

The 21st Century Credit Crisis

By Eric C. Blue, Esq.[†]

The widespread dispersion of the credit and default risk associated with subprime mortgages and securitized mortgage products, such as collateralized debt obligations (CDOs) and mortgage-backed securities (MBS), that has spread throughout the United States and international financial markets, appears to have been, in part, the result of a severe market correction in the real estate asset class, which has resulted

in a reduction in home values and, in some cases, the negative amortization of the balances on outstanding mortgages.¹ This correction almost immediately impacted the banking sector and has had a precipitous effect on the ability of financial institutions to shore up their balance sheets through debt or equity issuances and has further resulted in the government bailout of a number of firms² and the bankruptcy of others.³ Throughout the evolution of this financial crisis, by late August of 2008, the impact on the liquidity of market participants began to extend to characters outside the retail and investment banking sectors, resulting in only the financially strongest of firms being able to raise capital through the bond markets. However, more recently, the impact of the crisis has spread to the commercial paper market and other forms of financing used by an increasingly large range of firms, including investment-grade institutions.⁴ This impact has resulted in a higher cost of capital for those firms that are still able to access the commercial paper market.⁵



posal for a \$700,000,000,000 bailout package was sent by the White House to lawmakers on September 19, 2008. Section 2(a) of the original version of the “Legislative Proposal for Treasury Authority to Purchase Mortgage-Related Assets” provided that “[t]he Secretary is authorized to purchase, and to make and fund commitments to purchase, on such terms and conditions as determined by the Secretary, mortgage-related

assets from any financial institution having its headquarters in the United States.”⁶ Section 6 of the proposed legislation provided that “[t]he Secretary’s authority to purchase mortgage-related assets under this Act shall be limited to \$700,000,000,000 outstanding at any one time.”⁷ Since the initial proposal was put forth by the Treasury Department, there have been at least three (3) additional legislative drafts that have sought to enhance taxpayer protections and provide greater incentives for the federal government to share in the upside of any gains associated with the bailout. However, each draft resolution has been built upon the same basic framework, which involves the fundamental premise of governmental intervention in this economic crisis.⁸

This article will first provide a brief overview of the process of securitization in the real estate asset class, providing some high level assessments of the “ordinary” risk/return profile in an efficient market of an asset backed security, such as a CDO or MBS. Next, the article will attempt to build a causal connection between the now well-documented, broad-based market correction in the real estate asset class and the devaluation of the real estate backed asset securities market, resulting in the credit and liquidity crisis currently engulfing the U.S. and the global economy. Lastly, this article will survey the proposed emergency legislation from two important perspectives—a determination of fair value for troubled assets and the contribution of private participants in the acquisition process.

The Nuts and Bolts of Asset Securitization

Securitization is a process that involves the pooling and repackaging of cash-flow producing assets into securities that are then sold to investors. Any asset with a predictable stream of positive cash flow can be securitized. The process of securitization

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begins with a cash flow generating pool of assets, such as mortgages on real estate assets, that are originally held by a company or family of companies. In order to fully understand the motives behind an originator's decision to securitize assets a quick lesson on present value analysis may prove beneficial.

For illustration purposes, let's call our originator Quick Mortgage, Inc., and let's say that Quick Mortgage, Inc. is a publicly-traded mortgage company that has underwritten \$100,000,000 of adjustable rate mortgages over the last twelve (12) months.⁹ Quick Mortgage, Inc. determines that it would like to expand its base of operations by making loans into the high-flying south Florida condominium market and needs approximately \$50,000,000 in new capital to do so. Unfortunately, because of the current dislocation of the credit and equity markets, which has resulted in shares of Quick Mortgage, Inc. being down fifty percent (50%), Quick Mortgage's ability to raise the necessary capital through a debt or equity issuance is very slim and would be extremely expensive.

