

MISREADING THE GREAT RECESSION AND APPLYING THE WRONG FIX

Laurence KOTLIKOFF

Most economists differ not on the causes of the Great Recession, but on their relative importance. They agree, however, that the core problem is human, not market failure. Their widely held assessment helps explain why the Dodd-Frank banking “reform” says so much and does so little. This study re-tries the usual suspects and finds none guilty. Instead, it points to multiple equilibria in banking and the overall economy. Whether it is Cooke and Company in 1873 or Lehman Brothers in 2008, leverage and opacity are the wicked brew that stokes bank runs. And bank runs prompt employer runs – laying off your employees (other firms’ customers) for fear that others are laying off their employees (your customers). The answer is fundamental, not cosmetic banking reform that fixes banking and the economy for good. The answer is replacing leveraged, trust-me banking with fully transparent, 100 percent equity-financed mutual fund banking. This reform, called Limited Purpose Banking, handles all aspects of finance, including lending, risk allocation and the payment system. It would permanently end the leveraging of taxpayers by banks and bring a permanent end to financial crises.

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Laurence J. Kotlikoff, William Fairfield Warren Distinguished Professor and Professor of Economics at Boston University, a Fellow of the American Academy of Arts and Sciences, a Fellow of the Econometric Society, a Research Associate of the National Bureau of Economic Research, and President of Economic Security Planning, Inc. E-mail: kotlikoff@gmail.com

INTRODUCTION

Ten years after Lehman Brother's collapse, triggering The Great Recession (GR), economists are still debating its causes and policymakers are still wondering how to prevent another financial crisis. MIT finance professor, Andrew Lo (2012), reviewed 21 books on the financial crisis by economists and laymen, and concluded that there is

“... significant disagreement as to what the underlying causes of the crisis were and even less agreement as to what to do about it. But what may be more disconcerting for most economists is the fact that we can't even agree on all the facts.”

In this paper, I first argue (in Section I) that the alleged triggers of the GR are either a) unsupported by the facts as we now know, b) disconnected from economic theory or c) are descriptions of GR outcomes, not GR causes. Next, in Section II, I point out that the “Great” Recession was not particularly large, suggesting that it too is part of the hype that characterizes received wisdom about the GR. Later, I lay out my views on what produced this latest in a long history of U.S. banking failures. Finally, in Section III, I suggest how to fix the banks for good, i.e. such that our country never again experiences a financial crisis.

To be sure, my take is an outlier relative to the standard diagnosis of the problem and its cure. The standard view is that the housing market experienced a bubble, that regulators were asleep at the wheel, letting households and banks over-leverage, that Wall Street issued dangerous derivatives, that banks and shadow banks issued and then sold fraudulent subprime mortgages, that rating companies did a terrible job, that financial traders traded too much, that shadow banks operated outside of regulatory scrutiny, and that there was too much risk taking.

Let me address the standard set of suspects (all in all 14) before presenting my own take on what happened and how to fix the banks *for good*. Most of these suspects are chosen from *The Financial Crisis Inquiry Commission's Postmortem on the Causes of the Great Recession* (FCIC).

I.

1. Subprime lending

Let us start, by quoting the FCIC:

*“There was an explosion in risky subprime lending and securitization, an unsustainable rise in housing prices, widespread reports of egregious and predatory lending practices, dramatic increases in household mortgage debt, and exponential growth in financial firms’ trading activities, unregulated derivatives, and short-term “repo” lending markets, among many other red flags. Yet there was pervasive permissiveness; little meaningful action was taken to quell the threats in a timely manner.”*¹

The alliteration, “pervasive permissiveness,” has a nice ring to it. It also sums up in two words the standard assessment and lays the foundation for the chosen remedy. It says that the problem lay with people, not the intrinsic nature of the economy or the banking system. It also says that banking’s fix is to ensure people, including bankers, raters, regulators, investors, and borrowers, behave.

2. Liar Loans, No Doc Loans, NINJA Loans and other subprime mortgages

Rashes are a symptom, not the cause of measles. No medical text book would mistake the two. Yet the causes of the great recession seem largely a description of what transpired, not an explanation for why events unfolded as they did. Take subprime mortgages. To read the FCIC report, let alone watch the movie, *The Big Short*, one might conclude that most mortgages were subprime issued by very bad actors with a healthy assist of regulatory overlook. Indeed, the FCIC report features the word “subprime” on 41.5 percent of its 662 pages. It mentions the word “mortgage” on 69.9 percent of its pages. Hence subprime-mortgage references represent almost 60 percent of all of the FCIC’s references to mortgages.

This dramatically overstates the importance of subprimes. In the run up to Lehman’s bankruptcy, subprimes never exceeded 14 percent of total outstanding mortgages and their share was below 12 percent on September 15, 2008 when Lehman shut its doors.² Furthermore, not all subprimes were subprime when

¹ http://fcic-static.law.stanford.edu/cdn_media/fcic-reports/fcic_final_report_full.pdf

² <https://www.frbsf.org/education/publications/doctor-econ/2009/december/subprime-mortgage-statistics/> Note, the FCIC report suggests that subprimes represented half of all outstanding mortgages in 2008. That is a huge difference between the figure cited here, which was calculated by the Federal Reserve Bank of San Francisco based on data obtain from the Mortgage Bankers Association.

measured by foreclosure rates. At its peak, the subprime foreclosure rate was only 15 percent.³ Foreclosure rates on prime mortgages peaked at about 3.5 percent.⁴ Since at most, 14 percent of outstanding mortgages in 2009 were subprime, at most, 2.1 (.15×.14) percent of all mortgages at the height of the Great Recession represented foreclosed subprime mortgages. This seems like a very small number given the tremendous attention paid to subprimes.

