BRINGING DOWN THE House

Fallout from the market collapse.

BY MARLENE PUFFER AND MICHAEL LEA

THE GLOBAL financial system is facing the worst financial crisis since the Great Depression. Numerous financial institutions have failed and important parts of the system including the interbank and commercial paper markets have seized up. Bank lending has been sharply curtailed and many economies are in or heading into recession. Securitization has evaporated and almost all debt issuers face high spreads, if they can issue at all. The origins of the crisis lie in the U.S. mortgage market. Once regarded as one of the most efficient and innovative markets in the world, it has come to represent much that is bad in finance. The development and expansion of the subprime portion of the market is often blamed for the crisis but in fact its roots lie deeper, encompassing over-indebtedness, cyclical housing markets and failed government policies.

The seeds of the crisis were sown in the 1990s, and multiple factors that had been brewing for years became more important in the early part of the new century. At the core was an extended period of house price appreciation that greatly accelerated after 2001 (Figure 1). This led to speculative housing demand as well as a relaxation in loan underwriting standards as lenders and investors perceived less risk due to ever-increasing borrower equity. The subprime market share exploded to nearly 20% of originations (Figure 2). Rising house prices created affordability concerns as fewer households could afford a median-priced house in most markets. Ultimately this led to new mortgage products such as "teaser ARMs" with low start rates designed to improve affordability at the time of origination, and private label securities used to fund these mortgages expanded. Long-term interest rates remained relatively low and credit spreads fell to historically low levels as return-seeking investors poured into subprime mortgage securities and complex structured products, many of which added leverage to the structure.

Increasingly lenders were offering high Loan-to-Value (LTV) loans (up to and sometimes exceeding 100%) and reducing their documentation requirements, both to prime and subprime borrowers.[1] Figure 3 shows the growth in 100% combined LTV (CLTV) lending, both to prime and subprime/Alt-A borrowers and the growth in limited documentation loans to all borrowers.[2] By 2006 an astonishing 60%-plus of U.S. subprime/Alt-A loan purchase loans had CLTV of 100% and nearly 60% of all originations had limited documentation.

Hybrid ARMs with a low fixed interest rate for the first two or three years, resetting to an indexed adjustable rate loan with a high margin (so-called 2/28 and 3/27 loans) became a staple of the subprime market. Loans with interest-only periods up to 10 years and negatively amortizing ARMs also became common. Policymakers concerned with falling affordability acquiesced or encouraged this behaviour. Although predatory lending became an increasing concern, both Congressional and administration officials stated that the net benefits of subprime lending were positive and concerns about predation could be dealt with through regulation (outlawing certain loan features on high rate mortgages) and through the legal system.[3]

Fannie Mae and Freddie Mac arrived relatively late to

Marlene Puffer is managing director, Twist Financial Corp.; Michael Lea is principal, Cardiff Economic Consulting.

the subprime mortgage party. Historically they invested only in prime mortgages. However, their declining market share and increased Congressional pressure to support affordable housing led them to become large purchasers of subprime loans and securities. During the 2004-2006 period they purchased over $400 billion, representing over 50% of the market.

The party started to wind down in 2006 with a decline in the rate of house price appreciation and a rise in subprime mortgage delinquencies. In early 2007 several major subprime lenders failed and the spreads on subprime securities rose sharply. Securitization and other funding dried up. In the summer of 2007 two hedge funds backed by subprime mortgages created by Bear Stearns collapsed and structured investment vehicles created by major European banks to invest in subprime securities also failed. Rising losses in both the bank and non-bank sectors led to a collapse in the financial institution commercial paper market. The situation worsened in 2008 with the failure of several large banks (including Washington Mutual and Indymac, two of the top 10 U.S. mortgage lenders, and Northern Rock, a top 10 UK mortgage lender) and major investment banks (Bear Stearns and Lehman Brothers). In September 2008 the U.S. government was forced to place Fannie Mae and Freddie Mac, whose combined portfolios and guarantees accounted for over $5 trillion, in conservatorship with the government in charge of their operations and their debt explicitly government-backed.