However, Quick Mortgage, Inc. has \$100,000,000 of mortgages that are currently generating \$520,833.00 in gross proceeds every month or \$6,249,996.00 per year. Quick Mortgage, Inc. decides that securitizing these mortgage loans provides a viable alternative to accessing the capital markets.¹⁰ Additionally, increasing revenues without balance sheet financing benefits a firm such as Quick Mortgage for an additional, unintended reason; it allows the firm to increase earnings per share with the same debt-to-equity ratio.¹¹ Having made the determination that securitization is the path of least resistance for the capital raise, Quick Mortgage will pool the 100 loans together and will sell them to a special-purpose entity (SPE). The SPE will then "issue several securities backed by a beneficial interest in the receivables on these mortgages."¹² Quick Mortgage will remove these 100 loans from its balance sheet and will then use the proceeds from selling the loans to issue new loans.

Investors will purchase the securities¹³ either through a private offering (targeting institutional investors) or on the open market. The pricing of these securities can be a highly complicated process, but, for the sake of our discussion, the price of a CDO or MBS can be quoted as a spread to a corresponding swap rate. For example, the price of our AAA-rated security might be quoted at five basis points (or less) above the swap-rate for a security issued by a benchmark issuer with a similar yield-to-maturity date (e.g. Treasuries to one month LIBOR). The SPE will then slice the securities into four tranches, each reflecting the risk/reward profile associated with a particular segment of the underlying mortgages. Tranches with a first lien on assets are typically referred to as "senior tranches" and are generally safer investments. Historically, investors who have purchased these securities tend to be insurance companies, pension funds and other risk adverse investors. Tranches with either a second lien or no lien on assets are often referred to as junior notes and are,

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compared to senior securities, riskier investments that tend to be favored by investors with a higher risk/return profile, such as hedge funds and other investors seeking higher returns.

A Market Correction and the Erosion of Fair Market Value for Real Estate Backed Assets

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We can use our existing hypothetical scenario to illustrate how the market correction in the value of real estate assets could impact multiple sectors of the U.S. economy. To illustrate the pervasive effect of this correction we must return to our four tranches of securities issued in connection with the \$100,000,000 pool of mortgage assets by Quick Mortgage. Two additional facts are important at this stage. First, Quick Mortgage was able to raise the full \$50,000,000 through its securitization, and, by the fifth anniversary of the original 100 loan offering, has made an additional fifty loans of \$1,000,000 each on the same economic terms as the first 100 loans (however, Quick Mortgage has decided that, for cash-flow purposes, it will warehouse these loans in-house). Second, the four tranches of original securitized mortgages were rated AAA, AA, A and B by a rating agency and were purchased by an insurance company, a bank holding company, an investment bank and a hedge fund respectively.

We will now assume that the first 100 loans were made in effectively the same geographic market and that the value of real estate assets has undergone a twenty-five percent downward correction over the last eighteen (18) months. Additionally, the geographic market where Quick Mortgage made the additional fifty (50) mortgage loans has also undergone a severe downward correction in the value of its real estate assets. These two factors, coupled with the resetting of the interest rates on the first 100 mortgage loans, will create, much like what has occurred in a number U.S. real estate markets, a perfect storm, whereby home buyers have experienced significant depreciation in the underlying value of their homes and a sometimes significant increase in their monthly mortgage payments related to the resetting of ARM's. The result is a higher than average default rate on mortgages.

The above scenario will affect two classes of economic actors in very different ways; but, together, the cumulative effects of the market correction will result in an increase in the overall cost of capital for these economic actors and a significant reduction in the amount of liquidity available to them in the capital markets.

