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Anatomy of a Banking Crisis

As fear became the predominant emotion in markets and the economy, we devoted this issue to explaining the negative impact of subprime mortgages on an overleveraged financial system. Craig Hoagland provided an excellent, understandable synopsis of the problem facing banks by creating a fictional bank balance sheet as an example.

A year ago in our October letter, we wrote about a developing crisis in financial markets. Today, that crisis has ballooned to a size that neither we nor almost anyone else could have imagined. The media is pounding away daily, and falling asset prices have provided plenty of reinforcement for the fear that has become the overwhelming emotion in markets and the economy. In this letter, we will devote space to providing some background on the crisis, as we have found many people including clients, family and friends wanting to gain a better understanding of the recent financial events that have so gripped the country. We will also discuss our view of what comes next and what appropriate portfolio responses are in the face of the market volatility.

	2009 First Quarter	Year 2008	Last Five Quarters
S& P 500 Stock Index	-8.4%	-11.9%	-19.3%
Salomon Medium-Term Treasury Bond Index	2.2%	2.4%	4.6%
Merrill Lynch 5 to 10 Year AA-AAA Corp. Bond Index	-8.2%	-0.9%	-9.0%
Merrill Lynch 3 to 7 Year State G. O. Index	0.5%	1.3%	1.8%
Merrill Lynch 12 to 22 Year State G.O. Index	-4.9%	0.4%	-4.6%

As the asset returns listed on the previous page show, the third quarter saw fear take control as the dominant emotion and drive asset prices down everywhere except Treasury bills and bonds. In fact, Treasury bills were in such demand in late September that yields temporarily went negative as investors paid more than \$1 for a Treasury bill that would mature at \$1 in a matter of days or weeks.

The root of the problem is in the banking system and its losses on the now infamous subprime mortgage loans made to homeowners, who have since fallen behind on their payments and whose homes are now worth less than the amount they owe. To understand the impact of this and more recent developments, we offer a look at a simplified fictional bank balance sheet. Recall that basic accounting requires that assets equal liabilities plus equity:

Assets	Liabilities
\$80 Loans to customers (money owed to bank)	\$70 Deposits (money owed to customers)
\$20 Securities owned by bank	\$20 Borrowings (money owed to creditors)
Equity	
	\$10 Money invested by owners
\$100 Total Assets	\$100 Liabilities plus Equity
Leverage = 100 to 10	

When a mortgage loan goes bad, the value of loans on the asset side declines by the amount of the loss. Similarly, many banks own securities that have fallen in value, in particular mortgage backed securities, which are created by bundling mortgages together. When the market value of these securities falls, the bank must reduce their value on their balance sheet. In our example, the \$80 of loans falls to \$78 and the value of securities is written down from \$20 to \$19 as shown below:

Assets	Liabilities
\$78 Loans to customers (money owed to bank)	\$70 Deposits (money owed to customers)
\$19 Securities owned by bank	\$20 Borrowings (money owed to creditors)
Equity	
	\$7 Money invested by owners
\$97 Total Assets	\$97 Liabilities plus Equity
Leverage = 97 to 7	

Notice that this 3% decline in the value of its assets creates a 30% decline in the bank's equity, which has fallen from \$10 to \$7. The whole \$3 decline shows up in equity because the bank's assets are worth less, but it still owes \$90 of liabilities to its depositors and its creditors. The owners have lost three dollars of equity, and the bank is now overleveraged. With \$97 of loans and securities and only \$7 in equity, its leverage ratio is now about 14 to 1 versus the 10 to 1 we started with. In the early stages of this crisis, other en-

tities (most prominently, sovereign wealth and private equity funds) were willing to step up and make investments in banks to replenish the lost equity. In the last twelve months, banks worldwide have taken roughly \$600 billion of losses and write downs, but have raised \$450 billion of new capital to rebuild their equity accounts.

After the first round of investors suffered significant losses on their investments, equity money has been much more difficult for banks to raise, and this brought us to the more recent and severe part of the crisis. If a bank has inadequate equity relative to the amount of loans it has outstanding, it must reduce the loans on its books or “shrink its balance sheet”. This accelerates the deleveraging that has been so much in the news. In our example, with \$7 in equity, for our bank to get back to its original 10 to 1 leverage, the bank must reduce loans from \$97 to \$70. This reduction in loans is the heart of the ongoing credit crunch.

