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The Rise in Consumer Credit and Bankruptcy: Cause for Concern?

Consumer credit, apart from mortgages, has risen to 43 percent of disposable personal income in Canada, or double its level 20 years ago. How big are the risks and what should be the policy response?

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The Study In Brief

Canadian households are saddled with unprecedented amounts of debt. As a percentage of income, debt levels of Canadians are higher than at any point in recent history and are now higher than those of American households. Such debt levels raise legitimate concerns about the sustainability of household finances, the risks to the broader economy and the merits of government intervention.

Recent debates have largely focussed on the housing market and on the risks associated with household mortgage debt. This *Commentary* looks more specifically at consumer credit – i.e., automobile loans, credit card debt, and lines of credit, most notably – and personal bankruptcies. Consumer credit accounts for roughly 45 percent of total household interest payments and often offers variable interest rates, leaving borrowers more vulnerable to higher interest rates. Further, the rapid extension and use of relatively new consumer credit products, especially home equity lines of credit, raises real concerns about whether lenders and borrowers have been overly optimistic in regards to the risks associated with high consumer debt levels.

A closer look at the data suggests that current levels of consumer debt offer cause for concern, but not panic. While the recent US experience has highlighted the risks of overextended consumers, more prudent lending standards in Canada suggest that, under the most likely scenario, consumer debt levels should remain manageable. Nonetheless, these high levels of debt leave Canadian consumers vulnerable to a possible, but at the moment unlikely, large economic shock – notably a sharp rise in interest rates or an economic downturn.

Lenders and regulators need to evaluate carefully whether current capital levels of financial institutions are sufficient to guard against these risks. Better and more detailed data are needed to paint a more complete picture of these risks, particularly on how debt is distributed across households. Adopting a more frequent and expended Survey of Financial Security would be a good way to address this data gap. Further, policymakers should continue to ensure that regulations related to household credit are appropriate and consistent over the entire business cycle. But they should refrain from constantly varying regulations in a countercyclical manner, as such an approach poses the real risk of increased politicization of credit rules.

Finally, with increased borrowing options, there is a need for improved financial literacy – indeed, even financially literate households can find the comparison of different products challenging. This suggests that efforts should continue to be made to improve financial literacy and to simplify the disclosure of key terms of credit contracts in order to help consumers make informed borrowing choices.

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The rise in Canadian household debt has caused concerns about both possible risks to financial stability and the sustainability of household finances. This, in turn, has sparked a debate over whether there is a need for reforms aimed at limiting the terms (and amount) of consumer borrowing.

Unlike much of the recent debate on consumer debt, which focuses mostly on risks related to the housing market, this *Commentary* looks at consumer credit and personal bankruptcies. Consumer credit, which includes automobile loans, credit card debt, and lines of credit – especially home equity lines of credit – has risen by more than a factor of five since the late 1970s and, at 43 percent of disposable personal income, is more than double its level of 20 years ago. This increase appears to be a factor in the rising number of Canadian households with stressed finances, as evidenced by the jump in personal bankruptcy filings to near US levels during the recent recession.

Given the recent US housing crash, a focus on consumer credit instead of on mortgage credit and house prices might seem misplaced. Beyond its impact on the rise in bankruptcies, however, there are several reasons why consumer credit warrants a closer examination. First, while the amount of consumer credit is only roughly half as large as mortgage debt, it accounts for roughly 45 percent of total household interest payments due to higher average interest rates. Second, a large fraction of consumer credit faces variable interest rates, so that borrowers are likely to see the effects of higher interest rates quickly. Finally, the rapid extension and use of relatively new consumer credit products, especially home equity lines of credit, raises real concerns about whether lenders and borrowers have been overly optimistic about the risks associated with high consumer debt levels.

The rise in household debt and bankruptcies has led some to suggest that policy reforms are needed to provide increased financial stability and to protect households from poor credit choices. To assess the case for substantial reform, this *Commentary* tackles four questions related to the recent trends in consumer borrowing. First, how have consumer credit and personal bankruptcies changed since the 1970s in Canada and the United States? Second, what are the main factors driving the dramatic rise in bankruptcies and unsecured borrowing? Third, what are the implications of high consumer debt for the vulnerability of Canadians to higher interest rates or to a sudden increase in unemployment if the recent global uncertainty pushes the economy into a recession? Finally, does the rise in borrowing and bankruptcies signal a need for widespread change in credit market regulation?

Identifying the causes behind the rise in consumer borrowing and bankruptcy is essential for evaluating whether a policy response is needed. The academic literature suggests that financial market innovations, combined with two decades of stable monetary policy, have been a key factor reshaping the consumer credit market. Driven by improvements in risk assessment (such as the spread of credit scoring), lenders now offer credit to borrowers previously deemed too risky, while

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offering higher borrowing limits and better terms to lower-risk borrowers. Combined with two decades of stable monetary policy, this has helped fuel the rise in consumer debt.

The rise in debt has raised concerns about the vulnerability of the Canadian economy to economic shocks. A closer look at other measures of financial stress, such as the distribution of debt service across households and loan delinquency rates, suggests that current debt levels are likely sustainable, but there is real cause for concern that a major economic shock – such as a worsening of the European debt crisis – could trigger a large pullback in borrowing and consumption, resulting in a potentially deep recession.

This implies that lenders and regulators – for example, the Office of the Superintendent of Financial Institutions (OSFI) – need to evaluate carefully whether current capital levels are sufficient to guard against such risk. In addition, more detailed data on the distribution of debt across households need to be collected on a regular basis so that regulators, investors, and borrowers can better assess the state of household finances. However, policymakers need to avoid the temptation to try to micromanage consumer credit by varying regulations – such as rules on lending standards and capital adequacy regulations – over the business cycle. Such an attempt not only would face significant challenges in implementation; it would also raise the real risk of increased politicization of credit rules. A better approach, which policymakers have largely followed, would be to establish stable rules for government backstops for mortgage insurance and consumer credit regulation and to enforce these guidelines consistently.

