Economic Viewpoint

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Credit problems are creating a major risk

The U.S. Federal Reserve and other central banks try to limit the damage

For several months, the world financial markets have been experiencing a great deal of turbulence. Its effects are already important but could quickly turn into major ones for the economic and financial stability of the world's main economies, should the liquidity and credit problems intensify.

The current difficulties are associated with the bursting of the U.S. real estate bubble, which exposed the excesses of the subprime mortgage industry[1]. The increase in home foreclosures that followed in the United States has undermined the entire asset-backed securities market and led to a veritable liquidity crisis on money markets. Investors' confidence was seriously affected by these events, which brought on a widespread reassessment of the risk premiums. Ever since, the largest financial institutions, especially U.S. and European banks, have been announcing huge losses. All of this resulted in a marked tightening of credit terms on the part of financial institutions. Financing, which was so easily accessible in the first half of 2007, is today much scarcer and costlier.

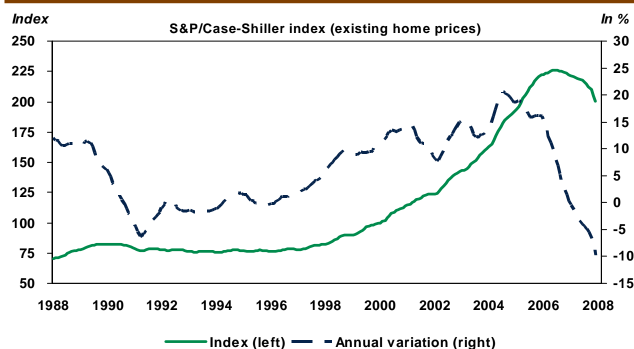
This edition of Economic Viewpoint *will endeavour, after re-examining the origins of the crisis, to round up the current situation of financial markets and see in which direction things could evolve. The financial turbulence that restricts access to credit should go on for several months and could even deteriorate in the short term. Despite the worthy efforts of governments and monetary authorities, there is no immediate solution to the current crisis. Only time will allow the U.S. residential market to stabilize, financial institutions to restore their balance sheet and investors to rebuild confidence. Accordingly, the more restricted access to credit should be slowing the world economy for still some time.*

THE CURRENT PROBLEMS ARE TIED TO THE BURSTING OF THE U.S. REAL ESTATE MARKET

The periods of major financial turbulence or crisis are generally caused by the bursting of a speculative bubble. In this instance, the correction of the U.S. housing market is the source of the problems.

Following moderate progress during the 1990s, house prices skyrocketed in the United States between 2000 and 2005 (Graph 1). This unprecedented increase can be explained in good part by the mortgage rate that dropped to unprecedented levels after the U.S. Federal Reserve (Fed) lowered its key interest rate to 1% to boost the U.S. economy following the short 2001 recession and by the significant relaxation of mortgage rate standards.

Graph 1 – U.S. home prices are now declining



Sources: Standard & Poor's and Desjardins, Economic Studies

As a result, subprime loans have become more and more widespread in the United States while the share of such loans in the total outstanding U.S. debt swelled from barely 2.1%

[1] Subprime mortgages are granted to borrowers whose credit record is tainted or incomplete.

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Note to readers: The letters **k**, **M** and **B** are used in texts and tables to refer to thousands, millions and billions respectively.

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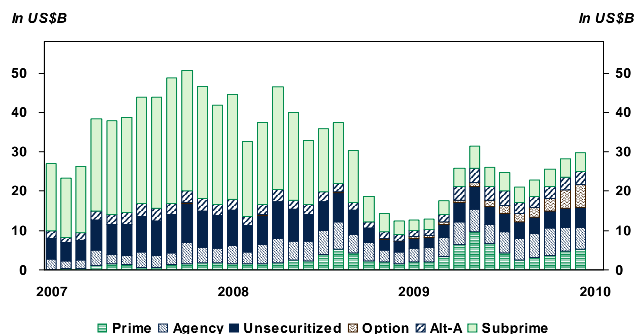
in 2001 to approximately 14% in 2006. Inadequate regulations and the ease with which mortgage lenders were able resell their mortgage loans as asset-backed securities (securitization) removed almost all incentive to ensure that borrowers were able to repay their loan.

THE END OF THE BUBBLE AND PROBLEMS IN THE SUBPRIME INDUSTRY

As soon as the real estate bubble ended, i.e., towards the end of the 2005 summer, it had become obvious that many subprime loans had been granted to households that did not have the ability nor the income needed to cover their mortgage payments. This trend was accentuated by the widespread use of teaser rates to qualify buyers. One particularly popular product was the 2/28 loan that provided a very low fixed rate for the first two years but much higher variable rates for the next 28 years. Some households did not clearly understand the product, the others were hoping to take advantage of the rising market to resell or refinance properties before the end of the rate discount. However, the end of rocketing prices for homes made it impossible to continue this strategy.

