Income Loss and Bankruptcies over the Business Cycle[1]

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Extended Abstract

This paper investigates the key factors that drive cyclical fluctuations in consumer insolvency filings, with a focus on the 2008-09 recession which witnessed an almost 50% jump in insolvency rate. We employ both an aggregate analysis using historical data at the national, provincial and city levels, and micro-level analysis which makes use of a unique dataset of Canadian filers over 2007-2011.

A natural explanation for the rise in insolvencies during recessions is an increased frequency of negative income shocks, manifested partly in the increased unemployment rate. Adverse income shocks place additional financial strain on debtors, which may make insolvency more likely. Another important mechanism comes from the "supply side", as lenders may tighten their lending standards during recessions due to higher perceived risk of lending or higher internal cost of funds. More limited access to credit could makes it harder for borrowers to roll-over existing loans or lead to higher interest rates for riskier borrowers, which could result in an increase in insolvencies.

We investigate the quantitative contribution of these two channels using aggregate data on insolvency filings, unemployment rates, debt levels, and key interest rates at the national, provincial and city levels. Our empirical analysis finds support for both mechanisms, as both the unemployment rate and the financial market variables are statistically significant in explaining the variation in insolvency filings. The results are broadly consistent whether we consider national level (annual or shorter quarterly series), provincial level or city level data. Interestingly, fluctuations in house prices at the city level seem to be related to fluctuations in the insolvency rates. Since home equity is the main asset of many households, changes in house prices could significantly impact the amount that households could borrow.

We use a unique dataset of insolvency filings in Canada that was provided by the OSB to investigate how (and if) the characteristics of filers vary over the business cycle. This data consists of all electronic filings from January 1, 2005 to June 30, 2011, and contains data on both demographic characteristics of filers (age, gender, family size) and the nature of debts and income at the time that the debtors filed.

The data suggest that both adverse income and credit market conditions played a role in the rise in filings during the 2008-09 recession. We document that the fraction of unemployed among the filers does increase during the recession. A rough "back-of-the-envelope" analysis suggests that as much as a half of the rise in insolvencies may be due to increased unemployment. We also document an increase in the share of filers with "middle class" characteristics during the recession – a larger fraction of filers are homeowners, live with a spouse or a partner, have student loans, earn larger incomes, and are middle-aged. The average outstanding debts of filers are larger during the recession, supporting the hypothesis that rolling-over large debts became more difficult due either to tighter lending standards or to increased cost of funds.

These shifts in characteristics are broadly consistent with simple economic theory. As one would expect, unemployed filers became more prevalent during the recession. The increase in filers with "middle class" characteristics suggests that the high levels of unemployment during the recent recession impacted households with stronger labour force attachment, who would during more "usual" economic times have a low probability of extended periods of unemployment. Simple economic theory suggests that the filers most affected by a tightening of lending standards are those with higher debt levels. This reflects both the fact that higher debt levels makes these households more vulnerable to higher interest rates (i.e., larger risk premia on loans to riskier borrowers) or to a tightening of credit lines which makes it more difficult to roll-over their debt. This mechanism also leads to more filers in a recession with "middle class" characteristics (such as higher levels of education and home ownership), since these characteristics are often a prerequisite for initial access to large amounts of credit.

Thus, both macro- and micro-level empirical analysis supports the thesis that there are two important mechanisms driving the rise of insolvencies during recessions – the "direct" effect of adverse income shocks, and the "supply-side" effect coming from the tightening of the lending standards. Finally, we feel this work has motivated a need to better understand how these mechanisms interact and develop strategies to assess their individual impact.

1. Introduction

The 2008-2009 recession witnessed a sharp and rapid jump in consumer insolvency filings, with the Canadian insolvency rate peaking at nearly 50% above its pre-recession level.[2] As Figures 1 and 2 illustrate, the rise in insolvencies closely tracked the rise and decline in the unemployment rate.[3] This positive correlation between personal insolvency filings and unemployment rates is consistent with past recessions, as the recessions of the early 1980s and 1990s also witnessed rapid growth in insolvencies (see OSB, 2007).[4]

While the correlation between unemployment rates and insolvency filings suggests that income declines may be a key factor behind cyclical movements in insolvency filings, their quantitative contribution to the rise in filings during recessions is unclear. To tackle the question of what factors account for the rise of filings during recessions, we adopt a multi-pronged approach. First, we look at aggregate data at the national, provincial and city level to examine the contribution of unemployment rates, debt levels and interest rates to cyclical fluctuations in personal insolvency filings. Second, we ask whether the characteristics of insolvency filers changed during the recent recession. To do so, our project makes use of a unique data set provided by the OSB on Canadian insolvency filings from January 1, 2005 to June 30, 2011. This data set contains data on both demographic characteristics of filers (age, gender, family size) and the nature of debts and income at the time that the debtors filed.

We use the data to help sort out the role of two broad channels that could drive these cyclical movements in insolvency filings and consumer credit. First, increased income volatility (reflected in higher unemployment rates) during recessions could create greater financial pressures on some households, potentially triggering both greater demand for loans and higher insolvencies. The other potential channel comes from the supply side, which we refer to as changes in "lending standards". A tightening of lending standards during recessions would make it harder for borrowers to roll over existing debts or access new loans, making insolvency more likely.

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[2] The consumer insolvency rate is the number of consumer insolvencies per thousand adults.

[3] Figure 2 excludes filers who ran a business in the last 5 years and those with liabilities larger than $1,000,000.

[4] We document similar patterns in the United States in Fieldhouse, Livshits and MacGee (2011).

Changes to (internal) cost of funds for the lenders may lead to similar outcomes, by either increasing the cost of loans or inducing lenders to restrict access to credit.[5]

Our findings provide suggestive evidence that both of these channels play an important role in cyclical movements in insolvencies. Using aggregate data, we find that changes in unemployment rates as well as variables that proxy for credit market conditions (e.g., consumer interest rates, house prices, survey of lending standards) all play a statistically significant role in accounting for the fluctuations in insolvencies over the business cycle. Our regression analysis at the national level indicates that both cyclical fluctuations in unemployment rates and consumer interest rates play the largest role in accounting for business cycle movements in insolvency rates. However, the relatively short time series combined with fact that the explanatory variables are themselves correlated makes it difficult to robustly quantify the role of unemployment and consumer interest rates in accounting for cyclical fluctuations in insolvency rates.

We repeat our analysis using cross-provincial and cross-city variation in unemployment and insolvency rates. While this analysis needs to be interpreted with care due to the short time period for which we currently have data, it largely supports the findings at the national level. Looking at the provincial regressions, for annual data from 1987-2011, the point estimates for unemployment and interest rates are similar to those from the national regressions. Interestingly, when we look at data for 11 Canadian cities for which we have house price data from 1999 to 2012, we find that house price changes play an important role in accounting for variation in filings across cities.

While the aggregate data suggest that both unemployment and credit market conditions play a role in accounting for cyclical fluctuations in filings, they leave open the question of whether the characteristics of filers changed with the cyclical rise in unemployment. One might expect that the rise in unemployment could lead to households with more "middle-class" characteristics entering the insolvency system, because of a sudden increase in the likelihood of experiencing adverse earnings shocks. Similarly, a tightening of credit market conditions could have a larger impact on heavily indebted households who faced either higher interest rates, or tight credit

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[5] Our ongoing research (Fieldhouse, Livshits and MacGee (2011)) builds a formal analytical structure with the objective if using quantitative economic theory to derive empirical predictions, which in turn can be tested using the data on filers.

limits. As a result, one would expect that during recessions individuals who earn(ed) more, owned their home, and cohabit with a partner should be more likely to file for bankruptcy or a consumer proposal.

Consistent with the aggregate data, we find that the fraction of filers reporting they are unemployed rises over 2007-11. The cross-sectional data also suggests an increase in the number of "middle-class" filers. This is reflected in the rise in the fraction of filers receiving unemployment benefits (suggesting stronger ties to the labour market given the weeks worked required to qualify for unemployment benefits), higher monthly income and debts of filers during the recession, as well as an increase in the number of middle aged filers.[6] Both the mix of debt (increased share of housing debt and higher debt levels) suggest that many of the filers during the recession would have had pre-recession income levels to support this debt. To the extent that the average assets (and liabilities) of filers is a good proxy for the cyclical rise in "middle-class" filers, the 2008-09 recession appears to be broadly consistent with patterns observed in past recessions (see Figures 28 and 29).

This rise in "middle class" filers appears to be driven by both the rise in unemployment and credit market conditions. While the fraction of filers who report being unemployed rises, this is not enough to directly account for the rise in filings. As a rough measure, we compute the fraction of the increase in insolvency filings (relative to 2007) which are due to filers who report either no employment income or employment insurance income at the time of filing (see Table 23). This suggests that from 40 to 60 percent of the rise in filings over 2008 – 2011 may directly reflect labour market conditions.[7] Although we lack direct household level evidence on lending standards, our findings suggest that credit market conditions may help account for the rise in filings. While the recent recession saw a fall in short term borrowing rates, both the Bank of Canada survey of loan officers (which indicate a tightening of lending standards) and the fall in

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6 We compare the filer population to the general population (using Statistics Canada data), and find that these changes are not driven by shifts in the characteristics of the Canadian populace. We hope to use the Survey of Labour and Income Dynamics to compare the population of filers to the general population, but this has to wait for the release of SLID data which are several years behind the OSB and not available at the time of writing.

[7] It is difficult to say if this is an upper or lower bound. On the one hand, some files could have experienced job loss prior to filing that contributed to higher debt levels. Conversely, some people with no income could have been pushed into filing due to tighter lending standards, with the issue of employment income playing a secondary role.

house price suggest that some households may have found access to credit more difficult. At a more suggestive level, the rapid tightening of lending standards observed after the collapse of Lehman Brothers may help account for why insolvency filings surged so quickly during the 2008 recession (see Figure 2).

Relatively little academic work has studied cyclical movements in insolvency. Much of the existing empirical literature has confirmed the intuitive notion that income losses result in bankruptcy filings has received strong empirical support. The most straightforward approach is to examine the causes of bankruptcy as reported by the filers. Using U.S. data, Sullivan, Warren and Westbrook (2000) report that two-thirds of filers claimed the main cause of their bankruptcy to be job loss. Sarra (2011) examines an OSB sample of filers between 2008 and 2010, and also found that insufficient income and unemployment accounted for nearly half of the bankruptcies and just over half of consumer proposals. Duncan, Fast and Johnson (2012) compare the characteristics of 4,000 bankruptcy filers in 2007 and 2010 so as to see if there were changes in the characteristics of filers due to the 2008-08 recession. In addition to the variables examined in this paper, they also make use of the "reason for bankruptcy" question, and find that the fraction of filers reporting unemployment as the main cause of bankruptcy rose between 2007 and 2010.