At the recession's peak, roughly 4.8 percent of all mortgages were in foreclosure. Subprimes constituted almost half of these foreclosures. This oversized share of subprimes in total foreclosures suggests they ignited the recession or at least helped make it "great." But subprimes constituted over 60 of all foreclosures in 2004 when the economy was doing just fine. Subprimes are built to be risky. No one was shocked about their high foreclosure rate in 2004 and it certainly did not spark a recession.

Furthermore, one cannot claim subprime defaults caused the GR by considering defaults during the GR. When the Great Recession began, the default (mortgage delinquencies plus foreclosures) rate on all mortgages was only 3.7 percent.⁵ It rose to 11.5 percent over the next two years as close to 9 million workers lost their jobs.⁶ That is, *the GR caused defaults, not the other way around.*

In 2007, before the GR, the subprime foreclosure rate was 5 percent. It rose by a factor of roughly 3 during the GR. But the 2007 foreclosure rate for prime mortgages was 1 percent and rose by a factor of more than 4. Hence, one could argue that if bad mortgages caused the GR, it was prime more than the subprime mortgages, which were at fault. Yes, there was an increase by 2 percent points in subprime foreclosure rates in the immediate run up to the GR. But that meant that only 0.3 percent more mortgages were in foreclosure. Had Michael Lewis, who wrote *The Big Short*, started his book by stating that a whopping 3 tenths of 1 percent of mortgages going into foreclosure was all that was needed for his Wall Street heroes to recognize that economic Armageddon was on its way, it

³ .15×.14 divided by .05×.86 equals.488.
https://www.google.com/search?tbm=isch&q=mba+chart+subprime+series+delinquency+chart&chips=q:mba+chart+subprime+series+delinquency+chart,online_chips:delinquency+rates,online_chips:subprime+mortgages&sa=X&ved=0ahUKEwi_yb-XzMTdAhXOMuAKHfb7BkwQ4lYIKigB&biw=1261&bih=710&dpr=2#imgrc=jmEmu25vcPO3RM:

⁴ https://www.google.com/search?q=prime+mortgage+mba+delinquency+rates+chart&source=lnms&tbm=isch&sa=X&ved=0ahUKEwiZ46SmzcTdAhUqmuAKHYLZDnYQ_AUIDyGC&biw=1261&bih=710#imgrc=HFZyDsi6Gmu9iM:

⁵ Ibid

⁶ <https://www.cbpp.org/research/economy/chart-book-the-legacy-of-the-great-recession>

would have been an instant worst, not an instant best seller. Instead, he did what the FCIC report did, sold copies by hyping a myth.

If subprimes were not the proximate cause of the GR, what about the FCIC’s and other alleged bogeymen?

3. The “unsustainable” rise in housing prices

The FCIC’s statement that the rise in house prices was unsustainable suggests that house prices cannot keep rising over long periods and were going absolutely crazy prior to the GR. In fact, real house prices can rise for years, indeed, decades. They did so essentially every year for the 32 years between Q1 1975 and Q1 2007.⁷ While the rise was very smooth, it was also gradual with real house prices only 64 percent higher in Q1 2007 than they were in Q1 1975 – this despite real GDP rising by 170 percent over the same interval.

The only period of a fast rise in real house prices in this 32-year period occurred between Q1 2003 and Q1 2007 when real house prices rose by 22 percent. But during this period real GDP rose by 14 percent. Hence, real house prices rose only 2 percent faster per year than did the economy during the period of “unsustainable” house price increases.

One can write down models with a fixed supply of housing in which house prices will rise *pari passu* with output, at least in the long run. One can also write down models in which there is a variable supply of housing and the price of housing stays fixed, while the quantity of housing rises with output. As our economy has become more urbanized, the fixed supply of housing model, which partly references fixed central city urban land, is arguably becoming more relevant and helps explain the more rapid house-price increases that we have seen in the years immediately preceding and following the GR.

In short, reasonable economic models can readily debunk or at least strongly question the view that house prices rising 2 percentage points faster than the economy for four years after rising far more slowly for the previous 28 years is “unsustainable.” Indeed, what the FCIC viewed as a housing-price bubble might better be described as a period of normal housing-price increases following 28 years of abnormally low housing-price increases.

Certainly, a temporary drop in house prices could have produced a contraction in construction. But contractions in construction have also arisen, indeed they’ve generally occurred, in the context of rising house prices. Moreover, a decline in a given sector does not augur an economy-wide recession. Indeed, every expansion

⁷ <https://fred.stlouisfed.org/series/USSTHPI>

features a recession in particular sectors, just as particular sectors expand during every recession.

Furthermore, a drop in the price of homes does not adversely impact most homeowners. Yes, the value of their asset falls. But the implicit cost of homeownership (imputed rent) falls as well. And, if we are talking about a nationwide decline in house prices, as we are with the GR, even those who moved experienced no economic harm because their ability to buy at a lower price offset their need to sell at a lower price.⁸

As the GR took hold, plenty of homeowners went underwater on their mortgages. This surely led to the above-documented rise in foreclosures as mortgagees walked away from their obligations. But foreclosures do not represent a loss to the economy. The foreclosed house is, after all, still standing. Its ownership just switches hands. Of course, creditors lose due to the mortgage default. But homeowners win because they rid themselves of their mortgage liability.

In short, rising house prices are not required to keep the economy out of recession. Nor are declining house prices, even if accompanied by mortgage defaults, an automatic harbinger, let alone a direct cause of recessions.

4. Ratings shopping

The FCIC's report states that failures of the big-three rating companies were "essential cogs in the wheel of financial destruction" and "key enablers of the financial meltdown." But a careful study by economists Efraim Benmelech of Harvard University and Jennifer Dlugosz, Federal Reserve System concludes "[i]t is not clear that rating shopping led to the ratings collapse as the majority of the tranches in our sample are rated by two or three agencies."⁹ The authors point out that whereas re-ratings were historically high in 2007 and 2008, they were not dramatically higher than in 2002 and 2003. Moreover, 80 percent of the ratings of structured-finance securities were done by more than one firm.

