TD Bank Financial Group

TD Economics

Special Report

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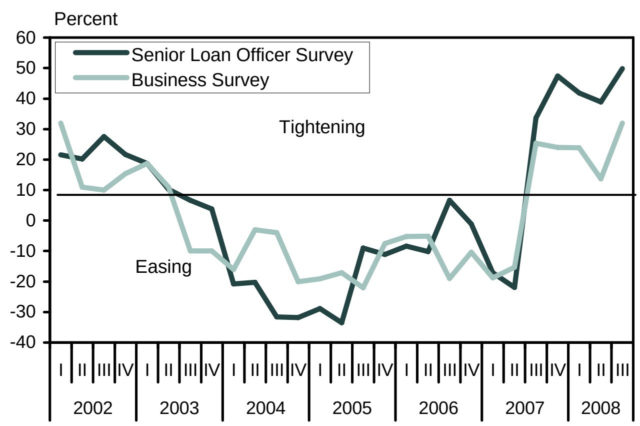
CREDIT FLOWS DURING THE CREDIT CRUNCH

The current global financial shock is commonly referred to as a credit crunch or a credit freeze. This characterization reflects the fact that the main source of the problem is impaired balance sheets of financial institutions brought about by a deep correction in real estate prices in some countries and a massive revaluation in financial asset prices around the world. The perception is that credit is no longer flowing.

If credit is overly constrained, it poses a material threat to the economic well-being of a country. Without access to funding, individuals cannot purchase homes, autos or many other big-ticket items. Without credit, businesses cannot finance inventories, exports or investment in machinery and equipment. Indeed, the flow of funds is the lubricant that allows the gears of the economy to turn smoothly. Without access to financing, the economic machine seizes up.

The implication is that credit is critical. Recent surveys of lenders, businesses and households have suggested that financing is being constricted in the U.S. and Canada. For

CANADA: CREDIT CONDITIONS
Balance of Opinion



Source: Bank of Canada

HIGHLIGHTS

- **Perception is that credit is not flowing in the U.S. and Canada.**
- **The official financial flows data clearly show a credit crunch in the United States. U.S. household borrowing has collapsed. New credit to U.S. corporations has diminished, particularly from financial markets and from non-bank lenders. Bank loans have increased, but have not been able to fill the gap.**
- **The Canadian statistics show a very different experience.**
- **Credit to Canadian households over the first nine months of 2008 increased at the second fastest rate in a decade.**
- **Canadian non-financial corporations have been relying heavily on retained earnings as a source of finance, but the commodity price correction and weaker profit growth point to weaker retained earnings ahead.**
- **Despite the financial turmoil, Canadian corporations have been tapping financial markets for additional funding by issuing shares, bonds and commercial paper. But market sources have been inadequate, or more expensive.**
- **Less new credit has been available from non-bank sources, reflecting the impact of the financial turmoil on the business model of these institutions.**
- **As a result, more firms have turned to Canadian banks for additional financing, and bank loan flows have been strong.**
- **Data only show supply of credit. Cannot observe demand and the pricing of credit suggests total available funding may not be sufficient.**

example, senior loan officer surveys in both countries have recorded tightening standards for loans. But to what extent has the actual availability of credit declined?

Official data on financial flows overlooked

We are fortunate that in both countries there are official quarterly statistics on credit movements. However, it is odd that in the midst of the current financial crisis the data is receiving virtually no attention by economists, policy makers or journalists. The U.S. statistics are published by the Federal Reserve in the statistical release Z.1 Flow of Funds Accounts of the United States. In Canada, the Financial Flow Accounts (FFA) is a satellite of the Statistics Canada national economic accounts. Both sets of data use a similar methodology. They show the sources and uses of funds across the economy, including the net inflows/outflows by non-residents. Various sectors are net lenders, while others are net borrowers. The lending/borrowing must balance, as one sector's asset is another sector's liability. Financial institutions play the key role of directing funds from net savers to net borrowers through financial transactions. The financial flow accounts also provide details on what form this activity is taking in terms of the broad categories of assets and liabilities.

It is important to stress that the financial flows are the net change (i.e. new additions less any reductions or maturity of assets/liabilities). This has an implication for the interpretation of growth rates. For categories that are experiencing a positive flow, a growth rate represents an increase at a faster pace, while a contraction represents an increase at a slower pace. Because growth rates on net flows can be confusing, we will focus on the level of the flow and whether it is higher or lower than in prior periods.