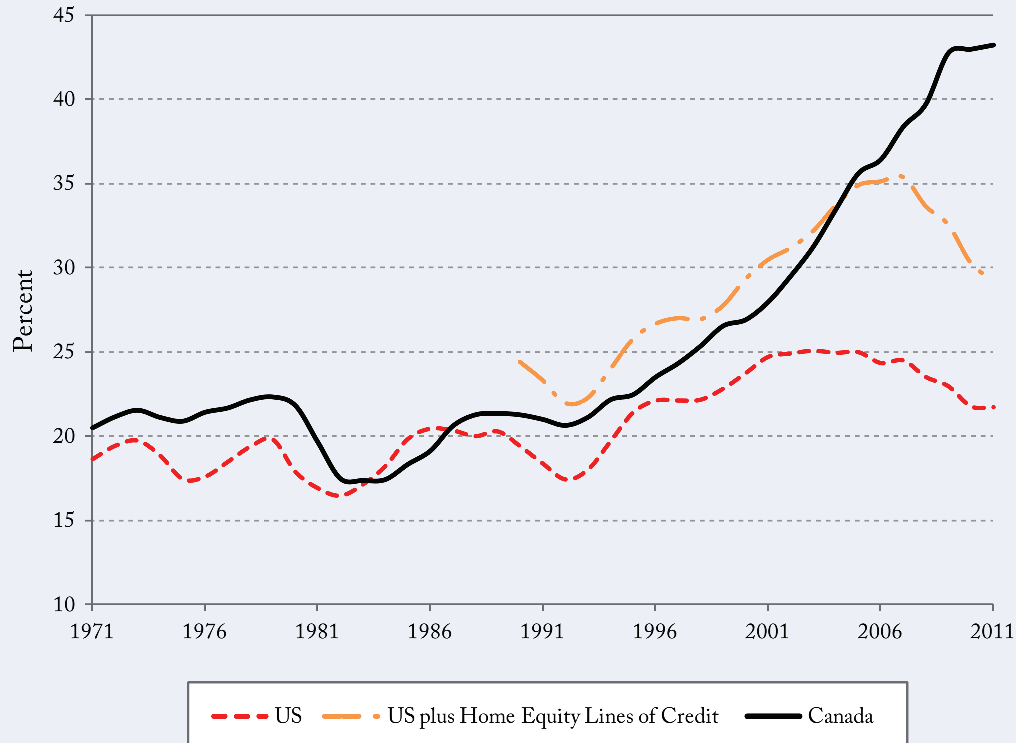
Despite the historically high level of bankruptcies and debt, there does not seem to be a strong case for restrictive regulation of consumer credit products, such as tight caps on interest rates or limits on borrowers' debt-service-to-income ratio. Such interventions likely would reduce the availability of credit significantly, especially for lower- and middle-income borrowers, making it much more difficult for some households to access credit to smooth out transitory income or household expense shocks and could push some consumers into unregulated borrowing from loan sharks. Similarly, it seems that efforts to make bankruptcy less attractive to middle- and upper-income households with stable incomes have gone far enough: while such efforts likely have helped lower the cost of borrowing for middle-income households, they have also resulted in higher costs for households wishing to escape from poor credit choices or plain bad luck. This is not to say that all consumers always make informed credit choices – with increased borrowing options, even financially literate households can find the comparison of different products challenging. This suggests that continued efforts to simplify disclosure of key terms of credit contracts would help consumers make informed borrowing choices. Similarly, the rise in borrowing options has made financial literacy even more important. While efforts are under way both to increase financial literacy and to improve disclosure of loan terms, there is scope for continued targeted improvements.

Consumer Credit in Canada and the United States

An analysis of consumer lending in Canada and the United States reveals broadly similar trends. Notably, the frequently cited estimates of consumer credit as a percentage of disposable income have risen significantly in both countries over the past 40 years (see Figure 1),[1] although, to adjust for

1 Debt relative to disposable income is a more useful measure than total debt since it normalizes by income controls for the effects of inflation and real income growth.

Figure 1: Consumer Credit as a Percentage of Disposable Income, Canada and the United States, 1970–2011



Sources: Statistics Canada, US Federal Reserve and Bureau of Economic Analysis.

different reporting conventions, home equity lines of credit (HELOCs) need to be added to the US consumer credit estimates to compare with Canadian estimates.[2] Since the beginning of the US housing bust, however, consumer credit has declined by roughly 5 percentage points in the United States while increasing by roughly 8 percentage points in Canada. The fall in US borrowing reflects both the writing off of consumer debt via default and a slowdown in new borrowing.

The rise in Canadian household debt does not imply, however, that households are necessarily more susceptible to financial shocks, since nominal interest rates have fallen over the past 20 years. An alternative measure that captures changes in interest rates is the household debt-service ratio,

2 Comparing consumer debt trends in the United States and Canada is complicated by different accounting definitions in the two countries' national balance sheet (flow of funds) accounts. While Canada groups households and unincorporated businesses together, the United States numbers are for households plus non-profit organizations. Furthermore, while HELOCs are grouped with other lines of credit as part of consumer credit in Canada, in the United States flows of funds are included in total mortgage debt. US tax reform in 1986 eliminated the tax deductibility of interest payments on non-mortgage consumer debt, which increased the attractiveness of mortgage debt for consumers. Canadian tax law does not allow the deduction of interest payments on mortgage or consumer debt.

which measures required payments on debt relative to personal disposable income. While the debt-service ratio for household debt in the first quarter of 2011, at 3.5 percent of disposable income, was slightly below its average for the past 20 years, the consumer credit debt-service ratio was roughly half a percentage point above the average. This suggests that Canadian household debt remains manageable, at least compared with historical burdens.[3]

Has the Distribution of Debt across Households Changed?

While the rise in aggregate consumer credit tells us that, on average, households are borrowing more, it does not tell us who is borrowing more. Understanding who is borrowing is important to evaluate different explanations for the rise in borrowing and to assess the vulnerability of the economy to shocks. Unfortunately, there is little information on changes in the distribution of consumer credit across households. Statistics Canada data on household debt and assets – the Survey of Financial Security – are available only for a few years: 2005, 1997, 1984, and 1977. As a result, Ipsos Reid's Canadian Financial Monitor (CFM) has become a heavily used source of household-level data by the Bank of Canada and the Canadian financial sector. This survey has been conducted only since 1999, however, so it provides little information on longer-term trends.[4]

Though limited, the data indicate that the rise in household debt prior to the recent recession did not affect the distribution of the debt-service ratio across Canadian households over the period from 1999 to 2007 – indeed, Faruqui (2008) finds that both the mean and the distribution of the debt-service ratio of Canadian households varied little over the period.[5] In fact, the fraction of indebted households with a debt-service ratio high enough (above 40 percent of before-tax income) to be viewed by lenders as at risk of default was actually slightly lower in 2007 than in 1999.[6] On average over the period, roughly 4.5 percent of households were in this category; by 2010, however, the fraction of such households seems to have increased significantly, to 6.4 percent.

Personal Bankruptcies and Consumer Credit

A key indicator of the number of households experiencing severe financial stress is bankruptcy filings. Bankruptcy allows highly indebted households to reduce (or eliminate) their personal debt, in exchange for their assets (see Box 1).