Since structured-finance securities represented only 35 percent of the U.S. bond market in 2008, and only 7 percent of these securities were re-rated, and since, at most, 20 percent were over-rated due to ratings shopping, overrating affected less than one half of one percent of the U.S. bond market. Furthermore, this small figure surely overstates the importance of ratings shopping as many of

⁸ What about people who die and leave a lower priced home. This harms their heirs but those who are buying homes are benefiting by lower house prices. The fact that the house is physically intact implies that there is no overall loss to the economy from changes in house prices.

⁹ <http://www.nber.org/chapters/c11794.pdf>, p. 203.

the downgrades were caused by the GR itself, thanks to the GR’s massive jobs losses. Indeed, had there been no recession, there would have been no reason for the rating companies, who had allegedly been bribed to overrate the securities, to then forego the bribe by downgrading the securities.

5. Increased bank leverage

Sky-high bank leverage is another part of the standard GR explanation. Banks were, we were told, leveraged 33 to 1 in 2008 compared with 12 to 1 in 2004.¹⁰ The only problem with this view is that it is not true. Bank leverage actually fell over the period 1988 through 2008.¹¹ Equity rose from 6 percent of banking assets in Q1 1988 to 10 percent of assets in Q1 2008.

Furthermore, leverage ratios, like mortgage default rates, are endogenous to the economy’s state. Leverage is the ratio of debt to equity. But equity is the value of a company’s assets less its debt. Hence, if the value of a company’s assets fall, its leverage ratio rises.

Take a highly opaque and leveraged bank, X, that is being shorted by hedge funds. Suppose the managers of these funds vigorously talk up their positions, telling all who will listen that they’ve checked extensively on X’s assets and found them to be deeply “troubled.”¹² Next suppose enough traders of bank X’s assets become convinced that either a) X’s assets are troubled, b) other traders believe X’s assets are troubled or believe other traders so believe, or c) X needs critical-mass refunding from multiple funders, many of whom may decline to fund because they are worried others will not refund. In this case, the traders will sell the type of assets held by X because they realize X will need to dump its assets on the market to stay liquid.

The result is a fire sale of X’s assets, a drop, potentially precipitous, in the price of X’s assets, and a rise in X’s leverage. This, of course, does what the shorters want – it raises the values of their short positions. Talking up one’s short is, incidentally, exactly what is portrayed in *The Big Short*. What we do not know and probably never will know is whether those who shorted the market lied or massaged the truth about the assets they denigrated. Given that the rate of defaults on prime mortgages rose to a larger degree than that of subprimes, there is

¹⁰ <https://www.theatlantic.com/magazine/archive/2012/06/how-we-got-the-crash-wrong/308984/>

¹¹ <https://fred.stlouisfed.org/series/EQTA>

¹² “Troubled assets” is, of course, the term the U.S. Treasury and Federal Reserve applied to subprime mortgages and other securities in seeking support for the Troubled Asset Relief Program (TARP).

reason to wonder if *The Big Short* might better be titled *The Big Con*. Indeed, my contention is that the standard narrative surrounding the GR, as described by the FCIC is a con, a big con that just happens to accord with the narrative needed to permit Wall Street to keep doing what it was doing. That con is that the problem lies with people, not the institutions or the intrinsic nature of the economy.

Given the severity of the stock market crash subsequent to Lehman's failure, one might think that leverage ratios rose dramatically during the recession. Not the case. Federal Reserve data shows the equity ratio falling from 10 to 9 percent, which was higher than it had been in the prior 16 years.

The FED data suggest that banks, as a group, were leveraged only 10 to 1 at the beginning of 2008, when the GR officially began. But what about the large investment banks? Was their leverage exceptionally high prior to the GR? Actually, no. William Cohan debunked this myth in an article in the Atlantic entitled, "How We Got the Crash Wrong – Leverage Was Not the Problem – Incentives Were and Still Are."¹³

Cohan's point is supported by an April 2008 paper issued by Lehman Brothers, entitled "Lehman Brothers – Leverage Analysis."¹⁴ The paper shows that Lehman was no more leveraged in 2007 than in 2003.¹⁵ Moreover, Bear Stearns was only slightly more leveraged in 2007 than in 2003. And, as Cohan points out, Bear Stearns was more leveraged in 1998 than in 2008. Interestingly, the three large investment banks that did not face runs – Goldman Sachs, Morgan Stanley, and Merrill Lynch did materially increase their leverage in the run up to the GR, but not beyond leverage rates seen years in the past. Still the fact that the investment banks, which maintained their leverage, came under attack, but investment banks that raised their leverage did not, provides more evidence against increasing leverage as a GR culprit.

6. Egregious and predatory lending

The FCIC cites "egregious and predatory lending" as another of the causes of the GR. Such lending references adjustable-rate mortgages, mortgages with balloon payments, interest-only mortgages, and so-called option-ARM loans. Loans of these types were and are subprimes. There is no doubt that many of these loans

¹³ <https://www.theatlantic.com/magazine/archive/2012/06/how-we-got-the-crash-wrong/308984/>

¹⁴ <https://web.stanford.edu/~jbulow/Lehmandocs/docs/DEBTORS/LBEX-DOCID%201401225.pdf>

¹⁵ I reference here gross, not net leverage.

were made to borrowers who took on too much risk or agreed to pay interest rates that were predatorily high. And, if one reads the views of The Center for Public Integrity, one comes away believing that all subprime loans involved terms that were impossible for the public to understand.

But such loans had been in existence since 1982 – 26 years before the GR.¹⁶ Moreover, the share of subprime loans that were predatory could not have been that large since, at most, 15 percent went into foreclosure during the GR. But they did so in the context of an unemployment rate that reached 10 percent!

