durable good consumption declined by a staggering 13 percent. Nevertheless, the toll the crisis took on the labor market was particularly remarkable, and in many ways unprecedented. Total nonfarm employment fell in 23 consecutive months. The total number of jobs lost in that horrible slide was over 7.4 million. Besides, the recovery in the labor market was painstakingly slow. It took 53 months for the payroll employment to reach its level right before the crisis. Atif Mian and Amir Sufi, aptly start their book, “House of Debt“, by an anguishing account of one of the many calamities in the labor market during the crisis; a mass lay-off that cost the jobs of half of the workers of a motorhome production company in Indiana. They motivate their objective in writing the book by stating that the workers as such, who lost their jobs, deserve an evidence based explanation as to why the Great Recession occurred, whether the recession itself and its catastrophic consequences could have been prevented, and what can be done to avoid a similar crisis in the future. In the aftermath of reading the book, I would fairly say that the authors achieve their aim.

The main hypothesis of the book is that the Great Recession can be characterized as an inevitable outcome of the over-indebtedness of the households, rather than as a result of the difficulties faced by the financial intermediaries and the ensuing paralysis of credit. The authors name the former view as the “levered-losses view” and the latter as the “banking view”. As the latter has been so dominant and by and large shaped the policy responses hitherto, the argument of the authors is rather controversial. However, they provide a rich analysis mostly backed by academic research of the highest-tier, as well as by a proper hint of economic history and anecdotal evidence, which altogether turn out nicely to work toward putting forward a distinctive but convincing reading of the crisis and the articulation of the implied policy responses.

The book is organized in three parts. Part one is dedicated to developing the levered-losses framework. Chapters 2-5 which constitute part one provide sheer empirical evidence that sheds light on the underlying mechanisms relating the elevated household debt, asset-price collapses, and severe contractions with dire consequences on unemployment. Based on the

evidence, the book argues that debt is in the core of the driving forces behind the vicious route that the economy took before and during the Great Recession.

Part two starts out by inspecting the credit expansion prior to the crisis. Based one more time on micro evidence, the authors argue that the expansion was not supported by strong fundamentals, and caused the rise in house prices and an explosion of debt written on home equity. The question of why such an unduly expansion occurred is also answered in this part. The book explains with utmost clarity how financial innovation and deepening had worked in rather sinister ways to produce seemingly safe assets to meet the national and international demand. In chapter 8, the final chapter of part two, the role of debt in fuelling the asset price bubbles is examined.

In the last part of the book, within chapters 9 through 11, the authors attempt to establish the failure of bank bailouts and the shortcomings of monetary and fiscal policy options vis a vis a levered-losses recession such as the Great Recession. It is explained plainly in this part how potentially more effective policies such as mortgage cram-downs and principal reductions were avoided during the Great Recession. The book concludes in chapter 12 by making a groundbreaking policy recommendation to prevent levered-losses recessions from happening again: eradication of conventional debt altogether. The book recommends the replacement of debt with more equity-like instruments that provide better sharing of aggregate risk, rather than placing it completely on the debtors.

2. Debt and Severe Recessions

In the introductory chapter of the book, the authors direct attention to a commonality between the Great Depression and Great Recession: a huge run up in household debt followed by a large fall in household spending marked the start of the both. They also cite studies with international focus, such as Glick and Lansing (2010), and studies that inspect recessions before the Great Recession such as King (1994) and Jorda et.al. (2011), to argue that it is nearly an empirical law that a steep run up in household debt precedes severe recessions. The picture for the US economy before the Great Recession is indeed striking. The slope change in the year 2000 in the course of household debt was so abrupt that it almost speaks for itself that something eerie was taking place. We know that, especially in economics, such abrupt movements raise eyebrows. The book formally discusses how a rapid rise in household debt like the one before the Great Recession creates immense vulnerability in the overall economy.

To understand why debt is dangerous, we have to understand what debt really is as a financial contract. The authors do a good job in explaining, in particular to the greater audience, arguably the most important feature of debt, which is the fact that the debtors possess the most junior claim on the underlying asset. In other words, in the event of a collapse in the price of the asset, the loss incurred by the debtor is always greater in percentage terms than the lender. Besides, the more indebted the household is, the greater the percentage wealth loss he or she will face, through the workings of the leverage multiplier.