WHAT HAPPENED?

While there are many contributors to the current financial crisis, four stand out: excessive leverage; incentive problems in the origination and funding process; myopia regarding the house price cycle; and weak regulatory oversight of the mortgage market.[4] In recent years the entire global financial system has been built on ever-increasing amounts of leverage. U.S. household indebtedness as a percentage of income rose from 56% to 132% from 1994 to 2007, while residential mortgage debt-to-GDP rose from 44% to 81%. While banks were subject to prudential capital requirements, much of the growth in the subprime market was funded outside of bank balance sheets. Many large banks, both U.S. and international, created off-balance sheet structured investment vehicles (SIVs) that invested in mortgage securities funded with asset-backed commercial paper (ABCP). These vehicles were typically more leveraged than commercial banks and not subject to prudential oversight. Fannie Mae and Freddie Mac were more highly leveraged than the Structured Investment Vehicles (SIVs),

Figure 1: U.S. HOUSE PRICES

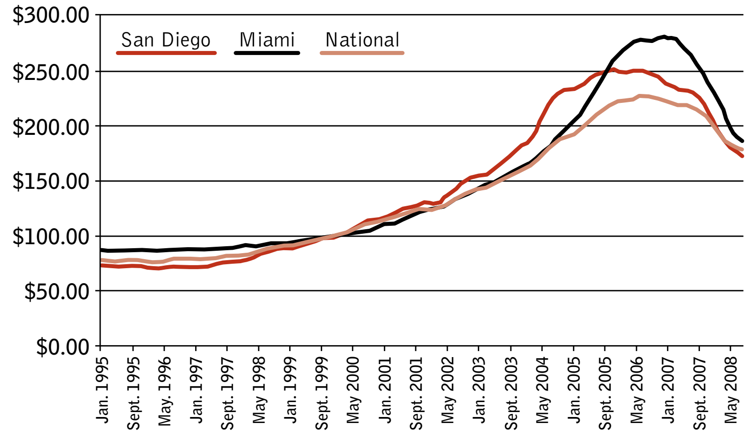
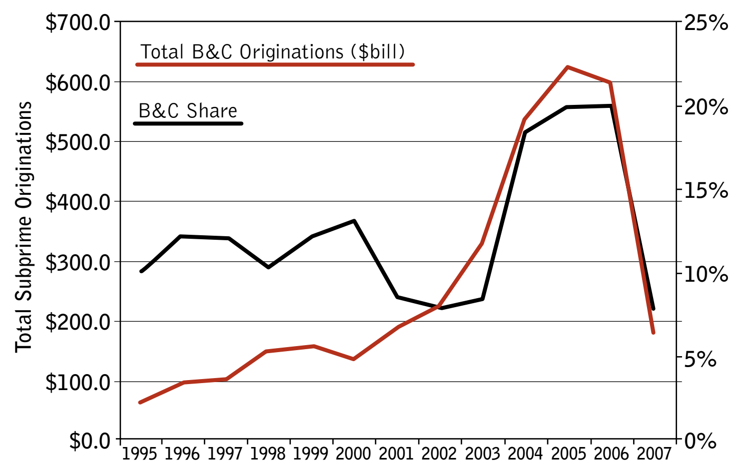
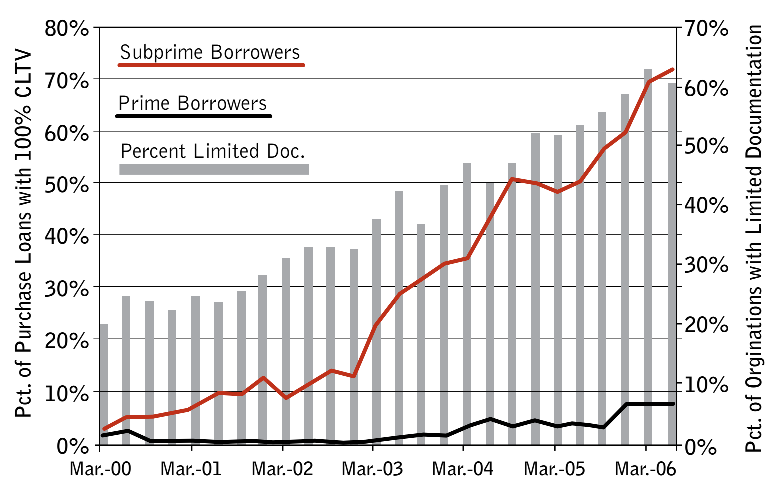