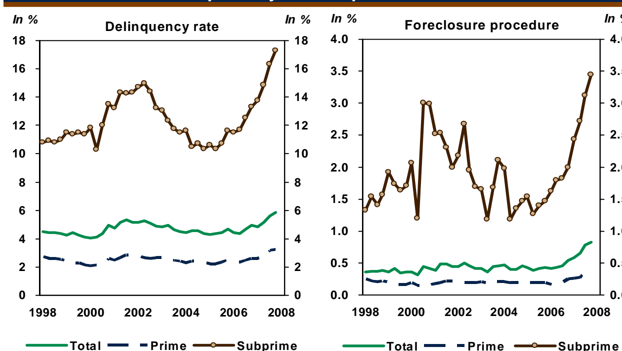
The recovery of mortgage rates coupled with the many renewals (i.e., going to an often much higher floating rate) of subprime loans (Graph 2) led to an increase in home foreclosures in the United States (Graph 3). Afterwards, subprime mortgage lenders began to deal with increased vigilance on the part of investors who did not want to buy subprime-related securities any more. The end of securitization and the difficulty in finding other sources of financing led to a breakdown of the business model when the real estate correction spread. As a result, many subprime mortgage lenders went bankrupt[2].

Graph 2 – Renewal of subprime loans will continue



Sources: Moody's Economy.com, First American LP, Mortgage Bankers Association and Desjardins, Economic Studies

Graph 3 – Delinquencies and foreclosures continue to rise, especially for subprime loans



Sources: Mortgage Bankers Association and Desjardins, Economic Studies

START OF SERIOUS FINANCIAL TURBULENCE AND LIQUIDITY CRISIS

It is only in the summer of 2007 that financial markets began to realize the ramifications of the mortgage crisis. Rating agencies downgraded hundreds of subprime mortgage securities since the non-payment of underlying loans kept increasing. The crisis really exploded in late July when demand for mortgage-backed financial products suddenly dried up. Panic spread throughout financial markets. So investors shrunk away from risky assets and turned to safe investments. This led to a stock market collapse and a surge in credit spreads.

The disappearance of the demand for asset-backed securities was especially problematic for issuers of asset-backed commercial paper (ABCP)[3]. The idea behind ABCPs requires issuers to be able to reissue new securities regularly to repay those that fall due. This became impossible in early August and to avoid falling into bankruptcy and having to liquidate the underlying assets in an unfavourable market, ABCP issuers were forced to ask banks that had sold them liquidity guarantees to provide significant amounts[4].

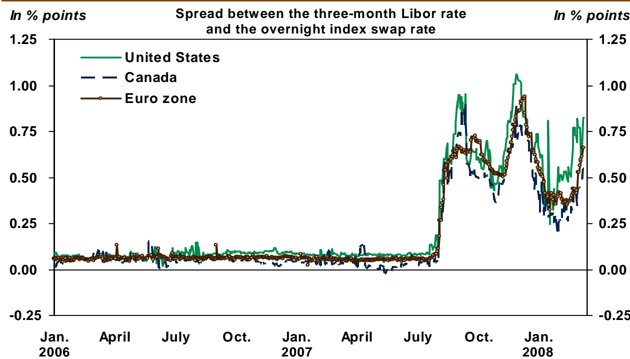
[2] On March 7, *Business Week* reported that at least 25 subprime lenders had closed their operations, declared bankruptcy or announced significant losses over the last months.

[3] In short, ABCPs are short-term debt securities whose repayment is guaranteed by various longer-term income sources, including mortgages. The demand for short-term investments generating higher returns than Treasury Bills led to an explosion of ABCP issues over the last few years. In Canada, the outstanding amount of ABCPs reached $116B, i.e., approximately one third of the total value of the money market, at the end of July 2007.

[4] In Canada, a specific problem arose in the case of non bank ABCPs since the liquidity guarantees tied to these products depended on "market disruption". Some financial institutions base themselves on this term to refuse the promised liquidity. This led to many problems for investors and a transaction freeze on these products following the Montreal Accord. However, in any case, the fundamental problem of the ABCP market is the drying up of demand for this product since doubts on the quality of the underlying assets came to light.

