



Prepared Testimony of William K. Black  
Associate Professor of Economics and Law  
University of Missouri – Kansas City

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### *Introduction*

Thank you for this opportunity to discuss the role of financial derivatives in the ongoing crises, the current system for regulating them, and suggestions for improvement. At your request, I have addressed, briefly, the “big picture” rather than the technical details. Any meaningful discussion of derivatives requires a discussion of the “underlying” – which in the current crisis is some form of debt. The most relevant debts are mortgages, particularly non-prime mortgage debt, which consists of subprime and “alt-a” loans. Some of the structured financial derivatives are extremely complex derivatives of derivatives, but at its core the story begins with mortgages.

### *Report*

The largest financial bubble in world history occurred this decade in U.S. home prices. Financial derivatives were a necessary condition for the bubble to hyper-inflate to this extent and to spread the losses internationally. Prime and non-prime loans were essential to cause the hyper-inflation. Non-prime losses are greatly disproportionate (roughly \$1 trillion), but losses on prime mortgages are also severe.

The data allow us to identify and rank the micro-economic factors *directly* feeding and permitting the bubble to hyper-inflate (and to rule out other suggested causes).

1. Non-regulation. The great majority of the bad non-prime loans were made by non-regulated entities or entities that were not regulated as to underwriting and credit quality. Similarly, the major players in the creation of derivatives dependent on mortgage loan quality, e.g., the rating agencies, auditors, and commercial and investment bankers, were not regulated as to underwriting and credit quality.

2. Deregulation. Insured depositories made roughly 20 percent of non-prime loans. They made an even smaller percentage of the worst non-prime loans. However, the largest S&L non-prime lenders have failed or are in crisis because of their non-prime lending. They could not have made these loans but for the removal of rules that required responsible underwriting. The repeal of Glass-Steagall Act contributed to the problem.
3. Desupervision. Where there were regulators with authority to act to require proper underwriting, to forbid imprudent lending, and to require appropriate accounting, they did not exercise their authority effectively.
4. “Control fraud.” Control frauds are frauds in which the person that controls the corporation (typically, the CEO) uses its apparent legitimacy and power as a “weapon” to defraud. Accounting and securities fraud is their weapon of choice during the ongoing crises. The FBI has been warning since September 2004 that there was an “*epidemic of mortgage fraud*”. The FBI also reports that *lenders induce 80 percent of all mortgage frauds*. There has been no effective law enforcement response to the epidemic (and statutory changes and hostile court decisions have made it increasingly difficult to bring meritorious accounting fraud cases and recover appropriate damages). Accounting control frauds optimize by growing rapidly, covering up losses (e.g., by refinancing bad loans) and making the worst loans. They grow by leveraging – increasing their debt far faster than they increase their (reported) capital.<sup>1</sup> The primary function of credit default swaps (CDS) and collateralized debt obligations was to allow banks to increase their leverage substantially. This causes bubbles to hyper-inflate. Collectively, this causes fraud losses to be disproportionately large – and hidden. The defining element of fraud is deceit. One first creates trust in the victim and then betrays it. As a result, fraud can corrode trust, and this can cripple markets long before fraud becomes endemic. If we knew that one in one hundred water bottles were contaminated, how many of us would drink from them?
5. Compensation systems created perverse incentives that encouraged control fraud and other abuses. Executive compensation has frequently further “misaligned” the interests of shareholders and the managers and created intense incentives to engage in accounting fraud. A “Gresham’s” dynamic can spread this dynamic to competitors. The compensation system for rating agencies and outside auditors creates conflicts of interest that aid and spread accounting fraud. Conservative economic theoreticians assumed that “private market discipline” would prevent accounting fraud. Instead, private parties, such as appraisers, auditors, rating agencies, lenders, and commercial and investment bankers functioned like accelerants in an arson fire. The fraudulent CEOs did not “defeat” these internal and external “controls”, they suborned them into becoming their most valuable allies.
6. Volatility. The purported purpose of most financial derivatives is hedging. In the case of CDS, the primary actual purposes are greatly increased leverage and speculation (particularly through “shorting”). Hedging should reduce volatility.