3 A direct comparison of the debt-service ratio in Canada and the United States is complicated by different definitions. Whereas the ratio reported by Statistics Canada includes only interest payments, the US measure includes required principal payments. As a result, the US debt-service ratio tends to be higher – in the first quarter of 2011, it was roughly 11.5 percent compared with 7.8 in Canada. However, the US ratio has fallen from roughly 14 percent in early 2007, whereas the Canadian measure is slightly higher than its 2007 level.

4 Dey, Djoudad, and Terajima (2008) find that the 2005 Survey of Financial Security and the CFM generally line up well in terms of debt and asset measures, with the exception of the top decile of earners. The discrepancy here appears to stem partially from reporting differences, as the CFM is based on ranges, which are quite large for the top wealth holders. Faruqui (2008) finds that the CFM numbers for the debt-service ratio distribution across households is similar to those of the US Survey of Consumer Finance in 2001, although, by 2004, the United States had a higher fraction of households with a high debt-service ratio.

5 The debt-service ratio as determined by the Bank of Canada includes all required debt payments (including principal), and thus tends to be higher than the ratio as calculated by Statistics Canada.

6 Households with a high debt-service burden are more likely to default since they have little leeway to respond to income interruptions or unexpected expenses.

Box 1: Consumer Bankruptcy Laws in Canada and the United States

While Canadian personal bankruptcy laws are commonly viewed as less debtor friendly than their US counterparts, their basic structure closely resembles US laws. The bankruptcy systems in both countries feature two distinct alternatives: bankrupts are offered either a discharge of (most) debt in exchange for (non-exempt) assets or a partial repayment plan over three to five years in exchange for some debt reduction.

The first option, a "straight bankruptcy" in Canada or Chapter 7 in the United States, is based on the "fresh start" principle. In both countries, debts due to alimony or spousal or child support and debts arising from fraud, court fines, and recent student loans are non-dischargeable. In general, Canadian asset exemptions are smaller than those of most US states. However, bankruptcy is more restrictive in Canada in that the process generally takes longer (see Table 1), bankrupts are required to contribute any surplus income toward their estate, and the amount bankrupts must pay ranges from 50 percent to 75 percent of their monthly disposable income above an exemption level that depends on family/household size. Both countries also require potential bankrupts to complete counselling sessions on basic financial management skills and bankruptcy alternatives. In practice, however, most bankrupts have neither valuable assets nor surplus income to contribute toward repaying their creditors. In 1999, more than 90 percent of consumer bankrupts declared total assets of less than $10,000 and more than 85 percent had income below the cutoff for making contributions from surplus income (Personal Insolvency Task Force 2002). As a result, in most cases, unsecured creditors do not receive any money from the bankrupt's estate.

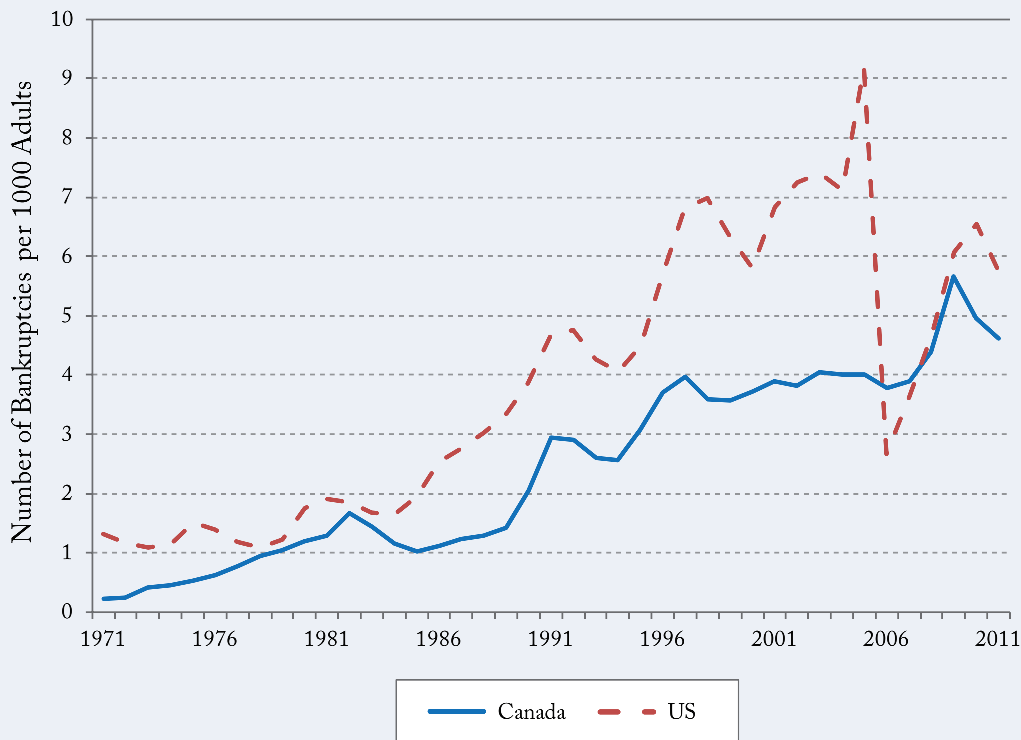
The second option is a consumer proposal in Canada or Chapter 13 in the United States. These are essentially partial repayment plans over several years that terminate with the discharge of unsecured debt. A consumer proposal is an offer a debtor makes to creditors that seeks to reschedule and/or reduce debt; in return, the debtor is protected from additional action from creditors. A proposal must be accepted by the majority of creditors, and it is administered by the trustee. Consumer proposals were first introduced in 1993, and in 2002 accounted for nearly 15 percent of all filings. In the United States, until recently, a key appeal of Chapter 13 was that it also permitted "lien stripdowns," which allowed the partial forgiveness of some secured debt (such as auto loans).

Since most people who file for bankruptcy do so because they are unable to meet all of their financial obligations, filings are a useful proxy for the number of households experiencing financial stress.

Figure 2 plots total consumer bankruptcy filings in Canada and the United States per 1,000 adults. There are two key points to note. First, in both countries, filings were roughly seven times as high in the early 2000s as they were in the late 1970s. Second, there is a cyclical pattern, with consumer bankruptcies increasing during recessions and then falling back during recoveries. Thus, the recent recession (as well as the 1980–82 and 1991 recessions) can be easily identified by the rapid rise in filings in both countries. These cyclical fluctuations, however, are smaller than the secular rise in filing rates.