A number of papers have examined the role of unemployment, consumer debt levels and house prices in accounting for cyclical fluctuations in U.S. filings. Bishop (1998) looks at how changes in debt service ratios and the employment rate impact filings over 1960-1996. He finds that while the elasticity of bankruptcies with respect to the employment rate is roughly 50% larger than for consumer debt service, the larger variation in the consumer debt service ratio means it is quantitatively more important in accounting for changes in bankruptcies.[8] Garrett and Wall (2010) use state level unemployment rate data to construct dummy variables which indicate how many quarters that a state has been in recession (expansion). Focusing on the 1998.Q1 to 2004.Q4 period, they find that bankruptcies exhibit a countercyclical pattern, although there is a

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[8] Unfortunately, comparable Canadian data on the DSR is not available, since the Statistics Canada measure only includes interest payments while the U.S. DSR measure includes interest and principal payments.

lagged effect of recessions as filings tend to peak at the end of recessions and decline slowly during the initial quarters of recovery.[9]

Agarwal and Liu (2003) look at data on credit card accounts over 1994-2001 from a large U.S. financial institution. They examine how county level unemployment rates impact the probability of credit card delinquency, conditional on the account balance, interest rate and borrower characteristics. They find that higher unemployment rates have a statistically significant impact on delinquencies, with an elasticity of roughly 2. Their findings contrast with earlier work by Gross and Souleles (2002), who look at bankruptcy among a large sample of credit card accounts over 1995-1997. They find that risk factors (such as state level unemployment and house prices) play a small role in the rise in bankruptcies over 1995-1997. Given the longer time period covered by our analysis, it is not surprising that, similar to Agarwal and Liu (2003), we find that both unemployment rates and house prices play a quantitatively larger role in cyclical movements in filings.

The supply channel has received less attention in the empirical literature. Sarra (2011) reports that while few filers report access to credit as the main cause of their filing, there is suggestive evidence from lenders that lending standards were tightened (and loan approval rates fell) during the 2008 recession. Allen and Damar (2012) also examine data on Canadian filers over 2007-09, and explore whether neighborhoods that saw the closure of bank branches due to mergers (possibly resulting the loss of "soft information" on borrowers) experienced higher bankruptcy filings than neighborhoods which did see the closure of bank branches. They interpret this as suggesting that local supply effects can impact bankruptcy filings. Less directly related to our work is a large literature that has how shocks to the financial sector (particularly banks) impact the real economy. Den Haan, Sumner and Yamashiro (2009) find that monetary policy shocks have large impacts on consumer lending in Canada. Our paper complements their work by exploring how credit market tightening can impact household decision to file for bankruptcy.

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[9] A closely related literature has looked at the factors that help account for bankruptcy filings over time, without explicitly disentangling changes in trend from cyclical fluctuations. VISA (1996) found that both employment growth and house prices (among other factors) significantly impacted bankruptcy filing rates in the U.S. Luckett (2002) reviews a number of related studies on the cause of bankruptcy in the U.S.

This paper is organized as follows. Section 2 examines the cyclical relationship between aggregate economic indicators and insolvency rates over the past thirty years. Section 3 examines how the characteristics of filers varied over 2005-2011. Section 4 discusses some evidence on changes in lending standards.

2. Aggregate Data on Cyclical Fluctuations in Insolvency Filings

Before turning to the individual-level data on insolvency filings, we begin by looking at aggregate data over previous business cycles. We do this for three reasons. First, we are interested in whether the rise in bankruptcies during the 2007-08 recession is consistent with historical cyclical patterns. Second, looking at aggregate factors that (statistically) account for cyclical fluctuations in insolvency filings provides insights into the causes of cyclical fluctuations in filings. Finally, these relationships form the basis of our empirical analysis of how the cross-sectional characteristics of filers change with economic conditions.

We examine cyclical movements in bankruptcy filings at the national and provincial level, as well as across 11 Canadian cities. National level data (at both annual and quarterly frequency) is available for the longest span, with most series available since the 1970s. Our analysis of provincial and city level filings focuses on more recent periods due to data limitations.

2A. National Relationships

We begin by looking at historical data on insolvency filings at the national level.[10] Our analysis looks at several variables which could potentially impact insolvency filing rates. Given the prominent role of income loss as a cause of insolvency, we look at the role of unemployment changes in accounting for cyclical movements in insolvencies. Since debt levels are a key factor in insolvency, we look at consumer debt to income ratio as well as the debt service ratio. As a proxy for credit market conditions, we also include interest rates. Finally, as a proxy for shocks to household balance sheets, we include measures of changes in house prices.

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[10] The appendix contains the data sources used throughout the paper.

Given our focus on cyclical variations, we need to take a stand on how to distinguish cyclical fluctuations from longer-run trends. This is particularly important since insolvencies have a clear secular trend while several other series (e.g., unemployment) do not. For most of our analysis, we de-trend the (log) data using the Hodrick and Prescott (1997) filter. This procedure decomposes a time series as the sum of a cyclical component and a stochastic trend that are uncorrelated.[11] Figure 3 plots the deviations from trend for both insolvency and unemployment. To check the robustness of our analysis to filtering methods, in Table 2 we report the correlations when we de-trend using first differences (i.e., growth rates).

Annual Data: 1966-2011

Table 1 reports the correlations between the cyclical deviations from trend of insolvency filing rate and key aggregate variables, and Table 2 reports the corresponding correlations for the growth rates. The consumer insolvency rate is the number of consumer insolvencies (bankruptcies plus proposals) per thousand residents aged 18 years or above.[12] As can be seen from comparing Tables 1 and 2, the method of de-trending seems to be largely innocuous. While data availability leads us to focus on the 1980-2011 period, we also report correlations for series which are available prior to 1981.

Given that income loss is a commonly cited cause of bankruptcy, a natural conjecture is that changes in the unemployment rate would be positively related to insolvencies over the business cycle. The Canadian data lend support to this view, as cyclical fluctuations in insolvencies are positively correlated with unemployment rates (see Tables 1 and 2, as well as Figures 1-3). This positive correlation reflects the countercyclical pattern of unemployment and insolvency, as both rise during recessions and decline during expansions (relative to trend). As can be seen from Figure 2, this positive relationship was especially pronounced during the 2008-2010 period. Figure 3 suggests that the negative relationship between lagged unemployment and insolvency

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[11] For annual (quarterly) data, we set the smoothing parameter (which governs the trade off between fit and degree of smoothness) to 6.25 (1600) based on Ravn and Uhlig (2002).

[12] Insolvency statistics are only available from 1987 onwards. Prior to the 1992 reforms, insolvencies were a negligible component of the aggregate insolvency statistic. For this reason, we extend the insolvency series by including using bankruptcy data that goes back until 1966.

may reflect the fact that cyclical movements in insolvencies and unemployment are both transitory and mean reverting.[13]

Interestingly, the correlation between unemployment rates and has increased since the late 1970s. This may be due to changes during the 1970s aimed at increasing access to the bankruptcy system for lower-income consumers (Brighton and Connadis, 1982). This change may have made it easier for unemployed people who would have had trouble arranging a payment option to access the bankruptcy system.

Given that insolvency is associated with an inability to meet debt payments, one might expect a large positive correlation between insolvencies and consumer debt levels. However, as can be seen from Tables 1 and 2, cyclical movements in consumer credit and mortgage debt relative to disposable personal income are either slightly negatively correlated or uncorrelated with insolvencies. This small (or negative) correlation suggests two important points. First, simple stories which equate rapid increases in consumer debt to higher insolvency rates do not seem to operate at business cycle frequencies (although they may be important in understanding longer run trends in insolvencies, since the secular rise in debt does parallel the rise in filings in Figure 4). Second, the small correlation reflects the fact that consumer borrowing relative to income is slightly pro-cyclical. From the point of view of simple economic theory, this is counter-intuitive, as one would expect borrowing to increase during recessions as household seek to smooth out short run income declines during recessions. That this does not occur suggests that borrowing becomes either more expensive or less accessible for households during recessions. This cyclical pattern of credit access may reflect household balance sheet effects, as the ratio of liabilities to home equity is counter-cyclical (as can be seen in Tables 1 and 2).[14]

One measure of the cost of borrowing is the interest rate. Unfortunately, data on the average (debt-weighted) interest rate on existing and new consumer debt do not exist. This leads us to consider three alternative interest rate measures. The first is simply the Bank Rate, which is closely related to the short term rate at which banks can borrow from each other. The second is

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[13] The regression of insolvency (unemployment) deviations on one and two period lagged values of insolvency (unemployment) yields a similar pattern of a positive coefficient on the first lag and a negative coefficient on the second lag.
[14] This may be partially driven by cyclical changes in house prices, which can have a large impact on household balance sheets.

the average mortgage interest rate, while the third is the prime lending rate for consumer loans. While the consumer loan rate is arguably the best proxy for non-mortgage consumer borrowing costs, it is only available since 1980.

As can be seen from Tables 1 and 2, average interest rates and current borrowing interest generally have a small negative correlation with insolvencies. This is consistent with the view that interest rates for prime borrowers tend to fall during recessions. However, the previous year's interest rate is negatively correlated with insolvencies over the cycles. This may reflect the impact of monetary policy, as short term rates tend to be increased near the end of expansions.

The interest rate and debt-income correlations together suggest that changes in access to credit (lending standards) may be an important factor in accounting for cyclical movements in insolvencies. Economic theory suggests that the combination of lower interest rates (for low risk borrowers) combined with the incentive to smooth out temporary income declines should result in higher levels of borrowing relative to income. That this does not occur suggests that either riskier borrowers (from the point of view of lenders) face higher interest rates and/or tighter borrowing limits (less access to credit). This mechanism would be consistent with both reduced borrowing, and higher insolvencies as consumers found it more difficult to either roll-over or finance existing debt.

Finally, credit card delinquencies have a high positive correlation with insolvencies. While not surprising, this also suggests that the risk premium for (relatively higher) risk borrowers should increase during recessions. In turn, this higher-risk premium could act to make insolvency more likely for some highly indebted borrowers.