Figure 2: GROWTH OF SUBPRIME LENDING



Source: Inside B&C Lending (1995-2000), Inside Mortgage Finance (2001-2006)

Figure 3: RISK LAYERING



Source: Bear Stearns

with an asset-to-core capital ratio of 60 at the end of 2007.

The subprime mortgage market was riddled with incentive problems. Mortgage brokers and loan officers in the U.S. are paid on commission. If the loan closes, they receive their fee without regard to how well the loan performs. Not only was there an incentive to bend the lending rules, but in the later stages of the boom there was a high incidence of fraud (so-called liars loans where the borrower and/or broker falsified application information to get the borrower qualified). Lenders in the U.S. typically sell their loans (particularly the subprime and Alt-A) while retaining little or no risk. Investment banks structure securities either for a fee or with expectations of a gain on sale. Rating agencies are paid by issuers, creating an obvious conflict of interest, which was exploited during the subprime crisis. The entire system was built on volume and fee maximization without regard for quality.

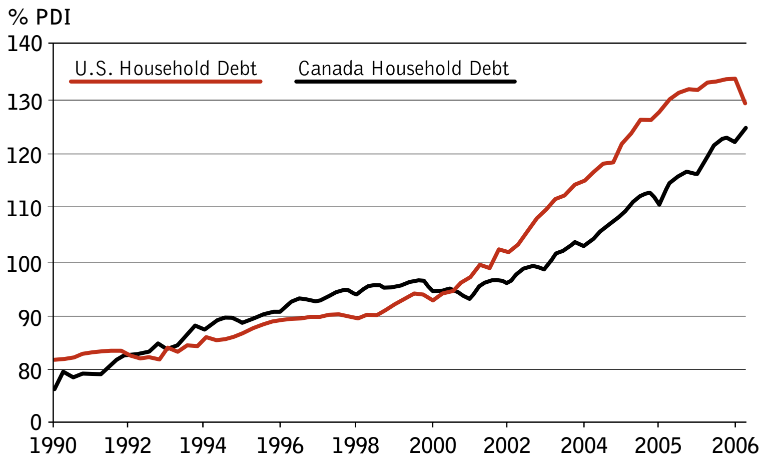
House prices were indisputably the underlying driver of the mortgage boom and bust. The late 1990s and early 2000 period was historically unusual in terms of the magnitude of house price increase and the degree to which borrower affordability was stretched. Yet borrowers, lenders, investors and regulators acted as if the house price boom could be sustained indefinitely.

Finally there was a lack of regulatory oversight of key aspects of the market that allowed the subprime crisis to morph into the full-blown financial crisis we see today. Most of the subprime originations came from outside the regulated banking system, through what is loosely called the shadow banking system. Non-depository institutions originated the loans, which were packaged and sold by lightly regulated investment banks. Many of the securities were purchased by unregulated off-balance sheet SIVs and hedge funds. Although the volume of subprime loan originations was tracked and reported, the loans disappeared into complex mortgage-backed securities and collateralized debt obligations, many of which added leverage to the structure, and were impossible to track or monitor.