One might suspect that the rise in bankruptcy filings is due to a relaxation of bankruptcy law. If anything, however, legislative reforms since the 1980s have resulted in a gradual tightening of bankruptcy laws (see Table 1). The objective of these reforms – which began in Canada with the introduction in 1992 of "consumer proposals" as an alternative to "straight" bankruptcy – was to encourage borrowers with sufficiently high income

Figure 2: Consumer Bankruptcies per 1,000 Adults, Canada and the United States, 1971–2011



Note: Canadian filings are the sum of bankruptcies plus consumer proposals; US filings are the sum of filings under Chapters 7, 11, and 13. Adults are individuals 18 years of age and over. In Canada, joint filings (with one filing fee) have been allowed since 1992; previously, only Quebec allowed joint filings. Since the Office of the Superintendent of Bankruptcies counts each person who files as a bankrupt, this implies a slight overcounting of bankrupts after 1992. This effect should be small, however; in 1996 , for example, joint filings were only 6 percent of all filings and about 7 percent of filings over the 2005-2010 period.
Sources: Office of the Superintendent of Bankruptcy Canada, Statistics Canada, American Bankruptcy Institute and US Census Bureau.

to repay part of their debt as a condition for the discharge of their remaining debt (Telfer 2003). To encourage filers to choose a consumer proposal, reforms in 1997 and 2009 increased the length of time that bankrupts must pay "surplus income" into their estate, and granted bankruptcy trustees the authority to determine if a bankrupt could file a consumer proposal instead of seeking a discharge (Telfer 2003). Reforms in the United States have followed a similar path; for example, filings under Chapter 13 (which involves a repayment plan) have been made more attractive than those under Chapter 7, culminating in the *Bankruptcy Abuse Prevention and Consumer Protection Act of 2005* (BAPCPA), which requires that bankrupts with income above their state median must file under Chapter 13.

While bankruptcy reforms are not behind the rise in filings, bankruptcy law reforms have significantly affected filings. As Figure 2 shows, filings in the United States spiked just before the BAPCPA came into effect, followed by a dramatic decline. While the interpretation is complicated by the decision of many Americans to file preemptively before the BACPA came into effect, the fact that filings have not risen above their level of the early 2000s despite the severe recession suggests that the reform has discouraged some households from filing. The Canadian experience in the 1990s paints a similar picture, as the legislative reforms were

Table 1: Changes to Consumer Bankruptcy Laws, Canada and the United States

Canadian Legislative Changes		US Legislative Changes	
1992	• consumer proposals and mandatory counselling • automatic discharges for first-time bankrupts if unopposed • joint filings permitted (one fee)	1978	• federal exemptions (bankrupts may chose federal or state) • Chapter 13 made more attractive by allowing discharge of some debts not dischargeable under Chapter 7 • joint petitions for married couples • administrative changes
1997	• surplus income paid for 9 months • increased push for consumer proposals (through means testing) • student loan non-discharge extended to 10 years from 2 years	1984	• "good faith" requirements: Chapter 7 filings dismissed for "substantial abuse" • creditor position strengthened under Chapter 13
2009	• maximum debt in consumer proposals increased from $75,000 to $250,000 (excluding debts secured by principal residence) • first-time bankrupts with surplus income must contribute for 21 months • second-time bankrupts without surplus income eligible for automatic discharge after 24 months; those with surplus income must contribute for 36 months	2005	• means testing; bankrupts with income above state median pushed to Chapter 13 • repeat Chapter 6 filers must wait 8 years (up from 6) • mandatory credit counselling • tightened access to state asset exemptions

Note: A significant administrative change in Canada in the 1970s reduced the cost of processing cases as part of an agreement by private trustees to provide services to all applicants (Brighton and Connadis 1982), a reform that significantly increased access by lower-income consumers to the bankruptcy system.
Sources: Canadian changes from 1992 and 1997 are from Personal Insolvency Task Force (2002); for the 2009 changes, see the OSFI website at http://www.ic.gc.ca/eic/site/bsf-osb.nsf/eng/br02282.html. Fulkerson (2002) and Ziegal (2003) outline reforms of the US and Canadian bankruptcy systems.

followed by nearly a decade of relatively constant filing rates, while filings rose in the United States (Ziegel 1997).[7]

Bankruptcy reforms have also affected lending and borrowing decisions, particularly for middle- and upper-income borrowers with stable employment. By increasing the recovery rate for middle- and upper-income households, the tightening of bankruptcy makes default less attractive. To the extent that lenders internalize this in their pricing, these legal reforms support products, such as lines of credit, that are offered to lower-risk borrowers. In turn, this increased access to lower-cost credit makes borrowing more attractive for these households.

7 In addition, in Canada, consumer proposals increased from roughly 3 percent of all consumer filings in 1996 to nearly 15 percent in 2002 and to 31 percent in 2010.

Have the Characteristics of Bankrupts Changed over Time?

While the aggregate numbers highlight important trends, they leave open the question of whether key characteristics of bankrupts have changed over time. The answer is important since it might offer clues as to the forces driving long-term trends in consumer credit markets and help us assess the vulnerability of borrowers today.

While systematic data on the characteristics of bankrupts – for example, their demographics, income, and debt levels – are limited, the overall picture that emerges from several studies is that, despite the large rise in filings, bankrupts today are remarkably similar to those of 20 years ago. A typical bankrupt is lower-middle class (30 to 50 percent poorer than the average household), in his or her thirties, and with a high debt-to-income ratio (see, for example, Sullivan, Warren, and Westbrook 2000).[8] Indeed, if anything, the income (in real terms) of the average bankrupt has declined slightly over time while the average amount borrowed (in real terms) shows little increase.

While the total debt of bankrupts has not changed much, their credit card debt has increased. Brighton and Connadis (1982) report that, in 1977, roughly 30 percent of Canadian bankrupts had bank credit card debt (and 15 percent had gas and other credit card balances); by 1997, the fraction of bankrupts with credit card debt had increased to 68.5 percent (Schwartz and Anderson 1998). Government debt, especially student loans, has also become more common, with the fraction of bankrupts with student loans rising from roughly 1 percent in 1977 to 25 percent in 1997[9] – a factor that contributed to legislation prohibiting the discharge of student loans for at least 10 years after the end of full-time studies (Schwartz 1999).

The data on bankrupts offer several lessons. First, they indicate why tighter bankruptcy law has not resulted in a larger decline in bankruptcies; simply put, most bankrupts have incomes that are sufficiently low that they are not affected by the means tests introduced by bankruptcy reforms. Second, the fact that bankrupts today are in at least as much financial stress as those of 30 years ago suggests that the rise in filings is due to an increase in households with high debt-to-income ratios, rather than to households' becoming more willing to file.

