

The Credit Crisis Explained

We have had a wild ride so far in 2008 and a few things have started to become clear that will impact the management of investment portfolios for months or years to come.

The current crisis came about because Wall Street devised a way to package loans together into derivative securities based upon complex mathematical models. The theory behind these models was that good mortgages could be packaged with bad mortgages and the risk of loss from bad mortgages could be completely mitigated.

Based upon these models, the rating agencies (Standard and Poors, Moody's, Fitch) could rate them as AAA rated investments. Wall Street could then sell these bonds to banks, insurance companies, mutual funds, hedge funds, pensions, and other buyers who had investment policies requiring some or all of their investment portfolios be in AAA rated securities.

For decades, AAA ratings had been saved for U. S. Treasury securities and those of a few corporations with the strongest balance sheets and income statements, like General Electric. Issuers with AAA ratings were finite in number given the requirements for financial strength, and based upon this strength; the interest rates they paid were at the bottom of the range.

With these models now in place, Wall Street could manufacture a nearly endless supply of AAA rated debt with yields above traditional U. S. Treasury securities. All they had to do was slice and dice repayment streams from the mortgages into various segments and sell these as a new AAA rated security. They could then take these new investments to some of their best clients, the hedge funds and investment banks that could leverage themselves at 30-to-1, and "guarantee" them a risk free return of 12% per year.

The hedge funds' and investment banks' appetites for this sort of investment was huge. In the early years, the models did work. The

ratio of good mortgages to bad mortgages was such that the risks really were minimal. Then, as the demand for these bonds increased, there was a need to increase the pool of borrowers upon which these securities were based. So, the incentives grew to make loans to ever-riskier borrowers so that Wall Street could continue to market these securities. Unfortunately, no one revised the assumptions in the models to account for this increased risk at the borrower level.

Wall Street began to provide mortgage products designed to allow first-time homebuyers to more easily qualify for loans. These products had artificially low monthly payments in the first two years, which many borrowers could cash flow, but the remaining 28 years of the mortgage had monthly payments that were well above the borrowers' ability to service.

These loans were nationwide, but mainly they were in the areas of the country with the fastest growing real estate prices – California, Florida, Nevada, and Arizona. By increasing the pool of borrowers, this supported and exacerbated the upward spiral of house prices. Mortgage brokers were able to convince the borrowers to take these 2/28 mortgages based upon the "fact" that at the end of the first two years they could refinance into a more traditional fixed rate loan because the growth in the market value of the property would provide them with the 20% equity required for a conventional mortgage.

In the beginning, when few of these loans were being made they actually operated more or less as the mortgage brokers sold them. Then, more and more of these loans, along with other similar loan programs – interest only loans and NINJA loans (No Income No Job No Assets) – were made and they began comprising an ever-growing percentage of the AAA securities. Riskier and riskier borrowers were granted loans – one statistic showed that 19% of borrowers in early 2007 could not make their first mortgage payment on their new loans – and those loans

Mark Ballard
Andy Thorman
BankChampaign, NA
Trust Department
217-351-2870

were incorporated into the AAA securities.

Then, the defaults began on the riskiest mortgages, or those mortgages made to borrowers with the least ability to repay the debt. These defaults had a direct negative impact on real estate prices.

As the 2/28 mortgages began to reset with higher payments after the initial two years, the borrowers believed what they were told by their mortgage brokers and expected that they would be able to refinance. Unfortunately, the phantom equity they were promised did not exist. In fact, most borrowers in the hardest hit areas of the country saw their life savings, which they used as down payments, disappear with the falling value of their homes.

Since they were unable to refinance into a conventional mortgage, since they could not afford to cash flow the higher monthly payments, and since there were no buyers for their homes, they defaulted on the mortgages. Across the country, mortgage defaults are hitting record levels as more and more of these situations are playing out.