Faced with these major disbursements, the banks around the world began to accumulate liquidities and refuse to grant loans for periods longer than a few days. The explosion of spreads between three-month interbank loans and anticipated rates for overnight loans for the same period clearly shows the liquidity crisis that hit the money markets (Graph 4).

Graph 4 – Tensions remain in the money markets



Sources: Bloomberg and Desjardins, Economic Studies

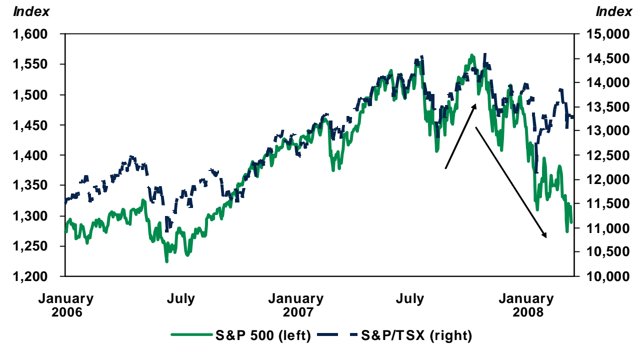
Central banks reacted quickly by pumping liquidities in the money market. In addition, the Fed began to cut down its key interest rate on September 18 and the Bank of Canada (BoC) put an end to its monetary tightening. Despite some difficulties, the authorities managed to calm things down and put an end to the panic.

Nevertheless, investors remained nervous and very suspicious towards backed financial products. The complexity and lack of transparency of such financial securities prevent investors from finding out the real exposure to the problem of subprime loans. The few transactions on the secondary market, especially since the crisis began, also makes it difficult to assess the value of these products. In addition, this episode showed that the high credit ratings, often AAA, held by many complex financial products did not provide an adequate assessment of their risk. Lastly, it became apparent that financial institutions and many hedge funds risked loosing large amounts. It could not yet be called a credit crisis, but this period of turbulence closed the door on very easy access to financing.

THE SECOND WAVE OF THE LIQUIDITY CRISIS

Things seemed to be getting back on track up to November, which helped many stock indexes reach new historic peaks (Graph 5). However, the correction of the U.S. housing sector accelerated, property foreclosures continue growing and above all, the losses of financial institutions linked to the subprime crisis were above all expectations.

Graph 5 – Stock markets jumped last fall, suffering a sharp correction since then



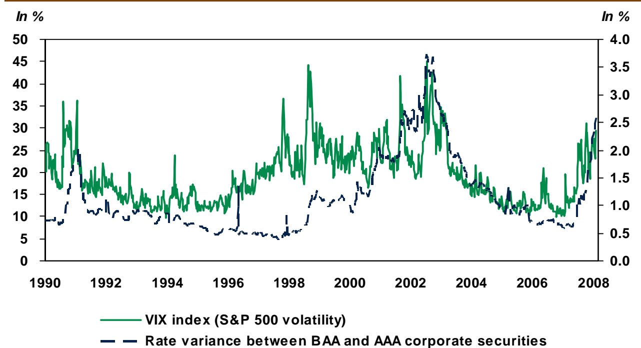
Sources: Datastream and Desjardins, Economic Studies

Pessimism came back strong on the markets while investors liquidated their risky positions and returned to safety. The end of the year, a period when banks always need considerable liquidities, accentuated the second wave of the liquidity crisis. Central banks did not take long to react. In addition to using the usual methods to pump liquidities into the money markets, many large central banks jointly announced that they were setting up a new longer-period funds auction process to meet the extraordinary demand of financial institutions.

FROM A LIQUIDITY PROBLEM TO A CREDIT CRISIS

The second phase of the liquidity crisis led to a new marked hike in risk aversion (Graph 6). Many derivatives that should theoretically reduce the turbulence and increase the stability of the world financial system seem to have had the reverse effect and some assumptions[5] on which risk management

Graph 6 – Sharp increase in risk aversion



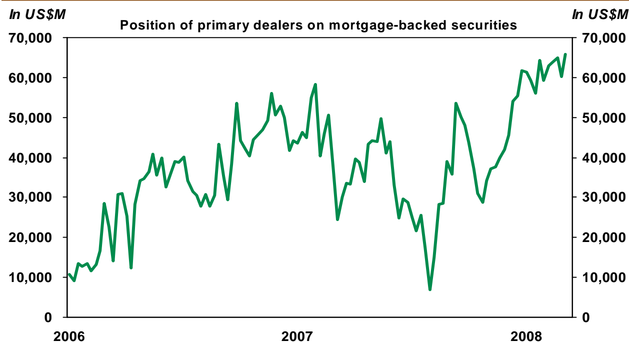
Sources: Lehman Brothers, Standard & Poor's and Desjardins, Economic Studies

[5] For instance, the maximum daily losses estimated with the help of VaR (Value at Risk) models proved to be much too low, since the probabilities of extreme events were underevaluated. The very unpredictable behaviour of financial assets in times of crisis also constitutes a major challenge for risk management.

models are based proved to be inadequate. In addition, the economic outlook became gloomier, especially in the United States where the markets have begun to fear a recession.