As mentioned, in 2007, before the GR, the foreclosure rate was 5 percent. Its lowest value, between 2002 and 2007, was 3 percent, which was observed in Q3 2005.¹⁷ If one assumes that all of the 2 percentage-point increase in subprimes involved predatory lending, we are still talking about predatory lending causing, at most, 0.3 percent more mortgages to definitely default, i.e. enter foreclosure. This is simply too small figure to matter to the overall economy. Indeed, given the size of the 2007 mortgage market, it represents \$32 billion.¹⁸ U.S. GDP in 2007 was \$14.4 trillion. The economy’s 2007 total net wealth was \$68 trillion. Hence, \$32 billion is trivially small compared to the size of the 2007 overall economy or its total net wealth.

7. Dramatic increases in household mortgage debt

Another GR “smoking gun” is the pre-GR run up of mortgage debt, which roughly doubled between 2002 and 2007.¹⁹ Surely, the addition of over \$750 billion in mortgage debt in the course of six short years must represent a priori evidence that a massive recession was in the works. Not so. There is nothing in economic theory that suggests that increased borrowing should cause recessions. The increase in borrowing to purchase homes was not associated with a massive spending spree on the part of the American public. Indeed, the share of GDP consumed by the public remained fixed at roughly 67 percent between early 2002 and late 2007.

This means that Americans, as a whole, borrowed more, not to spend, but to invest. Stated differently, their decision to borrow more on their homes was not

¹⁶ <https://www.publicintegrity.org/2009/05/06/5452/predatory-lending-decade-warnings>

¹⁷ https://www.google.com/search?tbm=isch&q=mba+chart+subprime+series+delinquency+chart&chips=q:mba+chart+subprime+series+delinquency+chart,online_chips:delinquency+rates,online_chips:subprime+mortgages&sa=X&ved=0ahUKEwi_yb-XzMTdAhXOmuAKHfb7BkwQ4lYIKigB&biw=1261&bih=710&dpr=2#imgrc=jmEmu25vcPO3RM:

¹⁸ <https://fred.stlouisfed.org/series/HHMSDODNS>

¹⁹ <https://fred.stlouisfed.org/series/MDOTHIOH>

accompanied by a decline in their net wealth. Collectively, they simply borrowed and lent. In fact, most importantly, Americans' net wealth rose during from 2002 to 2007 by over \$6 trillion. This represented an 83 percent increase. And, although the ratio of mortgage debt to household net wealth rose, it did not rise by much – from 17 percent in 2001 to only 20 percent in 2007.

8. Exponential growth in trading activity by financial firms

Here, again, we have a supposed reason for the Great Recession that has no counterpart in economic theory. If Joe and Sally sell the same share of stock back and forth to each other an infinite number of times in, say, a second, nothing real will happen to Joe and Sally or the economy. Both Joe and Sally, as well as the economy, have the same net worth before and after their infinite number of trades.

Hence, the volume of trade, in securities or anything else is not evidence of an economic problem. One might claim that the volume of trade was coincident with an irrational bubble in financial markets. But the trades being counted are those involving stock and the run up to the great recession did not reflect unprecedentedly high stock-market valuations.²⁰ The market was 1.5 times GDP in 2000, 1.4 times GDP in 2007, and 1.5 times GDP in 2017. The stock market is pro-cyclical, but there is nothing in the stock market data that would presage the supposed greatness of the “Great” Recession.

9. Unregulated derivatives and the repo market

The GR was marked by the dissemination of news about derivatives with exotic-sounding names, such as RMBS, CDOs, CDO squareds and CDS. Because many were complex and not subject to as much regulation, they were singled out repeatedly by the press and commentators during the GR and included in the FCIC's favorite list of GR *bête noires*.

If these securities actually helped cause the GR, one would expect their value to have peaked before, not during the GR. But net financial derivatives were 126 percent higher at the end of the GR than at the beginning.²¹ Furthermore, in the two years leading up to the GR, net financial derivatives rose only 7.7 percent.

The reigning narrative – that derivatives were misunderstood and overrated by compliant rating companies – has been questioned in a recent study by econo-

²⁰ <https://fred.stlouisfed.org/series/DDDM01USA156NWDB>

²¹ <https://fred.stlouisfed.org/series/IIPFINANCNQ>

mists Juan Ospinal and Harald Uhlig (2018). They examined 8,615 residential mortgage-backed securities (RMBS) over the period 2007–2013, almost all of which were rated AAA. Through 2013, the cumulative losses on these “toxic” securities were only 2.3 percent. Some three quarters of the AAA-rated RMBS had essentially zero losses through 2013. On a principal-weighted basis, the loss rate was only 0.42 percent, on average. Moreover, ratings did not worsen closer to the GR. Loss rates for AAA-RMBS issued between 2006 and 2008 were no higher than those issued in prior years. Most striking, AAA-rated RMBS actually outperformed the universe of AAA-rated securities.

Yes, losses were far higher for non-AAA rated segments of the RMBS market. But that is what one would expect arising from a “Great” recession. However, these securities represented a small fraction of the RMBS market. In summarizing their findings, the authors state, “these facts challenge the conventional narrative, that improper ratings of RMBS were a major factor in the financial crisis of 2008.”

What about REPOs? Did they cause the GR? Well, they certainly increased in the run up to the GR. But short-term financial-company borrowing has been growing far faster than the economy for decades.²² The fact that some economic variable rose rapidly prior to the GR is not evidence that it caused the GR. Smart phone sales tripled between 2005 and 2008, but no one would link that to the GR.²³ Of course, Repos would be implicated in causing the GR were they part of excessive leveraging by financial intermediaries. But, as discussed above, overall financial-company leverage fell, not rose prior to the GR.