THE CANADIAN DIFFERENCE

There are several key differences between Canada and the U.S. that have left Canada's financial system in relatively decent shape through this meltdown. American consumers have a significantly heavier debt burden than Canadians across all debt types: mortgages, credit cards, auto loans etc. (Figure 4). Canadians also tend to have a more conservative attitude toward debt and tend to maintain their home equity despite the proliferation of Home Equity Lines of Credit as a borrowing alternative on both sides of the border.

Figure 4: CANADIAN VS. U.S. HOUSEHOLD DEBT AS % OF PERSONAL DISPOSABLE INCOME



Source: Merrill Lynch

In the U.S., mortgages are mostly non-recourse from a legal perspective. If a borrower defaults on a non-recourse mortgage, the lender has recourse only to the secured property, and not the borrower's personal assets. This creates the incentive for borrowers to walk away from the house if they are unable to meet monthly payments in weak real estate markets when the property value falls too far below the remaining principal on the mortgage.[5] In contrast, Canadian lenders have recourse to the borrower's personal assets. This creates a powerful incentive for borrowers to be conservative in their mortgage debt burden since personal bankruptcy may be the only way out of a burdensome mortgage and the resulting long-term personal impact is significant.

Mortgage lending practices are also a factor. There are several important distinctions between Canadian and U.S. lending practices that have contributed to Canada's financial market stability. U.S. mortgages tend to be long-term (30 years), and pre-payable. There are very diverse contract types as described above, including no interest payments in the early years, adjustable interest rates and flexible payment options. Canadian mortgages amortize over 30 years, but renew after five years with limited prepayment options that limit refinancing activity, and relatively plain vanilla variable or adjustable rate features. As a result, it is simpler for Canadian lenders to manage prepayment risk and interest rate risk associated with mortgage lending, which contributes to lenders keeping more mortgages on balance sheets rather than securitizing to the same extent as in the U.S.

Mortgage brokers have been scrutinized in the U.S. compared to Canada. Mortgage brokers originate approximately 68% of U.S. mortgages compared to only 25% in Canada. Borrowers tend to believe that mortgage brokers work in the consumer's best interest, but some U.S. brokers have been accused of inappropriate practices, such as putting some borrowers into subprime loans who might have qualified for less expensive and less risky Alt-A or prime products, or fraud. This incentive problem is reduced in the captive mortgage sales forces at the major Canadian banks who generally refer most Alt-A or subprime borrowers to other lenders or brokers. Mortgage broker practices have been less contentious in Canada, but they were the main channel for the fledgling subprime market and will merit some attention by policymakers as funding markets eventually recover and Alt-A and subprime lending creep back onto the Canadian scene.

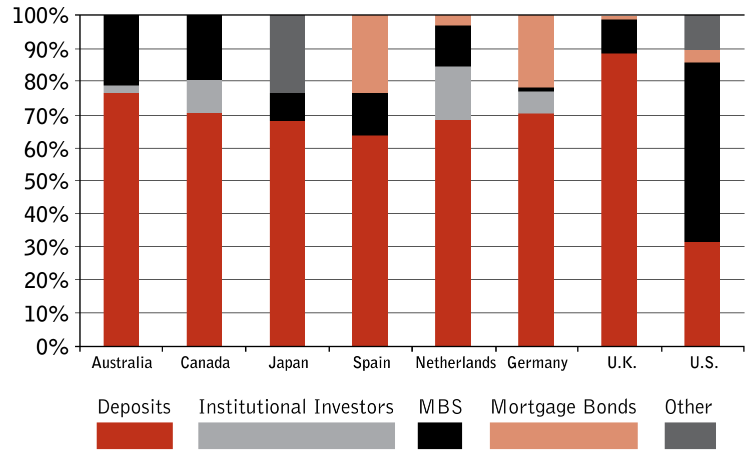
One type of borrowing that has increased on both sides of the border has been Home Equity Lines of Credit (HELOCs). These are not traditional mortgages, but allow borrowers to use the equity in their homes to secure loans for other purposes with flexible prepayment options. Home equity extraction was a driver of consumption, particularly in the U.S. market, and the reduced availability of this type of borrowing has contributed to lower U.S. consumer debt in recent quarters (Figure 4). Canadian lenders have not securitized these loans as much as mortgages, but they are heavily securitized in the U.S.

