

**Investment Banking Models and the Credit Crisis**

The root causes of the meltdown in the credit markets that has led to the unprecedented events of the past weeks are well known. The bubble in real estate prices and the explosion of the non-prime mortgage market were the inevitable result of a period of artificially low interest rates that followed the dot com meltdown and the market gyrations after 9/11. Although pure in motive, the creation of an entire industry around the non prime lending market (that includes subprime, Alt-A, HELOCs and FHA/VA loans) sponsored by the GSEs and the Federal Home Loan Banking system spawned the creation of a mountain of securitization, which flowed into the commercial and investment banking systems in a relatively short period of time. These opaque instruments were thinly traded and barely understood by both their underwriters as well as the regulators that were responsible for overseeing this market. The decline in property prices that have accompanied the bursting of the real estate bubble did not exist in any of the rating agencies' models, and the attendant increase in default and delinquency rates (both prime and non-prime) led to a severe dislocation in the enormous securitization market, which threatened the capital positions and liquidity of highly leveraged investment banks Bear Stearns and Lehman Brothers, leading to the dramatic events of the past weeks.

It is important to understand how the business models of the investment banks involved in this crisis have contributed to the disruption, and how the movement away from the best practices of the regulatory framework that grew out of the 1929 crash has exacerbated the situation. The effective repeal of the Glass-Steagall Act by the Gramm-Leach-Bliley Act in 1999 changed the fundamental nature of both the commercial banks and the investment banks that had been kept separate since Glass-Steagall was passed in June of 1933. Commercial banks, heretofore in the business of direct lending, changed into packagers and sellers of those loans, becoming more transactional in nature, a business that had been dominated by the investment banks in the past. Conversely, investment banks, who had traditionally held very high quality investments on their balance sheets in order to fund their operations migrated towards a lower quality and more international funding base, and in the process became much more leveraged. This leverage encompassed both the net leverage of their business models as well as the embedded leverage of the instruments that they held on their balance sheets, which included securitized loans, CDOs, CDSs and other exotic securities.

Investment banks have rushed to embrace the leverage that they have been afforded because of a fundamental change in their traditional revenue models. The decimation of the traditional cash equities business on Wall Street and the evolution of electronic trading has been a slow moving but inevitable train wreck that has called into question the viability of the agency commission business. The impact of technology cannot be understated both as a disruptor of the mechanics of trading securities as well as a creator of new trading strategies that have further compressed margins and commoditized the agency brokerage business. As quantitative trading strategies as well as disparate trading venues have proliferated, the investment banks that thrived on the traditional model have seen their traditional income streams evaporate and have migrated away from this agency model towards a riskier "principal" model in which they became investors in securities rather than brokers. This business, which can be enormously profitable, is inherently more risky, of course. Further, as the quantitative trading systems removed more and more of the pricing anomalies from the marketplace, spreads and opportunities for arbitrage narrowed, and scale became possible only by increasing leverage. The result is that the modern investment bank looked far more like a highly leveraged hedge fund than an agency-based service oriented

business. The largest opportunities for this new quant based leveraged trading inevitably came off of the non-regulated markets, in lightly regulated debt instruments that traded dealer to dealer, and the securitized mortgage market was the largest of these. Highly complex debt instruments based upon the exploding market of prime and non prime mortgage loans became the vehicle of choice for the investment banks, who bought and sold packages of loans that were barely understood by the agencies paid to rate their creditworthiness and who were paid by the issuers of these securities. Without independent and transparent pricing information, the issuers and underwriters of these instruments had enormous influence in setting the “value” of them. Further, because the dealer-to-dealer market is a relatively illiquid one, the link between prices and fundamentals could be quickly broken. With no real pricing information available, perverse motivations quickly took over. As the underwriters of these instruments were compensated on the volume of deals completed, it was in their best interests to continue to find new buyers for these securities, and when the market was saturated to become the buyers themselves. In many cases, the investment banks doubled down on their investments, feeling that securitized loans were underpriced, leading to balance sheets bloated with illiquid securities. Because no continuous transparent market for these securities existed, the banks that held them were incented to keep them as highly marked as possible, and only divulged the enormous differences between the model valuation and the real market when they were forced to liquidate.