Although this analysis does not examine business related filings, it is worth noting that business related filings rose significantly during the recession. In fact, the fraction of business-related filings increased during (and after) the recent recession. We plan to further explore the characteristics of business related filers in our future analysis.

2B Empirical Analysis at National Level

We now move from simple correlations to a multivariate regression framework. We focus on the H-P deviations from trend for each variable. Formally, we run a regression of the deviation from trend of the insolvency rate:

$$Ins. \widehat{Rate}_t = Deviation\ from\ trend\ in\ Log\ insolvency\ rate$$

on the (ln deviations – denoted by a "hat" – of) contemporaneous and lagged unemployment rates, the prime consumer interest rate, as well as debt-income ratios and housing equity.

A challenge in interpreting, and specifying, the regression equation is that many of the explanatory variables are themselves correlated (see Tables 21 and 22). To highlight how this complicates the identification of the contribution of different variables to cyclical movements in insolvency filings, we report a number of different specifications using annual data in Table 3. In all of the regressions we report, we include both contemporaneous and lagged unemployment, but different combinations of contemporaneous and lagged consumer interest rates and debt-income ratios.

Across the specifications we consider, both the contemporaneous unemployment rate and the lagged consumer interest rate are statistically significant. However, the contemporaneous consumer interest rate is not statistically significant, nor is the lagged unemployment rate once one includes the lagged consumer interest rate. The debt-income ratios are significant when included individually, but not when included together (see column 10 in Table 3).

The coefficient estimates in Table 3 are not necessarily a good proxy for the quantitative contribution of different variables to insolvency fluctuations both due to the correlation between the covariate and differences in the variability of the covariate. To provide a better measure of the contribution of unemployment and interest rates to cyclical movements in insolvency, we check the contribution of each of variable to fluctuations in insolvency. The first column in Table 19 reports the (adjusted) R-squared from the regression of the insolvency rate on each variable alone.[15] Individually, the unemployment rate and the lagged consumer prime rate play the largest role in accounting for fluctuations in insolvencies. However, as the following two

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[15] This specification used maximizes Akaike information criterion.

columns indicate, there is considerable scope for interpretation as to which variable plays the largest role. The last column of Table 19 reports the Semi-partial R-squared, which is the R-squared from the regression with all of the variables in Table 19 less the R-squared from the regression omitting that covariate.[16] While once again the contemporaneous unemployment rate and the lagged consumer rate have the most explanatory power, cotemporaneous unemployment now accounts for a much larger fraction of the cyclical variation in insolvency filings.

To further examine the robustness of these findings, we also examine the 1990 Q1 to 2012 Q1 period for which we have quarterly insolvency filings. Broadly speaking, the results from the quarterly regressions also suggest that both movements in unemployment rates and consumer interest rates play a significant role in accounting for insolvencies (see Table 4). However, as Table 20 shows,[17] the use of quarterly data makes it is even more difficult to robustly identify the quantitative contribution of unemployment, consumer interest rates and debt levels to cyclical movements in insolvency filings.

Finally, to get a more direct measure of the role of lending standards, we use the Bank of Canada Survey of Loan Officers. Since 1999, the Bank of Canada has conducted a survey of business loan officers. This survey asks whether lending standards are tightening or easing. While this survey focuses on business loans, (as we discuss below) in the U.S. there is a strong positive correlation between the Federal Reserve Consumer and Business lending standards variables.

Table 5 reports the regression of quarterly insolvencies on unemployment, lagged consumer interest rates, lagged consumer credit to debt radios and the lending standards. While this regression covers the shortest time period, the results are suggestive. Looking at the last column, we see that including lagged changes in lending standards results in the consumer interest rate and the lagged consumer credit to income ratio are no longer statistically significant. However, given the short period for which we have data on lending standards, it is not surprising that it is difficult to statistically pin down the effect of the explanatory variables.

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[16] The partial R-squared indicates how much unique information about insolvency in one covariate is not captured by the other covariates. In this sense, it is a conservative estimate. The partial R-squared indicates the fraction of the maximum possible improvement in R^2 that is contributed by covariate k.

[17] The appropriate lags in this specification were chosen to maximize the Schwarz' Bayesian Information Criterion, and then the Akaike information criterion was used to select the individual covariates.

2C Empirical Analysis at Provincial Level

We now repeat our analysis using provincial data. The main advantage of examining cross-province variation is that this provides additional information about how changes in unemployment rates may impact insolvencies filings. This leads us to examine similar (ln) deviations from trend for provincial insolvency filings and unemployment rates, but not

We begin by looking at annual data spanning 1987-2011. We run a regression of provincial insolvency rate on provincial unemployment and the national consumer and lagged consumer interest rates. We do not include the debt-to-income measures since we lack measures of the distribution of debt across provinces. We also do not include provincial controls, because detrending each series nullifies any impact they may have.

What we find is very much in line with the national regressions. Table 6 shows the point estimates for the impact of unemployment is similar to the national regressions, while the contemporaneous change in the consumer interest rate is not significant when lagged consumer rate is included. Similar to the national analysis, Table 24 shows that both unemployment and interest rates play a role in the cyclical movements of insolvency.

Empirical Analysis at Provincial Level using Quarterly data from 2007Q1-2011Q2.

We also examine quarterly data over 2007-2011. While this is a short time period, it closely corresponds to the period for which we have data on the characteristics of filers (See Section 3).[18] To a large extent, the quarterly data across provinces also largely lines up with the national regressions. Both unemployment rates and lagged consumer interest rates are statistically significant.

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[18] We also include quarterly dummies in our regression to control for seasonality.

2D. Housing and Insolvency

One potential factor that could influence consumer's access to credit is changes in their net worth. Since home equity is the main asset of many households, changes in house prices could significantly impact the amount that households could borrow. This has potentially become even more important, as home equity lines of credits have become an increasing large part of consumer credit in Canada (MacGee 2012).

To investigate the potential impact of changes in house prices on insolvency filings, we combine data from the Teranet-National House Price Index for 11 Canadian cities with city insolvency and unemployment rates Teranet's National Bank House Price Index is a price index based on the repeat sales method (so as to control for quality) for single family homes, and covers eleven Canadian metropolitan areas: Victoria, Vancouver, Calgary, Edmonton, Winnipeg, Hamilton, Toronto, Ottawa, Montréal, Québec and Halifax. Unfortunately, these data are only available since 1999.

Table 8 shows that city house price growth is positively related to city insolvency growth rates. This relationship holds even controlling for the consumer lending rate. While one might be concerned that this is simply picking up negative city level economic shocks, the fact that house prices and unemployment are negatively related for only half of the cities provides some evidence that house prices are not just picking up the effect of changes in households' local employment possibilities.

3 Characteristics of Filers over the Recession

Examining shifts in the characteristics of insolvency filers can help provide insights into the key mechanisms behind cyclical fluctuations in insolvency filings. As a preliminary step in this direction, we examine data collected by the Office of the Superintendent of Bankruptcy (OSB). Our analysis focuses on how the mean and median characteristics of the population of filers evolve over four years: prior to the economic slowdown (July 1, 2007 – June 20, 2008), the onset of the recession (July 1, 2008-June 30, 2009), the initial recovery (July 1 2009 – June 30, 2010) and the continuing recovery (July 1, 2010-June 30, 2011).

Our findings broadly support our analysis of the aggregate time series data. We find that the fraction of filers reporting they are unemployed rises over 2007-11. This is consistent with the observation that changes in unemployment rates are correlated with cyclical movements in filings. The cross-sectional data also suggests that the rise in unemployment during the last recession led to a rise in "middle-class" filers. This is reflected in the rise in the fraction of filers receiving unemployment benefits (suggesting stronger ties to the labour market given the weeks worked required to qualify for unemployment benefits), higher monthly income and debts of filers during the recession, as well as an increase in the number of middle aged filers.[19] Both the mix of debt (increased share of housing debt and higher debt levels) suggest that many of the filers during the recession would have had pre-recession income levels to support this debt.

Our findings also suggest that credit market conditions during the recession may have played a role in the rise in insolvency. While the recession witnessed a fall in short term borrowing rates, the combination of house price declines and tightening of lending standards suggest that some households may have found access to credit more difficult. This may account for the lack of a lag between the rise in unemployment and insolvency filings during the current recession.

3A. Data

The data on insolvency filers was provided by the OSB. The database contains all electronic filings from January 1, 2005 to June 30, 2011, and is based on data collected by Canadian bankruptcy trustees and proposal administrators from filers. The information in our data set is mainly collected from two required forms in the Bankruptcy and Insolvency Act: Form 79, the Statement of Affairs (Non-Business Bankruptcy/Proposal), and Form 65, the Monthly Income and Expense Statement of the Bankrupt/Debtor and the Family Unit and Information (or Amended Information) Concerning the Financial Situation of the Individual Bankrupt. Our data

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19 We compare the filer population to the general population (using Statistics Canada data), and find that these changes are not driven by shifts in the characteristics of the Canadian populace. We hope to use the Survey of Labour and Income Dynamics to compare the population of filers to the general population, but the release of necessary data is several years behind the OSB and not available at the time of writing.

include socio-demographic characteristics (age, family size), income at the time of filing and detailed data on households' debts and assets.

The availability of these data reflects the move to electronic from "paper" filings. It is worth noting that in 2005 only 56.6% of all filings were filed electronically. The shift to electronic filing was largely complete by 2007, with 96% of all filings occurring electronically, and by 2009 less than 1% of all filings were "paper". Thus, our sample includes nearly all filers immediately prior to and since the beginning of the most recent recession. Overall, our dataset contains information on 669,153 insolvency filings that were made electronically from January 1, 2005 to June 30, 2011 (out of 735,311 total filings).Overall, the quality of the dataset is excellent. There appear to be very few missing observations.[20] For example, age is omitted from less 0.02% of applications.

The sample we analyze contains 517,651 insolvency filings: 404,511 bankruptcies and 113,140 consumer proposals. Of the proposals during this period, 110,158 were Division II debtors, and 2,982 were Division I debtors. Since the project focuses on consumer insolvencies, 22,570 filings that were classified as business are removed from the sample. The classification is determined by whether the majority of filer's debt is consumer or business related, as attributed by the trustee or administrator. Even if business debt is not the primary debt on the balance sheet, it may have contributed to the insolvency. For this reason, 128,242 individuals who indicated they ran a business in the last five years were removed. Finally, there are several records with exceptionally high liabilities. These liabilities are so large that a single filer can dramatically change the average debt level in a quarter and thus affect the analysis. To address this, 690 filers with liabilities exceeding $1,000,000 were dropped from our sample.