So, what does the recent flow of funds data tell us about credit conditions in the U.S. and Canada from the perspective of households and non-financial corporations?

Credit is constrained in the U.S.

Given the extraordinary drop in U.S. real estate prices and the associated financial losses that have led to failures in numerous major financial institutions, it should come as no surprise that the data show weaker credit supply Stateside.

On the consumer front, the U.S. data is for households and nonprofit organizations, and the financial flows are grim. Total net new borrowing plummeted over the first three quarters of 2008, dropping to one-seventh its level in 2007 and one-tenth of its level in 2006. New borrowing particularly diminished in consumer credit (credit cards, lines of credit, etc) and mortgage loans, with the latter posting an outright contraction in the third quarter. However, bank loans increased, as did trade credit and loans from non-bank institutions – although the latter two items are quite small.

These trends capture a number of key developments. Demand for household credit for consumption and investment purposes diminished as the economy fell into recession since December 2007 and as real estate markets continued their deep correction. However, the increase in bank and non-bank loans could imply additional need for credit from some households encountering financial difficulties. And, there is no question that the supply of credit was constrained as financial institutions encountered considerable difficulties and tightened their lending practices. The conclusion is that both demand and new supply of credit lessened for American households.

U.S. non-financial corporations have two major sources of funding. They can use retained earnings or they can

U.S.: NEW BORROWING BY HOUSEHOLDS

	Consumer Credit	Trade Credit	Bank Loans	Other Loans	Total Credit	Mortgages	Total New Borrowing
New Funds (USD millions)							
Q3/2004	47,350	4,113	-20,319	446	31,590	238,910	270,500
Q3/2005	45,862	3,259	-401	-450	48,270	302,710	350,980
Q3/2006	51,214	3,436	9,120	1,921	65,691	250,640	316,331
Q3/2007	70,007	3,688	11,662	1,368	86,725	157,447	244,172
Q3/2008	34,633	3,958	21,671	878	61,140	-47,308	13,832
New Funds for Year to Q3							
2004	59,058	12,339	-20,912	277	50,762	700,259	751,021
2005	57,065	9,778	1,438	-406	67,875	787,124	854,999
2006	53,102	10,130	34,001	4,595	101,828	860,443	962,271
2007	83,900	10,871	7,229	3,144	105,144	570,136	675,280
2008	38,556	11,666	8,533	3,661	62,416	38,867	101,283

Source: U.S. Federal Reserve

raise financing from external sources. The external sources can be divided into market-based funding (issuances of stocks, bonds or commercial paper) or non-market funding (loans from banks or other institutions, mortgages, or other financing like trade receivables).

Total net new financing of U.S. non-financial corporations declined during the first three quarters of 2008 to the lowest level in four years. Moreover, there was a precipitous drop in Q3/08.

In terms of the details, retained earnings held up surprisingly well over 2008. This reflected the fact that the economy managed to keep its head above water in the first half of the year and profits were receiving support from strong exports.

The decline in new financing came in the area of external funds. There was an outright contraction in market-based financing. Share issuance contracted, but the interpretation of this trend is a bit problematic, as this was not a new development. Over the entire current decade, American corporations have been engaged in share buybacks that outpaced new issuance. Meanwhile, non-financial corporations were able to increase their placement of commercial paper during the recent financial crisis. Consequently, the most dramatic event in market based financing was a considerable retreat in new bond issuance. Although there was not an outright contraction, firms limited their net new financing through bonds, which likely reflected the dramatic widening in corporate bond spreads that made this source of funding more expensive.