The AAA rated securities that were comprised of these mortgages began to have problems. When originally purchased, the computer models predicted certain payment streams to the investor so that the investor could pay down the debt they used to acquire the AAA's. The debt repayment schedule was set to be consistent with the cash flow from the securities. As more and more of the mortgages comprising the AAA's began to default, the AAA's began to perform differently than the models predicted - *the AAA's did not pay out the cash flow the investors had counted on to service their leverage*. The investors needed to sell the securities to pay off the borrowings, but there was no established market for them. Wall Street anticipated that they would be bought and held, so there was no established market to trade them and no private buyers were materializing at face value.

Last summer, the first of the hedge funds began to implode from this. Given their huge leverage at 30-to-1, even a 4% reduction in the value of these securities was enough to wipe out the equity in the funds. All the investors lost

their investment as the securities were liquidated at a loss to pay off the debt of the fund.

As the underlying loans that comprised the AAA securities became riskier, Wall Street obtained bond insurance in order to preserve the AAA ratings on the packaged derivative securities. The bond insurers were eager to insure these securities for two reasons: (1) traditionally they made their living insuring municipal bonds, a boring but lucrative business, but they were looking for new avenues of business in order to increase the values of their companies; and (2) the AAA ratings and the projections by the models showed that this was a line of business where they would have little risk of having to pay claims.

The dominoes continued to fall as claims against the bond insurance have put the bond insurers' equity at risk. The bond insurers have been securing new investors and lines of credit in order to fund the claims, but it is uncertain at this point if they will survive.

Since the primary business line of the bond insurers is to insure municipal bonds in order to provide them with AAA ratings, the municipal bond market has also been negatively impacted. The AAA ratings of municipals have been called into question - without the bond insurers ability to satisfy any claims for non-payment, the value of the bonds to investors has decreased and yields on the bonds have increased. As issuers have gone to the market to secure new financing or to refinance short-term obligations, they have encountered significantly higher rates than normal. The University of Illinois, for example, recently tried to refinance some of their short-term municipal loans and found rates of up to 8%.

The short-term commercial paper market that previously provided liquidity to a number of borrowers has virtually ground to a halt. This has caused significant liquidity problems for a number of companies, even ones that have solid balance sheets. Thornburg Mortgage is a prime example here: their primary line of business is providing high quality jumbo mortgages. Since they are not a bank with a deposit base, they have to fund the mortgages they make by borrowing in the commercial paper market. Even though their assets were of the highest quality, they could not renew existing borrowings. In order to pay back

the borrowings, they had to sell assets to meet obligations. Even though the jumbo mortgages that Thornburg made were not in any risk of default, they had to sell them at a discount which impaired their capital. Consequently, their stock price has plummeted from \$30 to \$1 per share.

The most critical falling domino to date has come from the recently announced near-bankruptcy of Bear Stearns. Bear Stearns is an 80+ year-old Wall Street company that was one of the biggest players in the mortgage market. Also levered 30-to-1, they had billions of dollars of these mortgage securities on their books. Much like the hedge funds and Thornburg, as the securities began to under-perform and they were in need of renewing the underlying leverage, they could not.

Thursday night, March 13th, Bear Stearns called the Fed to advise that they would likely have to file bankruptcy due to their liquidity problems unless the Fed organized a massive intervention. The Fed knew that it had until Sunday night, before the Asian stock markets opened, to intervene and find a solution to the problem. They were able to broker a deal with J P Morgan to buy Bear Stearns for \$2 per share with the Fed guaranteeing \$30 billion of Bear Stearns' securities.

The situation with Bear Stearns was extremely dire because Bear was a counter party to \$2.5 trillion in credit default swaps. A credit default swap is an instrument to transfer the credit risk of fixed income products from one party to another party (the counter party). In essence, Bear Stearns was paid a fee to guarantee \$2.5 trillion of loans for third parties. If Bear declared bankruptcy, the value of these swaps would be called into question and there would be doubts about the solvency of the lenders who were relying upon Bear's guarantees.