When a bank wants to reduce loans outstanding, it has several options. For consumers, it can cancel home equity lines of credit or reduce limits on credit card accounts. More seriously, when one mortgage is paid off, the bank can decline to re-lend the money to another prospective home buyer. This, of course, reduces the number of buyers who can afford homes, and, therefore, the value of homes, leading to more mortgage defaults and losses for the banks.

In the corporate arena, the bank can refuse to renew business lines of credit as they mature or otherwise reduce the amount of credit available to business. This, in turn, reduces business activity, profits, and the ability of other business borrowers to repay their loans, leading to yet more losses for the banks. This is the self-reinforcing cycle of deleveraging that is damaging our economy right now.

Overlaid on this scenario is the more acute issue of short term lending. Many businesses, banks among them, depend on borrowing money for short periods of time to pay their bills, meet their payroll and other obligations. Some do it because their own revenues are seasonal or uneven for some other reason, and some do it because short term borrowing is less expensive than longer term borrowing.

In the current environment, when a short term loan matures, the borrower struggles to renew it because banks and other lenders are trying to reduce their loans outstanding or because they have lost confidence that they will be paid back even on a short term loan to a high quality company. This issue is magnified for banks lending to other banks because each is afraid the other might have more bad loans or other write downs than they have yet admitted to and that these losses might surface and drive the bank into default through a loss of depositor, lender and counterparty confidence. This is what happened to Bear Stearns, Lehman Brothers, AIG, Washington Mutual, Wachovia and others.

WHAT TO DO?

While it has been a long time since the United States has faced a banking crisis at home, there have been many of them around the world since World War II, and the core dynamic is well understood. Three things are needed to break this downward cycle: 1) improve-

ment in the quality of banks' assets to reduce the risk of further losses and write downs, 2) a source of capital to offset losses at banks, and 3) a restoration of confidence so that profitable businesses can borrow money to survive and to grow.

The good news in the midst of all the confusion and panic is that the Fed and the Treasury understand this and are doing everything they can to address each of these three leverage points. The recently approved Troubled Asset Relief Program (TARP) is designed to allow the Treasury to buy impaired assets from banks.

Back to our example above, if the bank has \$97 in total assets and \$78 of loans, of which \$10 are mortgage loans that are in some stage of delinquency, the Treasury now has the authority to buy those loans from the bank and thereby replace a bad loan with cash that the bank can use to lend or to meet other obligations. If the \$10 of loans are worth only \$7 in a TARP purchase, the bank will have to take an additional \$3 loss which will further reduce equity to \$4:

Assets	Liabilities
\$68 Loans to customers (money owed to bank)	\$70 Deposits (money owed to customers)
\$19 Securities owned by bank	\$20 Borrowings (money owed to creditors)
\$7 Cash from sale to TARP (vs \$10 previous value)	
	Equity
	\$4 Money invested by owners (net of losses)
\$94 Total Assets	\$97 Liabilities plus Equity
Leverage = 87 to 4	

Now the bank is in better shape because it has substituted bad loans for cash, but it has a bigger leverage problem than ever. Loans and securities now total \$87 versus just \$4 in equity for a leverage ratio of close to 22 to 1. Crucially, Treasury Secretary Paulson and other world leaders announced last week that they will also use public money to buy equity in banks. In fact, they are likely to force banks to accept new equity even before they begin buying bad assets from them. Equity purchase is a more powerful use of public money because each dollar of added equity can potentially support \$10 of loans. Our sample bank might receive \$6 in new equity in the form of non-voting preferred stock:

Assets	Liabilities
\$68 Loans to customers (money owed to bank)	\$70 Deposits (money owed to customers)
\$19 Securities owned by bank	\$20 Borrowings (money owed to creditors)
\$7 Cash from sale to TARP (vs \$10 previous value)	
\$6 Cash from equity sale to TARP	
	Equity
	\$4 Money invested by owners (net of losses)
	\$6 TARP investment (non-voting)
\$100 Total Assets	\$100 Liabilities plus Equity
Leverage = 87 to 10	

The bank now has enough equity to support \$100 of assets, and it has \$13 of cash sitting on its balance sheet. This \$13 in cash will help the bank meet its obligations as well as helping potential counterparties feel better about the bank's prospects, making them more willing to lend and to enter contracts. This goes to the restoration of confidence that is a critical component of breaking the deleveraging cycle. Finally, the bank is in the business of making money, and once it feels its survival is no longer in doubt, it will start looking for new loans to make. In an economy thirsty for credit, worthy borrowers should not be hard to find.