First, while Quick Mortgage managed to shift the default risks on the first 100 mortgages off of its balance sheet and onto those of third party investors, these factors will adversely impact its balance sheet and income statement in two very real ways. To begin, an additional benefit of the securitization process has historically been that the originator of the securitized assets (in our case, Quick Mortgage) could earn fees from the pool (paid to the originator by the SPE) in exchange for the originator servicing the mortgages. These fees are reduced as the number of defaults in the pool increases and Quick Mortgage begins to incur higher-than-average costs associated with instituting foreclosure proceedings in connection with payment defaults. Also, the book value of Quick Mortgage's fifty mortgage loans will have to be written down to account for the reduction in value of the underlying assets securing the repayment obligation of the borrowers and the higher rates of default. Assuming the above facts, the net result for Quick Mortgage will likely be a severe contraction in the trading value of its public stock as well as a potential ratings downgrade on its credit worthiness. This will result in a higher costs of capital should Quick Mortgage decide to raise capital through the debt or equity markets in the markets or even worse, a potential all out collapse in the value of its stock.

Second, for our four investors (the insurance company, bank holding company, investment bank and hedge fund) who purchased tranches in Quick Mortgage's mortgage pool, the impact on their business operations in light of the foregoing would be particularly pernicious. Recall that these four investors purchased tranches that were originally rated AAA, AA, A and B respectively. We shall assume for the sake of simplicity that enough defaults have occurred in the pool to wipe out all of the B tranche (the hedge fund) and part of the A tranche, leaving fifty percent of the A tranche and all of the AA and AAA tranches (those of the investment bank, the bank holding company and the insurance company respectively). Because hedge funds typically employ a certain amount of leverage to implement their investment strategies, to the extent the junior notes were pledged as collateral against margin loans, the result of the market correction is that the hedge fund will likely have to provide its margin lender with additional collateral. Depending on the hedge fund's cash or cash equivalent positions and the size of



the margin call, this may require the hedge fund manager to liquidate a fund position prematurely in order to satisfy the margin call. In comparison, for our three other investors that still hold either part of or all of their original security issuance, the result of the market correction and the resulting higher default risks at the borrower level will likely result in a requirement that the securities owned and held on their respective balance sheets be marked-to-market

to reflect fair value.¹⁵ Because these three (3) investors are each subject to different regulatory regimes and capital holding requirements, the impact of this write-down would have different effects on each investor and is outside the scope of this article. However, the reader may observe similar impacts on each individual type of investor by observing the actions and market reactions to similar write-downs of mortgage-related assets that impacted American Insurance Group (AIG) (insurance company), Lehman Brothers (investment bank) and Bank of America (bank holding company).

Government Sponsored Participation: A Determination of Fair Value

The following discussion has thus far been intended to provide a micro-level assessment of the real-estate backed securities market and demonstrate how the systematic decline in the value of underlying real estate assets and the contemporaneous resetting of interest rates, coupled with a statistically significant uptick in the default rate of borrowers, has led to an unprecedented level of contraction in both the credit and equity markets. The result has been a severe liquidity crisis for firms and an incredible number of failures and bailouts of financial institutions.¹⁶ The present crisis has resulted in the initial intervention by the federal government on a piecemeal basis. Most recently, the Emergency Economic Stabilization Act was proposed which gives the federal government the authority “to purchase certain types of troubled assets for the purposes of providing stability to and preventing disruption in the economy and financial system and protecting taxpayers, . . . and for other purposes.”¹⁷

Section 2(1) of The Emergency Economic Stabilization Act of 2008 (the “Act”) provides that one purpose of the Act is “to immediately provide authority and facilities that the Secretary of the Treasury can use to restore liquidity and stability to the financial system of the United States.”¹⁸ In this vein, this section of this article will briefly explore one aspect of this legislation—a determination of fair value for troubled assets— and make a recommendation for a systematic approach to determining the appropriate price for certain real estate assets.