The U.S. credit crunch was also evident in non-market financing. The net new flow of funds was cut in the first three quarters of 2008 to half the level experienced over the same time frame in 2007. The number one story was a complete collapse in non-bank lending. This illustrates the loss of funding by company financing arms and other non-bank institutions. These entities were highly reliant on securitization as a core component of their business model to free up capital in order to make further loans. There was also a remarkable drop in new mortgage financing, corresponding to the deep problems and height-

U.S.: NON-FINANCIAL CORPORATIONS
NEW NET FINANCING

	Total Financing	Change in Retained Earnings	External Sources
		USD Billions	
Q3/2004	360,262	241,408	118,854
Q3/2005	531,191	306,695	224,496
Q3/2006	459,033	257,563	201,470
Q3/2007	546,904	232,436	314,468
Q3/2008	304,493	258,816	45,677
		Year to Q3	
2004	1,059,566	662,425	397,141
2005	1,503,003	782,038	720,965
2006	1,459,227	767,445	691,782
2007	1,454,442	705,553	748,889
2008	1,148,612	767,357	381,255

Source: U.S. Federal Reserve

U.S.: NON-FINANCIAL CORPORATIONS
NEW MARKETABLE FUNDS

	Total Marketable	Share Issuance	Bond Issuance	New Comm. Paper
		USD Billions		
Q3/2004	-27,409	-47,350	13,493	6,448
Q3/2005	-87,202	-118,900	25,884	5,814
Q3/2006	-97,394	-131,025	34,723	-1,092
Q3/2007	-182,784	-216,222	56,369	-22,931
Q3/2008	-78,172	-103,400	18,551	6,677
		Year to Q3		
2004	-19,632	-87,000	44,728	22,640
2005	-197,257	-259,075	43,106	18,712
2006	-257,521	-417,050	139,020	20,509
2007	-312,113	-557,679	226,668	18,898
2008	-126,339	-295,456	146,392	22,725

Source: U.S. Federal Reserve

U.S.: NON-FINANCIAL CORPORATIONS
NEW NON-MARKETABLE DEBT

	Total Non-Marketable	Bank Loans	Other Loans	Mortgages	Trade Accounts	Misc. Liabilities
			USD Billions			
Q3/2004	146,263	5,120	3,114	13,023	27,696	97310
Q3/2005	311,698	-26,455	6,605	53,891	66,185	211472
Q3/2006	298,864	7,870	-12,671	19,729	22,283	261653
Q3/2007	497,252	42,686	80,184	22,090	30,459	321833
Q3/2008	123,849	24,378	-11,914	-9,979	-74,360	195724
			Year to Q3			
2004	416,773	-21,694	22,335	38,512	68,413	309,207
2005	918,222	-34,735	69,093	117,005	155,743	611,116
2006	949,303	8,810	62,776	66,749	92,399	718,569
2007	1,061,002	62,897	195,992	78,184	100,430	623,499
2008	507,594	66,284	-2,899	12,069	81,848	350,292

Source: U.S. Federal Reserve

ened risk in residential and non-residential real estate. It also appears that businesses tightened up on their willingness to extend credit in areas like trade receivables, preferring cash on the barrelhead. Conditions deteriorated greatly in the third quarter of 2008, as all three of the areas above (non-bank lending, mortgages, and trade accounts) posted an outright contraction during the July-September period.

Due to the credit problems, more firms turned to banks to provide credit, and despite perceptions to the contrary, bank loans increased in 2008. Over the first three quarters, net new bank loans advanced at their strongest pace in a decade and they were solid in Q3/08. The problem from an economy-wide perspective is that banks were not able to fill the gap for all of the other areas of weakness, as evident by the moderation in available new credit available overall.

Canada's credit experience

At the most basic level, the Canadian financial system is coping far better than its peers in the rest of the industrialized world, including in the United States. The major financial failures experienced abroad have been avoided. To date, the Government of Canada has also not had to nationalize or take a direct stake in any financial intermediaries, although it has had to introduce policies to provide additional liquidity to the financial system. In other words, the Bank of Canada and the Government of Canada have pumped more oil into the financial system to ensure the real economy keeps turning.

Nevertheless, the global crisis has created significant financial strains in Canada. There have been significant asset losses and writedowns by financial institutions. The cost of borrowing to financial institutions has also not declined in tandem with the decline in government benchmark interest rates. This impacted the ability of financial institutions to fully pass along the monetary easing by the Bank of Canada to households.

Credit to households is flowing, but demand for funds is likely cooling

So, credit in Canada is being affected by the global financial crisis, but the perception of a major credit freeze is not evidenced by the official statistics in the financial flow accounts. Total funds raised by persons and unincorporated business in the third quarter of 2008 was $32.4 billion dollars, which lifted the total since the start of the year to $88.7 billion. This was the second highest level in the last decade, but it was a modestly slower increase than a year earlier. So, credit is flowing at a strong pace, but the pace of growth started to moderate in 2008.