In this context, the financial institutions have become much more hesitant about granting new loans and so increase their exposure to non-payments on the part of businesses and consumers. It must be said that the large international investment banks were the major losers in the financial turbulence of the last few months since they had to take on a large share of the subprime securities (Graph 7). They were also directly affected by the problems of hedge funds with which they are often closely linked. Lastly, the collapse of the demand for certain complex financial products created by the financial institutions hit this very profitable aspect of their activities hard.

Graph 7 – Leading financial institutions have high exposure to mortgage-backed securities



Sources: Federal Reserve of New York and Desjardins, Economic Studies

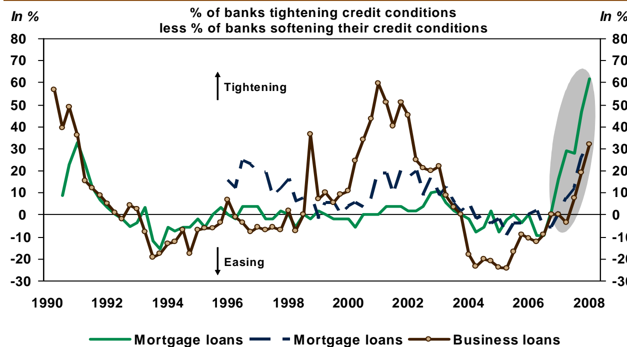
Up to now, the depreciation of financial assets linked to subprimes has taken out about $188B from the profits of banks and brokers[6] worldwide. In addition, bank financing costs have increased markedly. In this context, it is not surprising that financial institutions have tightened credit terms significantly both for consumers and businesses (Graph 8). As a result, the liquidity crisis turned into a credit crisis while the increasingly marked refusal of investors and financial institutions to take on credit risks meant a widespread increase of financing costs.

CURRENT CONSEQUENCES OF THE CREDIT CRISIS

From an economic standpoint, the most serious impact of the financial turbulence stemming from the subprime crisis is to have made access to credit harder and costlier.

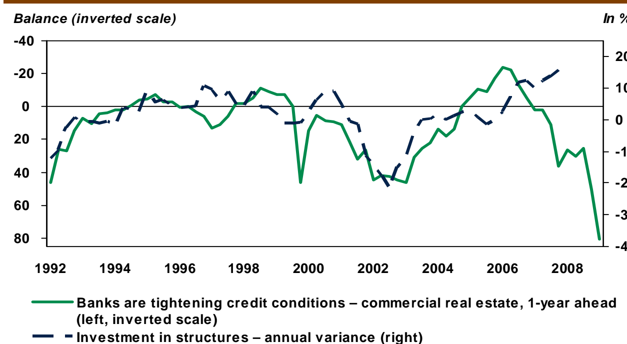
Based on past experience, the tightening of credit terms should curb business investment (Graph 9). The increase in

Graph 8 – Credit conditions becoming increasingly difficult for U.S. households and companies



Sources: Federal Reserve Board and Desjardins, Economic Studies

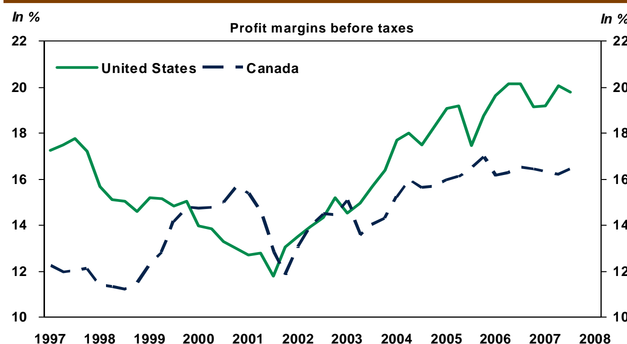
Graph 9 – Tightening credit conditions weakening business investment



Sources: Federal Reserve Board, U.S. Census Bureau and Desjardins, Economic Studies

financing costs and the economic slowdown also risk cutting into profits, which explains in part the market index drop over the last few months. However, some factors should limit effects for non financial businesses. First, recent years have been great for North American businesses (Graph 10). Accordingly, they are well positioned to go through the current difficulties and many businesses will be able to use their internally generated funds to finance their investment