Reality, of course, will not be as simple as this example, but this is the process that needs to occur on a broad scale to turn not only the fundamentals but also the psychology of the current crisis. This process is unfolding at a rapid pace, and the Treasury announced October 14 that nine of the largest banks in the country will be the first to receive equity infusions. That this process will ultimately succeed in restoring the flow of credit, we are sure. How long it will take is much harder to predict, as is the amount of damage that will be done to the economy in the interim. Each day that the credit markets are locked up, more businesses run out of cash and more people lose their jobs.

Because time is critical, a large measure of confidence can be taken from the fact that governments are acting rapidly. In the Great Depression, it was not until 1935 that the Federal Government began injecting equity into banks. The time lapse equivalent for this crisis would be about 2013, whereas we expect the Treasury to buy bank equity in the next few days, and the transformation of bank balance sheets will begin to occur. As these measures move from the drawing board to actual implementation, we expect that credit

markets will begin to heal and that fear will begin to recede.

BOND MARKETS REFLECTING FEAR AND FORCED SELLING

Meanwhile, fear has the upper hand and capital markets are in disarray. A central challenge in evaluating market action in such volatile markets is estimating how much of the price change in asset prices reflects true changes in fundamentals and how much is due to emotional excess or to forced selling.

While fundamentals have clearly deteriorated, and we expect difficult economic conditions for at least two more quarters, forced selling has also played a significant role. This is most clearly evident in the bond market. The right hand column of the table below shows that AAA rated municipal bonds offer yields well above comparable duration US Treasury bonds, despite the fact that municipal bond interest is tax-exempt and Treasury bond interest is subject to Federal income tax. For maximum bracket taxpayers to have the same after-tax yield offered on a ten year AAA general obligation bond, they would require a Treasury yield of 6.8% when the actual yield is 4.0%. This is true even in cases in which the municipal bond has been “pre-refunded” or “escrowed to maturity” and the underlying credit has been replaced by actual Treasury bonds, so the bonds offer the same credit, the same duration, tax-exempt interest and a higher interest rate.

Years to Maturity	U.S. Treasury Securities	AAA Municipal G.O. Bonds	Muni Yield/ Taxable Yield
1	1.3%	2.3%	177%
2	1.6%	2.7%	171%
4	2.7%	3.4%	124%
10	4.0%	4.4%	111%
30	4.1%	5.4%	131%

Data of October 13, 2008

We interpret this sort of dislocation in the usually efficient bond market as a sign of the extreme selling pressure impacting the largest holders of municipal bonds, including insurance companies, banks and hedge funds. When liquidity is required on a massive scale due to loan commitments, margin calls, collateral requirements or customer redemptions, buyers turn into sellers and markets go into disarray. In the municipal market, we view this opportunistically and are reinvesting interest payments and maturities at the most attractive yields we have seen in years. Our concerns about credit quality in the municipal area are minimal, due in large part to our bias for the aforementioned pre-refunded and escrow bonds that are US Government backed.

The upside down relationship in the yield table above eventually will be righted either by Treasury yields rising or muni yields falling or both. We are avoiding selling bonds into

this weak market, and instead are waiting for the selling pressure to ease, which should bring lower yields and higher prices. In the likely scenario that we find we are still in recession when the credit crunch eases, municipal bonds are likely to be perceived as a safe and attractively priced asset, and we expect them to perform very well.

The taxable bond market is seeing similar dynamics, and fear and forced selling have driven down prices of almost everything except US Treasury bonds. Corporate bonds have been hit especially hard. As documented on page 1, the Merrill Lynch index of AA and AAA rated 5 to 10 year corporate bonds returned negative 8.2% in the third quarter, with essentially all of that loss occurring September. As in the muni market, we believe much of this price decline is the result of forced selling into a market where there are no buyers. Intermediate and long term General Electric bonds are trading at 70 or 80 cents on the dollar and with yields approaching 10%. In the Agency market, short term yields reflect similar stress. In recent days, a one year US Treasury bond yielded 1.3% while a one year FNMA bond, which is now explicitly backed by the same US Government, yielded 2.8%. Again, same credit, same duration, and more than twice the yield.