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20   One exception is the assets and liabilities of filers, which code zero as missing values.

3B. Insolvency Filings

Before examining shifts in the distribution of filers, we begin by examining the evolution of several key aggregate measures. Given the substantial seasonality in the data, we begin by summarizing the evolution of filings over one year periods. To mitigate concerns about sample selection, we focus on the 4 years starting in July 1, 2007 and ending June 30, 2011.[21] The first year in our sample (July 1, 2007 - June 30, 2008) thus precedes the recession, while the second year lines up with the onset of the recession, July 1, 2009 - June 30, 2010 represent the initial recovery, and July 1, 2010 - June 30, 2011 are the time of further slow recovery.

Table 9 demonstrates that insolvency filings initially rose and then leveled off over these years. Comparing the growth rates from period to period, we see the insolvency rate rose by 29%, 5% and -12% in the second, third and fourth period respectively. We also see that bankruptcies initially rose quicker than proposals, but the proposal growth continued. Some of this later proposal growth might have been related to the 2009 bankruptcy reform, as proposals continued to rise during 2010 and 2011 even as bankruptcies declined.

Using the income data, we can investigate whether the rise in filings is accompanied by an increased number of unemployed filers. We look at two income measures at the time of filings: whether the filer reports employment insurance (EI) income, and whether the filer reports zero labour earnings (which we categorize as unemployed). As can be seen from Table 10, the rise in unemployment appears to partially account for the increase in filings. The fraction of filers receiving EI tracks the rise and decline in both the filing rate and the unemployment rate (compare with Figure 2). Interestingly, the fraction of unemployed filers, (i.e. filers reporting zero income) rises throughout our sample period. This is consistent with the view that one factor in the high levels of filings in 2010 and 2011 may have been prolonged spells of unemployment which resulted in the exhaustion of EI benefits.

The table also documents what might seem paradoxical – that average monthly income of filers increases during the recession. However, this is consistent with our first hypothesis. The

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[21] One concern may be that trustees that switched to electronic filings later may be concentrated in some geographical regions.

slowdown hit middle-class households disproportionately harder than the other classes. The next section, explores this in greater detail.

As an initial examination of the distribution of income, we plot a histogram of filers by income groups for each year. Figure 14 suggests that while the distribution of filer earnings across the past four years is similar, there has been a slight increase in the fraction of (relatively) higher income filers.

3C. Socio-Demographic Characteristics of Filers

While our data do not contain information on filer's earnings history prior to the filing, they do contain socio-demographic characteristics, income at the time filing and household debt and liabilities. To the extent that household characteristics such as home ownership and age are correlated with average lifetime earnings, these data provide an insight into whether a greater fraction of filers during the recession are from the "middle-class".

Table 11 shows significant changes in the demographic composition of filers over the recession. The mean filer age rises substantially over our 4-year sample. This rise is not due to an aging population, but represents changes in the filing rates for different age cohorts. Figure 15 plots the filing rate for different filer cohorts. The rise in insolvency filings is largely driven by middle-aged households. Interestingly, the (moderately) older cohorts appeared to have declined less quickly during the initial years of the recovery. This is consistent with the view that some of the more established households were either unable to recover from earnings shocks or have experienced prolonged spells of unemployment.

The other socio-demographic variables in our dataset also suggest that a larger fraction of filers during the recession were middle-class households hit by earning shocks. We find that the fraction of cohabitating, cohabitating with kids, and home-owning all track the rise and decline in the filing rate. The fraction of male declines, but less so than its long run trend.

3D. Filer Assets and Liabilities over the Slowdown

There were substantial increases in both the average level of liabilities and assets of filers during the slowdown. Table 12 shows that while there was a significant rise in mean liabilities, the median total liability grew much less than the average liability. This was not the case for the unsecured liabilities. This is suggestive of middle class filers becoming more predominant in the pool of filers. Also, the average and median level of assets grew with the slowdown, which also supports an increase in the share of more middle class filers.

From Table 13, we see that the combined growth assets and liabilities led to a moderate rise in mean and median negative net worth. As Figures 16 illustrates, there was little trend over the recession in terms of the ratio of net worth to income. However, total debt relative to income rose during the recession. This suggests that the typical filer during the recession was under even more financial "pressure" than pre-recession. The higher debt to income ratio is also consistent with a larger fraction of middle class filers who had experienced a recession related income shock entering the pool of filers.

3E. Filer Education over the Slowdown

A common characteristic of bankruptcy filers is that they have obtained some tertiary education. Sullivan, Warren and Westbrook (2000) document this for U.S. filers. We similarly find evidence suggesting that many insolvency filers in Canada have obtained some tertiary education. Furthermore, because the achievement of tertiary education is a characteristic of middle-class individuals, we are able to test our hypothesis that the increase in filers is disproportionately from middle-class individuals by examining if the likelihood of obtaining tertiary education changed.

In Canada, insolvency applicants do not declare their education level. As a result, we cannot directly test if filers are becoming more middle-class over the slowdown. The applications do however breakdown the sources of debt. As a result, we can examine if filers are more likely to have student debt during the downturn. Figure 23 plots the proportion of filers with at least $1,000 in student debt by age cohort. It shows the filers in their thirties are more likely to have student debt during the slowdown. This suggests that filers have more tertiary education during the slowdown, which is consistent with filers being more middle-class.

3F. Changes in Filer Characteristics – Empirical Analysis

We now test how filer composition – in terms of characteristics associated with class - is related to provincial unemployment. Using the fact that unemployment predicts insolvency, we test whether average filer characteristics in each province vary with unemployment. In particular, we consider:

$$Characteristic\ Growth\ Rate_{t,p}$$
$$= Trend + Unemployment\ Change_{t,p} + Unemployment\ Change_{t-1,p} + \epsilon_{t,p}.$$

Table 14 shows the result of the empirical test for socio demographic characteristics. There are several indications that filers are becoming more "middle-class." Specifically as unemployment rises, individuals are more likely to own a home, live with someone – especially if they have kids. The initial filers are also more likely to be male and then female, which suggests they may earn more income.

Filers' average age does not seem to increase in response to unemployment, which is seemingly at odds with Table 11. To examine this in greater detail, we study how unemployment and insolvency are related within age cohort. Table 16 shows that older filers appear to respond more slowly than younger filers to a rise in unemployment.

One might expect that proposals are more likely to be filed when higher unemployment results in more "middle-class" families experiencing debt problems. However, we cannot reject this story due to the impact of the September 2009 reforms that sought to make proposals more attractive.

Table 15 show how assets and capacity for loan repayment changes with unemployment. Again, there are several indications that filers are becoming more ``middle-class." Although income does not change, total assets increase, net worth and net-worth-to-income ratio rise, total liabilities and total unsecured liabilities rise. The majority of characteristics suggest that filers are becoming more middle class.

4. Lending Standards over the Business Cycle

In this section we examine how consumer lending standards changed in response to the recession. First, we use a senior loan-officer survey to provide suggestive evidence that lending standards tightened during the recession. Second, we examine whether the debt-level of filers changed during the recession. Finally, we show how changes in average household interest rates are consistent with the tightening lending standards.

Central banks periodically survey loan-officers of various financial institutions to understand if lending standards are changing. Unfortunately, the Bank of Canada survey focuses on lending to non-financial firms instead of consumer lending. However, this is a good proxy for lending standards in the consumer debt market. The U.S. Federal Reserve conducts surveys of lending officers involved in both consumer and business loam markets. As Table 18 shows, commercial and industrial lending standards are highly correlated with the lending standards for installment loans and credit-card loans. All three US measures are also correlated with the Senior-Loan Officer Survey in Canada. Figure 26 shows that lending standards contracted sharply during the 2008-09 recession. The analysis in Table 5 indicates that the tightening of lending standards preceded the rise in filings.

A change in lending standards should be reflected in the balance sheet of a household. In particular, more patient lenders will allow borrowers to accumulate more debt during a recession. On the other hand, impatient lenders will restrict access to new loans. Fortunately, our dataset allows us to examine how debt-levels vary over the slowdown, conditional on socio-demographic characteristics and current income and expenses (which are correlated with average income prior to filing). We restrict attention to individuals with housing assets of less $10,000 to help control for any additional unobserved heterogeneity.

Table 17 show filers appeared to have larger debt during and after the recessions. In particular, the debt levels conditional on filer characteristics initially increase and then decline. This suggests that filers were able to obtain more debt prior to the recession and then found it difficult to roll the debt over when the aggregate economic conditions deteriorated. The suggestion of tightening lending standards is further reinforced by the observation that the debt levels of filers decline after the recession.

Figure 27 plots the BOC's weekly-effective lending rate. It suggests that average interest rates were declining during the financial crisis and remained low afterwards. Since higher risk borrowers tend to face higher borrowing interest rates, the fall in the average borrowing rate is consistent with a combination of lower rates for all borrowers, or a reduction in borrowing by higher risk borrowers.

5. Summary

The 2008-09 recession witnessed an almost 50% jump in personal insolvency filings in Canada. Our analysis suggests that while the sharp rise in unemployment that occurred post-Lehman was a key factor in the rise, the tightening of lending standards were also an important factor. We also find that both of these channels play an important role in accounting for cyclical fluctuations in insolvency filings during previous business cycles.

Our analysis of the characteristics of filers documents significant changes in the characteristics of filers over 2007-2011. In particular, both the fraction of unemployed filers and the share of filers with "middle class" characteristics increased during the 2008-09 recession. While this provides supportive evidence for the role of labour and credit market conditions in accounting for the rise in insolvency, it also points to the need to better understand the distribution of household debt across households, and the vulnerability of households to economic shocks. This suggests that further work is needed to better understand the underlying causes of cyclical movements in insolvencies and consumer credit.