Factors behind the Rise in Bankruptcies and Consumer Borrowing

A common explanation of the surge in bankruptcies between the late 1970s and early 2000s is that the composition of household debt has changed. For example, White (2007) notes that, in the United States, while consumer credit relative to disposable income has remained roughly constant, credit card debt rose from nearly zero in the early 1970s to nearly 9 percent of disposable income in the early 2000s. She argues that the rise in relatively high-cost credit is the key factor behind the increase in filings, and points to the high correlation between the rise in credit card debt and bankruptcies. Yet this finding does not tell us what fundamental economic factors are driving increased consumer borrowing. Addressing this issue is essential both to understand why the household credit market has changed so dramatically and to evaluate the risks posed by high household debt levels.

8 See Livshits, MacGee, and Tertilt (2010) for a summary of the US evidence. In many ways, the Canadian data are more reliable than those in the available US studies, which differ in geographic focus and sample methodology. Thanks to the Office of the Superintendent of Bankruptcies, there are two large, comparable studies of Canadian bankrupts nearly two decades apart: Brighton and Connadis (1982); and Schwartz and Anderson (1998).

9 Ramsay (1999), however, who looked at a sample of Ontario bankrupts, found that only 9 percent had student loan debt.

Broadly speaking, explanations of the rise in debt and bankruptcies fit into two categories: either household risk has increased or financial innovations have reshaped consumer credit markets. The increase in household risk is commonly attributed to increased income risk (a higher risk of unemployment) and to higher "expense" risk due to increased exposure to uninsured medical costs.[10] A common explanation for the second category is that innovations such as improved credit scoring,[11] by improving lenders' ability to assess and price default risk, have led to increased access to credit by households.

Disentangling these explanations is challenging since several of them involve changes that happened at roughly the same time. To sort out these alternatives, the academic literature has turned to cross-country comparisons and economic theory. The Canadian-US comparison is particularly instructive. As Ellis (1998) points out, interest rates on credit cards (and consumer credit generally) were not deregulated in Canada, which suggests that, in the United States, the removal of interest-rate ceilings following the US Supreme Court's 1978 *Marquette* decision was not a key driving factor. Moreover, the difference in the two countries' health insurance systems suggests that changes in "expense shocks" due to a fall in medical insurance coverage in the United States played only a small role.

To sort through the remaining explanations, the literature has used quantitative economic models to evaluate how the predictions of the remaining stories line up with changes in consumer credit and bankruptcies since the 1980s. This work concludes that financial innovations, rather than an increase in household risk, are the main driving force (see, for example, Athreya 2004; and Livshits, MacGee, and Tertilt 2010), a conclusion that coincides with the view that the widespread adoption of improved risk-assessment techniques (such as credit scoring) played a key role in the rise in credit card borrowing (Mann 2006). The academic literature generally has found that improved risk assessment in consumer credit markets affects borrowing by offering low-risk borrowers lower interest rates and by extending credit (at high rates) to some households previously regarded as too risky (see, for example, Athreya, Tam, and Young 2008; Sanchez 2010; and Livshits, MacGee, and Tertilt 2011). Economic models suggest that this should result in more borrowing and defaults as relatively higher-risk borrowers gain access to credit and lower-risk borrowers respond by increasing their debt load. These effects also imply more dispersion of interest rates across borrowers, with rates for low-risk borrowers declining while higher-risk borrowers gain access to high-rate loans.

These predictions line up surprisingly well with changes in the distribution of debt and interest rates across households. Livshits, MacGee, and Tertilt (2011), using the US Survey of Consumer Finance to document changes in the credit card market, find more dispersion of interest rates across borrowers and more accurate pricing of risk, as the relationship between observable risk factors (such as recent delinquencies) and interest rates has tightened since the early 1980s. The Survey of Consumer Finance also reveals a shift in borrowing across income groups. While credit card debt increased for all income groups, lower-middle-income households' credit card borrowing increased the most. Meanwhile, middle- and upper-income households increased their use of lines of credit (including HELOCs). Since lines of credit generally feature lower interest rates than do

10 A related and commonly cited explanation is that the stigma attached to filing has declined.

11 Credit scoring refers to the automated evaluation of a borrower's default risk based on historical data of defaults by borrowers with similar characteristics. While the idea behind credit scoring dates from at least the 1930s, it became widely used only after the 1970s as improved information technology lowered the cost of data-intensive research.

credit cards, this has increased the gap between the average rates lower- and higher-income borrowers pay.

Overall, the academic literature supports the common view that improved information technology has helped reshape consumer credit markets by improving lenders' ability to assess borrowers' default risk. As the next section shows, however, this also raises questions about the vulnerability of the economy to shocks, as lenders' risk assessment now relies more heavily upon the predictive power of past data.

Vulnerability of Households to Economic Shocks and Higher Interest Rates

The rapid rise in consumer debt in Canada combined with the recent housing bust in the United States has kept concerns about the vulnerability of borrowers to economic shocks at the top of the agenda. While most studies have focused on mortgage debt and house prices, consumer credit may be more vulnerable to adverse economic shocks, for two reasons. First, consumer borrowing has changed substantially over the past 20 years with the rapid rise of borrowing via HELOCs and personal lines of credit. Second, unlike the mortgage market, where, despite the increased use of variable-interest-rate products, the most common mortgage product remains the five-year fixed rate, HELOCs and personal lines of credit are typically variable-rate products. As a result, (the eventual) increases in the Bank of Canada rate are likely to translate quickly into higher interest rates on consumer credit – with a more gradual diffusion into average mortgage rates as households renew mortgages.

As argued above, a key challenge facing any risk assessment is evaluating the implications of financial innovations. Financial innovations such as HELOCs and higher credit limits might improve financial stability, as people hit by transitory shocks (such as temporary unemployment) can borrow more easily to "smooth" consumption expenditures until they find a new job (see, for example, Dynan, Elmendorf, and Sichel 2006). However, higher consumer debt also might increase risk. The widespread adoption of new financial products can lead to the mispricing of risk if changes in borrowing result in historical data's losing their predictive power. The rise in household debt levels also might leave households more vulnerable to adverse economic shocks. This "macro" risk could have large aggregate effects if lenders respond to an adverse economic shock by tightening lending standards or if consumers raise precautionary savings, resulting in a fall in consumption as highly leveraged consumers seek to reduce their debt.