10. Investors mispriced/ignored risk

The Ospinal and Uhlig paper (2018) also speaks to the accusation that Wall Street professionals acted like rank amateurs in the supposed financial lending euphoria leading up to the GR. Had that been the case, the RMBS assets would not have done so well despite the outsized recession and major reduction in housing prices starting in 2006. As Andrew Lo points out, in 2007, CDOs paid significantly higher returns than equally-rated corporate bonds due to their extra risk.

²² <https://fred.stlouisfed.org/series/FBREPOA027N>

²³ <https://www.statista.com/statistics/191985/sales-of-smartphones-in-the-us-since-2005/>

11. Unaligned CEO incentives

Yet another explanation for the GR is that CEOs of financial institutions had too little skin in the game. Tell that to Jimmy Cayne, former head of Bears Stern, who lost close to \$1 billion as his bank collapsed, or Ken Lewis, CEO of the Bank of America, who had \$190 million to lose by making wrong decisions and succeeded in losing \$142 million, or Lehman Brothers' Dick Fuld, who received most of his \$22 million in 2007 compensation in Lehman Brothers' stock.²⁴ Or consider the 2011 study by economists, Rüdiger Fahlenbrach and René M. Stulz, who examined executive compensation contracts of 95 banks. The stock and option compensation in these contracts exceeds wages by a factor of eight. In short, there is no persuasive evidence that shadow or conventional bankers had too little skin in the game.

12. Regulatory capture

This phrase points to regulators being in the future pay of Wall Street thanks to the revolving door between Wall Street and Pennsylvania Avenue. Yet the biggest factor that regulators needed to oversee was Wall Street's leverage. As discussed, it was not historically high proceeding the GR either across the board or in the large investment banks that failed. One could well argue that it was always too high, but that does not help us explain the GR.

13. Democratization of finance

Under this theory, government regulators were too permissive with banks in their quest to help the poor get into affordable housing. One can argue either way, depending on one's interest in redistribution and preferred method to redistribute. But if this were the chief or even a major cause of the GR, subprime mortgages would need to have played a much larger role than they did.

14. The Federal Reserve kept interest rates too low

Many commentators place the blame for the GR squarely on the government, particularly the FED and Fannie May and Freddie Mac, our major government-

²⁴ <https://pubs.aeaweb.org/doi/pdfplus/10.1257/jel.50.1.151>,

sponsored enterprises, which help insure mortgages. The 30-year prevailing mortgage interest rates were certainly lower between 2000 and 2007 than in the prior quarter century.²⁵ But they were not that low especially adjusted for inflation. In the 1990s, the real 30-year mortgage rate averaged 7.91 percent. It averaged 6.27 between January 2000 and December 2007.²⁶ This decline is hardly something to write home about, let alone pretend it is the underlying GR culprit. Furthermore, the Federal Reserve controls short-term, actually overnight, interest rates. It does not directly control long-term interest rates, including long-term mortgage rates. As for adjustable rate 5/1-year adjustable rate mortgages (ARMs), their real rate averaged between 5 and 6 percent in the two years preceding the GR. Real rates of this magnitude are not low.²⁷

SUMMARY OF THE GR’S USUAL SUSPECTS

The above interrogation of the standard GR suspects finds none of them guilty. Subprimes that went into foreclosure were not a large enough factor in the mortgage market, the housing price “bubble,” if you can call it that, is minor, rating shopping was not a big deal given cross rating and the ex-post performance of rated securities, increased financial leverage is a myth, egregious and predatory lending was too small to matter, the run up in mortgage debt was in line with the rise in the country’s net worth and did not signal a consumer-spending spree, derivatives were generally properly rated and not toxic, repos did not lead to excessive financial leverage, investors did not ignore risk, CEO incentives to play it safe were in force, regulators did not permit financial companies to expand their leverage, the democratization of finance did not make a major difference, and real mortgage interest rates, both short- and long-term, were not low.

What, then, caused the Great Recession? The clue lies in the misinformation just described as well as the exaggerated depiction of the recession as “great.” It was just greatish.

²⁵ <https://fred.stlouisfed.org/series/MORTGAGE30US>

²⁶ See <https://fred.stlouisfed.org/series/MORTGAGE30US#0> and <https://fred.stlouisfed.org/series/PCEPI>.

²⁷ <https://fred.stlouisfed.org/series/MORTGAGE5US#0> and <https://fred.stlouisfed.org/series/PCEPI>.

II.

Was the Great Recession really that great?

I referred above to the “Great” Recession as “greatish.” I did so because the Great Recession does not, in retrospect, appear to have been all that big. For starters, the decline in real GDP over the course of the GR was only 3.1 percent. This is not remotely comparable to the 25.9 percent plunge in output recorded during the first four years of the Great Depression. And it is less than twice the average percentage decline in output recorded in the prior five recessions. It is also not much larger than the 2.5 percent real GDP drop in the 1981–1982 recession. Yes, during the GR, the stock market fell by almost one third, house prices fell by almost one fifth, and the unemployment rate doubled. But stock prices fell by a far larger percentage (40 percent) between 2000 and 2002 and the unemployment rate in the 1981–1982 recession peaked at a higher value than in the GR. Like the supposed causes of the Great Recession, the size, itself, of the GR appears to have been hyped. Stated differently, if one wants to claim the 2008–2009 recession was “great,” the 1981–1982 recession should at least be called the “Impressive Recession.” In the Impressive Recession, stocks fell 24.6 percent, real GDP fell 2.5 percent, and unemployment rose by 3.3 percentage points. The respective Great Recession figures are 43.6 percent, 3.1 percent, and 3.1 percent. Yes, they are all larger, but not that much.

What does it mean?

What does it tell us if, as I’ve claimed, supposed experts, let alone the general public, have misjudged the causes of the GR as well as its magnitude? It means that our economy operates with very limited, incorrect and highly exaggerated information.

What does it mean when there is a major spike in Google searches in August 2008 for liar loans and, after September 15, 2008, for the Great Depression?²⁸ It means the press and social media were put onto a narrative that the mortgage market is infested with bad actors and that Lehman’s failure could usher in the next Great Depression.

