"THE ANATOMY OF A MURDER: WHO KILLED AMERICA'S ECONOMY?"

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The main cause of the crisis was the behavior of the banks—largely a result of misguided incentives unrestrained by good regulation. Conservative ideology, along with unrealistic economic models of perfect information, perfect competition, and perfect markets, fostered lax regulation, and campaign contributions helped the political process along. The banks misjudged risk, wildly overleveraged, and paid their executives handsomely for being short-sighted; lax regulation let them get away with it—putting at risk the entire economy. The mortgage brokers neglected due diligence, since they would not bear the risk of default once their mortgages had been securitized and sold to others. Others can be blamed: the ratings agencies that judged subprime securities as investment grade; the Fed, which contributed low interest rates; the Bush administration, whose Iraq war and tax cuts for the rich made low interest rates necessary. But low interest rates can be a boon; it was the financial institutions that turned them into a bust.

The search is on for whom to blame for the global economic crisis. It is not just a matter of vindictiveness; it is important to know who or what caused the crisis if one is to figure out how to prevent another, or perhaps even to fix this one. The notion of causation is, however, complex. Presumably, it means something like, "If only the guilty party had taken another course of action, the crisis would not have occurred." But the consequences of one party changing its actions depend on the behavior of others; presumably the actions of other parties, too, may have changed.

Consider a murder. We can identify who pulled the trigger. But somebody had to sell that person the gun. Somebody may have paid the gunman. Somebody may have provided inside information about the whereabouts of the victim. All of these people are party to the crime. If the person who paid the gunman was determined to have his victim shot, then even if the particular gunman who ended up pulling the trigger had refused the job, the victim would have been shot: Someone else would have been found to pull the trigger. There are many parties to this crime—both people and institutions. Any discussion of "who is to blame" conjures up names like Robert Rubin, co-conspirator in deregulation and a senior official in one of the two financial institutions into which the American government has poured the most money. Then there was Alan Greenspan, who also pushed the deregulatory philosophy; who failed to use the regulatory authority that he had; who encouraged homeowners to take out highly risky adjustable mortgages; and who supported President Bush's tax cut for the rich,—making lower interest rates, which fed the bubble, necessary to stimulate the economy.

But if these people hadn't been there, others would have occupied their seats, arguably doing similar things. There were others equally willing and able to perpetrate the crimes.

Moreover, the fact that similar problems arose in other countries—with different people playing the parts of the protagonists—suggests that there were more fundamental economic forces at play. The list of institutions that must assume considerable responsibility for the crisis includes the investment banks and the investors; the crediting agencies; the regulators, including the S.E.C. and the Federal Reserve; the mortgage brokers; and a string of administrations, from Bush

to Reagan, that pushed financial-sector deregulation. Some of these institutions contributed to the crisis in multiple roles—most notably the Federal Reserve, which failed in its role as regulator, but which also may have contributed to the crisis by mishandling interest rates and credit availability. All of these—and some others discussed below—share some culpability.

The Main Protagonists

But I would argue that blame should be centrally placed on the banks (and the financial sector more broadly) and the investors.

The banks were supposed to be the experts in risk management. They not only didn't manage risk; they created it. They engaged in excessive leverage. At a leverage ratio, a mere percent change in asset values wipes out one's net worth. (To put matters in perspective, real estate prices have fallen some 20 percent and, as of March, are expected to fall another 15 percent, at least.) The banks adopted incentive structures that were designed to induce short-sighted and excessively risky behavior. The stock options that they used to pay some of their senior executives, moreover, provided incentives for bad accounting, including incentives to engage in extensive off-balance-sheet accounting.

The bankers seemingly didn't understand the risks that were being created by securitization—including those arising from information asymmetries: The originators of the mortgages did not end up holding onto them, so the originators didn't bear the consequences of any failure at due diligence. The bankers also misestimated the extent of correlation among default rates in different parts of the country—not realizing that a rise in the interest rate or an increase in unemployment might have adverse effects in many parts of the country—and they underestimated the risk of real-estate price declines. Nor did the banks assess with any degree of accuracy the risks associated with some of the new financial products, such as low- or no-documentation loans.

The only defense that the bankers have—and it's admittedly a weak defense—is that their investors made them do it. Their investors didn't understand risk. They confused high returns brought on by excessive leverage in an up market with "smart" investment. Banks that didn't

engage in excessive leverage, and so had lower returns, were "punished" by having their stock values beaten down. The reality, however, is that the banks exploited this investor ignorance to push their stock prices up, getting higher short-term returns at the expense of higher risk.