In terms of the details, mortgages represent almost two-thirds of personal borrowing, and the trends are the same as the aggregate. Total net new mortgage loans were $20 billion in the third quarter and $55.8 billion from January to September - the second highest in a decade. But, the increase was more moderate than a year earlier. This trend should not necessarily be interpreted as an inability to get access to credit, since the net new mortgage loans were advancing strongly. Moreover, the moderation relative to 2007 corresponds with a significant decline in home sales and lower home prices in many markets across the country.

The remaining one-third of personal borrowing consists of consumer credit and loans from banks and other institutions. On this front, there was a net increase of $11.9 billion in the third quarter and almost $33 billion over the first three quarters of 2008 - the strongest pace in a decade. There were some interesting changes in the source of funding. Canadians continued to add to their consumer

CANADA: NEW BORROWING BY HOUSEHOLDS

	Consumer Credit	Trade Payables	Bank Loans	Other Loans	Total Credit	Mortgages	Total New Borrowing
New Funds ($CDN millions)							
Q3/2004	7,890	-660	-19	609	7,820	14,919	22,739
Q3/2005	6,634	1,615	1,371	1,253	10,873	19,161	30,034
Q3/2006	8,839	2,960	-6,493	1,421	6,727	19,014	25,741
Q3/2007	11,192	-1,951	851	1,076	11,168	24,327	35,495
Q3/2008	9,498	176	1,264	925	11,863	20,504	32,367
New Funds For Year to Q3							
2004	19,555	-5,772	848	4,317	18,948	37,739	56,687
2005	21,410	943	855	2,953	26,161	44,747	70,908
2006	22,969	5,315	-208	3,999	32,075	51,146	83,221
2007	28,543	335	1,168	2,606	32,652	60,405	93,057
2008	27,043	2,352	2,532	991	32,918	55,841	88,759

Source: Statistics Canada

credit balances (credit cards, auto loans, lines of credit, etc); but the increases were not as strong as a year earlier. However, there were weaker new loans from non-bank institutions, while new loans from banks increased sharply. The suggestion is that more Canadians are looking to banks for funding at a time when the credit crunch is likely making the financial climate more difficult for other institutions to increase their lending. While similar to U.S. experience, this "reintermediation" occurred to a more limited extent in Canada. An outright contraction in non-bank lending to households has not occurred, yet.

The main conclusion is that some lenders may be restricting their lending practices, but the household sector was still accessing credit at a strong pace up until the end of the September.

Internal and external financing for businesses still rising

What is the state of credit flows for Canadian corporations? Again, non-financial corporations have two major sources of funding: retained earnings or external sources. With respect to the former, remarkably strong profit growth in recent years, which persisted right up until the end of the third quarter of 2008, have support robust gains in retained earnings. Over the first three quarters of this year, retained earnings rose to $43.4 billion, which is 7% higher than a year earlier.

External sources of funding (which include both market and non-market based sources) increased at a robust pace, increasing $23 billion in the third quarter and $62 billion since the start of the year. This was the second highest in a decade, although it was significantly slower than in 2007.

CANADA: NON-FINANCIAL CORPORATIONS NEW NET FINANCING

	Total Financing	Change in Retained Earnings	External Sources
CDN millions			
Q3/2004	34,485	18,664	15,821
Q3/2005	23,272	9,980	13,292
Q3/2006	34,419	20,781	13,638
Q3/2007	49,470	17,878	31,592
Q3/2008	44,769	21,621	23,148
Net Year to Q3			
2004	81,529	23,281	58,248
2005	79,841	35,755	44,086
2006	96,574	54,978	41,596
2007	125,040	40,625	84,415
2008	105,273	43,365	61,908

Source: Statistics Canada

CANADA: NON-FINANCIAL CORPORATIONS NEW MARKETABLE FUNDS

	Total Marketable	Share Issuance	Bond Issuance	New Comm. Paper
CDN millions				
Q3/2004	6,756	3,760	3,322	-326
Q3/2005	8,997	5,957	-317	3,357
Q3/2006	6,062	1,532	2,690	1,840
Q3/2007	7,936	1,179	3,448	3,309
Q3/2008	5,919	1,653	5,065	-799
Net Year to Q3				
2004	29,070	17,187	9,348	2,535
2005	24,643	13,667	6,682	4,294
2006	23,234	9,619	3,837	9,778
2007	30,065	15,001	10,212	4,852
2008	33,666	13,871	13,887	5,908

Source: Statistics Canada

In terms of market funding, non-financial corporations issued a net $1.65 billion in shares in the third quarter and $13.9 billion in the year-to-October. This was slightly lower than in 2007, but issuance over the first three quarters was better than in 2005 or 2006.