U.S. reliance on securitization for mortgage funding is an anomaly in the global financial markets. Canadian lenders fund roughly 70% of mortgage lending through retail deposits, which is roughly average for developed countries outside the U.S. (Figure 5).[6] In contrast, U.S. mortgage lending is financed by only 30% retail deposits, and over 55% by securitization.[7] In Canada, securitization (mainly through ABCP) was the most important source of funding for the small but growing Canadian subprime and Alt-A mortgage markets prior to August 2007 when this market effectively evaporated. Since then, there has been little or no activity in these markets in Canada and the lenders who were involved have shrunk or disappeared, or moved into prime mortgage lending funded by government guaranteed Canada Mortgage Bonds.

HELP FROM ABOVE

Both the Canadian and U.S. governments have policies in place to encourage and support home ownership as an engine of economic growth and stability. There are many layers of policy and regulation in the housing and mortgage markets, but we highlight a few that have impacted relative financial stability in the two countries: tax and legal policies, mortgage insurance, and guarantees on securities and government involvement in securitization. Both countries have supported homeownership through the creation of government institutions to foster the availability of mortgage credit. A desire to increase the rate of homeownership, particularly among lower income and minority households, led to more U.S. regulation including affordable housing goals for the GSEs and use of the Community Reinvestment Act (CRA) to push depository lenders into more down-market lending. Rising goals for the GSEs contributed directly to growth in the subprime market that was able to obtain funding through the GSE portfolios. These policies must be re-evaluated since the current environment suggests that home ownership may have reached a peak based on affordability.

Figure 5: DEVELOPED COUNTRIES MORTGAGE FUNDING



Source: CMHC - CMB Program Evaluation???

U.S. tax policy allows full deductibility of mortgage interest payments, which has created a tremendous incentive to increase mortgage borrowing and to keep mortgage balances high. This is in contrast to Canadian policy, which does not provide interest deductibility but does provide full exemption of capital gains on a principal residence. Canadian mortgages tend to be paid down faster, and Canadian home equity has remained around 70% for the past two decades, in contrast to the US., where home equity has fallen from 65% in 1990 to roughly 45%.

There is both private and government-sponsored mortgage insurance on both sides of the border, but the government role has been greater in Canada. Prime loans are not typically insured at the loan level, but may be insured at the portfolio level by lenders to improve liquidity or for securitization. Mortgage insurance (MI) can bring a layer of discipline into the market as a third party is involved reviewing documents in order to insure the loan. In Canada, the government is the largest mortgage insurer through the Canada Mortgage and Housing Corporation (CMHC) (private insurance also has indirect CMHC backstop support) while in the U.S., government insurance through the Federal Housing Administration has played a relatively minor role in recent years as private insurers are predominant. In the U.S., the willingness of insurers to back poorly qualified borrowers, the prevalence of piggyback loans that permit a zero or negative equity position as well as lender-captive reinsurance have undermined the discipline MI can bring. Questionable practices contributed to instability of the insurers themselves. In Canada, CMHC and private insurers generally maintained high standards. However, CMHC felt competitive pressure from private insurers to back more affordable loans, and gradually loosened standards to include 40-year amortization, but tightened standards in recent months in an effort to maintain the quality of their insured loan portfolio. The private mortgage insurance sector and products that qualify for insurance are likely to face much greater scrutiny going forward in both countries.