What does it mean when a false rumour that Bear Stearns was out of money is spread (probably by short sellers) on March 10, 2008 and Bears is run out of business, primarily by its fellow banks, by the end of the week? It means that

²⁸ <https://trends.google.com/trends/explore?date=all&geo=US&q=liar%20loans>

established lines of credit are worthless when push comes to shove. What did it mean that Bear Stearns’ stock price was above \$70 on March 10th and \$2 on March 17th? It means the *bank’s collapse had nothing to do with the value of its underlying assets*. What does it mean when Vanity Fair documents not the failure, but the *murder* of Bear Stearns – a murder facilitated by opacity so dense that teams of potential suitors could not figure out what the company’s assets were really worth.²⁹ It means that speculators, who stand to profit, can, with the aid of actual and manufactured bad news, potentially take down any bank in the country at any time. Furthermore, they can get away with it and then move onto their next victim.³⁰

What does it mean when leveraged banks start realizing that they can face a defunding run, regardless of the reality of their equity position? It means they panic, call in loans, and circle the wagon by preserving their liquidity for their own potential needs.

What did it mean when Dick Fuld, the former head of Lehman testified to Congress that

“... unfounded rumours about Lehman continued to besiege the firm and erode confidence. An investment bank’s very existence depends on confidence to consummate transactions, pledge collateral and repay loans. Without that confidence, no bank can function or continue to exist. This loss of confidence, although unjustified and irrational, became a self-fulfilling prophecy and culminated in a classic run on the bank starting on September 10, 2008, that then led Lehman to file for bankruptcy four days later, in the early morning hours of September 15.”

It means that we have a trust-me banking system; that trust can erode instantly, that no leveraged bank is safe from a run, and that the banking system is inherently unstable.

What does it mean that Lehman had tier-1 capital of 11 percent when the Lehman defunding run began? It means that the Federal Reserve’s recent stress tests, which indicate that the banking system, which has tier-1 capital of 12.3

²⁹ https://www.vanityfair.com/news/2008/08/bear_stearns200808-2

³⁰ This paragraph from the Vanity Fair suggests this possibility is a common view on Wall Street. *“Even with subpoena power, I’m not sure the S.E.C. will get to the bottom of this, because the standard of proof is just so difficult,” says a vice-chairman at another major investment firm. “But I hope they do. Because you can look at this as just another run on a bank or as a seminal point in the financial history of this country that could bring about a change, perhaps a drastic change, in the way we govern financial markets. If there is a solution to this kind of thing, it must be found in the roots of what happened at Bear Stearns. Because otherwise, I can guarantee you, it will happen again somewhere else.”*

percent, is no safer today than it was when Lehman Brothers went (arguably, was driven out) of business.³¹

What does it mean when Dick Fuld says that Lehman was not bankrupt when it went bankrupt? Assuming he was telling the truth, it means our banking system is not safe at any speed and can fail due to panic-driven illiquidity, not actual insolvency.³²

What does it mean that Lehman Brother's failure, which led to no loss of life or physical property, instantly led to massive layoffs by companies that had nothing to do with the financial system? It meant that employers were worried their customers would lose their jobs and they, themselves, would not be able to make payroll. This belief – *I need to fire my employees (other employers' customers) because other employers might fire my customers (other employers' employees)* – was a self-fulfilling prophecy waiting to come true. It came true and led employers to fire workers in droves starting the day after Lehman failed.

What does it mean that during the GR, 29 major banks around the world were either nationalized, sold off in shot-gun weddings or went bankrupt? It means that financial contagion spreads domestically and globally.

What does it mean when the 2012 run on two minor Cypriot banks lead to emergency meetings of the European Commission, European Central Bank, and the IMF, producing headlines in top media outlets all around the world and a massive EU, ECB and IMF bailout? It means that conventional banking everywhere is unstable and can be hit by runs if enough people get it into their minds that a banking run is on. The proximate concern was that failures of Cypriot banks would instigate failures of Greek banks followed by failure of Italian, Spanish and Belgium banks, followed by the failures of French and German banks, particularly the large, highly leveraged Deutsch Bank, followed by bank failures, continents away, in the U.S. and Asia. Fear and panic spread these days as vast as media messages, i.e., at the speed of light.

What does it mean that the economic recovery in the U.S. and Western Europe, particularly Italy, Spain and Greece has been slow to the point that the period 2008–2018 is being described as *the lost decade*?³³ It means that economies can sit in bad equilibria for very long times until there is enough good news to collectively galvanize animal spirits.

What does it mean that central bank policies of keeping interest rates close to zero did not succeed in turning around the global economy? It arguably meant that such drastic policies were taken as signs that things were even worse than

³¹ <https://www.federalreserve.gov/newsevents/pressreleases/bcreg20180621a.htm>

³² <https://www.cnn.com/2015/05/28/lehman-fuld-no-one-thing-caused-the-crisis.html>

³³ [https://www.bbc.co.uk/news/resources/idt-sh/The lost decade](https://www.bbc.co.uk/news/resources/idt-sh/The%20lost%20decade)

generally believed and that this was no time to rehire on the assumption that demand for one’s products was about to pick up.

Missing the forest for the trees

The FCIC, the press, the politicians, the public and the economists have spent the aftermath of the GR placing blame on bad people – bad bankers, bad regulators, bad politicians, bad raters, bad CEOs, bad traders, and the list goes on. This focus on people, not the above questions, means we are likely missing what really happened.