Graph 10 – Business has had a good run these past few years

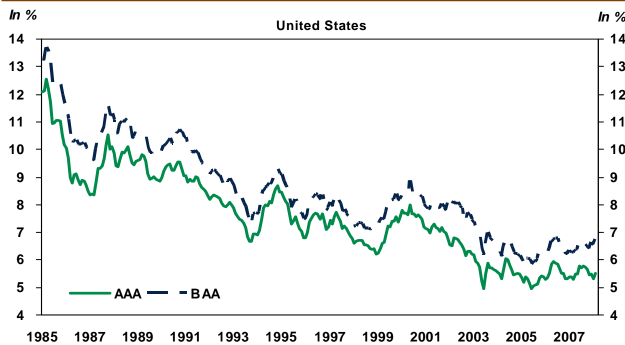


Sources: Bureau of Economic Analysis, Statistics Canada and Desjardins, Economic Studies

[6] Recent estimate by Bloomberg.

projects. Second, the corporate bond rate remains relatively low even though the spread between corporate-security and government-bond rates has been widening over the last months (Graph 11).

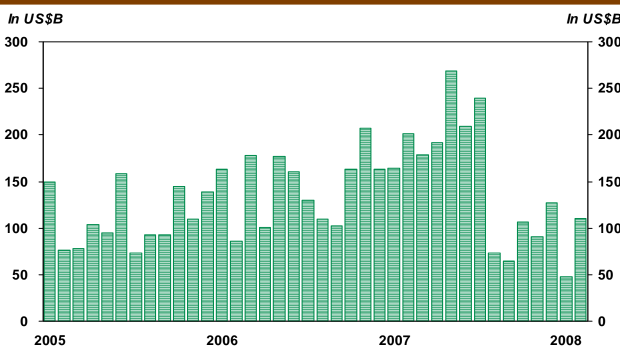
Graph 11 – Corporate bond rates still low despite crisis



Sources: Federal Reserve of New York and Desjardins, Economic Studies

The tightening of credit terms is not only reflected in the loan rates, but also in the refusal of financing certain projects deemed too risky. In particular, the wave of leveraged buyouts that raged in the first half of 2007 ended abruptly now that investors are not interested any more in financing these transactions. This led to a marked slowdown of mergers and acquisitions since the summer of 2007, especially in the United States (Graph 12). Important acquisitions projects are still announced (Yahoo, Rio Tinto etc.), but the buyers are often large businesses that do not need much external financing.

Graph 12 – The value of mergers and acquisitions in the United States has dropped sharply since July



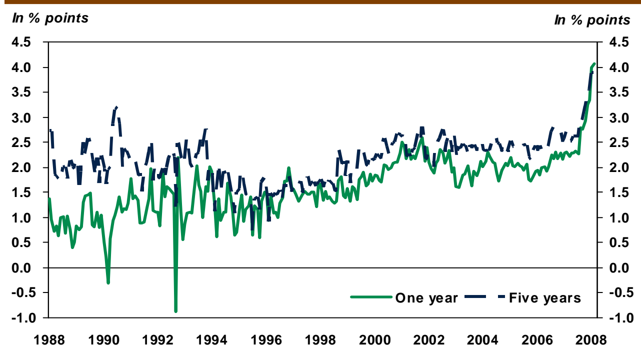
Sources: Bloomberg and Desjardins, Economic Studies

The credit crisis also impacts securitization in a major way. Over the last few years, banks around the world have increasingly tended to sell their loans as financial products. Aside from becoming an important financing source, securitization allowed banks to increase the loan activity without overexposing themselves to non-payment risks and adversely affecting their balance sheet. The recent financial turbulence has brought out some weaknesses in securitization, but overall this innovation has been beneficial for financial institutions and the economy in general[7]. At present, securitization is not used as much except for loans guaranteed by government agencies, because investors have very little appetite for any backed security, even if the underlying debts are of very good quality. This is one more worry for financial institutions.

The crisis also raises doubts about the health of financial institutions. After the English bank Northern Rock, which had to be rescued last September and then nationalized by the British government, it's Bear Stearns, the important investment bank, who had to seek emergency funding last week from JP Morgan and the Fed. The spectacular collapse of Bear Stearns, which should be bought by JP Morgan for a fraction of its former value, is a real cause for concern to investors. However, the general situation of large financial institutions does not seem to have deteriorated enough to cause many bankruptcies, especially since the authorities are doing everything in their power to prevent this situation. Nonetheless, new movements of panic following some rumors may put other financial firms in difficult situations.