Net new bond issues were exceptional this year. More than $5 billion were placed in markets in the third quarter,

CANADA: NON-FINANCIAL CORPORATIONS NEW NON-MARKETABLE DEBT

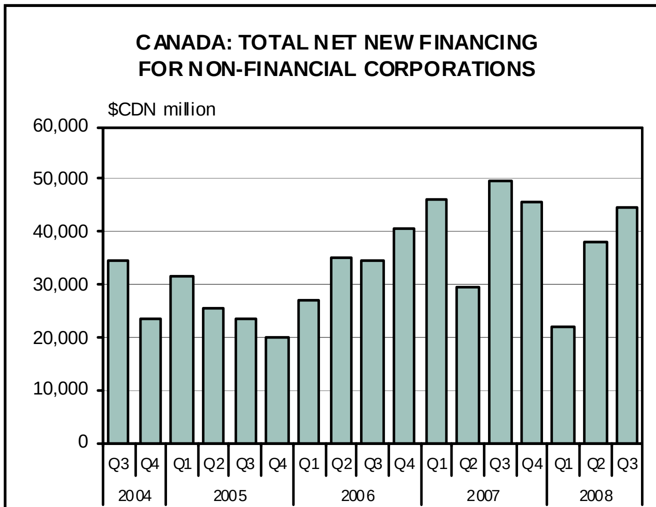
	Total Non-Marketable	Bank Loans	Other Loans	Mortgages	Corporate Claims	Trade Accounts	Other Liabilities
CDN millions							
Q3/2004	9,065	-140	-949	2,024	4,345	1,085	2,700
Q3/2005	4,295	-2,218	-200	3,943	-979	5,229	-1,480
Q3/2006	7,576	-541	-459	2,470	3,298	-443	3,251
Q3/2007	23,656	3,814	-509	3,663	6,630	5,299	4,759
Q3/2008	17,229	4,827	774	4,993	1,381	2,522	2,732
Net Year to Q3							
2004	29,178	11,226	-3,961	5,524	4,237	4,913	7,239
2005	19,443	2,844	2,389	7,488	-1,090	8,159	-347
2006	18,362	6,082	2,370	7,100	7,152	5,642	-9,984
2007	54,350	13,550	-331	11,717	13,738	12,714	2,962
2008	28,242	10,265	-1,764	13,687	6,923	11,294	-12,163

Source: Statistics Canada

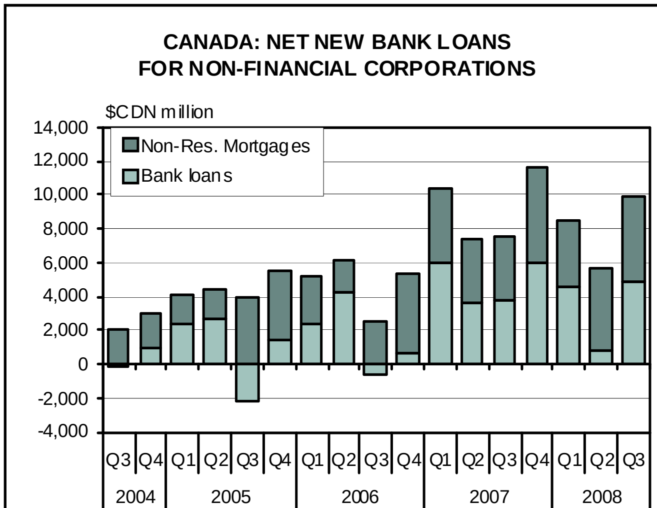
and close to $14 billion were issued over the first nine months. Funds raised through bonds exceeded that in 2007 and the net new issuance was double to triple the rates posted over the first three quarters of 2005 and 2006. Interestingly, a large portion of the debt issued was sold to foreigners.