To put things in perspective, a household who purchased a 100 dollar home with a down payment of 20 dollars will lose all his home equity if the price of the house decreases by 20 percent. In this case the leverage multiplier is 5, and the change in home equity that the debtor possesses is simply the leverage multiplier times the percentage change in the price of the underlying asset. Note that the mortgage holder will lose nothing if the debtor continues to pay. If the fall in the house price is greater than 20 percent, the debtor will go underwater, that is the house will worth less than the mortgage. In this case, the household may choose to go bankrupt. A foreclosure will follow and the house would go in a fire sale. If instead the household had paid say 80 dollars as down payment, the leverage multiplier is 1.25, and the loss in home equity would be 25 percent in the event of a 20 percent decline in house prices. Hence, the more levered the household is, the greater is the percentage loss in his net worth when the asset price collapses. I believe that this fact is quite subtle to the point that it is indeed unrealized, or at best overlooked by many households, as the book argues.

Next to the mechanical fact that leverage makes the home equity quite risky, the authors document an empirical fact which is not very surprising: the more indebted households are the ones in the lower quintiles in the net worth distribution. More subtly, their financial assets are mostly comprised of home equity. They own very little amount of financial assets. Moreover, their debt is mostly mortgage debt and home-equity debt. All in all, highly levered households were extremely vulnerable to house price declines when we approached the Great Recession.

When the very nature of the debt itself culminates with the variation of its weight across the net worth distribution, several important implications emerge. First, a fall in house prices increases the wealth inequality. An even more devastating implication is the proliferation of foreclosures and fire sales as the house prices plummet because high leverage makes many households go underwater. As highly levered households do not have much

of the other assets, this leads to a vicious cycle by exacerbating the decline in house prices further through foreclosures and fire sales. As a result, not only the highly levered homeowners lose, but also everyone who wants to refinance or sell their homes loses.

The huge impact of the collapse of house prices on the net worth of the highly levered households with very little assets other than home equity would naturally imply that their consumption will be afflicted as well. The authors underline the timing of the negative contribution of the decline in consumption and residential investment to the GDP growth, by pointing out that the collapse in consumption precedes the Lehman crisis in September 2008. But I think the biggest contribution of the book comes from the utilization of zip-code level micro data on spending, in order to address whether the timing of the consumption collapse imply an anticipation of the banking crisis. Drawing on two academic studies, Mian and Sufi (2010) and Mian et.al. (2013), the book documents that the collapse in consumption was much larger and earlier in counties that experienced a large net worth decline, implying that the household indebtedness, not the problems in the financial intermediaries was behind the sharp fall in consumption.

The book also provides additional support on the negative impact of indebtedness on consumption. Again by utilizing the zip code level data on spending, an important empirical fact is established that the marginal propensity to consume (MPC) out of housing wealth increases with the leverage ratio. In other words, when house prices collapsed, the households whose net worth was destroyed were the ones who had the highest marginal propensity to consume. That is, through this channel, debt exacerbated the decline in consumption.

3. Levered-losses Framework

In line with the evidence laid out above, the authors recommend a framework that they call the “levered-losses” for economic models that attempt to generate severe recessions as the Great Recession. The pillars of the framework are the existence of borrowers and savers and the amplification effects like foreclosures and differences in MPC out of home equity. In this framework, a shock to the asset prices would lead to the evaporation of the net worth of the borrowers, leading them to cut their consumption drastically, and many of them going underwater. The decline in consumption is amplified because of borrowers’ high marginal propensity to consume out of housing wealth, and the second-round effects on house prices and net worth declines brought about by foreclosures. The authors

realize that in a theoretical model as such, the economy responds by lower interest rates and lower prices so that the equilibrium is re-established. In line with the lingering effects of the initial shock in reality, they emphasize frictions that hamper necessary adjustments in the economy. One of the most relevant ones is the zero lower bound on the nominal interest rate that prevents the interest rate from falling enough to convince the savers to raise their spending. Also, in the levered-losses framework wage rigidities and frictions related to the labor reallocation across sectors lead to a big and long-lasting impact of the initial shock on employment.