The reliability of historical data is a key concern in any market that uses such data to help forecast the future. However, it plays a critical role in debt markets, as the quantitative methods (such as credit scoring) used to evaluate a prospective borrower's default (credit) risk rely on the assumption that historical data provide a good guide to how observable characteristics (such as debt-income ratios) affect the likelihood of default and the recovery rate – that is, the fraction of the loan repaid if a default occurs. This can lead lenders to underestimate risk if the adoption of new lending instruments (such as HELOCs) changes the composition of borrowers or increases the number of households that are vulnerable to economic shocks.

The recent US housing bust provides an illustrative example of this mechanism. Underpinning many lenders' pricing of sub-prime mortgage loans (and analysts' risk assessment) was the view that a decline in nominal house prices was unlikely, since no fall in average nationwide prices had occurred since the end of World War Two (Gerardi et al. 2008). As a result, many felt there was little risk in lowering lending standards, as households unable to make their mortgage payments could either sell or refinance.

This analysis ignored the aggregate implications of lending to a large number of borrowers who, since they could not afford to maintain their mortgage payments, planned on refinancing to extract equity in order to avoid default.

Unfortunately, once house prices stopped appreciating, many of these borrowers were unable to refinance and defaulted. This led to a vicious cycle, as the liquidation of foreclosed homes pushed down house prices, which, in turn, left other high-risk borrowers without the home equity needed for them to avoid default.[12]

The US experience suggests that lending standards play an essential role in assessing the vulnerability of Canadian households to adverse shocks. While direct evidence on underwriting quality is limited, lending standards appear to have declined less in Canada than in the United States. This is reflected in mortgage delinquencies, which increased relative to historical averages in the United States before the housing bust. In contrast, despite the rise in unemployment during the 2008 recession, Canadian mortgage delinquencies remained below their level of the early 1990s (MacGee 2010).

While there is little evidence of deterioration in lending standards in the credit card market, the evolution of lending standards for lines of credit, especially HELOCs, is less clear.[13] This should be of concern to lenders and policymakers, since the US experience highlights the potential vulnerability of HELOCs to a decline in Canadian house prices. In addition, a HELOC combined with a standard mortgage effectively results in an option adjustable-rate mortgage, since the HELOC introduces a variable interest rate and the option to draw down home equity. Given the rapid rise in HELOC borrowing, this raises the possibility that some lenders might be underestimating default risk.

While these are real concerns, it is worth emphasizing that the Canadian HELOC market differs significantly from the US market. Unlike in the United States, HELOCs offered by Canadian banks are limited to a maximum loan-to-value ratio of 80 percent and have minimum payment options that are higher – and hence safer from a financial stability perspective – than in the United States. In addition, a relatively little noticed change in the federal government's mortgage insurance rules announced in January 2011 seems likely to result in tighter lending standards.[14] Prior to this reform, banks could purchase government-backed mortgage insurance on pools of home equity lines. The removal of this option presumably has encouraged lenders to review their credit-risk standards for HELOCs. In fact, when this change took effect in April 2011, the number of new HELOCs dropped, suggesting that, without access to insurance, banks have taken a more careful look at borrowers' quality.

Overall, then, consumer lending standards seem to have held up better in Canada than in the United

12 The fall in house prices affected other loans as well. While credit card delinquencies and charge-offs increased during the downturn, some households chose to pay credit card loans while defaulting on their mortgage (a pattern that, historically, was uncommon). Lower house prices also effectively converted many home equity loans into unsecured loans – implying both higher default risk and lower recovery rates (conditional on default) than lenders had factored in.

13 Despite the rise in bankruptcies, delinquency rates on bank credit cards in Canada and the United States did not trend upwards until after the recent spike in unemployment. This might reflect the longer experience of credit card lenders with risk-based pricing over several business cycles. A less optimistic view is that the rise in house prices has allowed borrowers in financial difficulty to use equity in their home to pay off their credit card debt.

14 In January 2011, the minister of finance, in an effort to support the long-term stability of Canada's housing market, announced adjustments to the rules for government-backed insured mortgages. The measures have reduced the maximum amortization period to 30 years from 35 years for new government-backed insured mortgages with loan-to-value ratios of more than 80 percent; lowered the maximum amount Canadians can borrow in refinancing their mortgages to 85 percent from 90 percent of the value of their home; and withdrawn government insurance backing on lines of credit such as non-amortizing HELOCs secured by homes.

States. However, the high levels of consumer debt raise concerns that Canadian households might be vulnerable to an unexpected economic shock, such as a rise in the unemployment rate.

Stress Testing Canadian Households

To assess the vulnerability of the household sector to an adverse economic shock or higher interest rates, the Bank of Canada has developed a "stress-test" methodology that looks at how alternative economic scenarios would affect the distribution of debt. In evaluating each scenario, the Bank examines how changes in interest rates and unemployment affect consumer credit and the distribution of debt-service ratios (for more details, see Dey, Djoudad, and Terajima 2008).

The overall picture from recent stress tests is that Canadian households remain reasonably well positioned to handle an adverse economic shock. The baseline scenario, which assumes a three-percentage-point rise in the unemployment rate and a rise in short-term interest rates consistent with market expectations, generates an increase in the fraction of households with a high debt-service ratio (above 40 percent) from 6.4 percent (its 2010 level) to roughly 7.5 percent by mid-2013 (see Bank of Canada 2010, 2011). While this is significant, it is worth noting that, in 2000, 8.4 percent of households had a debt-service ratio above 40 percnt. In other words, the baseline stress suggests that, even after an adverse shock, the fraction of high-risk households is likely to remain below that of the 2001 slowdown.

Reasons to Worry?

One concern about such stress tests is their reliance on historical data to estimate how debt responds in different scenarios. Given the high level of household debt, lenders might choose to tighten lending standards significantly if another economic slowdown were to occur.[15] Alternatively, households might respond to higher economic uncertainty by seeking to pay down debt, creating the risk of a large fall in aggregate consumption after an adverse economic shock. These concerns are especially poignant given evidence that past episodes of large increases in consumer debt levels have often been followed by "deleveraging" episodes, where the household sector has increased savings to reduce debt levels (see McKinsey 2010). Further, bankruptcies and defaults might be more sensitive to adverse economic shocks than the Bank of Canada's stress test assumes. The increase in debt, especially for lower-middle-income borrowers, means that consumers might be less likely to avoid bankruptcy after a job loss.[16] This should raise concerns that the Bank's stress test likely underestimates the vulnerability of the Canadian economy to adverse economic shocks.