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Data Appendix

Variable	Source	Notes
Unemployment	Cansim – Table 282-0087, Table 282-0001	15 years and over
Average of Bank rate	Cansim - Table 176-0043	
Consumer loan rate	Cansim - Table 176-0043	Average of Chartered bank
Mortgage lending rate - 5 year	Cansim - Table 176-0043	Average of Average residential
Prime Business Rate	Cansim - Table 176-0043	Average of Chartered bank administered interest rates –
Consumer credit	Cansim - Table 378-0051	Book Value
Mortgages credit	Cansim - Table 378-0051	Book Value
Home Equity	Cansim - Table 378-0051	Residential structures-Mortgages
Liabilities	Self-Constructed	Consumer Credit + Mortgages
Filer Assets and Liabilities	Cansim Table 177-0001	
Disposable Income	Cansim - Table 380-0019, Table 384-0035	Nominal
Credit Card Delinquencies	Canadian Bankers Association (www.cba.ca)	Delinquency 90 days & over
Population	Cansim Table 051-0026, Table 051-0001	18+
Insolvency Rate	OSB	
Bankruptcies	OSB, Cansim Table 177-0001, Table 177-0003, Ziegel (1997)	
Senior Loan Officer Survey	Bank of Canada	Lending Conditions for Canadian non-financial firms: Balance of Opinion
U.S. Senior Loan Office Survey on Bank Lending Practices	US Board of Governors	Net percentage of banks tightening standards for credit card loans, Net percentage of banks reporting increased willingness to make consumer installment loans, Net percentage of banks tightening standards for C&I loans to large and middle-market firms
Housing Prices	Teranet	
CPI	Cansim 176-0003	
Weekly-effective lending rate	Bank of Canada	The effective interest rate for households is a weighted-average of various mortgage and consumer credit interest rates.

Table Appendix

Table 1 – National Deviation from Trend Correlations with the Insolvency Rate

Initial Year	1966-2011	1977-2011	1980-2011
$Unemployment$	0.29	0.50	0.58
$Unemployment(t-1)$	-0.28	-0.34	-0.33
$Consumer\ Credit/Disposable\ Income$	-0.07	-0.09	-0.14
$Consumer\ Credit/Disposable\ Income\ (t-1)$	0.02	-0.10	-0.21
$Mortgage\ Credit/Disposable\ Income\ (t)$	-0.19	-0.10	-0.14
$Mortgage\ Credit/Disposable\ Income\ (t-1)$	0.08	-0.04	-0.12
$Liability/Home\ Equity$	-0.04	0.18	0.24
$Liability/Home\ Equity\ (t-1)$	0.19	0.20	0.22
$Bank\ Rate$	-0.31	-0.37	-0.41
$Bank\ Rate\ (t-1)$	0.24	0.34	0.35
$Mortgage\ Interest\ Rate$	-0.01	0.04	-0.02
$Mortgage\ Interest\ Rate\ (t-1)$	0.45	0.62	0.69
$Consumer\ Interest\ Rate$			-0.05
$Consumer\ Interest\ Rate\ (t-1)$			0.62
$Credit\ Card\ Delinquencies$		0.63	0.63

Table 2 - National Growth Rate Correlations with the Insolvency Rate

Initial Year	1966-2011	1977-2011	1980-2011
Unemployment	0.34	0.55	0.57
Unemployment(t-1)	-0.28	-0.39	-0.36
Consumer Credit/Disposable Income	-0.01	-0.01	0.00
Consumer Credit/Disposable Income (t-1)	-0.21	-0.13	-0.08
Mortgage Credit/Disposable Income	-0.16	-0.04	-0.02
Mortgage Credit/Disposable Income (t-1)	-0.19	-0.12	-0.08
Liability/Home Equity	0.00	0.19	0.19
Liability/Home Equity (t-1)	-0.23	-0.14	-0.10
Bank Rate	-0.19	-0.31	-0.36
Bank Rate (t-1)	0.27	0.38	0.37
Mortgage Rate	0.05	0.05	-0.01
Mortgage Rate (t-1)	0.21	0.23	0.21
Consumer Interest Rate			-0.05
Consumer Interest Rate (t-1)			0.38
Credit Card Delinquencies		0.60	0.61

Table 3 - Determinants of National Annual Insolvency: 1980-2011

	(1) $\widehat{Ins.\ Rate}_t$	(2) $\widehat{Ins.\ Rate}_t$	(3) $\widehat{Ins.\ Rate}_t$	(4) $\widehat{Ins.\ Rate}_t$	(5) $\widehat{Ins.\ Rate}_t$	(6) $\widehat{Ins.\ Rate}_t$	(7) $\widehat{Ins.\ Rate}_t$	(8) $\widehat{Ins.\ Rate}_t$	(9) $\widehat{Ins.\ Rate}_t$	(10) $\widehat{Ins.\ Rate}_t$
$\widehat{Unemp.\ Rate}_t$	1.045***	1.084***	0.887***	0.933***	1.115***	1.028***	1.114***	0.976***	1.160***	1.198***
	(7.21)	(6.70)	(5.59)	(5.33)	(6.23)	(6.26)	(6.06)	(5.83)	(6.63)	(6.57)
$\widehat{Unemp.\ Rate}_{t-1}$	-0.808***	-0.756***	-0.552**	-0.490*	-0.386	-0.330	-0.392	-0.393	-0.273	-0.241
	(-5.52)	(-4.35)	(-2.96)	(-2.32)	(-1.93)	(-1.62)	(-1.93)	(-1.91)	(-1.37)	(-1.18)
$\widehat{Cons.\ Rate}_t$		0.101		0.117	0.374	0.0369	0.310	0.0110	0.253	0.294
		(0.57)		(0.65)	(1.89)	(0.22)	(1.63)	(0.06)	(1.24)	(1.39)
$\widehat{Cons.\ Rate}_{t-1}$			0.336*	0.344*	0.427*	0.580**	0.402*	0.480**	0.605**	0.656**
			(2.07)	(2.08)	(2.73)	(3.27)	(2.57)	(2.82)	(3.50)	(3.54)
$\widehat{CC/DI}_t$					1.860*				1.297	1.001
					(2.37)				(0.57)	(0.43)
$\widehat{CC/DI}_{t-1}$						2.081*			1.722*	3.529
						(2.51)			(2.08)	(1.48)
$\widehat{M/DI}_t$							1.454*		0.172	0.425
							(2.18)		(0.09)	(0.22)
$\widehat{M/DI}_{t-1}$								2.304		-2.559
								(2.01)		(-0.81)
N	32	32	31	31	31	31	31	31	31	31
adj. R^2	0.652	0.644	0.680	0.674	0.721	0.727	0.713	0.707	0.745	0.741

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4 - Determinants of National Quarterly Bankruptcy: 1991Q1-2012Q1

	(1) $\widehat{Bk'y.\ Rate}_t$	(2) $\widehat{Bk'y.\ Rate}_t$	(3) $\widehat{Bk'y.\ Rate}_t$	(4) $\widehat{Bk'y.\ Rate}_t$	(5) $\widehat{Bk'y.\ Rate}_t$	(6) $\widehat{Bk'y.\ Rate}_t$	(7) $\widehat{Bk'y.\ Rate}_t$	(8) $\widehat{Bk'y.\ Rate}_t$
First Quarter	-0.0379 (-1.02)	-0.0378 (-1.09)	-0.0348 (-1.69)	-0.0369 (-1.65)	-0.0242 (-1.14)	-0.0321 (-1.49)	-0.0289 (-1.41)	-0.0392 (-1.22)
Second Quarter	-0.0142 (-0.33)	0.0146 (0.37)	0.00451 (0.23)	0.00713 (0.33)	0.00477 (0.24)	0.0152 (0.85)	0.0177 (0.88)	0.0334 (0.89)
Third	0.0173 (0.70)	0.0155 (0.63)	0.0235 (1.14)	0.0286 (1.36)	0.0171 (0.82)	0.0155 (0.81)	-0.00213 (-0.09)	0.00111 (0.05)
$\widehat{Unemp.\ Rate}_t$	0.657** (3.22)	0.319 (1.57)	0.299 (1.76)	0.402* (2.52)	0.370* (2.38)	0.366* (2.41)	0.577*** (3.82)	0.435* (2.39)
$\widehat{Unemp.\ Rate}_{t-1}$	0.313 (0.93)	-0.0436 (-0.13)						-0.114 (-0.39)
$\widehat{Unemp.\ Rate}_{t-2}$	-0.504* (-2.07)	-0.478 (-1.90)	-0.591*** (-3.93)	-0.627*** (-4.55)	-0.542*** (-3.93)	-0.529*** (-3.89)	-0.334 (-1.71)	-0.291 (-1.32)
$\widehat{Cons.\ Rate}_t$		-0.328** (-3.22)	-0.316*** (-4.53)	-0.246*** (-3.63)	-0.257*** (-3.89)	-0.255*** (-3.98)		-0.323** (-3.33)
$\widehat{Cons.\ Rate}_{t-1}$		-0.00201 (-0.01)					-0.234* (-2.38)	0.0836 (0.62)
$\widehat{Cons.\ Rate}_{t-2}$		0.0505 (0.47)					0.173 (1.87)	0.0655 (0.66)
$\widehat{CC/DI}_t$				1.348 (1.58)	1.472 (1.47)	1.131 (1.38)	2.027** (2.96)	0.419 (0.31)
$\widehat{CC/DI}_{t-1}$				0.832 (0.79)		2.455** (2.68)		1.607 (0.93)
$\widehat{CC/DI}_{t-2}$				0.656 (0.78)	2.341* (2.26)		2.046* (2.49)	1.987 (1.46)
$\widehat{Mort/DI}_t$					0.0994 (0.07)			1.299 (0.79)
$\widehat{Mort/DI}_{t-1}$					0.0279 (0.02)	-2.338** (-2.67)		-1.448 (-0.72)
$\widehat{Mort/DI}_{t-2}$					-2.533 (-1.95)		-2.446** (-2.71)	-2.002 (-1.31)
N	85	85	85	85	85	85	85	85
adj. R^2	0.282	0.405	0.424	0.524	0.556	0.561	0.508	0.553

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5 - Determinants of National Quarterly Bankruptcy: 1999Q2-2012Q1