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<sup>1</sup> In reality, they are decreasing their true capital by making loans that will eventually lead to enormous losses.

CDS can lead to extraordinary volatility events so large that they pose systemic risks.

7. Preemption. The only aggressive action that the federal regulators took with respect to the surge of non-prime loans was to preempt State efforts to regulate affiliates of federally chartered financial institutions.

The data also allow us to refute two suggested causes of the hyper-inflated bubble. The Community Reinvestment Act (CRA) has existed for decades without causing a housing bubble or an epidemic of accounting fraud. The administration was hostile to the CRA and supported the efforts of the federal agencies to *reduce* enforcement of the CRA during the period the bubble was hyper-inflating. The CRA does not require anyone to make non-prime loans, much less bad non-prime loans. The great bulk of the worst non-prime loans were made by entities (e.g., mortgage brokers and bankers) that are not subject to the CRA. The mortgage brokers and bankers made bad non-prime loans for the same reason other lenders that were subject to the CRA did – it optimized accounting gains. Again, lenders subject to CRA requirements were considerably *less likely* to make abusive non-prime loans than were lender not subject to the CRA.

The second claim is that Fannie Mae and Freddie Mac were the engines driving subprime lending and the bubble. Neither claim is supportable. First, Fannie and Freddie obviously did not originate subprime and alt-a loans. Second, they lost substantial MBS market share this decade precisely because they were so *reluctant* to purchase non-prime mortgages. Third, to the extent they purchased non-prime paper they were disproportionately likely to purchase higher quality paper. Fourth, it was unregulated rating agencies and investment banking firms that crafted, “blessed” and bought and sold the worst non-prime MBS (and Collateralized Debt Obligations (CDOs) and Credit Default Swaps (CDS) based on non-prime MBS). Fannie and Freddie did purchase substantial amounts of this non-prime MBS, but it did so in order to increase its accounting income and if it had not purchased the non-prime MBS some other entities would have done so (at an even higher yield) and those financial institutions would have failed. *At all relevant times, the Office of Federal Housing Enterprise Oversight (OFHEO) had the statutory and regulatory authority to prevent Fannie and Freddie from purchasing any non-prime paper.* The administration, of course, appointed OFHEO’s and HUD’s leaders. None of these appointees, prior to the bursting of the housing bubble, attempted to restrict Fannie and Freddie from purchasing non-prime paper. The administration *supported* widespread non-prime lending. That is why it took no effective regulatory or statutory steps to curtail it. This was a classic example of de-supervision.

Unfortunately, the current system of regulation of the “underlying” (mortgages) and the financial derivatives can be summarized as non-regulation and de-supervision. Chairman Greenspan, despite the urgings and warnings of his colleague Dr. Gramlich, refused to have the Federal Reserve exercise its unique jurisdictional authority over mortgage bankers and brokers and refused even to have Federal Reserve examiners target subprime lending by affiliates of holding companies that they are supposed to regulate. Chairmen Donaldson and Cox relied on self-regulation by investment bankers. Five large savings & loans (S&Ls) made the bulk of the non-prime loans in what was (formally) the

“regulated” sector. The Office of Thrift Supervision (OTS) exemplified the crudest form of de-supervision of these S&Ls – with disastrous results.

There are a number of regulatory responses that we know work very well, and some that risk making things far worse. Two of the most harmful (unintended) consequences of federal deregulation or de-supervision are (1) *de facto* decriminalizing the activity, and (2) making the activity opaque – or worse.<sup>2</sup>

Hindsight is rarely “20:20.” Ideologically driven (non) regulators have strong personal and ideological incentives to cover up the scale of the problem and to blame it on anything other than their policies. The history of science shows the immense reluctance to admit that existing paradigms have been falsified. This problem is particularly acute for neo-classical finance and economics scholars because the theories that have been falsified by the ongoing crises are the foundations of modern finance.