Accessories to the Crime

If the banks were the main perpetrators of the crime, they had many accomplices.

Rating agencies played a central role. They believed in financial alchemy, and converted F-rated subprime mortgages into A-rated securities that were safe enough to be held by pension funds. This was important, because it allowed a steady flow of cash into the housing market, which in turn provided the fuel for the housing bubble. The rating agencies' behavior may have been affected by the perverse incentive of being paid by those that they rated, but I suspect that even without these incentive problems, their models would have been badly flawed. Competition, in this case, had a perverse effect: It caused a race to the bottom—a race to provide ratings that were most favorable to those being rated.

Mortgage brokers played a key role: They were less interested in originating good mortgages—after all, they didn't hold the mortgages for long—than in originating *Many* mortgages. Some of the mortgage brokers were so enthusiastic that they invented new forms of mortgages: The low-or no-documentation loans to which I referred earlier were an invitation to deception, and came to be called liar loans. This was an "innovation," but there was a good reason that such innovations hadn't occurred before.

Other new mortgage products—low- or no-amortization, variable-rate loans—snared unwary borrowers. Home-equity loans, too, encouraged Americans to borrow against the equity in their homes, increasing the (total) loan-to-value ratios and thereby making the mortgages riskier.

The mortgage originators didn't focus on risk, but rather on transactions costs. But they weren't trying to minimize transactions costs; they were trying to maximize them—devising ways that they could increase them, and thereby their revenues. Short-term loans that had to be refinanced—and left open the risk of not being able to be refinanced—were particularly useful in this respect.

The transactions costs generated by writing mortgages provided a strong incentive to prey on innocent and inexperienced borrowers—for instance by encouraging more short-term lending and borrowing, entailing repeated loan restructurings, which helped generate high transactions costs.

The regulators, too were accomplices in crime. They should have recognized the inherent risks in the new products; they should have done their own risk assessments, rather than relying on self regulation or on the credit-rating agencies. They should have realized the risks associated with high leverage, with over-the-counter derivatives, and especially the risks that were compounding as these were not netted out.

The regulators deceived themselves into thinking that if only they ensured that each bank managed its own risk (which they had every incentive, presumably, to do), then the system would work. Amazingly, they did not pay any attention to *systemic risk*, though concerns about systemic risk constitute one of the primary rationales for regulation in the first place. Even if every bank were, "on average," sound, they could act in a correlated way that generated risks to the economy as a whole.

In some cases, the regulators had a defense: They had no legal basis for acting, even had they discovered something was wrong. They had not been given the power to regulate derivatives. But that defense is somewhat disingenuous, because some of the regulators—most notably Greenspan—had worked hard to make sure that appropriate regulations were not adopted.

The repeal of the Glass-Steagall Act played an especial role, not just because of the conflicts of interest that it opened up (made so evident in the Enron and WorldCom scandals), but also because it transmitted the risk-taking culture of investment banking to commercial banks, which should have acted in a far more prudential manner.

It was not just *financial* regulation and regulators that were at fault. There should have been tougher enforcement of antitrust laws. Banks were allowed to grow to be too big to fail—or too big to be managed. And such banks have perverse incentives. When it's heads I win, tails you lose, too-big-to-fail banks have incentives to engage in excessive risk taking.

Corporate governance laws, too, are partly to blame. Regulators and investors should have been aware of the risks that the peculiar incentive structures engendered. These did not even serve shareholder interests well. In the aftermath of the Enron and WorldCom scandals, there was much discussion of the need for reform, and the Sarbanes-Oxley Act represented a beginning. But it didn't attack perhaps the most fundamental problem: stock options.

Bush's and Clinton's capital-gains tax cuts, in conjunction with the deductibility of interest, provided enhanced incentives for leverage—for homeowners to take out, for instance, as large a mortgage as they could.

Credentialed Accomplices

There is one other set of accomplices—the economists who provided the arguments that those in the financial markets found so convenient and self-serving. These economists provided models—based on unrealistic assumptions of perfect information, perfect competition, and perfect markets—in which regulation was unnecessary.

Modern economic theories, particularly those focusing on imperfect and asymmetric information and on systematic irrationalities, especially with respect to risk judgments, had explained how flawed those earlier "neoclassical" models were. They had shown that those models were not robust—even slight deviations from the extreme assumptions destroyed the conclusions. But these insights were simply ignored.

Some important strands in recent economic theory, moreover, encouraged central bankers to focus solely on fighting inflation. They seemed to argue that low inflation was necessary, and almost sufficient, for stable and robust growth. The result was that central bankers (including the Fed) played little attention to the financial structure.