	(1) $\widehat{Bk'y.\ Rate_t}$	(2) $\widehat{Bk'y.\ Rate_t}$	(3) $\widehat{Bk'y.\ Rate_t}$	(4) $\widehat{Bk'y.\ Rate_t}$	(5) $\widehat{Bk'y.\ Rate_t}$	(6) $\widehat{Bk'y.\ Rate_t}$
First Quarter	-0.0350 (-1.57)	-0.0329 (-1.50)	-0.0448* (-2.27)	-0.0358 (-1.92)	-0.0336 (-1.78)	-0.0365 (-1.96)
Second Quarter	0.00717 (0.38)	0.0221 (1.06)	0.0449* (2.32)	0.0344 (2.00)	0.0370* (2.12)	0.0428* (2.21)
Third Quarter	0.0140 (0.74)	0.00111 (0.05)	-0.00146 (-0.09)	0.00244 (0.15)	0.00181 (0.11)	0.00273 (0.16)
$\widehat{Unemp.\ Rate_t}$	0.546** (3.29)	0.540** (3.31)	0.539** (3.51)	0.488** (3.31)	0.557*** (3.76)	0.470** (3.07)
$\widehat{Unemp.\ Rate_{t-2}}$	-0.587*** (-4.21)	-0.426* (-2.50)	-0.272 (-1.84)	-0.320* (-2.50)	-0.406** (-3.33)	-0.283 (-1.91)
$\widehat{Cons.\ Rate_t}$	-0.184* (-2.50)	-0.156* (-2.11)	-0.0917 (-1.34)	-0.0817 (-1.27)	-0.0532 (-0.81)	-0.0526 (-0.82)
$\widehat{CC/DI_t}$	1.325 (1.57)	1.358 (1.64)	1.103 (1.50)	1.158 (1.67)	0.989 (1.40)	1.001 (1.45)
$\widehat{CC/DI_{t-1}}$	1.115 (0.95)	1.438 (1.22)	1.688 (1.57)	1.295 (1.23)	0.575 (0.53)	1.007 (0.94)
$\widehat{Mort/DI_t}$	-0.332 (-0.26)	-0.796 (-0.61)	-0.449 (-0.36)	0.145 (0.11)	1.366 (1.03)	0.817 (0.62)
$SLOS_t$		0.0714 (1.59)				-0.0446 (-0.87)
$SLOS_{t-1}$			0.142*** (3.58)			0.0934 (1.58)
$SLOS_{t-2}$				0.153*** (4.20)		0.0494 (0.83)
$SLOS_{t-3}$					0.161*** (4.47)	0.0927 (1.83)
N	52	52	51	50	49	49
adj. R^2	0.664	0.676	0.750	0.782	0.791	0.803

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

All series are deviations from ln trends, except for SLOS which is just deviations from trend. The standard deviation of SLOS is .29.

Table 6 - Determinants of Annual Provincial Insolvency: 1987-2011

	(1) $Ins.\ \widehat{Rate}_{p,t}$	(2) $Ins.\ \widehat{Rate}_{p,t}$	(3) $Ins.\ \widehat{Rate}_{p,t}$	(4) $Ins.\ \widehat{Rate}_{p,t}$
$Unemp.\ \widehat{Rate}_{p,t}$	0.997***	1.060***	0.895***	0.914***
	(16.60)	(15.14)	(16.25)	(13.95)
$Unemp.\ \widehat{Rate}_{p,t-1}$	-0.452***	-0.421***	-0.135*	-0.130
	(-7.47)	(-6.72)	(-2.01)	(-1.92)
$Cons.\ \widehat{Rate}_t$		0.146		0.0416
		(1.74)		(0.54)
$Cons.\ \widehat{Rate}_{t-1}$			0.572***	0.565***
			(8.06)	(7.83)
N	250	250	250	250
adj. R^2	0.524	0.528	0.622	0.621

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Weighted by Provincial Population

	(1) $Ins.\ \widehat{Rate}_{p,t}$	(2) $Ins.\ \widehat{Rate}_{p,t}$	(3) $Ins.\ \widehat{Rate}_{p,t}$	(4) $Ins.\ \widehat{Rate}_{p,t}$
First Quarter	-0.0619*** (-5.09)	0.000643 (0.04)	0.0153 (1.11)	0.00416 (0.32)
Second Quarter	0.0347** (3.01)	-0.0321 (-1.95)	-0.0110 (-0.80)	-0.000950 (-0.07)
Third Quarter	-0.0164 (-1.43)	0.00538 (0.46)	0.0204* (2.08)	0.00987 (1.05)
$Unemp.\ \widehat{Rate}_{p,t}$	0.754*** (15.49)	0.575*** (8.97)	0.234*** (3.65)	0.240*** (3.98)
$Unemp.\ \widehat{Rate}_{p,t-1}$		0.508*** (5.21)	0.406*** (4.97)	0.429*** (5.52)
$Unemp.\ \widehat{Rate}_{p,t-2}$		-0.372*** (-4.77)	-0.325*** (-5.02)	-0.118 (-1.63)
$Cons.\ \widehat{Rate}_t$			-0.884*** (-9.49)	-1.058*** (-8.11)
$Cons.\ \widehat{Rate}_{t-1}$				0.0154 (0.09)
$Cons.\ \widehat{Rate}_{t-2}$				0.535*** (3.96)
N	200	200	200	200
adj. R^2	0.557	0.612	0.734	0.766

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Weighted by Provincial Population

Table 8 - Determinants of Annual City Insolvency: 1999-2010

	(1) $Ins.\widehat{Rate}_{c,t}$	(2) $Ins.\widehat{Rate}_{c,t}$	(3) $Ins.\widehat{Rate}_{c,t}$	(4) $Ins.\widehat{Rate}_{c,t}$
$Unemp.\widehat{Rate}_{c,t}$	0.576^{***}	0.298^{***}	0.298^{***}	0.338^{***}
	(9.77)	(4.94)	(4.06)	(5.09)
$House.\widehat{Prices}_{c,t}$		-1.323^{***}	-1.323^{***}	-1.247^{***}
		(-7.80)	(-7.71)	(-7.04)
$Cons.\widehat{Rate}_{t}$			-0.00177	
			(-0.01)	
$Cons.\widehat{Rate}_{t-2}$				0.129
				(1.41)
N	132	132	132	132
adj. R^2	0.417	0.600	0.597	0.603

t statistics in parentheses
$^{*} p < 0.05$, $^{**} p < 0.01$, $^{***} p < 0.001$

Table 9 – Annual Filing Rates

Period	Insolvency Rate	Consumer Proposal Rate	Bankruptcy Rate
07/2007-06/ 2008	3.99	0.86	3.13
07/2008-06/ 2009	5.14	1.12	4.02
07/2009-06/ 2010	5.38	1.48	3.90
07/2010-06/ 2011	4.73	1.61	3.11

Table 10 – Employment Income of Filers

Period	Fraction Receiving EI	Fraction Unemployed	Real[22] Monthly Household Income ($)
07/2007-06/ 2008	0.071	0.342	1952
07/2008-06/ 2009	0.087	0.355	2037
07/2009-06/ 2010	0.094	0.365	2108
07/2010-06/ 2011	0.079	0.367	2113

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[22] Income is deflated using the all-item CPI with 2002 as the base year.

Table 11 – Socio-demographic Characteristics

Period	Age	Cohabitation Rate	Cohabitation and Kids	Homeownership Rate	Fraction of Males
07/2007-06/ 2008	42.9	0.36	0.61	0.18	0.54
07/2008-06/ 2009	43.3	0.38	0.62	0.23	0.53
07/2009-06/ 2010	44.3	0.40	0.63	0.26	0.52
07/2010-06/ 2011	45.5	0.39	0.62	0.26	0.52

Table 12 – Filer Balance Sheet Characteristics

	Total Liabilities			Total Unsecured Liabilities			Assets		
Period	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.
07/2007-06/ 2008	66533	34747	85676	38571	28681	42071	33202	1978	75290
07/2008-06/ 2009	83636	39618	106511	42109	31449	43882	47193	3000	94114
07/2009-06/ 2010	92873	42782	115525	43835	32615	44718	55561	3701	104782
07/2010-06/ 2011	94790	43251	117917	44099	32730	44881	57798	3800	107346

Table 13 – Filer Net worth

	Networth			Networth to Income	
Period	Mean	Median	Std. Dev.	Mean	Median
07/2007-06/ 2008	-33332	-25250	46133	-15.1467	-12.4844
07/2008-06/ 2009	-36443	-27446	47230	-15.5754	-12.9339
07/2009-06/ 2010	-37311	-28046	50117	-15.343	-12.7171
07/2010-06/ 2011	-36992	-27775	49229	-14.8118	-14.8118

Table 14 - Unemployment as Predictors of Provincial Filer Characteristics: 2007Q1-2011Q2

	(1)	(2)	(3)	(4)	(5)	(6)
	Age	Cohabitation	Cohabitation if kids	Home Owner	Proposal Fraction	Male
Unemployment Rate Change	0.00188 (1.75)	0.00991* (2.50)	0.0241*** (5.83)	0.0204* (2.20)	-0.00332 (-0.20)	0.00982** (3.21)
Unemployment Rate Change (t-1)	-0.000907 (-0.85)	-0.00674 (-1.70)		-0.000323 (-0.03)	-0.0456** (-2.74)	-0.00705* (-2.30)
Reform					0.194*** (4.20)	
Constant	0.00371*** (3.83)	0.00736* (2.05)	0.000382 (0.10)	0.0402*** (4.81)	0.0290 (1.80)	-0.00348 (-1.26)
N	170	170	170	170	170	170
adj. R^2	0.019	0.063	0.163	0.020	0.124	0.110

*Note: Dependent variables expressed as growth rates of means. Reform is an indicator for second half of 2009 to capture increased proposal limits. t statistics in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

Table 15 - Unemployment as Predictors of Provincial Filer Characteristics: 2007Q1-2011Q2

	(1) Filer Income	(2) Total Assets	(3) Networth to Income	(4) Mean Networth	(5) Total Liabilities	(6) Total Uns. Liabilities
Unemployment Change	-0.00185 (-0.79)	0.0207^{*} (2.23)	0.0158^{**} (2.78)	0.0143^{**} (2.66)	0.0173^{***} (3.47)	0.0115^{***} (3.66)
Unemployment Change (t-1)	-0.00168 (-0.72)	-0.00889 (-0.96)	0.0123^{*} (2.16)	0.0110^{*} (2.05)	0.00139 (0.28)	0.00509 (1.62)
Constant	0.00830^{***} (3.91)	0.0566^{***} (6.74)	-0.00177 (-0.34)	0.00962^{*} (1.98)	0.0312^{***} (6.93)	0.0120^{***} (4.23)
N	170	170	170	170	170	170
adj. R^2	-0.007	0.035	0.042	0.038	0.060	0.064

Note: Dependent variables expressed as growth rates of means. t statistics in parentheses