The Treasury inflation protected bonds (TIPS) that we own in many taxable accounts have not been immune to the market turbulence. These bonds trade on a real yield basis (i.e. total interest rate less an inflation component), and capital has become more scarce, so real yields are up, pushing TIPS prices down. While capital has become scarce in the current credit squeeze, we believe when the panic abates, the large pools of capital around the world that have largely been on the sidelines in recent weeks will be put to work looking for bargains and real yields on bonds will fall. The current 3.0% real yield offered on TIPS represents a bargain price in our opinion and we are happy to hold the bonds there. In addition, we continue to like our TIPS positions because all the liquidity that is being forced into the system, is likely to raise inflation expectations once the scale of the current economic downturn is known. Based on the recent market activity, our taxable bond strategy is hold or add to our TIPS, hold our government backed Agency bonds and to begin looking to buy high quality corporate bonds as spreads widen toward cyclically attractive levels.

WHAT ABOUT THE STOCK MARKET?

While we are sure that there will be more elevated volatility and we are concerned that there could be a further step down for the market, we also feel the market is now discounting a significant decline in earnings, consistent with the rapid deterioration in the economic outlook over the last few weeks. At the 1000 level for the S&P 500, the market is trading at about 13X 2008 earnings (i.e. price/earnings ratio of 13). Looking forward, if we assume earnings could be down 30% in 2009 in a hard recession scenario, then the market is trading at about 19X. 19X might sound high given the long term average PE of about 15X, but earnings in a recession are depressed and the market will discount a return to normalized levels. In the last major market downturn, the S&P 500 bottomed at a PE of 18X depressed earnings in 2002. From those levels, the market rose 90% and earnings more than doubled before peaking in late 2007.

From a valuation perspective, then, we think the market is discounting a decline in earnings that is reflective of a significant recession. Once the actual magnitude of that recess-

sion is better known, the market will adjust, and the next bull market will likely begin. Whether that level on the S&P 500 is 1000 or last week's 900 or something higher or lower is difficult to say. But we feel strongly that accelerating action on the part of the Treasury, the FDIC and the Fed have greatly diminished the chances of a deleveraging led depression and that most of the damage from the credit crunch and the expected economic contraction has already been felt in the stock market. As always, stocks: 1) are an asset class for investors with long investment time horizons, 2) offer the expectation of returns well above the rate of inflation (i.e. the chance to create "real" wealth), and 3) come with the "price" of enduring high volatility, both up and down. Right now, we feel investors have paid the "price" for the next period of strong returns, and that staying in the market to gain that benefit is the indicated course of action.

We have taken many calls from clients wondering if the current volatility is a sign that we should sell stocks and go to cash. So far, we have sold a few stocks on the margin and are carrying slightly more than the usual amount of cash in client accounts, but we have resisted making a dramatic move out of the market. The reason is that timing moves are very difficult to execute, not least because successfully timing the market requires that two correctly timed moves be made in succession. If one sells out now, one of two things is likely to happen. First, the market moves up from where it is now, and re-entry is made at a higher level and the initial gains from today's levels are lost. Second, the market continues to go down. The danger here is that the relief of being out of a declining market is so comforting that the bottom comes and goes and once again reinvestment occurs at a higher level and recovery gains are missed.

Timing decisions are difficult to make and are most appealing when emotions are running high and objective decisions are hardest to make. At times like these, we counsel clients to trust their asset allocations and to allow their time horizons to work for them. There have been many banking crises previous to this one, and the pattern is that the authorities eventually apply enough public resources to get credit flowing, economies resume their natural state of growth, and stock markets return to an upward course.

Our course of action within stock portfolios is to continually reassess the impact of the rapidly changing economic backdrop on each of our companies while simultaneously screening the rest of the market for newly created opportunities. Many strong and valuable businesses have become less expensive in the current environment, and we may well see a period of elevated portfolio activity as we sort through the opportunities.

FINAL NOTE

We appreciate your confidence through this difficult period and welcome your calls and questions. Enclosed please find copies of our privacy policy and our proxy voting policy, which we distribute annually to clients.