The Fed could not allow this to occur, so they stepped in and crossed the line in the sand drawn by the Depression-era Glass-Steagall law. Even though Glass-Steagall was repealed in 1999, the assistance provided to an investment bank instead of to a deposit-taking bank was unprecedented.

Additionally, without the \$30 billion guarantee and the J P Morgan liquidity, Bear would have needed to dump billions of dollars of

derivative securities on the market. That would establish a market value for them well below face value and force other banks that own similar securities to value them on their balance sheets according to the mark to market rules established by the Basel Accords.

In the 1980's, Fed Chairman Paul Volcker grew tired of banking crises like Penn Square and Continental Illinois reeking havoc on the U. S. economy. He convinced the other central bank heads from the developed world to adopt standardized regulations relative to financial reporting, which became known as the Basel Accords. Consequently, across the developed world, once the rules governing balance sheets, risk ratings, and stress testing were adopted investors could make apples-to-apples comparisons of banks knowing that they were all subject to the same rules. One major component of the Basel Accords required banks to value the investment securities on their balance sheets at market value with an adjustment to capital for the fluctuations in market value –in a process known as mark to market.

In the late 1990's, as U. S. banks grew their modeling capabilities, they convinced Fed Chairman Greenspan that the Basel rules were outdated. The Basel II rules were then adopted by the developed world that allowed banks to use computer models based upon risk-predicting formulas to value their balance sheets. Complex derivative securities, instead of being risk-weighted and marked to market according to set rules as happened in the original Basel Accords, now could be priced according to the computer models (known in the industry as "marked to model").

These new rules had the unintended impact of allowing the banks to assume more risk than was prudent while pursuing profits like those being realized by the hedge funds and investment banks. The banks, as can now be seen, were required to have capital requirements under Basel that prevented them from assuming leverage at 30-to-1 (like hedge funds and investment banks). So, to skirt these rules they developed Structured Investment Vehicles (also known as SIV's in the media) which are not required to be part of their balance sheets.

The SIV's were, in essence, hedge funds that borrowed in the short-term commercial

paper market or through other short-term sources and invested in these AAA rated securities. When the SIV's began to experience the same cash flow and liquidity problems as the hedge funds, the banks tried to rescue their investments with capital injections, weakening their balance sheets. The share prices for many of the big banks have tanked, wiping out more than half the value of many of them.

Where We Are Today

So, this brief history of the problem takes us to where we are today. The real question is what will happen in coming days, weeks, months, and years. Certain things are clear that will impact the investment markets and the economy:

- Consumers had utilized the power of the real estate bull market to exchange the equity in their homes for debt and spend the proceeds. With the drop in real estate prices, the value of homes is dropping and reducing the remaining equity in many consumers' homes, sometimes to negative levels. This source of cash that has helped to fund the economy the last few years is now gone, so some economic slowing is likely.
- The availability of credit to consumers, businesses, and municipalities was reduced by this crisis. Consumers' access to credit through home equity loans is lessened at the same time that business' access to credit through the commercial paper market and municipalities access to credit through the municipal markets is stifled.
- Reductions in access to credit help to support the argument that we are currently in or soon-to-be in an economic recession.
- In order to keep the economy growing, the Fed has cut interest rates significantly. This, along with the debt guarantees and the increased access to credit through the discount window, will pump liquidity into the system.
- In spite of an apparently slowing economy, commodities are signaling inflation is a bigger problem than the government is acknowledging. Gold topped \$1,000 per ounce before falling back into the \$900's. Oil topped \$110 per barrel on more than one occasion.

The Re-Pricing of Risk

As we look at the future of the investment markets, what we see is complete change coming in the arena of risk pricing. Traditionally, commodities and foreign stock markets were considered significantly risky investments whereas blue chip U. S. stocks, tech stocks, and treasury bonds were considered safe and conservative. To the detriment of their clients, many investment managers are going to continue to believe this and invest client monies accordingly. This is a mistake.