For Canadian consumers, the main effect of the tightening of credit terms is to maintain high loan rates in comparison with government rates. For instance, the spread between the 5-year mortgage rate and the 5-year Canadian bond rate has recently reached an over 25-year high (Graph 13). This mainly reflects the increase of financing costs for banks (Graph 14), but also greater caution on their part. The BoC already noted last October that "they (Canadian banks) are incurring higher funding costs, which have led to tighter credit conditions.

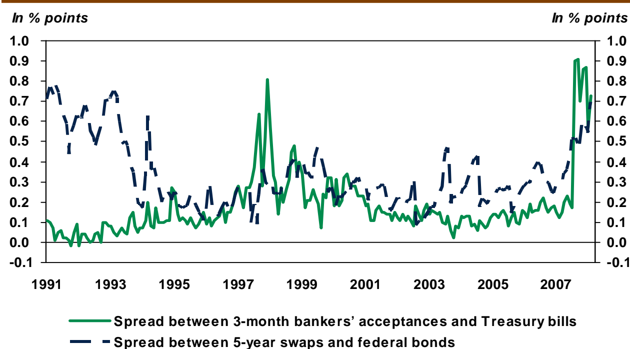
Graph 13 – The spread between mortgage rates and federal bond rates is widening...



Sources: Bank of Canada and Desjardins, Economic Studies

[7] EUROPEAN CENTRAL BANK, *ECB Monthly Bulletin*, "Securitisation in the euro area", February 2008.

Graph 14 – ... reflecting higher financing costs

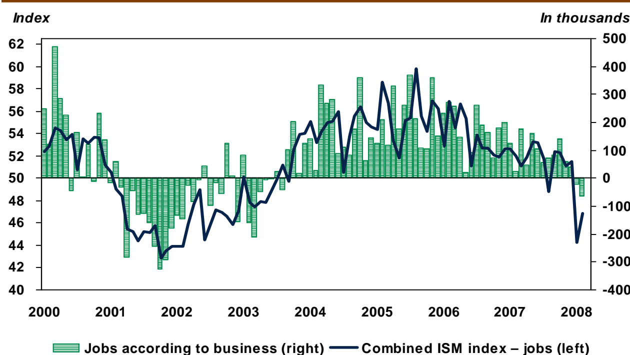


Sources: Datastream and Desjardins, Economic Studies

This tightening is reflected in the price, availability, and terms of credit for businesses and households[8]". However, savers also benefit from relatively high rates.

The tightening of credit is more problematic and more acute in the United States where the correction of the real estate market and the high household debt worry financial institutions much more. This could mean real problems in repaying consumer loans, especially since the labour market is slowing down (Graph 15). Tighter credit will definitely curb consumer spending in the United States over the next quarters.

Graph 15 – 85,000 jobs lost in the United States since the start of the year with more layoffs to follow



Sources: Bureau of Labor Statistics, Institute for Supply Management and Desjardins, Economic Studies

SUBPRIMES ARE CONTAMINATING OTHER SEGMENTS OF THE FINANCIAL SYSTEM

Financial turbulence has already had a serious impact and explains in part the darker economic outlook for 2008. Unfortunately, things could go worse since the subprime issue seems to be contaminating other parts of the financial market.

For several weeks, the problems of monoline insurers have been the focus. Originally, these insurers limited themselves to guaranteeing the repayment of U.S. municipal bonds to help them get an AAA credit rating. However, monolines have also been lured by structured products and have begun to guarantee more and more subprime securities. Leading monoline insurers now guarantee over $1,200B in municipal bonds and close to $800B in structured products. The problem with subprime loans has already caused billions of dollars of losses to monolines, and could potentially jeopardize their ongoing existence. As a result, rating agencies have threatened to lower their credit rating, when they have not already done so.

The downgrade of a monoline is very problematic since it would cause the downgrade of all bonds guaranteed by this insurer. This has generated a lot of volatility in the municipal bond market even if the risk of non-payment on these securities seems very weak. In February, this sector experienced its worse month since July 2003. It seems that some stability will quickly return as far as municipal securities are concerned. The largest insurer, MBIA, saw its AAA rating confirmed by rating agencies after it managed to raise an added $2.5B in capital. Measures are being brought to stop the downgrade of other major monoline insurers. Some suggest splitting each insurer into two entities, one guaranteeing municipal bonds and the other guaranteeing structured projects. Such a split would reassure the municipal bond market, but it would have complex legal ramifications. In any case, guarantees on asset-backed securities seem more exposed to risk and it must be anticipated that holders, especially financial institutions, will be suffering more losses.