These arguments do not imply, however, that Canada is about to experience a US-style crash. Unlike in the United States, lending standards in Canada (especially in the mortgage market and for HELOCs) appear to have remained more restrained. Moreover, the recent tightening of mortgage insurance rules seems to have reduced access to credit for higher-risk borrowers. As a result, Canadian households seem well positioned to manage a period of slow growth in house prices

15 A related issue is that changes in financial markets might result in differences in how lenders adjust rates to different borrowers. For example, Allen (2011) finds that how Canadian banks pass through interest-rate increases to different borrowers has changed as banks have become more sophisticated in how they price different borrowers.

16 This phenomenon helps to explain the larger jump in bankruptcies during the 2008 recession than in the 2001 recession, even after controlling for differences in job losses.

(or moderate price declines) as well as a gradual rise in interest rates. Nonetheless, Canadian lenders and regulators need to pay close attention to consumer debt. There is real cause for concern that a major economic shock could trigger a large pullback in borrowing and consumption, resulting in a potentially deep recession. Recent events in Europe, as well as concerns about China, indicate that this is a non-trivial risk.

Policy Intervention in Credit Markets

The rise in household debt and bankruptcies has led to debate over whether policy intervention in consumer credit markets is warranted. In both Canada and the United States, legislative changes have limited some credit-card practices, and agencies have been established to monitor and regulate consumer credit practices. Some analysts have argued, however, that more direct regulation of credit is required, either via capping credit card rates (or borrowing rates generally) or by restricting the terms of consumer loan contracts (see, for example, Landes 2008).[17]

In evaluating policy options, it is important to recognize that the rise in consumer debt and bankruptcies is due to fundamental changes in consumer credit markets. These changes have created opportunities for households to reallocate consumption over time, which should create net benefits for informed consumers even if they result in higher levels of bankruptcies. In fact, Livshits, MacGee, and Tertilt (2010) find that, for the average US household, the benefits from increased credit card borrowing outweigh the costs of higher bankruptcy filings.

There are two important caveats to this benign view of credit market changes. First, research suggests that not all households necessarily benefit from financial innovations; some households can be hurt as lenders revise their estimate of different borrowers' default risk, which often results in higher interest rates for some borrowers. Second, financial innovations have resulted in more borrowing options for many consumers, which creates the risk that poorly informed consumers could be encouraged to make "poor" credit choices. This is a key factor behind increased concern about possible "predatory lending," especially to groups with low levels of education and financial sophistication.

These caveats provide important insights for the nature of policy reform that is likely to be beneficial. As I argue below, the current state of credit market regulation in North America suggests that what is needed are incremental reforms to improve consumers' ability to make informed borrowing decisions.

Improve Financial Literacy

The rise in consumer debt has been accompanied by increased borrowing options for many consumers, who can choose among different credit card plans, lines of credit, secured borrowing (such as liens on automobiles), and traditional fixed-term personal loans. While these options give informed consumers the opportunity to better tailor borrowing choices to "smooth" consumption over time, they also mean that poorly informed consumers can make bad choices.[18]

17 This debate is influenced by two different views of the credit market. One view is that many consumers are unable to make informed choices about credit products, so regulation is required to prevent them from making "poor" choices. The other view holds that (most) consumers are capable of making informed choices, provided they have sufficient and accurate information, so that regulating disclosure of information and improved financial literacy is key.

18 For example, one might expect that recent graduates in occupations such as law and medicine with high incomes might prefer to borrow large sums at the beginning of their professional careers for homes and consumer durables instead of waiting until they have accumulated large downpayments to purchase durable goods.

One way to address this concern would be to improve the "financial literacy" of Canadians. Indeed, the need to take steps to improve financial literacy is becoming more widely recognized, in part due to the efforts of the recent Task Force on Financial Literacy (2011).[19] While improved financial literacy is essential if more consumers are to take full advantage of credit products, it is important to recognize its limitations. Financial literacy is a long-term project, and while improving literacy in schools, as the Task Force recommends, will help future generations, it will have little impact on the adult population. In addition, financial literacy efforts can only do so much, as many Canadians lack the numeracy and literacy skills required to readily evaluate and compare financial products. In addition, some financial instruments can be difficult even for sophisticated borrowers to evaluate fully. This means that, while essential, financial literacy is only one part of the solution to improved consumer choices.

Improve and Simplify Disclosure and Standardize Features of Common Instruments

The rise in consumer debt and bankruptcy is often cited as justifying increased regulation of the terms of financial products that can be offered. In the United States, this concern has led to the formation of the Consumer Financial Protection Bureau, with the objective of improving the regulation of consumer lending contracts. In Canada, the Financial Consumer Agency of Canada has been in place since 2001 with a mandate to administer compliance with federal regulation of consumer finance.

When considering direct regulation of consumer financial products, it is useful to distinguish between *disclosure* and *term-based* regulations. Regulations that mandate the disclosure of information are a core part of financial regulation efforts, and traditionally have focused on requiring lenders to list all the terms of contracts. While this is clearly required for consumers to make informed choices, by itself it is unlikely to be sufficient, since long contracts (filled with notes in fine print) can make it difficult for borrowers to find the key details required to compare different financial products. This is why recent efforts have been made to improve disclosure of key borrowing terms (such as the average interest rate, penalties, and fees) in easy-to-read ways on the front page of mandated lending contracts, but more work in this area is needed.

Debate has also increased about whether the terms of contracts should be regulated directly. Here, it is worth emphasizing that the debate is about the extent of intervention that is appropriate, since considerable regulation is already in place. For example, in Canada since 2009, credit cards are required to offer a 21-day grace period for payments, and consumer payments must be allocated to paying down balances with the highest interest rates. In the United States, recent regulations have limited the conditions under which credit card lenders can increase interest rates on existing balances. But is there a case for much more restrictive regulations of consumer credit products, such as tight caps on interest rates or limits on borrowers' debt-service ratios? In general, the case for more restrictive interventions seems weak, since such interventions are likely to have a significant effect on the availability of credit, especially for

19 The final report of the Task Force makes 30 recommendations on creating a cohesive national approach to financial literacy. In November 2011, the federal government proposed Bill C-28, the *Financial Literacy Leader Act*, to create the position of a national financial literacy leader who would promote financial literacy and collaborate and coordinate financial literacy initiatives across the country.

lower- and middle-income borrowers. A reduction in supply could make it much more difficult for some households to access credit to smooth out transitory income or household expense shocks. Moreover, strict regulations on formal credit could push households into unregulated borrowing, which offers much less legal protection.

Leave Bankruptcy Rules as They Are

The large rise in bankruptcies has led to a substantial tightening of bankruptcy rules for debtors with above-average incomes and for repeat bankrupts. While some analysts now question whether laws have been tightened too much or too little, there does not seem to be a strong case for major reforms.