The fundamentals of the commodities-based stocks include real assets: corn, soybeans, copper, iron ore, gold, oil and natural gas. Each of these has an intrinsic value that will not drop to zero. The demand for these commodities is increasing based upon demographic shifts in the developing world. We have written about these demographic shifts over the past several years, so for long-time readers of our *Investment Strategies*, this is no surprise.

The demographics in these markets – Asia, South America, Eastern Europe, and the Middle East – are driving demand for basic comforts that the Western world has enjoyed since World War II. Homes, cars, roads, meat and dairy products are all items that the new consumers demand as they increase the quality of their lives. Companies that sell products there or provide the raw materials for products produced there are the new growth stocks. This is the key to the future of investment management.

By Wall Street standards, the commodity stocks are resource cyclicals that should be bought and sold with the U. S. economic cycle; the developing world carries too much risk and should be bought only by the most aggressive investors. Tech stocks, the bread and butter of Wall Street firms, are considered to be the only true engines of growth suitable for investment and large cap domestic companies are considered to be the only blue chip companies worth including in portfolios. There is still a lot of education that will need to be acquired before the commodity stocks and companies catering to the developing world cease to be considered exotic or aggressive. This is the opportunity we are capitalizing upon for our clients.

The S&P 500 is likely to perform worse than foreign markets for the foreseeable future. Yes, there will be times when you see short-term out performance by U. S. stocks, but the fundamentals show that U. S. stocks will be a riskier place to be invested than most people realize. The type of financial crisis we are experiencing is not something that resolves itself easily. We will likely see tight credit for some time to come. With limited access to credit, businesses will be limited in their growth. Earnings pressures will likely result, and since stock prices are a function of earnings and investor confidence, portfolios that overweight the blue chips and tech stocks will suffer.

Inflation

One of the most problematic issues for portfolios of stocks and bonds is inflation. In times of rising inflation, P/E ratios contract, bringing down the value of stocks. During inflationary periods, bond yields rise to compensate investors with an interest rate that is above the inflation rate. As yields rise, bond prices fall, and bonds within portfolios lose value. Historically, however, real assets and commodity stocks increase in value as inflation expectations increase.

Both the core Consumer Price Index (CPI) and the core Producer Price Index (PPI) are reporting increases in inflation. The February CPI reported inflation of 4.03%, the highest level in 17 years. Food and energy prices are rising even faster than the core CPI and PPI rates of inflation.

As explained by economist Anna Schwartz, "an increase in the supply of money puts more money in the hands of consumers, making them feel wealthier, thus stimulating increased spending. Business firms respond to increased sales by ordering more raw materials and increasing production. The spread of business activity increases the demand for labor and raises the demand for capital goods. In a buoyant economy, stock market prices rise and firms issue equity and debt. If the money supply continues to expand, prices begin to rise, especially if output growth reaches capacity limits. As the public begins to expect inflation, lenders insist on higher interest rates to offset an expected decline in purchasing power over the life of their loans."

The government reports that M2 (a broad based measure of money supply) has grown by \$274 billion during the last 10 weeks - a 21% annualized rate. Money with zero maturity (MZM), like cash and checking accounts, is up even more, growing by \$515 billion the last 10 weeks - a 38% annualized rate.

Even though a 4.03% inflation seems manageable, look for increases in the CPI and PPI to continue based upon the growth in money supply. The resulting impact of inflation on investment management cannot be ignored from both a risk management and an expected return standpoint.

Investment Considerations

From an investment standpoint, we are experiencing a changing of the guard. Risk management techniques that were proper in the past will not be work now. In an era of rising inflation and slow growth, a traditional portfolio of blue chip stocks, tech stocks, and bonds will not provide the return that an investor requires nor will it protect them against loss.

To manage risk and receive an expected return, an investor must have a portfolio designed to address the main investment themes of the coming decade: inflation, food shortages, developing world growth, dollar weakness, infrastructure, energy demand, a dangerous world, and increased emphasis on medical needs of baby boomers.