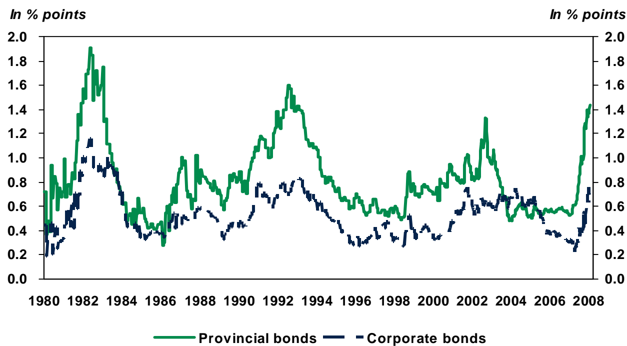
The turbulence affecting municipal bonds and the increased fear of investors with complex financial products are causing important problems for another little known sector in the financial market, auction rated bonds. These long-term bonds,often issued by municipal or paragovernmental entities, must be re-auctioned every 7, 28 or 35 days to determine the rate paid by issuers. Everything was running smoothly until the liquidity and credit crises caused demand for these obligations to evaporate. As a result, thousands of auctions failed over the last few weeks, which forces issuers of auction rated bonds to pay a prohibitive rate, sometimes 20%, to holders. However, the holders cannot dispose of these securities, which were usually sold to them as very liquid short term investments. Auction rated bonds could be disappearing over the next weeks or months as issuers choose to replace them with regular bonds. This additional offer of conventional municipal bonds should however be rather difficult to absorb by the market in the current context.

[8] Bank of Canada, Monetary Policy Report, October 2007.

WILL BUSINESSES DEFAULT ON THEIR LOANS?

Several signs indicating that businesses could be experiencing considerable difficulty paying back their loans are also worrisome and could add to tensions in financial markets. Up to now, the default rate has remained very low. This does not prevent credit spreads from reaching levels that are observed usually during recessions (Graph 16).

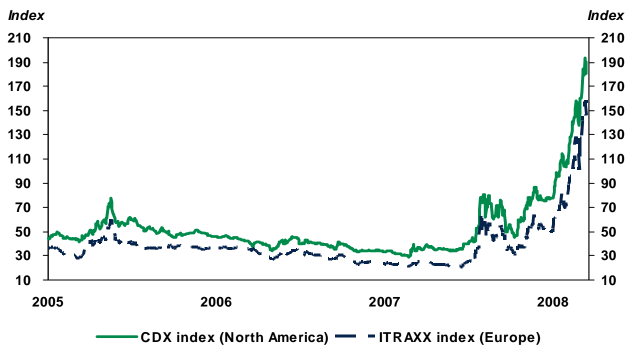
Graph 16 – Spreads vs. federal bond rates have jumped in Canada



Sources: Datastream and Desjardins, Economic Studies

At the same time, the cost for insurance against default has skyrocketed over recent months, as shown in the progress of credit default swap (CDS) indexes in the Americas and Europe (Graph 17).

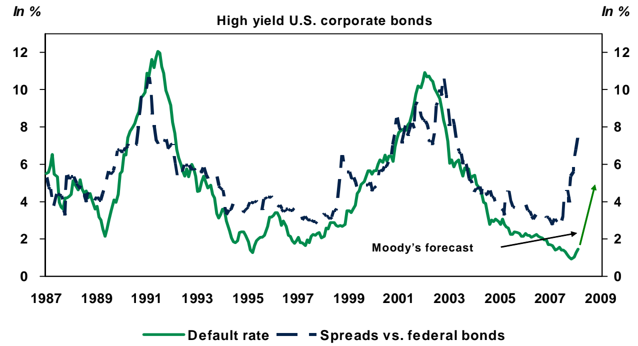
Graph 17 – The cost of insurance vs. the risk of default has exploded over the past few months



Sources: Bloomberg and Desjardins, Economic Studies

Given the breakdown of the economic and financial context, an increase in the default rate must be anticipated in 2008 (Graph 18). Moody's credit rating estimates that the economic slowdown could cause the non-payment rate on U.S. high yield securities to rise from 1.5% in February 2008 to 5.2% at the end of the year. The Senior Loan Officer Survey shows that U.S. banks also anticipate an increase in non-payments in 2008.

Graph 18 – Credit spreads jump despite very weak number of payment defaults



Sources: Merrill Lynch, Datastream and Desjardins, Economic Studies

However, the increase of credit swap indexes is also an indication of technical factors since the financial turbulence and the risks of a downgrade are forcing several entities that sold protection to reverse their positions. The complexity and lack of transparency of the CDS market are also adversely affecting it and could help push up the price of credit risk insurance. Some go so far as to maintain that some speculators are manipulating these opaque indexes traded in private transactions.