To follow this debate, it is important to understand the basic tradeoffs in bankruptcy law. On the one hand, "easy" access to bankruptcy permits borrowers to walk away from debt. This is valuable in two ways. First, it provides "unlucky" debtors with some insurance. For example, it allows those who experience unexpected job loss or medical expenses to walk away from past debt and to get a "fresh start" on rebuilding their life. Second, it encourages lenders to take into account different people's ability to pay back loans and to factor in their default risk when making loans *ex ante*. On the other hand, this pricing effect highlights the main cost of easy access to bankruptcy: the easier it is to walk away from one's debt, the higher the default risk. This leads lenders both to restrict the amount that can be borrowed (through tight credit limits) and to charge higher interest rates.

This tradeoff has played a key role in shaping the evolution of Canadian bankruptcy law. Financial market innovations linked to more sophisticated pricing of borrowers' default risk has led to enlarged credit limits. The resulting higher level of borrowing has meant that defaulting has begun to become more attractive to some middle- and upper-income households. The tightening of access to bankruptcy for these households thus could be seen as supporting their ability to borrow larger amounts at better interest rates. By implementing this policy through an income means test, bankruptcy law continues to allow "unlucky" households with low income and high debts to discharge their debt and restart their life. Similarly, bankruptcy continues to provide an escape route for households that have "overborrowed," although, if these households have high income, the cost of discharging debt is now higher since they must partially repay their debt. In short, Canada seems to have achieved a suitable balance between the two goals of ensuring people are allowed a fresh start, which militates in favour of easy access to bankruptcy, and avoiding much higher default risk, which calls for stricter access.

While the case for major reforms is weak, some smaller reforms should be considered. Both Canada and the United States now require bankrupts to undergo credit counselling, but this is costly and evidence is mixed regarding its usefulness. Hence, it might be worth considering how to make counselling sessions more effective or limiting them. A second issue is how households that partially repay debt by opting for a consumer proposal instead of straight bankruptcy should be treated when applying for credit. Currently, both options seem to result in similar (higher) costs of accessing credit after bankruptcy. One option might be to mandate that these two options be reported on credit reports distinctly. This would allow lenders to charge different prices if people who file for consumer proposals are at lower risk of defaulting in the future than those who file for straight bankruptcy.

Move Cautiously on Regulating Lending Standards over the Business Cycle

The rise in consumer debt has led to concerns about both financial stability and the challenges facing monetary policy. These concerns are behind the repeated tightening of mortgage insurance standards. While this tightening seems justified and prudent, it raises a more general question regarding cyclical policy tools for financial stability. Should

regulators (such as OSFI and the Department of Finance) use regulatory tools to affect lending standards over the business cycle?

The current situation suggests that one should move cautiously here. Simply put, cyclical changes in the regulation of credit would face significant challenges in implementation and pose a real risk of politicizing credit rules.[20] A better approach might be to implement cyclically stable rules for government backstops for mortgage insurance and consumer credit regulation. This would leave the monitoring of cyclical build-ups of risk from high debt levels where it belongs: with regulators such as OSFI.[21]

Increase Surveys of Household Debt, Assets, and Income

An often-neglected element of policymaking is data collection and availability, yet high-quality data are an essential input into public policy and private sector decisionmaking. The recent major changes in consumer credit raise questions about whether existing data collection efforts are sufficient. The Bank of Canada has made important strides in this area by reporting the results of its stress test exercises in the Financial Stability Report, using data collected by Ipsos Reid. However, more information on the distribution of borrowing instruments across households would be useful for policymakers, investors, and households alike. One option might be to follow the US Survey of Consumer Finance model and move to a more frequent and expanded Survey of Financial Security. A detailed household survey of debt, assets, and income on either a bi- or tri-annual basis would provide detailed data on changes in consumer credit and wealth that would be useful for evaluating policy reforms, give early warning on risks to financial stability, and help financial firms assess risks and opportunities.[22] Such a survey would also provide a useful benchmark against which to validate the more frequent and focused Ipsos Reid survey.

Conclusion

The past 30 years have seen widespread changes in consumer credit markets. These changes have resulted in high household debt and increased personal bankruptcies, and have led to debates about both the risk of a consumer debt crisis and the regulation of consumer borrowing.

A closer look at the data suggests that current levels of consumer debt offer cause for concern, but not panic. While the recent US experience has highlighted the risks of overextended consumers, more prudent lending standards in Canada suggest that, under the most likely scenario, consumer debt levels should remain manageable. Nonetheless, these high levels of debt leave Canadian consumers vulnerable to a possible, but at the moment unlikely, large economic shock – notably a sharp rise in interest rates or an economic downturn.

Lenders and regulators need to evaluate carefully whether current capital levels of financial institutions are sufficient to guard against these risks. Better and more detailed data are needed to paint a more complete picture of these risks,

20 It is worth noting that this discussion is part of the debate over macroprudential regulation and the evolution of the Canadian regulatory regime; for more on this debate, see Ragan (2012).

21 The recent move by OSFI (OSFI 2012) to update regulatory guidelines on underwriting standards for residential mortgage lending, especially with regards to HELOCs, is consistent with this principle as it sets out sound lending standards that financial institutions should always satisfy.

22 These data would also provide useful information for a number of other policy questions, such as the effect of tax policy on household portfolio choice, income security, and the adequacy of retirement saving.

particularly on how debt is distributed across households. Adopting a more frequent and expended Survey of Financial Security would be a good way to address this data gap. Further, policymakers should continue to ensure that regulations related to household credit are appropriate and consistent over the entire business cycle. But they should refrain from constantly varying regulations in a countercyclical manner, as such an approach poses the real risk of increased politicization of credit rules.

There does not seem to be a strong case for restrictive regulation of consumer credit products, such as tight caps on interest rates or limits on borrowers' debt-service ratios. These types of interventions are likely to have a significant effect on the availability of credit, especially for lower- and middle-income borrowers, making it more difficult for them to smooth out transitory income or household expense shocks. Similarly, it seems that the effort to make bankruptcy less attractive to middle- and upper-income households with stable incomes has gone far enough. While these reforms likely have helped lower the cost of borrowing for such households, they have also resulted in higher costs for households wishing to escape from poor credit choices or "bad luck."

Finally, with increased borrowing options, there is a need for improved financial literacy – indeed, even financially literate households can find the comparison of different products challenging. This suggests that efforts should continue to be made to improve financial literacy and to simplify the disclosure of key terms of credit contracts in order to help consumers make informed borrowing choices.

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