Commercial paper outright contracted in the third quarter, but this followed strong issuance in the first half of 2008. As a result, the net new borrowing through commercial paper was up a considerable $5.9 billion in the first three quarters of 2008. This is noteworthy, as the focus on the problems in the non-bank asset backed commercial paper market in Canada likely gave the impression to many people that commercial paper issuance was a problem for non-financial corporations.

The flows imply that additional market funding was being accessed by Canadian non-financial corporations, but the increase in net borrowing from non-market sources stands out as a major development. Bank loans increased by $4.8 billion in the third quarter to $10.2 billion so far in 2008 – a slower increase than the prior year, but still at highly elevated levels compared to 2005 and 2006. At the same time, loans from non-bank sources contracted over the first three quarters of 2008. This greater reliance on bank loans could indicate that market sources are not providing adequate funds at reasonable pricing at a time that non-bank institutions are having difficulty in the current financial climate. Meanwhile, business mortgage loans surged $5 billion in July to September, for a year-to-date total of $13.7 billion, which is dramatic compared to past years. This could indicate that some firms must increasingly borrow against their real assets to get additional funding. One component of finance that has been showing some signs of weakening in the third quarter is trade accounts (i.e. accounts payable), which could reflect increased risk aversion and greater demand for cash upon receipt between firms given the deteriorating economic climate.



Source: Statistics Canada (Financial Flows Accounts)



Source: Statistics Canada (Financial Flows Accounts)

Canada is not the U.S.

The key message from the financial flow accounts is that Canada is not having the same experience as the United States. The supply of credit in Canada increased at a solid pace over the first three quarters of 2008. New borrowing by households moderated, but this was likely largely due to waning demand. Business financing continued to flow. Market financing was being tapped in Canada, and the experience with respect to debt issuance was significantly different in the two countries, with Canadian firms favouring this source of funding. Both countries did see a shift towards bank financing vis-à-vis non-bank financing. Trade credit was more difficult to access. Canadian corporations increasingly drew on their real assets as collateral for loans, whereas in the United States mortgages were harder to access during the real estate collapse.

But supply of funds may be inadequate

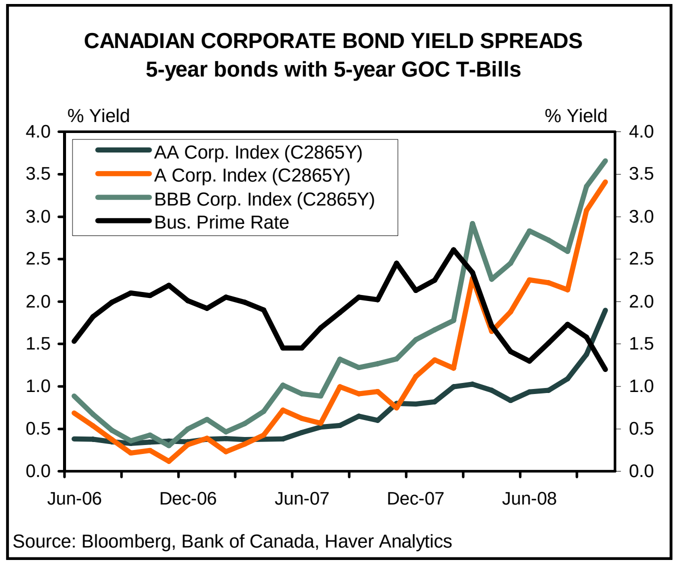
From the Canadian financial flows data, it is difficult to see that a significant credit crunch was happening during the third quarter. But, one needs to be a bit careful in the interpretation of the flows. The fact of the matter is that the financial strains and the economic fallout have likely increased the demand for funds by corporations, but demand is not observable. The Canadian financial system has responded by extending additional financing, but the flow of funds data does not show us whether the increase in the supply of funds has been adequate.