$^{*} p < 0.05$, $^{**} p < 0.01$, $^{***} p < 0.001$

Table 16 - Unemployment as Predictors of Filers by age: 2007Q1-2011Q2

	$\widehat{Ins.\ Rate}_t$ Ages 25-29	$\widehat{Ins.\ Rate}_t$ Ages 30-34	$\widehat{Ins.\ Rate}_t$ Ages 35-39	$\widehat{Ins.\ Rate}_t$ Ages 40-44	$\widehat{Ins.\ Rate}_t$ Ages 45-49	$\widehat{Ins.\ Rate}_t$ Ages 50-54	$\widehat{Ins.\ Rate}_t$ Ages 55-59	$\widehat{Ins.\ Rate}_t$ Ages 60-64
q1	-0.0524*	-0.0783***	-0.0662***	-0.0704***	-0.0459**	-0.0298	-0.0223	0.00427
	(-2.40)	(-4.04)	(-3.65)	(-3.89)	(-2.66)	(-1.56)	(-1.25)	-0.21
q2	0.0206	0.0389*	0.0484**	0.0362*	0.0548**	0.0047	0.0185	0.00359
	-0.98	-2.09	-2.74	-2.08	-3.23	-0.27	-1.1	-0.18
q3	0.0153	0.0192	0.0168	0.013	-0.00946	0.00564	0.0209	0.0095
	-0.7	-1.02	-0.86	-0.75	(-0.53)	-0.31	-1.17	-0.46
$\widehat{Unemp.\ Rate}_t$ Ages 25-29	0.333*** -4.48							
$\widehat{Unemp.\ Rate}_{t-1}$ Ages 25-29	-0.0188 (-0.24)							
$\widehat{Unemp.\ Rate}_t$ Ages 30-34		0.408*** -6.68						
$\widehat{Unemp.\ Rate}_{t-1}$ Ages 30-34		0.0807 -1.25						
$\widehat{Unemp.\ Rate}_t$ Ages 35-39			0.368*** -6.17					
$\widehat{Unemp.\ Rate}_{t-1}$ Ages 35-39			0.11 -1.75					
$\widehat{Unemp.\ Rate}_t$ Ages 40-44				0.383*** -7.18				
$\widehat{Unemp.\ Rate}_{t-1}$ Ages 40-44				0.103 -1.74				
$\widehat{Unemp.\ Rate}_t$ Ages 45-49					0.341*** -5.91			
$\widehat{Unemp.\ Rate}_{t-1}$ Ages 45-49					0.0537 -0.9			
$\widehat{Unemp.\ Rate}_t$ Ages 50-54						0.316*** -5.68		
$\widehat{Unemp.\ Rate}_{t-1}$ Ages 50-54						0.145* -2.5		
$\widehat{Unemp.\ Rate}_t$ Ages 55-59							0.353*** -6.37	
$\widehat{Unemp.\ Rate}_{t-1}$ Ages 55-59							0.252*** -4.44	
$\widehat{Unemp.\ Rate}_t$ Ages 60-64								0.105 -1.95
$\widehat{Unemp.\ Rate}_{t-1}$ Ages 60-64								0.184** -3.29
N	180	180	180	180	180	180	180	180
adj. R^2	0.106	0.317	0.27	0.322	0.273	0.261	0.297	0.083

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 17 - Debt Levels for Individuals with Less than $10,000 in Housing Assets

	(1) Total Debt	(2) Unsecured Debt	(3) Secured Debt
p2	2035.1***	1128.6***	906.7***
	(10.31)	(6.48)	(9.33)
p3	2421.2***	1305.9***	1120.4***
	(12.37)	(7.56)	(11.62)
p4	1316.6***	314.2	1007.2***
	(6.55)	(1.77)	(10.18)
Age	1025.7***	1402.5***	-378.4***
	(35.15)	(54.50)	(-26.34)
Age Squared	-9.766***	-12.47***	2.724***
	(-32.11)	(-46.50)	(18.19)
Male	5282.7***	5350.9***	-77.76
	(37.55)	(43.12)	(-1.12)
Cohabitating	1938.8***	1895.7***	43.26
	(10.57)	(11.72)	(0.48)
Single Parent	976.6***	1724.7***	-748.1***
	(3.82)	(7.66)	(-5.95)
Kids	293.8**	-459.0***	756.2***
	(3.21)	(-5.69)	(16.80)
Available Family Inc	-0.0437	0.122***	-0.164***
	(-1.28)	(4.07)	(-9.82)
Assets	0.942***	0.0630***	0.879***
	(980.48)	(74.36)	(1857.84)
Housing Expense	8.556***	3.623***	4.940***
	(46.67)	(22.40)	(54.72)
Insurance Expense	22.33***	27.70***	-5.328***
	(29.65)	(41.72)	(-14.37)
Medical Expense	16.56***	25.89***	-9.333***
	(10.97)	(19.45)	(-12.56)
Non Dis Expense	10.81***	11.69***	-0.976***
	(37.86)	(46.45)	(-6.94)
Provincial Controls	Yes	Yes	Yes
N	374963	374963	374963
adj. R^2	0.882	0.533	0.945

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 18 - Relationships between Lending Standard Surveys

1999Q2-2012Q2

	BOC	FED - CC	FED- Ins	FED- C&I
BOC	1			
FED - CC	0.71	1		
FED-Ins	0.78	0.82	1	
FED- C&I	0.86	0.78	0.85	1

Table 19 - Variance Decomposition for National Regression with Annual Data: 1980-2011

Individual Covariate	R^2	Partial R^2	Semi-Partial R^2
Unemp	0.34	0.65	0.40
Unemp(t-1)	0.11	0.13	0.03
Cons Rate (t-1)	0.39	0.32	0.10
CC/DI (t-1)	0.06	0.21	0.05
Mort/DI(t)	0.04	0.08	0.02
All	0.79		

Table 20 - Variance Decomposition for National Regression with Quarterly Data: 1991Q1-2012Q1

Individual Covariate	R^2	Partial R^2	Semi-Partial R^2
q1	0.00	0.02	0.01
q2	0.06	0.00	0.00
q3	0.02	0.00	0.00
Unemp	0.18	0.06	0.02
Unemp(t-2)	0.55	0.17	0.08
Cons Rate (t)	0.28	0.13	0.06
CC/DI (t)	0.14	0.02	0.01
CC/DI (t-1)	0.08	0.09	0.04
Mort/DI(t-1)	0.00	0.09	0.04
All	0.61		

Table 21 - Correlations between Annual Variables - 1980-2011 – Deviations from Trend

	Ins. Rate(t)	Unemp Rate(t)	Unemp Rate(t-1)	Cons. Rate (t)	Cons. Rate (t-1)	CC/DI(t)	CC/DI(t-1)	Mort/DI(t)	Mort/DI(t-1)
Ins. Rate(t)	1.00								
Unemp Rate(t)	0.58	1.00							
Unemp Rate(t-1)	-0.32	0.37	1.00						
Cons. Rate (t)	-0.05	-0.57	-0.61	1.00					
Cons. Rate (t-1)	0.62	0.17	-0.54	0.14	1.00				
CC/DI(t)	-0.14	-0.22	0.11	-0.31	-0.28	1.00			
CC/DI(t-1)	-0.21	-0.55	-0.25	0.45	-0.39	0.23	1.00		
Mort/DI(t)	-0.14	-0.34	-0.02	-0.15	-0.22	0.95	0.28	1.00	
Mort/DI(t-1)	-0.12	-0.50	-0.30	0.52	-0.26	0.14	0.95	0.21	1.00

Table 22 - Correlations between Quarterly Variables - 1991Q1-2012Q1 – Deviations from Trend

	Bankruptcy	q1	q2	q3	Unemp (t)	Unemp (t-1)	Unemp (t-2)	Cons Rate (t)	Cons Rate (t-1)	Cons Rate (t-2)	CC/DI (t)	CC/DI (t-1)	CC/DI (t-2)	Mort/DI (t)	Mort/DI (t-1)	Mort/DI (t-2)
Bankruptcy	1.00															
q1	-0.02	1.00														
q2	0.27	-0.34	1.00													
q3	-0.15	-0.34	-0.33	1.00												
Unemp	0.42	0.49	0.04	-0.07	1.00											
Unemp(t-1)	0.35	-0.49	0.51	0.05	0.40	1.00										
Unemp(t-2)	-0.07	-0.13	-0.43	0.51	0.32	0.43	1.00									
Cons Rate (t)	-0.53	0.01	-0.02	0.00	-0.68	-0.63	-0.50	1.00								
Cons Rate (t-1)	-0.37	0.04	-0.02	-0.02	-0.64	-0.69	-0.63	0.87	1.00							
Cons Rate (t-2)	-0.16	0.03	0.01	-0.02	-0.50	-0.64	-0.68	0.66	0.87	1.00						
CC/DI(t)	0.38	-0.37	-0.02	0.20	-0.04	0.29	0.25	-0.28	-0.30	-0.25	1.00					
CC/DI(t-1)	0.29	0.21	-0.34	-0.05	0.13	-0.07	0.22	-0.22	-0.25	-0.27	0.61	1.00				
CC/DI(t-3)	0.34	0.18	0.24	-0.37	0.15	0.10	-0.13	-0.10	-0.20	-0.22	0.36	0.60	1.00			
Mort/DI(t)	0.10	-0.36	-0.06	0.23	0.02	0.35	0.38	-0.31	-0.39	-0.37	0.65	0.26	0.02	1.00		
Mort/DI (t-1)	-0.01	0.17	-0.36	-0.05	0.16	0.02	0.35	-0.28	-0.31	-0.39	0.32	0.65	0.27	0.58	1.00	
Mort/DI (t-2)	0.05	0.21	0.18	-0.35	0.21	0.13	0.00	-0.15	-0.27	-0.31	0.12	0.32	0.65	0.32	0.58	1.00

Table 23 - Direct Contribution of More Unemployed Workers

Period	Filers Reporting No Employment Income or Collecting EI	Total Filers	Contribution (%)
07/2007-06/ 2008	27040	77122	
07/2008-06/ 2009	36320	99621	0.41
07/2009-06/ 2010	39513	104748	0.62
07/2010-06/ 2011	35346	93760	0.38