Overall, although a certain increase of corporate non-payments can be expected over the coming months, we believe that the market pessimism on this issue is exaggerated and is a reflection of investors' extreme risk aversion in these difficult times. Mark Carney, the new Governor of the BoC, said recently: "the high cost of default protection in many markets—such as that for corporate bonds—implies a pessimism about actual default probabilities that appears excessive.[9]" This not necessarily signals a skyrocketing of business bankruptcies and the non-payment of corporate bonds.

CONCLUSION: TENSIONS WILL REMAIN FOR SEVERAL MONTHS

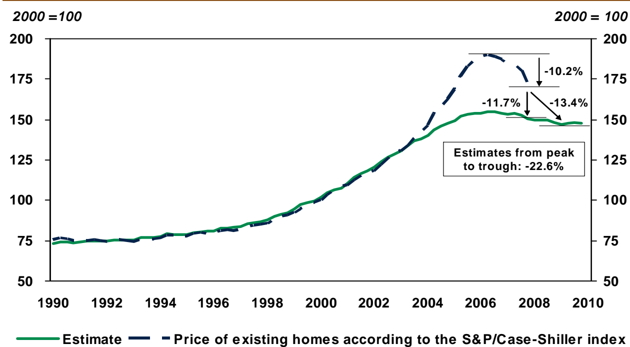
Unfortunately, there are no indications that the liquidity and credit crises are about to clear up. What triggered the crisis, the correction of the U.S. real estate market, continues. Other increases in home foreclosures and non-payments on mortgages are anticipated since home prices should keep going down throughout 2008[10] (Graph 19).

Losses on subprime financial products will then keep growing. Most analysts now anticipate that these losses will reach

[9] Remarks to the Toronto Board of Trade on March 13, 2008.

[10] See the March 12, 2008 *Economic Viewpoint*, titled "United States: Are home prices set to bottom out?"

Graph 19 – The correction in home prices should continue



Sources: Standard & Poor's and Desjardins, Economic Studies

$400B to $600B. Financial institutions will be maintaining restrictive credit terms to avoid increasing their risk exposure. In addition, it cannot be excluded that other complex financial products will end up experiencing difficulties similar to those currently affecting auction rated bonds.

However, monetary and government authorities do realize the extent of the problem and are doing everything they can to mitigate the damages. By aggressively bringing down the key interest rates and/or pumping billions of dollars in the money market, central banks are limiting the increase of financing costs of financial institutions and are allowing them to continue their credit activities. Over the past few days, the Fed has further accentuated its efforts to counter the tensions in the financial markets. As a first step, it has increased from $60B to $100B the amounts offered at auction during the month of March. Thereafter, it announced that it would lend up to $200B of Treasuries by accepting mortgage-backed-securities as collateral. The latter measure is designed to reassure the markets and create some demand for high-quality backed securities. Finally, the Fed has actively participated in the rescue of Bear Stearns before lowering its discount rate and again increasing the funding available to large financial institutions.

As for the U.S. government, it has taken several steps, more or less productive up to now, to limit the increase in the number of home foreclosures. The mailing of checks to U.S. households, totalling $106B, should give back some momentum to consumer spending in the spring.

Although commendable and necessary, these steps do not bring an immediate and complete solution to the problems affecting financial markets. In fact, such a solution simply does not exist. The current crisis stems from years of carelessness, negligence and excess on the part of loaners, borrowers and investors. Many more months or even quarters will be needed for the real estate correction to end in the United States and for large world financial institutions to be done with absorbing huge losses, to restore their balance sheet and to rebuild their capital.

Time will also help to clean up the derivatives market. In our view, some complex products will become much less popular or will disappear entirely, especially those that turn a long-term loan into a short-term investment and as a result create a significant liquidity risk. Derivatives and securitization will continue to play a very important role on financial markets. However, the current experience and increased vigilance on the part of regulatory authorities, credit rating agencies and investors should encourage the development of simpler more transparent products. Such changes will help rebuild the confidence of investors and will gradually decrease risk aversion. Yet it would be surprising to go back to risk premia as low as those seen before the crisis.

Liquidity and credit crises should thus continue to affect financial markets and world economic growth for several months. For consumers, the impact of the credit squeeze will depend considerably on their financial situation. U.S. consumers, dealing with a significant decrease in property prices and a fragile labour market, seem to be in a much riskier situation than their Canadian counterparts who are still benefiting from a relatively strong domestic economy.

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