Again using their own research, Mian and Sufi (2012), the authors provide empirical support for the view that it is the losses of the levered households that caused the huge decline in employment during the Great Recession. They document that the losses in jobs producing for the national demand were independent of the indebtedness of the county, whereas the losses in jobs producing for the local demand were much higher in heavily indebted counties. This is solid evidence supporting the view that the impact of the decline in the consumption of highly levered households spread throughout the economy leading to job losses everywhere with second round effects on consumption decline. Also it implies that frictions related to labor allocation and wage adjustments are indeed relevant, and hence should be a component of the levered-losses framework.

4. How Does the Economy End Up in a Levered-losses Situation?

The book also intends to address why the abrupt increase in household debt occurred in early 2000s. Answering this question appropriately is of utmost importance. Because then we would know how to avoid a levered-losses environment in the first place, and can prevent our economies from arguably the worst kind of recessions. I believe that House of Debt undertakes an invaluable service in this respect. Their answers to the reasons behind the run up of household debt are crucial, and include many lessons for emerging countries as well which are likely to experience increases in financial deepening and openness.

The authors start out their analysis of the rapid rise in household debt by first refuting the view that the credit expansion was related to economic fundamentals, mainly productivity increases. Using again zip code level micro data, the authors establish that the credit growth was much higher in areas where income growth was negative in early 2000s. In other words, credit was flowing more to areas with lower income prospects, just the opposite of what we would normally expect. Hence, the book tells us that

the view that perceives the credit expansion in the beginning of the 2000s as a result of the overall productivity increase in the US economy becomes invalid when the micro data is examined carefully as done by Mian and Sufi (2009). It is implied that we must be wary when relying on market mechanisms to ensure credit allocations in accordance with underlying economic fundamentals.

Next, the authors inspect whether the credit expansion was a result of a housing bubble developed independently of the rise in debt. In that respect, the direction of causality between the credit expansion and housing bubble is inspected. The authors again make use of high standard research strategies to address this question. First they distinguish between cities with high and low housing supply elasticities using the elasticity figures developed before in the literature. Then they demonstrate that the mortgage credit growth was much higher for low credit score households, so-called marginal borrowers, in both groups of cities. But the house price growth was much higher in low credit score than high credit score only in inelastic cities, hinting that the lending boom was in fact the driving force behind the house price increase, not vice versa.

According to the book, the real big chunk of the massive increase in household debt was generated not by the increase in lending to marginal borrowers, but by the second round effects coming from the resulting hike in house prices. The authors document that borrowing against the rise in home equity was enormous, and much more so for low credit score households. Indeed, home owners borrowed \$0.25 for every \$1 increase in home equity. The same figure was 40 cents for low credit score households. But why was there such aggressive borrowing against home equity when the income prospects were bleak? The authors tie such behavior to irrational tendencies.

The natural question that emerges from above discussion is that why the counterparty, i.e., the lenders wanted to play along with the irrational borrowing tendencies of the marginal borrowers by providing them credit. In chapter 7, the book answers this question eloquently. In a nutshell, the argument is that the rise in the demand for safe US debt led the financial markets to produce safe debt instruments which were in reality, not safe. The increase for the demand for safe US debt was related to the 1997 Asian crisis. In the aftermath of the crisis, the global appetite for US dollar denominated debt skyrocketed as the crisis was mostly linked to problems related to the currency mismatch in the balance sheets of the private sector. The financial markets managed to find a way to fulfil that appetite that was unmatched by the existing supply of safe assets. But to understand how, one

has to first understand what securitization and tranching are. To my knowledge, *House of Debt* is unique as a book which explains these concepts with such clarity to general audience.