One of the prevailing concerns surrounding the implementation of the Act has involved questions surrounding the manner in which the Secretary of the Treasury would derive the “appropriate” price that would be paid for “troubled assets.”¹⁹ On the one hand, the Act provides that “the Secretary shall take such steps as may be necessary to prevent unjust enrichment of financial institutions participating in a program established pursuant to the Act, including by preventing the resale of a troubled asset to the Secretary at a higher price than what the seller paid to purchase the asset.”²⁰ This provision would appear to provide a ceiling for the Secretary on the highest price that he could pay for a troubled asset pursuant to authority granted under the Act. However, as individuals involved in the negotiation of the Act, including Federal Reserve Chairman Ben Bernanke, have pointed out, there are at least two prices for these troubled assets—the fire sale price²¹ and the yield-to-maturity price,²² both of which should be lower than the price paid by the seller for the assets. Notwithstanding the ceiling imposed by Section 101(e) of the Act, a determination of fair value for these troubled assets will be a challenging endeavor for the Secretary. Section 113(b) of the Act provides that in making purchases under the Act, “the Secretary shall (1) make such purchases at the lowest price that the Secretary determines to be consistent with the purposes of this Act; and (2) maximize the efficiency of the use of taxpayer resources by using market mechanisms, including auctions or reverse auctions, where appropriate.”²³

Although the Act provides the Secretary with broad latitude to purchase troubled assets at the “lowest price,” that does not necessarily support the proposition that the Secretary should purchase these assets at the fire sale price because, given the current inefficient state of the market, that price would not appear to represent the true value of the assets. All interested parties would most likely agree that the current fire sale price for these troubled assets represents a price less than the discounted present value of their hold-to-maturity value, even taking into account a significant liquidity discount and an increased amount of default risk on the underlying assets. In an orderly, well-functioning market, where willing purchasers have sufficient liquidity, the opportunity to purchase assets at such a steep discount would be quite enticing. However, because these actors do not have sufficient liquidity, the Treasury must play the role of the willing market purchaser.

However, the question remains, what is the appropriate price that the Treasury should be willing to pay for these assets. Since most of the increased default risk appears to have already been priced into the value of these troubled assets, the price that the Secretary of the Treasury is willing to pay for these assets should be the current fire sale price plus the liquidity discount that is currently built into that price. Although calculating the liquidity discount will be difficult (if at all possible), in early transactions, as the Treasury injects liquidity into the market, the

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spread between the sale price on early transactions closed by the Treasury and the quoted price on transactions closed between private actors should provide some guidance on this point. The theory behind this approach rests on the belief that as liquidity is injected back into the system by the Treasury and firms holding these assets on their balance sheets are able to start to move some of them off, they will start lending again. This should free up available capital and allow for other private actors to reenter the asset space and begin bidding on troubled assets along with the Treasury. The assets also should be trading at a discount compared to their hold-to-maturity values. As more private actors reenter the space, the spread on these assets, in terms of the discount on their hold-to-maturity value compared to their actual sale price, should begin to narrow. Additionally, as more market actors reenter the asset class, the role of the Treasury should be reduced; and, ideally, this would occur long before the Treasury has spent the full \$700,000,000,000. One real additional benefit to taxpayers with this approach would be that, as the fair value of these assets began to approach their hold-to-maturity values, the Treasury should be able to sell those assets purchased in earlier transactions to private actors at a premium, representing a net gain for the taxpayer.

Conclusion

There is no doubt that the intervention of the federal government into the private financial markets in the manner proposed by the Act is truly an extraordinary affair. At this juncture in the evolution of this crisis, it is widely accepted that the financial sector’s problems are in part due to the “correction” in the real estate market. The federal government has currently approached the current slate of problems by focusing on the financial sector, because the root of this problem—a market correction in the real estate asset class—is not Coasian in nature. This author believes that additional governmental intervention may be necessary, alongside this intervention, to guide the U.S. economy through this crisis. However, whether and what types of intervention may be warranted are clearly beyond the scope of this article. **BLB**

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¹ “The downturn in the housing market has been a key factor underlying both the strained condition of financial markets and the slowdown of the broader economy. In the financial sphere, falling home prices and rising mortgage delinquencies have led to major losses at many financial institutions, losses only partially replaced by the raising of new capital. Investor concerns about financial institutions increased over the summer, as mortgage-related assets deteriorated further and economic activity weakened.” *Economic Outlook: Hearing Before the J. Economic Comm.*, 110th Cong. (2008) (statement of Ben S. Bernanke, Chairman, Board of Governors of the Fed. Reserve System).