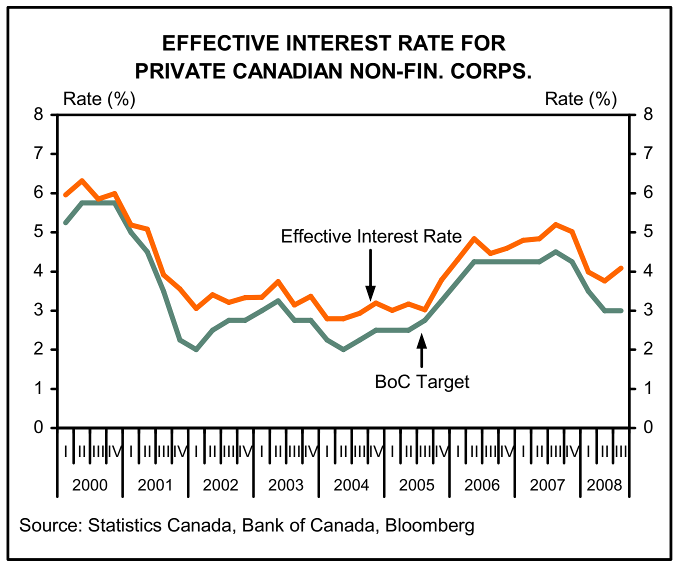
We can glean some perspective into the adequacy of finance by looking at the price of credit. If demand for funds exceeds supply, we should see higher borrowing costs. From the perspective of equities, there is no question that the cost of finance has become dearer, since the deep stock correction means more shares must be issued to raise the same amount of financing. In short-term paper, the yield on 1-3 month commercial paper has increased from a low of 2% in 2004 to just shy of 4% in the last quarter - and this occurred at a time when government benchmark short-term interest rates fell to historical lows. Investment grade corporate bond yields have also trended slightly higher, but the bigger story has been the dramatic widening in the spreads between corporate bond yields and their government counterparts. Much of the increase in debt spreads is due to a major repricing of risk, but the fact that firms are tapping fixed-income markets at the elevated spreads speaks volumes about the demand for additional financing.

It is also likely the case that non-financial institutions have been forced to shift from cheaper sources of funding to more expensive ones. To capture this, we have calculated a rough effective interest rate for non-financial corporations, where the borrowing cost on bonds, commercial paper and business loans is weighted by the changing share of net new borrowing by source. The effective interest rate has largely tracked the changes in the Bank of Canada overnight rate, but there was a significant deviation in the third quarter when the cost of borrowing to firms increased. Moreover, the pricing of loans relative to the business prime lending rate became less advantageous in recent months, as the spread relative to prime likely widened. The increase in the effective interest rate suggests that while credit was flowing, it may not have fully met corporate demand in the July-September period.

Credit crunch is having an impact, even if credit is being accessed

In conclusion, Canada is feeling the impact of the global credit crunch, but the experience is not the same as in the U.S. where access to financing is a major problem.





Canadian households are getting access to financing, but the economic fallout from the global financial problems is likely diminishing demand for funds through weaker real estate markets and more subdued consumer spending. Moreover, the cost of funds has not fallen in tandem with the easing by the central bank.

Demand for financing by Canadian non-financial corporations continues to increase, and the financial system is being challenged in satisfying the need for funding. Market-based financing has become more expensive and firms are increasingly turning to the banking system for credit. However, this is occurring at a time that financial intermediaries have not fully benefited from the easing in monetary policy and at a time that balance sheets are weaker. Moreover, market concerns about the financial well-being of lenders mean that financial institutions must pursue relatively high capital ratios to maintain confidence. This has been achieved mainly by issuing shares.

One key concern is what will happen to financing when retained earnings decline in the coming quarters. Retained earnings were bolstered in past years by high flying commodity prices that have now corrected. And, outright declines in profits are anticipated when the economy experiences a recession in 2009. Although the ratio fluctuates wildly, retained earnings have been accounting for about half of total financing in recent years. Demand for total funding will likely decline, as businesses tighten their belts and business investment retreats in the coming quarters. But even allowing for this trend, there could be greater need for external financing.

It should also be stressed that the financial flow accounts only provide details to the third quarter of 2008. The challenge is that global credit conditions deteriorated significantly after the failure of Lehman Brothers in mid-September. Accordingly, the impact of the credit crunch in the U.S. and Canada will likely become more apparent when the financial flow data are released for the fourth quarter. We would encourage those following financial developments to pay close attention to this release in March. In the meantime, the Bank of Canada has monthly data on banking financial statistics that could provide some guidance on recent events. This is subject of an accompanying note by TD Economics released today entitled, “Financing by Canadian Banks” available at www.td.com/economics.

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