As explained by the book, government sponsored enterprises (GSEs) were established in 1970 to minimize the local, idiosyncratic risk related to mortgages by pooling mortgages from all over the country and selling mortgage-backed securities (MBS) against the pool. This is called securitization. The MBS were safe assets, because the GSEs guarantee them against default. Also only certain mortgages that meet size and quality requirements were accepted into the pool. However, in the 1990s, an unregulated private label securitization (PLS) market emerged. The PLS in fact filled the excess demand gap by creating seemingly safe assets from pooling non-conforming mortgages by an innovation called tranching. As explained exquisitely by the authors, by pooling and tranching enough, the PLS market created assets which were perceived to bear low enough risk to be rated triple-A by rating agencies and purchased by the demanders of safe debt.

However, in reality, the proportion of safe assets that can be created from a set of risky assets by pooling and tranching happens to be very sensitive to the value of the default probabilities, the correlation between them, and the ratio of fire sale price to the face value, which would be reflecting both the fire sale price and the decline in the house prices in general as well as the feedback mechanisms between the two. None of these were known with certainty. Investors apparently made some mistakes assessing values to these parameters, but the failure of the rating agencies and the lack of regulation are hard to understand. The authors go one step further to argue that it was not only the investors making mistakes, the PLS market plainly tricked them by making them believe they were buying safe assets. At this point the book draws on the results by two academic studies, Keys et.al. (2010) and Piskorski et.al. (2013). These studies point that indeed the PLS market was fooling the investors by not properly inspecting the quality of borrowers and frequently misrepresenting the quality of mortgages. All of the arguments above indicate that the existence of PLS undoubtedly contributed to the explosion of mortgage credit to marginal borrowers. Indeed the mortgage loan quality was so deteriorated that the default rates reached record levels by the onset of crisis.

The authors next investigate the likely role of the run up in mortgage debt on the housing bubble. First they recite the results from the famous experiment by Smith et.al. (1988) which was later extended by Porter and

Smith (2003) to include leverage. These studies imply that asset prices fluctuate wildly around their fundamental value and the deviations are exacerbated by the existence of debt. The book also provides a nice explanation as to why debt can support large asset price bubbles by using the concepts developed by Geanakoplos (2009). Let's call the ones who believe that the asset price has to be high (low) as optimists (pessimists). Pessimists will have incentives to lend to optimists as high as their reservation price because they have the senior claims on the house (we abstract from foreclosure externality in this example). If they are enough pessimists to finance optimists, the equilibrium price will locate at optimists' price. Thus, although they think the higher price represents a bubble, the pessimists will find it optimal to fuel the bubble by lending to the optimists. If they are correct, there will indeed be a bubble. But if the bubble bursts they will not lose anything. Of course outside the realm of this simple example, the bubble burst can overshoot so that house prices may go below the price of the pessimists through mechanisms like foreclosure externality. That is pessimist may be "neglecting" such a risk among others. The book refers to the "neglected risk" framework of Gennaioli et.al. (2012) to explain why lenders may support the bubble. If certain risks are not taken into account by investors, the financial markets will produce assets that are safe up to the realization of the neglected risk, rarely more.

5. Policy Options in a Levered-losses Recession

The House of Debt does very well in establishing that the Great Recession is one of what they dub as "levered-losses" type of a recession. That is, the recession was preceded by a rapid rise in household debt, which was partly a result of the ignorance and irrationality of the debtors, but mostly an outcome of an unregulated and wild financial deepening. The debtors were the ones with low net worth and very few financial assets to begin with, and they had a significantly larger marginal propensity to consume out of housing wealth compared to the rest of the population. Fraud and mischievous conduct that became prevalent in financial sector in the 1990s and 2000s led to a decline in mortgage quality so much that eventually the mass defaults began, triggering the unfolding of a full-fledged crisis. The immediate impact was a massive decline in consumption of the net worth households, which preceded the banking crisis and quickly spread throughout the economy through employment and spending declines. The feedback effects through foreclosures and fire sales were massive. The storyline the authors propose for the Great Recession is hard to challenge. Then, what were the correct policy responses if the book's propositions are

true? Did the administration choose the right tools to combat the crisis? In the last part of the book, the authors try to address these questions.