Neo-classical economists’ methodology, which they asserted made them the only social scientists worthy of the name, has also been falsified. The pricing models that were their most sophisticated development have failed. Mr. Buffett aptly terms them “mark to myth” and Chairman Volcker stresses that they have failed the test of the market place – and if you fail that test you produce derivatives that Mr. Buffett warned would become financial weapons of mass destruction.

Their policy advice, prompted by econometric techniques, was the worst possible advice. It increased the perverse incentives and optimized what we refer to as a “criminogenic environment” – an environment that breeds crime. During the expansion phase of a bubble, econometric studies *must* find that whatever characteristics optimize accounting fraud will have the strongest positive association with “earnings” and “stock appreciation.” The econometric study will “prove” that the worst policies are the best policies. The “sign” of the correlation will reverse *after* the collapse of the bubble. Therefore, we urgently need to develop better, more reliable data (which is only possible through regulation), better theories, and better research methodologies.

Here are the practical regulatory steps we need to take:

1. Reliable, complete data are essential to evaluate individual, systematic, and systemic risk. The lack of information on financial derivatives has made it far more difficult for Treasury and the Fed to respond. Ignorance creates gratuitous systemic risk.
2. Regulation v. “private market discipline” is a false dichotomy. “Private market discipline” is vastly more effective when regulation produces more complete and reliable information. Absent regulation, private market “discipline” has become an oxymoron. The elite private entities that were supposed to discipline the

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<sup>2</sup> We assume, absent corruption, that the government officials involved did not intend these consequences. Audacious control frauds, however, do intend these consequences and they use the corporation’s apparent legitimacy and power to induce elected officials and regulators to create regulatory “black holes” that they can exploit. Enron’s cartel, which caused the California energy crisis, is an excellent example of this. Indeed, Ken Lay emulated many of Charles Keating’s tactics.

market were the most valuable allies aiding widespread accounting fraud. When the private markets began to exert discipline they did not do so in accordance with theory. Instead of making accurate, fine distinctions based on individual creditworthiness, they shut down entire markets and produced a catastrophe – because bankers no longer trust other bankers’ accounting values for assets.

3. The purported justifications for many financial derivatives, including CDS and CDOs, are facially inappropriate. The primary stated purpose for CDS is for banks to increase their leverage dramatically. That means that banks have significantly less capital available when they suffer large losses. It was reckless for the regulators and the industry to encourage this leverage. The purpose of CDOs is even worse. They are designed to increase leverage and take debt off balance sheet (increasing opaqueness) through special investment vehicles (SIVs) that often also took substantial interest rate risk. This harms economic efficiency, inflates bubbles, increases fraud risk, and risks severe economic instability.
4. This is part of related, broader problems the next President and Congress must face. The Basel process for setting bank capital requirements is broken. If it is not fixed we will have recurrent crises. U.S. banking regulators were not unique in supporting provisions of Basel II that were expressly designed to (1) encourage banks to make more mortgage loans, (2) increase bank leverage, (3) mandate that large banks use proprietary models to value their assets and measure their risk.<sup>3</sup> Indeed, the U.S. regulators were more concerned than most of their European counterparts about reducing capital requirements.
5. The CDS market is vastly too big relative to its purported justifications. Something else is going on – massive speculation and very large “shorting.” No one knows exactly how much is going on because of non-regulation and deregulation. Again, we cannot afford that ignorance.
6. Even the hedging justification is deeply suspect. Instead of hedging, it appears that the purported hedgers are substituting counterparty risk. Banks have proven techniques (loan syndications) to lay off risk if the size of a loan is too big relative to their capital. There is no reliable evidence that the entities selling “protection” in the CDS market have (1) the underwriting skills to make appropriate decisions and (2) have adequate capital to honor their commitments. If counterparties fail, one can generate a cascade of failures.
7. In sum, we should greatly cut back on CDS, CDOs, and SIVs. Net, they cause harm.

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<sup>3</sup> It is impossible, particularly with federal pay caps on government workers, for any regulatory agency in the world to examine effectively a banking system using individual, proprietary models to value assets and measure risk. Moreover, the models have repeatedly, and grossly, underestimated risk and overstated values.