Multiple equilibrium

When economies and sectors of the economy quickly or instantly flip from one position to another, it is a sign of multiple equilibria – multiple places where the economy can land, some good and some terrible. Multiple equilibria is the technical term economists use. There are other names – contagion, self-fulfilling prophecy, coordination failures, sun spot equilibria, collective action, widespread panic and more. *Banking runs are situations of multiple equilibria.* If no one runs on (i.e., runs away from) Lehman Brothers in September 2008, it is safe for everyone to stay with Lehman. But if others run or may run, it is best to play it safe and run as well. Lehman, after all, needs a critical amount of funding to operate and if enough players fail to provide that funding, the remaining funders will likely be throwing their money away.

Banking crises are called panics for a reason. Everyone runs for the exit in the crowded theatre when someone screams fire. They run and get trampled whether or not there is a fire. That is what happens in a financial crisis. It is not rational, it is not pretty, and it is not necessarily due to fundamentals. The reason that financial crises are economically so deadly is that the banks are not growing wheat, which can easily be stored or purchased from abroad if there is a shortage. Banking panics are economically deadly because the banks run a public good, namely the financial marketplace. Banks are intermediaries, i.e., middlemen. They connect lenders with borrowers and savers with investors. If the banks go down, the financial market fails. This is akin to gas stations all failing and preventing us from using a different public good – the highway system.

In the GR, the financial system froze. Every remaining major bank and thousands of minor banks would likely have failed had the government not intervened in the truly unprecedented fashion in which it did. The government, in this case,

was primarily the Federal Reserve. It became, for all intents and purposes, the only fully functional bank in the country, making loans to all manner of financial and non-financial enterprises, from the largest surviving banks to companies selling mobile homes.

Unsafe at any speed

The banks failed because they could. And they could fail because they were leveraged. They promised to make payments regardless of the circumstances and those promises were lies. The Federal Reserve is also leveraged. In the aftermath of Lehman's collapse, the Fed effectively insured not only checking and saving accounts, but also money market funds. These obligations were formally FDIC or Treasury obligations. They ran to some \$6 trillion. But had the Fed needed to do so, it would have printed the \$6 trillion on behalf of the FDIC and Treasury.

Had there been, despite the promise of insurance, a run on checking and saving accounts as well as money market funds, there would surely also have been a run on the insurance industry's cash surrender policies, which, at the time, totalled some \$6 trillion.

Now imagine, as I discussed in my 2010 book, *Jimmy Stewart Is Dead* (JSID), that the government's explicit and implicit pledges of insurance had been called by the public. That is, suppose the public had, despite the promises of government insurance, headed straight to the banks, money market funds, and insurance companies to empty out their accounts as well as demand the cash promised based on the surrender values of their cash value policies. In this case, the government would have had to print \$12 trillion virtually overnight. That would have produced hyperinflation leading anyone thinking twice about not running for their money to do so immediately.

The U.S. has yet to experience a run on its central bank. But this is a common occurrence in countries like Argentina, where the public and the financial community are well aware that the government's pledge of deposit and related financial insurance can only be honoured in the context of the wholesale printing of money. Such money printing means the pledge will not be honoured in real terms. Thus, with central banks as with private banks, there are two equilibria – *everyone runs and no one runs*.

The role of opacity

Opacity is the midwife of financial panics. Bear Sterns was the first to be picked off by those who stood to gain by its collapse because it was viewed as highly opaque. No one on the street or, it seems, inside the bank, knew what its assets were really worth. What they did know is that its relatively high leverage and opacity made it a sitting duck. As for those who did not sell the bank short, their thoughts surely went as follows. “Maybe Bear’s assets can’t cover what it owes? Best to move my money out until it’s clear that others trust the bank. If I sell their stock short and spread the word, I can win as Bear loses.”

Once the mighty, 85 year-old Bear Sterns was taken down, it became clear that other big banks might fail as well. The next targets were IndyMac, Fannie Mae and Freddie Mac (the massive government-sponsored mortgage companies), and Lehman.

What flips the switch on financial crises?

Multiple equilibria are formally two or more sets of solutions to the same underlying equations. This means that the economy can flip from one equilibrium, say A, to the other, say B, simply if its participants all come to believe that the equilibrium is now B. This flipping will not be based on something fundamental since everything that is fundamental is included in the equations. Instead, it will be based on something, like the appearance of a sun spot, that has nothing intrinsically to do with the economy.

News of banking failures, financial malfeasance, liar loans, no doc loans, NINJA loans, rating shopping, regulatory capture, excessive leverage, bursting house price bubbles, unaligned CEO incentives, predatory lending, bank failures, widespread opacity, and the list goes on can surely flip the economy into a bad equilibrium even if the news is either untrue or of secondary economic importance.

In the nine months prior to September 15, 2008, the day Lehman Brothers died, there had been one major bad news story after another about the financial industry. Countrywide Financial, Bear Stearns, Fannie Mae, Freddie Mac, IndyMac and Merrill Lynch – all had been bought up at fire-sale prices or nationalized. In the days, weeks, and months following Lehman Brothers’ collapse, AIG, Washington Mutual, Citigroup, and Wachovia all hit the skids. The non-financial economy saw what was, fundamentally, just a reshuffling of financial players and asset ownership as a sure sign that bad times were here again. The reaction was shift. Employers laid off their workers in droves to lower their payrolls be-

fore their customers stopped arriving. This was the worst of the many types of multiple equilibria associated with the GR.

Historically, having the economy flip on the basis of bad news about the financial system is old hat. In 1720, insider trading and fraudulent misrepresentation led to collapses of both the South Sea and Mississippi bubbles. The attempted cornering of the U.S. bond market kindled the Panic of 1792. The sale of investments in the imaginary Latin American country of Poyais led to the Panic of 1825. “Wildcat banking” helped produce the Panic of 1837. The embezzlement of assets from the Ohio Life and Trust Co. instigated the Railroad Crisis of 1857. Jay Gould and James Fisk’s cornering of the gold market precipitated the 1869 Gold Panic. Cooke and Company’s failure to disclose losses on Northern Pacific Railroad stock sparked the Panic of 1873. A failed cornering of United Cooper’s stocks instigated the Panic of 1907. The Hatry Group’s use of fraudulent collateral to buy United Steel, the sale of Florida swamp land, the Match King Hoax, the Samuel Insull fraud and the disclosure of other swindles ushered in the Great Depression. And insider trading and stock manipulation brought down Drexel Burnham Lambert, precipitating the largest insurance failure in U.S. history.³⁴

III.