As it was the most dominant policy response, the first question that comes to one's mind is whether the bank bailouts were the correct measure. The book distinguishes between two aspects of addressing the difficulties in the banking sector. One is the protection of most senior "debt" of the banks, deposits. This is crucial because it has the potential to affect the overall payment system through bank-runs. The other is the protection of the "subordinated debt" that is provided by the creditors of the bank, and the most junior claim on the bank, the shareholders' equity. Justification for the latter comes from the potential need to resume the impaired lending by the banks to the economy and involves protection of the banks' creditors and shareholders so that the economy is not harmed further by the "bank lending channel". As the book points out, this view finds a strong support from the research of Ben Bernanke himself on the Great Depression (see Bernanke, 1983).

The book supports policies that attempt to protect the depositors and the functioning of the payment system. In this respect the policies within the lender of last resort role of the central are no doubt necessary. However the book argues that the policies went beyond protecting the depositors, because value of bank debt and equity indeed increased as a result of government support.¹ This marks the political support for the bank lending channel at work. However, the book provides two empirical evidences that strongly oppose the importance of this channel. Both evidences exploit the fact that it is the small businesses that rely so much on bank lending. According to the surveys by the National Federation of Independent Businesses, the biggest concern of small businesses was poor sales, not the financing difficulties. Furthermore, the fraction of the ones who cited the latter as the top concern diminished while the fraction of the ones who cited the former increased from 2007 to 2009. Strikingly, the members of the latter group mostly located in areas with the worst net worth decline. Moreover, the calculations by the authors indicate that the biggest job losses were generated by the largest businesses, which barely had financing difficulties throughout the crisis.

If the view that the Great Recession is a levered-losses recession is accepted, it does not make much sense to cure it by promoting the lending by the banks. In accordance, the book points out that helping bank creditors

¹ This result comes from Veronesi and Zingales (2010).

and shareholders did not really boost credit. Indeed large stocks of cash were being accumulated in firms' balance sheets during the Great Recession. There was basically no demand for extra bank credit. Besides the stress over the banking sector, measured by the spread between the interest rates on short term financial commercial paper and T-bills, was relieved by the end of 2008. On the contrary, the bank lending was in a free fall from 2009 to 2010.

Given the evidence, authors support the view that combatting the levered-losses problem directly would have been a much better idea. They explain in great detail how such policies like implementing refinancing negotiations and principal write-downs on mortgages were dismissed or shelved after a while during the Great Recession. The book favors especially the reductions in the principal strongly, as that policy would imply a more equal sharing of the losses associated with the collapse of the housing market. As we have been informed throughout the book, the excessive lending was not only the result of irresponsible behavior by the home-owners. The foul-play by the financial sector building upon the neglected risks of the investors was arguably the driving force. While the homeowners paid the highest cost, the latter were rescued with lower losses and in some cases were left untouched. This is not acceptable from an ethical point. I would like to add that the financial literacy of the households is likely to be inferior to that of the financial firms and investors. So their failure is easier to understand. Besides the ethics, a more equal sharing of the burden of the crisis is better for everyone from an economic point of view under the levered-losses framework. Helping the heavily indebted households would have prevented the huge consumption decline both from the first and second order effects discussed throughout the book. The authors resort to economic history to remark that similar policies were adopted during the Great Depression, and indeed were successful.

As the remaining policy options, the book discusses the monetary and fiscal policy. The levered-losses recessions are deepened by similar mechanisms like debt-deflation cycles a la Irving Fisher. That is deflation following the demand shock harms borrowers which are hit hardest by the crisis and benefits lenders which are not affected as much, leading to an unfavorable amplification effect. Creating inflation is a natural option to break this cycle. However, as the book reminds the readers, Fed cannot print money but creates bank reserves through open market operations, and hopes that the reserves turn into currency in circulation through increased bank lending. But in line with the discussion throughout the book, we do not

expect lending to increase in a levered-losses recession. Indeed the book shows that the discrepancy between currency in circulation and bank reserves skyrocketed by the third quarter of 2008 and has been on an upward trend through 2013. This is a great example as to how a levered-losses recession impairs the effectiveness of monetary policy in creating inflation. The authors claim that direct cash injection to the most levered parts of the country would have been much more effective and would have similar consequences like debt restructuring.