In short, many of the advantages of the transparent exchange-traded markets were absent in the highly leveraged portfolios of the dealer to dealer market that grew up around the exploding mortgage-backed securities market. In seeking to address the situation today, our actions should be based upon the extension of the protections of a continuously trading marketplace, and should work towards bringing fair market pricing as well as exchanged based protections to this marketplace. At its heart, a functioning exchange has a number of advantages to the opaque dealer to dealer market, including:

- Transparency of trades: All orders concentrate at one point, trades are disclosed to everyone.
- Continuous trading market to determine value, as opposed to model-based pricing. Markets look ahead and predict future assumptions, while models look backward.
- Control of leverage: Margin requirements have contained bubbles in the equity markets without the threat of contagion, and should be equally reviewed and adjusted in the debt market.
- Independent research for both new issues and in the aftermarket
- A functioning clearing house.
- Counterparty risk assumed by the exchange. If there are counterparty losses, they are shared by all members of an exchange. The participants always recognize undue risk before the regulators, and this usually assures strong self-regulation.

While this crisis must first be dealt with before a long term program is implemented, the legislation can be based on some of these principles.

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As to the immediate crisis and the proposed intervention by the Treasury, all participants agree that inaction is not an option, and that the threat to our financial system must be addressed. The goal should be to restore liquidity and confidence to the market, rather than to necessarily make the lenders whole. The way to accomplish this is to buy the assets from their troubled portfolios at the real market price. If the assets are purchased at inflated prices, the banks will benefit at the expense of the taxpayers, and if the assets are purchased far below their real market price, the taxpayers may benefit, but the banks themselves will continue to ail. We agree with Secretary Paulson that the use of an auction to determine the market price of these portfolios is the best way to arrive at a third party evaluation. Without an independent pricing mechanism like an auction, the potential conflicts of interest are far too great.

As an example, Treasury could run a reverse auction and offer to purchase \$200B of real estate related loans and securities. Participants in the auction would offer to sell the highest amount of their hard to price assets, and would be incented to offer as much of their portfolio as they feel comfortable selling at the lowest price as they would be competing for the fixed dollars offered by the Treasury. This would ensure that Treasury would be paying as close to market pricing as can be achieved through a competitive auction process. The government, as holders of these new loans and securities, can then work with the borrowers to reduce foreclosures.



Central to this approach should be the inclusion of equity participation for the Treasury. If there were any shortfall on the balance sheet of the participants in the purchase of assets by the government, that shortfall should be made up in the form of a debt for equity swap, in which the government, and ultimately the taxpayers, received equity and the potential upside associated with a rescued entity. Further, we would propose that executive compensation is inherently tied to the process by subordinating the compensation of highly paid employees of participating banks to the debt holders. Any compensation above \$1 million per employee at a participating bank would be subordinated to that debt.

Incidentally, the concept of a debt for equity swap could be applied to the underlying mortgages themselves. In attempting to align incentives for the holders of the mortgages as well as the homeowners, lenders should be able to participate in the potential appreciation of a property to the extent that they are willing to renegotiate the terms of their existing loans. If a homeowner who holds a \$500,000 mortgage on a property currently valued at \$400,000 is offered a new mortgage at a manageable payment plan, the lender should receive equity in the property representing the percentage of debt forgiveness. Should the property appreciate, that equity would rise in value as well, and the lender would eventually be made whole.

Clearly, the nation is in a position where you are forced to take decisive action. But central to any course of action should be the principle of transparency and fairness. Most importantly, we need to keep faith with the public, and include their interests in any proposed remedy. The enemy of a successful approach is a lack of transparency, whether it is in the prices that we ultimately pay for these assets, or the perceived interests of the buyers and sellers in any transaction ultimately culminated. Only when the inherent benefits of a truly transparent and functioning marketplace are applied to this portion of the financial system will the public feel that their interests are truly protected and will much needed confidence flow back towards Wall Street.

Sincerely,

Bill Hambrecht, Chairman and CEO

A handwritten signature in black ink that reads "Bill Hambrecht".