Eliminating the twin pillars of financial collapse – leverage and opacity

Banks that have zero leverage – do not owe anything to anyone – cannot go bankrupt. Hence, the obvious way to prevent future banking crises is to preclude *all* financial corporations from borrowing. And banks that are transparent will not spring surprises on the economy – surprises that can be collectively misinterpreted and flip the economy’s equilibrium.

Unfortunately, the Dodd Frank reform does very little to alter financial company leverage or financial company opacity. As indicated, today’s banking system has essentially the same capital ratio as Lehman had the day it died. As for making financial companies transparent, it is business as usual on Wall Street. The pass on opacity was implicitly endorsed by the FCIC report. That report runs 633 pages. The word opacity appears just once. The word opaque appears just seven times.

³⁴ This paragraph is taken verbatim from Jackson – Kotlikoff (2018).

Limited purpose banking

In my 2010 book, JSID mentioned already above, I proposed a new financial system called *Limited Purpose Banking (LPB)*. It transforms all financial corporations into 100 percent equity-financed mutual funds and eliminates all financial regulatory bodies apart from one – *The Federal Financial Authority (FFA)*, whose job entails hiring private companies that work just for the FFA and verify and disclose all aspects of all assets held by the mutual funds. This disclosure would be done on a real-time basis. Non-financial corporations would be permitted to borrow. But they would need to invest borrowed funds in real assets or hold them in cash. The adoption of LPB would bring a permanent end to financial crises. In this regard, it is worth pointing out that not a single equity-financed mutual fund failed in the GR. The only mutual funds that ran into trouble were money market mutual funds, which were implicitly leveraged via their pledge to back investments to the buck.

I present, in the *Appendix*, a list of LPB principles and provisions³⁵. As one can see at the Purple Financial Plan site, a veritable Who’s Who of former top policymakers and economists have strongly endorsed this plan. The plan uses cash mutual funds, which hold only cash (on reserve with the Federal Reserve), for the payment system. Also, as discussed in JSID, 100 percent equity-financed (i.e., all money on the table) pari-mutuel mutual funds are used for risk sharing, including, effectively, the purchase and sale of derivatives. Finally, insurance mutual funds are used for sharing idiosyncratic risk without risk to third parties or taxpayers.

The transition to LPB is gradual and straightforward, particularly in light of the enormous excess reserves in the banking system. From the day the reform takes place, financial corporations would simply be prohibited from borrowing at the margin. What they would be permitted and encouraged to do is to establish mutual fund holding companies that issue only 100 percent equity-financed mutual funds, including cash and pari-mutuel mutual funds. An alternative transition would involve a gradually, but ever-rising tax on leverage by financial corporations and a requirement that non-financial corporations invest only in real assets or cash.

³⁵ The list is copied from www.purpleplans.org.

IV.

CONCLUSION

Standard explanations of the 2008 financial crisis and its associated Great Recession represent the big con. Like the movie *The Big Short*, they make bad actors, not intrinsic problems with the economy and the financial system, the culprits.

Bad/greedy/lazy/irresponsible actors, we are told, engaged in all manner of financial malfeasance, risk taking, negligence, theft and greed. And what we are told is true. There were plenty of bad actors – enough to fill up hundreds of books and movie scripts. But the story of these bad actors is not the real story of the Great Recession. The real story is that both the economy and the banking system are inherently unstable. They are unstable due to expectations-driven multiple equilibria. If enough people think a bank is going down, that bank will go down regardless of its true condition. If enough people think the economy is going down, the economy will go down, also regardless of its true condition. The secret to stabilizing the financial system and, thereby, the economy is simple. One simply needs to make *all* the financial corporations operate as 100 percent equity-financed mutual funds and have a single government agency disclose and verify mutual fund assets, on a real-time basis.

The big con – the terribly false lessons that economists, policymakers, journalists, and the public – have drawn from the GR has unwittingly led to the restoration of banking as we knew it. That system, our system, is a highly leveraged, almost totally opaque, trust me banking. That system, our system, has a well-established history of failing at terrible economic and human cost. That system, our system, will fail again unless we realize what really went wrong and what's really needed to fix banking for good.

APPENDIX

Principles of Financial Reform

1. The goal of a financial system is intermediation, not gambling.
2. The new system should be transparent and provide full disclosure.
3. The new system should never collapse or put the economy at risk.
4. The new system should not require government guarantees.
5. The new system should entail limited regulation.
6. The new system should improve financial intermediation.

Limited Purpose Banking

7. Applies to all financial companies protected by limited liability. This includes incorporated commercial banks, investment banks, insurance companies, hedge funds, and private equity funds.
8. All financial companies protected by limited liability must operate exclusively as mutual fund companies that market mutual funds.
9. Mutual funds are not allowed to borrow and, thus, never fail.
10. Mutual fund companies required to also issue cash mutual funds, which hold only cash.
11. Cash mutual funds are used for the payment system.
12. Cash mutual funds are backed to the buck.
13. Mutual fund companies are not permitted to back money market or other non-cash mutual funds to the buck and can lose value.
14. A single regulator – the Federal Financial Authority (FFA) – hires private companies that work only for it.
15. Companies working for FFA verify, appraise, rate, custody, and disclose, on the web and in real time, all securities held by mutual funds.
16. Mutual funds buy and sell FFA-processed and disclosed securities at auction. This ensures that issuers of securities, be they households or firms, receive the highest price for their paper (borrow at the lowest rate).

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