In short, many of the most popular micro-economic and macroeconomic theories aided and abetted regulators, investors, bankers, and policymakers—they provided the "rationale" for their policies and actions. They made the bankers believe that in pursuing their self interest, they were, in fact, advancing the well-being of society; they made the regulators believe that in pursuing their policies of benign neglect, they were allowing the private sector to flourish, from which all would benefit.

Rebutting the Defense

Alan Greenspan (2009) has tried to shift the blame for low interest rates to China, because of its high savings rate. Clearly, Greenspan's defense is unpersuasive: The Fed had enough control, at least in the short run, to have raised interest rates in spite of China's willingness to lend to America at a relatively low interest rate. Indeed, the Fed did just that in the middle of the decade, which contributed—predictably—to the popping of the housing bubble.

Low interest rates did feed the bubble. But that is not the necessary consequence of low interest rates. Many countries yearn for low interest rates to help finance needed investment. The funds could have been channeled into more productive uses. Our financial markets failed to do that. Our regulatory authorities allowed the financial markets (including the banks) to use the abundance of funds in ways that were not socially productive. They allowed the low interest

rates to feed a housing bubble. They had the tools to stop this. They didn't use the tools that they had.

If we are to blame low interest rates for "feeding" the frenzy, then we have to ask what induced the Fed to pursue low interest rates. It did so, in part, to maintain the strength of the economy, which was suffering from inadequate aggregate demand as a result of the collapse of the tech bubble.

In that regard, Bush's tax cut for the rich was perhaps pivotal. It was not designed to stimulate the economy and did so only to a limited extent. His war in Iraq, too, played an important role. In its aftermath, oil prices rose from \$20 a barrel to \$140 a barrel. (We don't have to parse out here what fraction of this increase is due to the war; but there is little doubt that it played a role (See Stiglitz and Bilmes 2008). Americans were now spending hundreds of billions of dollars a year more to import oil. This was money not available to be spent at home.

In the 1970s, when oil prices soared, most countries faced recessions because of the transfer of purchasing power abroad to finance the purchase of oil. There was one exception: Latin America, which used debt finance to continue its consumption unabated. But its borrowing was unsustainable. Over the last decade, America took the Latin American route. To offset the negative effect of higher spending on oil, the Fed kept interest rates *lower than they otherwise would have been*, and this fed the housing bubble more than it otherwise would have. The American economy, like the Latin American economies of the 70s, seemed to be doing well, because the housing bubble fed a consumption boom, as household savings fell all the way down to zero.

Given the war and the consequent soaring oil prices and given Bush's poorly designed tax cuts, the burden of maintaining economic strength fell to the Fed. The Fed could have exercised its authority as a regulator to do what it could do to direct the resources into more productive uses. Here, the Fed and its chairman have a double culpability. Not only did they fail in their regulatory role, they became cheerleaders for the bubble that eventually consumed America. When asked about a possible bubble, Greenspan suggested there was none—only a little froth. That was clearly wrong. The Fed argued that you could not tell a bubble until after it broke. That, too, was not fully correct. You can't be *sure* there is a bubble until after it breaks, but one can make strong probabilistic statements.

All policy is made in the context of uncertainty. House prices, especially at the lower end, soared, yet the real incomes of most Americans stagnated: There was a clear problem. And it was clear that the problem would get worse once interest rates rose. Greenspan had encouraged people to take out variable-rate mortgages when interest rates were at historically low levels. And he allowed them to borrow up to the hilt—assuming interest rates would remain at the same low level. But because interest rates were so low—real interest rates were negative—it was unreasonable to expect them to remain at that level for long. When they rose, it was clear that many Americans would be in trouble—and so would the lenders who had lent to them.

Apologists for the Fed sometimes try to defend this irresponsible and short-sighted policy by saying they had no choice: Raising interest rates would have killed the bubble, but also would have killed the economy. But the Fed has more tools than just the interest rate. There were, for instance, a number of regulatory actions that would have dampened the bubble. It chose not to

employ these tools. It could have reduced maximum loan-to-value ratios as the likelihood of a bubble increased; it could have lowered the maximum house payment-to-income ratios allowed. If it believed it did not have the requisite tools, it could have gone to Congress and requested them.

This doesn't provide a *fully* satisfactory counterfactual. True, perhaps the money could have been deployed by financial markets more productively, to support, for instance, more innovation, or important projects in developing countries. But perhaps the financial markets would have found another scam to support irresponsible borrowing—for instance, a new credit-card boom.