The book also considers the fiscal policy alternatives. But these are found to be inferior to policies like debt restructuring and direct cash provision to indebted households. The fiscal policy can replace policies like the latter only if it taxes the creditors and benefits the debtors. However, this can be infeasible because the US tax system is such that the income, not wealth, is taxed, and the ones with high income are not necessarily the wealthy. Also as the authors point out, the political polarization increases during the crisis times, paralyzing the political system. Therefore, an automatic mechanism has to be in place breaking the inflexibility of debt.

6. Equity-like Instruments Instead of Debt

The House of Debt concludes with a straight but radical policy recommendation: getting rid of debt once and for all. Instead the book favors more equity-like instruments that are contingent on the aggregate risk. For example a student loan could be contingent on some indicator gauging the state of the labor market when the student gets out of college. For the mortgages the authors propose a contract that they call the “shared responsibility mortgage (SRM)”.

SRM is fundamentally different than a conventional mortgage. Rather than placing all the burden of house price declines on the borrower, it involves risk sharing. Under SRM, the borrower is protected from the downside risk by the lender, and for it she transfers a certain amount of the capital gains to the lender. Downside protection is provided by reducing the mortgage payment proportionally when the local house prices, as approximated by an index, decrease. The book remarks that such indices are already available. But it is better if the government steps in and generates the indices by itself or constitutes a watchdog to monitor the quality of the indices. The amortization schedule is exactly preserved under the SRM so that the home equity that the homeowner owns never changes. In this sense SRM is different than adjustable rate mortgages. Moreover, by this virtue, SRM provides real-time and automatic principal reduction. The authors

calculate that a 5 percent capital gain that the debtors will transfer to creditors will compensate lenders more than enough for the downside protection.

The very first benefit of the SRMs is that they would prevent the wealth decline of the households in the lower portion of the net worth distribution. Thus they would serve as an automatic mechanism that prevents increasing income inequality during a levered-losses recession. Also they would avoid the steep decline in consumption on the onset of crisis with all its feedback effects. The authors calculate that, had they been in place during the Great Recession, the SRMs could have saved \$2.5 trillion wealth loss by erasing the foreclosure externality, which would translate into a \$150 billion household spending. An additional spending of \$54 billion could be generated by a wealth transfer from creditors to debtors through the SRMs. It is also calculated that the total \$204 billion in spending would have saved 1 million jobs ignoring the multiplier effects. Depending on the spending multiplier, it turns out that the entire recession could be avoided altogether. Remarkably, the whole stimulus could be created punctually, without an increase in government debt.

7. Concluding Remarks

House of Debt provides an invaluable analysis of the Great Recession. The insights provided by the book follow from a continuous and a tremendous effort that generated academic research of the top class. It is truly remarkable that the book presents its ideas in an excellent plainness that not only the academics or the people from the economics profession would appreciate it, but a more general audience could enjoy and benefit a lot from it as well.

I also believe that the levered-losses framework that they propose has a lot of value for economic modellers. The empirical evidence aggregated in this book constitutes a set of implications that any model that strives to explain severe recessions must generate. It is therefore very good news that the book also proposes a framework, that is, a set of mechanisms that had been at work during the Great Recession.

When it comes to the policy analysis part, I felt that the book became somewhat too harsh given the equally harsh political realities. In the ideal world, I completely concur with the ideas of the authors, but I think that political realities may hinder people from doing the ideal although they are well aware of it. Lawrence Summers, in his critique of the book in the Financial Times on June 6, 2014, raises a similar point, but in a much more

powerful way. Prof Summers was the director of the National Economic Council from January 20, 2009 to December 31, 2010. Therefore, his critique of the book about its account of the policy responses is very relevant and valuable. I strongly recommend reading it too.

I would like to add finally that I appreciate the authors' efforts to think outside the box and look from the perspective of the low and middle class households. What is valuable is that they do this without any easy and cheap arguments. Rather they back their assertion that poor paid the cost of the recession in favor of the rich with elegant academic research and solid analytics.

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