Government involvement in the U.S. mortgage markets may have been de-stabilizing while Canadian government involvement has been a stabilizing influence. U.S. GSEs own over US$5 trillion of the US$11.2 trillion of U.S. mortgages, or roughly 55%. This includes $3.7 trillion of Fannie, Freddie and Ginnie Mae holdings as well as nearly $1.4 billion in the Fannie and Freddie portfolios. In contrast, Canada Mortgage Bonds, which are fully government-guaranteed, have funded roughly $140 billion of the $650 billion mortgage market, or roughly 20%. Fannie and Freddie invested heavily in subprime and Alt-A mortgage securities in the 2004-2007 period, facilitating growth of this market. In contrast, CMHC restricted eligibility for the Canada Mortgage Bond funding program to high-quality mortgages. Growth of the Alt-A and subprime market in Canada relied on private funding channels. The Canada Mortgage Bond program was effective in providing low-cost funding to mortgage lenders and played a role in enhancing competition in the mortgage market with low risk to the taxpayer and without adding leveraged portfolio activity to the mix.[8]

WHERE NEXT?

In August 2008, the U.S. Congress took the formerly privately owned GSEs under conservatorship and they are now subject to direct government ownership and oversight. How they emerge from the crisis remains to be seen. However, it is clear that the old model of government sponsorship and government-mandated housing policy goals combined with private ownership is unsustainable. The enormous borrowing capacity of the GSEs was enhanced by the halo effect of implicit government support despite the absence of an explicit government guarantee. This leverage drove growth in portfolio investments in high-risk mortgages and securities aimed at enhancing shareholder value with little regard for the potential implications for home owners and the broader economy. The originate-to-distribute model based on the yield-seeking behaviour of investors coupled with faulty ratings allowed the problems of one market sector to infect the global financial system, including Canadian banks. The deleveraging of SIVs and other investment vehicles forcing the assets back on the balance sheet of commercial and investment banks combined with a marking to market of the assets has contributed to the failure of several large institutions.

The near-term policy focus is to enhance financial market liquidity and to stem the tide of U.S. foreclosures to prevent a further downward spiral in real estate valuations. The Canadian government has increased mortgage market support through a new program where CMHC purchases mortgages funded through issuance of Government of Canada bonds, maintaining most program features but bypassing the issuance of Canada Mortgage Bonds.[9] This is an important factor in enhancing the lending capacity of Canadian banks who are now facing illiquid markets and high funding costs. Longer-term, U.S. and Canadian policy makers will revamp the financial regulatory system, bringing heretofore lightly regulated entities under greater scrutiny. Policy-makers will have to decide between fully privatized versions of Fannie and Freddie, or maintaining full government support. Eventually, as financial market confidence is restored, private label securitization will return, but with simpler structures and less embedded leverage. ∎

ENDNOTES

1. Loans with reduced documentation requirements are referred to as Alt-A loans which facilitated lending to borrowers with good credit records but little or no proof of income. Initially offered only to high-quality prime borrowers, they became increasingly present in the subprime market.
2. Combined LTV reflects the presence of multiple mortgages. A common practice in this period was the origination of "piggy-backed" loans—combined first and second mortgages.
3. Concern about predatory lending was greater at the state and local level. Numerous states and cities passed anti-predatory laws during the late 1990s and early 2000s. Some were pre-empted by federal action.
4. "The housing meltdown: Why did it happen in the United States?" BIS Working Paper No. 259, Monetary and Economic Department, September 2008, provides a detailed analysis.
5. See Martin Feldstein's recent article "How to Help People Whose Home Values Are Underwater; The economic spiral will get worse unless we do something about negative equity," *Wall Street Journal,* November 18, 2008 for a discussion of the implications of no recourse loans coupled with negative home equity.
6. Mortgage securitization includes government sponsored or guaranteed securities as well as private transactions through asset-backed securities and more complex structures.
7. However, the data are imperfect since depository institutions invest in mortgage securities. In Canada most of the MBS that are on a bank's balance sheet are likely to be their own or affiliated companies' originations.
8. See the Canada Mortgage Bonds Program Evaluation, which addressed the effectiveness of the CMB program. www.cmhc.ca
9. See www.fin.gc.ca for the November 12, 2008 announcement of a total $75 billion for this program.