Defending the Innocent

Just as all of the accomplices are not equally culpable, some suspects should be acquitted.

In the long list of possible culprits, there are two that many Republicans often name. They find it difficult to accept that markets fail, that market participants could act in such an irresponsible manner, that the wizards of finance didn't understand risk, that capitalism has serious flaws. It is government, they are sure, which is to blame.

I have suggested government is indeed to blame, but for doing too little. The conservative critics believe that government is to blame for doing too much. They criticize the Community Reinvestment Act (CRA) requirements imposed on banks, which required them to lend a certain fraction of their portfolio to underserved minority communities. They also blame Fannie Mae and Freddie Mac, the peculiar government-sponsored enterprises, which, though privatized in 1968, play a very large role in mortgage markets. Fannie and Freddie were, according to conservatives, "under pressure" from Congress and the president to expand home ownership (President Bush often talked about the "ownership society").

This is clearly just an attempt to shift blame. A recent Fed study showed that the default rate among CRA mortgagors is actually *below* average (Kroszner2008). The problems in America's mortgage markets began with the subprime market, while Fannie Mae and Freddie Mac primarily financed "conforming" (prime) mortgages.

It is America's fully private financial markets that invented all the bad practices that played a central role in this crisis. When government encouraged home ownership, it meant *permanent* home ownership. It didn't intend for people to buy homes beyond their ability to afford them. That would generate ephemeral gains, and contribute to impoverishment: The poor would lose their life savings as they lost their home.

There is always a home that is of an appropriate cost to an individual's budget. The irony is that because of the bubble, many of the impoverished wound up owning a home no bigger than they would have if more prudent lending policies had been enforced—which would have dampened the bubble. To be sure, Fannie Mae and Freddie Mac did get into the high-risk high leverage "games" that were the fad in the private sector, though rather late, and rather ineptly. Here, too, there was regulatory failure; the government-sponsored enterprises have a special regulator which should have constrained them, but evidently, amidst the deregulatory philosophy of the Bush Administration, did not. Once they entered the game, they had an advantage, because they could borrow somewhat more cheaply because of their (ambiguous at the time) government

guarantee. They could arbitrage that guarantee to generate bonuses comparable to those that they saw were being "earned" by their counterparts in the fully private sector.

Politics and Economics

There is one more important culprit, which, in fact, has played a key behind-the-scenes role in many various parts of this story: America's political system, and especially its dependence on campaign contributions. This allowed Wall Street to exercise the enormous influence that it has had, to push for the stripping of regulations and to the appointment of regulators who didn't believe in regulations—with the predictable and predicted consequences (Stiglitz 2003) that we have seen. Even today, that influence is playing a role in the design of effective means of addressing the financial crisis.

Any economy needs rules and referees. Our rules and referees were shaped by special interests; ironically, it is not even clear whether those rules and referees served those special interests well. It is clear that they did not serve the national interests well.

In the end, this is a crisis of our economic and political system. Each of the players was, to a large extent, doing what they thought they should do. The bankers were maximizing their incomes, given the rules of the game. The rules of the game said that they should use their political influence to get regulations and regulators that allowed them, and the corporations they headed, to walk away with as much money as they could. The politicians responded to the rules of the game: They had to raise money to get elected, and to do that, they had to please powerful and wealthy constituents. There were economists who provided the politicians, the bankers, and the regulators with a convenient ideology: According to this ideology, the policies and practices that they were pursuing would supposedly benefit all.

There are those who now would like to reconstruct the system as it was prior to 2008. They will push for regulatory reform, but it will be more cosmetic than real. Banks that are too big to fail will be allowed to continue little changed. There will be "oversight," whatever that means. But the banks will continue to be able to gamble, and they will continue to be too big to fail. Accounting standards will be relaxed, to give them greater leeway. Little will be done about incentive structures or even risky practices. If so, then, another crisis is sure to follow.

NOTE

1. Greenspan supported the 2001 tax cut even though he should have known that it would have led to the deficits which previously he had treated as such an anathema. His argument that, unless we acted now, the surpluses that were accumulating as a result of Clinton's prudent fiscal policies would drain the economy of all of its T-bills, which would make the conduct of monetary policy difficult, was *Stiglitz* • *Anatomy of a Murder* 339 one of the worst arguments from a respected government official I have ever heard; presumably, if the contingency he imagined—the wiping out of the national debt—was imminent, Congress had the tools and incentives with which to correct the situation in short order.

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