² *Id.* “In the case of AIG, the Federal Reserve, with the support of the Treasury, provided an emergency credit line to facilitate an orderly resolution. The Federal Reserve took this action because it judged that, in light of the prevailing market conditions and the size and composition of AIG’s obligations, a disorderly failure of AIG would have severely threatened global financial stability and, consequently, the performance of the U.S. economy.”

³ *Id.* “In the case of Lehman Brothers, a major investment bank, the Federal Reserve and the Treasury declined to commit public funds to support the institution. The failure of Lehman posed risks. But the troubles at Lehman had been well known for some time, and investors clearly recognized—as evidenced, for example, by the high cost of insuring Lehman’s debt in the market for credit default swaps—that the failure of the firm was a significant possibility. Thus, we judged that investors and counterparties had had time to take precautionary measures.”

⁴ *Id.*

⁵ As an example, according to the *Wall Street Journal* dated Friday, September 26, 2008, the spreads on corporate debt for “investment grade” issuers General Electric Capital, Bank of America and Merrill Lynch widened over the course of one day by 49, 37 and 37 basis points respectively to 5.625%, 7.400% and 6.050% respectively. *Bonds: Corporate Debt*, WALL ST. J., Sept. 26, 2008, at C14. This is important to illustrate the point that the crisis related to subprime mortgages and the resulting economic slowdown has resulted and continues to result in a higher cost of capital for financial institutions. As Chairman Bernanke points out during his testimony, “[w]hen worried lenders tighten credit, then spending, production and job creation slow.” Bernanke, *supra* note 1.

⁶ *Legislative Proposal for Treasury Authority To Purchase Mortgage-Related Assets*, WASH. POST, Sept. 21, 2005, at A13.

⁷ *Id.*

⁸ H.R., 81ST CONG., TROUBLED ASSET RELIEF ACT OF 2008 (Discussion Draft Sept. 22, 2008) (introduced by Representative Barney Frank, Chairman, H. Financial Serv. Comm., time stamped 1:09 p.m.); 81ST CONG., UNNAMED DISCUSSION DRAFT (2008) (introduced by Senator Chris Dodd, Chairman, S. Banking, Housing, and Urban Affairs Comm., began circulating on Sept. 22, 2008); H.R., 81ST CONG., EMERGENCY ECONOMIC STABILIZATION ACT OF 2008 (Discussion Draft 2008) (began circulating on Sept. 28, 2008 and appears close to final form).

⁹ We will also assume that the \$100,000,000 pool of mortgages underwritten by Quick Mortgage, Inc. consists of 100 interest only (IO) loans of \$1,000,000, each at an initial interest rate of 6.250%, with a 5-year ARM (whereby the interest rate on each mortgage reset after five years and would be calculated based on the LIBOR rate at that time, plus 500 basis points).

¹⁰ Please note that the author has oversimplified the size of a typical pool of securitized mortgages for ease of illustration. In a typical securitization, issuers would typically receive better execution on larger pools with conforming underlying assets (the terms and conditions underlying the repayment obligations of the underlying assets are largely similar). This is because the larger the pool, the more dispersed the default risks, which reduces the effect that individual defaults would have on the performance of the pool as a whole.

¹¹ Tarun Sabarwal, *Common Structures of Asset-Backed Securities and Their Risks* 6 (Econ. Working Paper Archive, No. 0512012, 2005), available at <http://129.3.20.41/eps/fin/papers/0512/0512012>.

¹² *Id.* at 4.