Our client portfolios will continue to reflect:

- *Agriculture stocks* – in the news this week there have been reports of food shortages in Asia along with food price inflation in excess of 20% in the first quarter of 2008.
- *Energy stocks* – demand continues to outstrip supply, and we see an increasing need for energy to produce fertilizers for the agriculture industry (Jubak's Journal reports that "It takes about 4,600 calories of fossil fuel to grow, chill, wash, package and ship a 1-pound box of salad greens -- about 80 calories of food -- from California to New York"). Extrapolate this across the planet.
- *Base metal stocks* – miners continue to report that demand from the developing world is increasing, yet the big players in the industry

have no new mines under development. This will continue to limit supply and keep upward pressure on base metals prices.

- *Gold stocks* – inflation will keep gold prices rising as this is the traditional hedge against the devaluation of currencies caused by inflation.
- *Defense stocks* – in spite of all the rhetoric of the campaign season, anyone that becomes our next President will want to protect our country from a second 9/11. It is a dangerous world and our country will continue to have a strong defense to accompany the reinstatement of diplomacy that all three candidates advocate.
- *Biotech and Medical Device stocks* – the baby boomers have begun to retire, and with that we have a wave of potential business for new innovations that will allow them to lead active and satisfying lives.
- *Global infrastructure stocks* – the demographic changes in the developing world are creating a huge demand for infrastructure, not the least of which is new ports and oil refining facilities. The companies that can design, engineer and construct these multi-billion dollar projects have billions of dollars of projects in the pipeline, and they will continue to experience significant levels of earnings growth.
- *Multinational U. S. stocks that have significant overseas sales* – the profligate spending by the U. S. government and much of the consuming public has caused us to be the world's most significant debtor nation. Our dollar is in a multi-year bear market and will likely continue to drop in value against stronger currencies. The strengthening of developing world currencies against the dollar is the next leg in the dollar's fall, and it has just started. The multinationals that have significant Asian, South American, Middle Eastern, and Eastern European sales will see their earnings growth continue to accelerate, even if the dollar rebounds against the Euro and the Yen.
- *Very Short Duration Fixed Income and Cash* – bonds are a dangerous place to be right now. If you look at the treasury yield curve, you will see that the flight to quality out of the

esoteric fixed income investments and out of the stock market has driven yields down significantly, even below the overnight Fed Funds rate for maturities approaching five-years. Additionally, the ten-year treasury this morning is yielding 3.55%, well below the current inflation rate. You should expect bond prices to fall as yields begin to reflect the increase in inflation discussed earlier.

In Closing

2008 is the beginning of a new investment era – the era where investors will begin to realize that it is riskier to own blue chip stocks, tech stocks, and 10-year treasury bonds than to have exposure to developing markets – either through commodity stocks or through companies with significant revenues generated there.

Over the last several years, our clients were able to take advantage of the beginning years of the change. We explained in these *Investment Strategies* how the demographic changes across the world were going to impact investment decisions. We detailed our shifts in portfolios, first to overweight the energy companies, then the base metals companies, and then the agriculture companies. All of these decisions gave our clients the opportunity to build positions in these industries at low prices before the trends were spotted by most in the investment community.

Over the next several years, investors will stop thinking of exposure to the developing world as aggressive. They will realize that this is the primary catalyst to earnings growth available in investment management and that real assets of commodity companies provide a hedge against inflation and a base level of value that can not fall to zero – like many AAA securities have lately.

If you are currently our client, we want to thank you for your continued business and we look forward to coming years of achieving well-above average returns on your investment portfolios.

If you are not yet a client and you would like to have your investments managed according to the *Investment Strategies* you have just read, please call Mark Ballard, John Clausen, or Andy Thorman at (217) 351-2870. We would be happy to discuss with you how we can put our strategies to work for you.