¹³ In the United States, the process for issuing mortgage-backed securities in the primary market is similar to that of issuing other securities, such as corporate bonds. The process is governed by the Securities Act of 1933 and the Securities Exchange Act of 1934, both as amended, modified or supplemented from time to time. Publicly-issued mortgage-backed securities have to satisfy standard SEC registration and disclosure requirements and have to file periodic financial statements. Credit rating agencies rate these securities, and investment banks underwrite and help place them with investors.

¹⁴ See Bernanke, *supra* note 1 (“The downturn in the housing market has been a key factor underlying both the strained condition of financial markets and the slowdown of the broader economy.”); *Recent Actions Regarding Government Sponsored Entities, Investment Banks and Other Financial Institutions: Hearing on Turmoil in US Credit Markets Before the S. Banking Comm.*, 110th Cong. (2008) (statement of Henry M. Paulson Jr., Sec., U.S. Treasury) (“And that the root cause is the housing correction which has resulted in illiquid mortgage-related assets that are choking off the flow of credit which is so vitally important to our economy”).

¹⁵ FAIR VALUE MEASUREMENTS, Statement on Financial Accounting Standards § 157 (Fin. Accounting Standards Bd. 2006) (defining fair value as the “price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date”).

¹⁶ See Bernanke, *supra* note 1.

¹⁷ Emergency Economic Stabilization Act of 2008, Pub. L. No. 110-343, 122 Stat. 3765 (2008).

¹⁸ *Id.*

¹⁹ *Id.* § 3(9)(A) and (B) (defining Troubled Assets as “(A) residential or commercial mortgages and any securities, obligations, or other instruments that are based on or related to such mortgages, that in each case was originated or issued on or before March 14, 2008, the purchase of which the Secretary determines promotes financial market stability; and (B) any other financial instrument that the Secretary, after consultation with the Chairman of the Board of Governors of the Federal Reserve System, determines the purchase of which is necessary to promote financial market stability, but only upon transmittal of such determination, in writing, to the appropriate committees of Congress.”).

²⁰ *Id.* § 101(e).

²¹ The fire sale price of these troubled assets could arguably be equal to the fair value, as defined by Statement 157 of the Financial Accounting Standards Board (FAIR VALUE MEASUREMENTS, Statement on Financial Accounting Standards § 157 (Fin. Accounting Standards Bd. 2006)), which would theoretically take into account, for pricing purposes, the default risks as well as the liquidity premium. As the market for CDOs and MBS has dried up, the fire sale price in general reflects the willingness of buyers in an orderly efficient market to purchase even the highest rated paper.

²² The calculation of yield to maturity is identical to the calculation of internal rate of return. Consider a 30-year zero coupon bond with a face value of \$1000. If the bond is priced at a yield-to-maturity of 10%, it will cost \$57.31 today (the present value of this cash flow, $1000/(1.1)^{30} = 57.31$). Over the coming 30 years, the price will advance to \$100, and the annualized return will be 10%. Suppose that over the first 10 years of the holding period interest rates decline, and the yield-to-maturity on the bond falls to 7%. With 20 years remaining to maturity, the price of the bond will be \$258.42. Even though the yield-to-maturity for the remaining life of the bond is just 7%, and the yield-to-maturity bargained for when the bond was purchased was only 10%, the return earned over the first 10 years is 16.26%. This can be found by evaluating $(1+i) = (258.42/57.31)0.1 = 1.1626$. Over the remaining 20 years of the bond, the annual rate earned is not 16.26%, but 7%. This can be found by evaluating $(1+i) = (1000/258.42)0.05 = 1.07$. Over the entire 30 year holding period, the original \$57.31 invested matured to \$1000, so 10% annually was made, irrespective of interest rate changes in between.

²³ Emergency Economic Stabilization Act of 2008, Pub. L. No. 110-343, 122 Stat. 3765 (2008).