Table 24 - Decomposition for Provincial Regression with Annual Data: 1987-2011

Individual Covariate	R^2	Partial R^2	Semi-Partial R^2
Prov. Unemp	0.42	0.44	0.30
Prov. Unemp(t-1)	0.00	0.01	0.01
Cons Rate (t)	0.18	0.00	0.00
Cons Rate (t-1)	0.13	0.20	0.09
All	0.63		

Figure Appendix

Figure 1 - Annual Unemployment and Consumer Insolvency Rate: 1966-2011
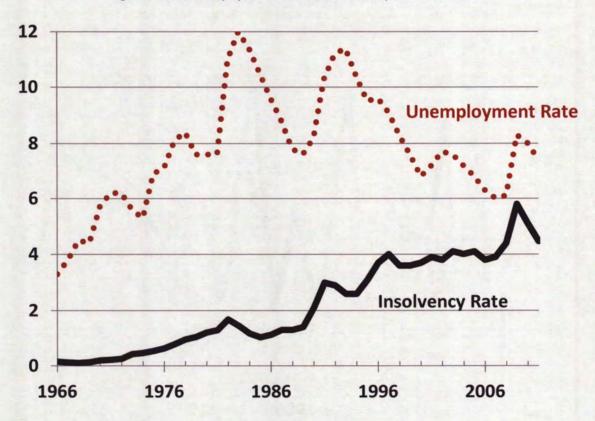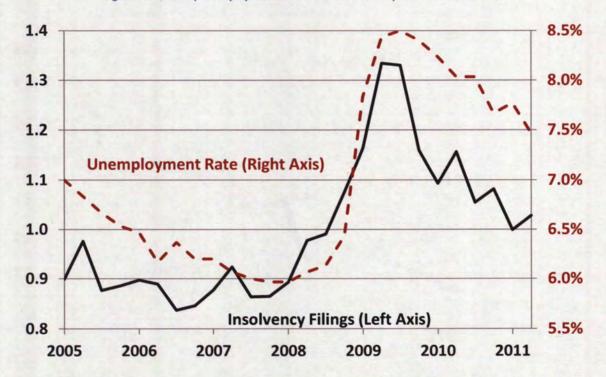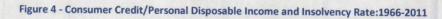
Figure 2 -- Quarterly Unemployment and Consumer Insolvency Rate: 2005Q1-2011Q2

Figure 3 - Annual Unemployment and Consumer Insolvency Rate: Deviations from HP-Trend

Figure 4 - Consumer Credit/Personal Disposable Income and Insolvency Rate:1966-2011
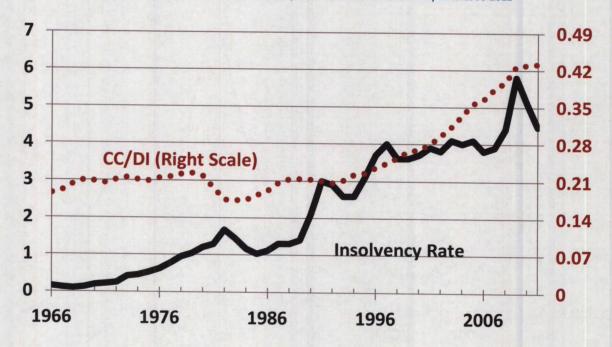
Figure 5 - Mortgage Debt/ Personal Disposable Income and Insolvency Rate: 1966-2011
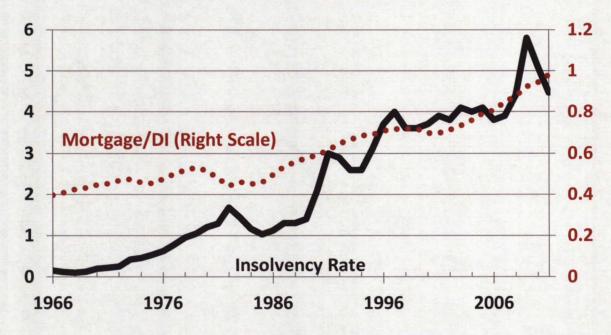
Figure 6 - Bank Rate and Insolvency Rate: 1966-2011
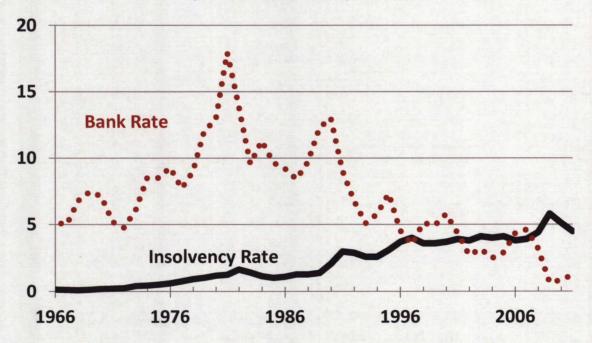
Figure 7 - Consumer Loan and Insolvency Rate: 1980-2011
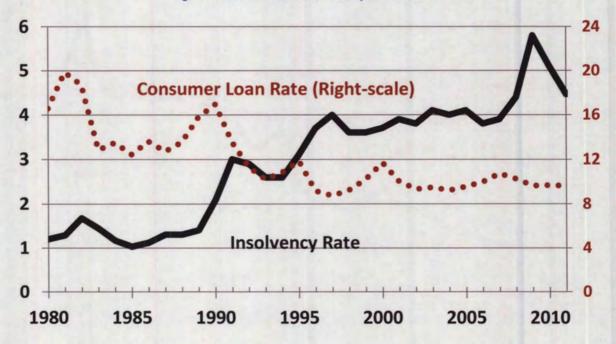
Figure 8 - Consumer Loan and Mortgage Rate: 1966-2011
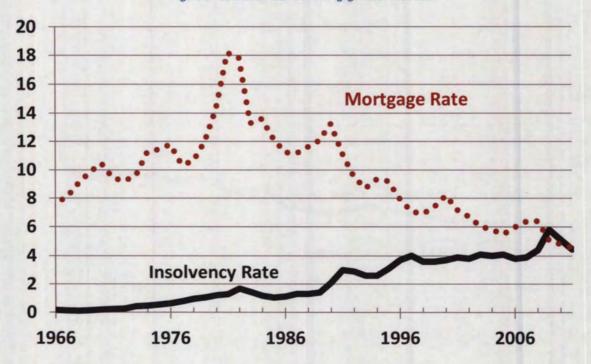
Figure 9 - Credit Card Delinquency and Insolvency Rate: 1966-2011
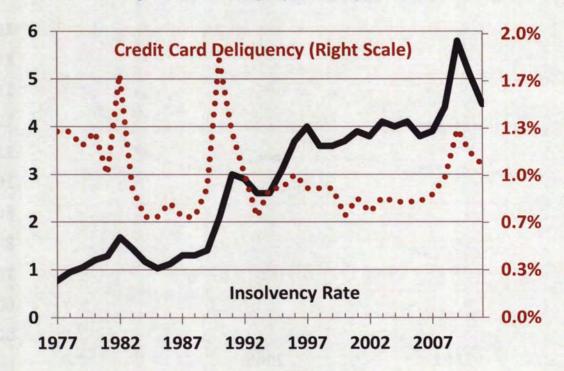
Figure 10 - Housing Affordability and Insolvency Rate: 1981-2011
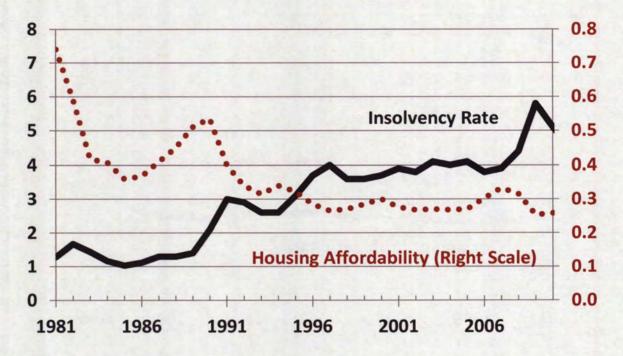
Figure 11 - House Price Index and Consumer Insolvency: 1999-2011
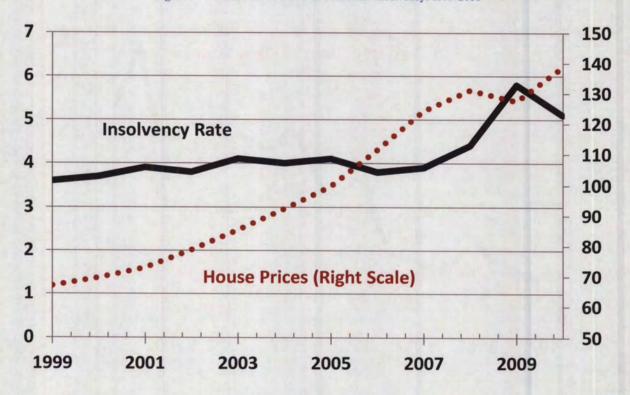
Figure 12- Consumer and Business Insolvencies
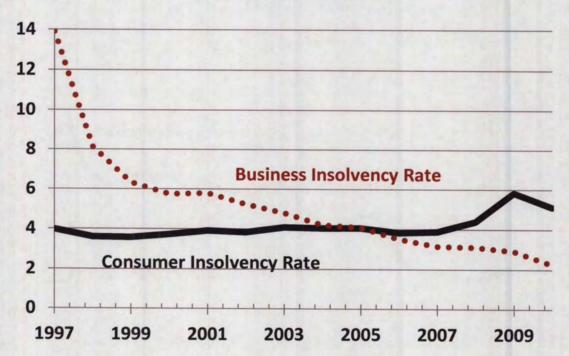
Figure 13

Fraction of Filers that Operated a Business

Figure 14

Real Household Monthly Income
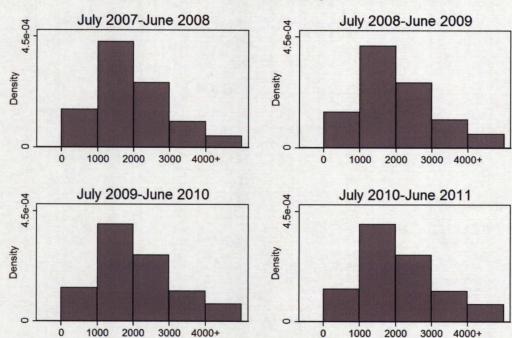
Figure 15 - Insolvency Rates by Age Cohort

Graphs by Age

Figure 16

Networth to Income ($)

Figure 17

Debt to Income ($)

Figure 18

Debt to Assets ($)
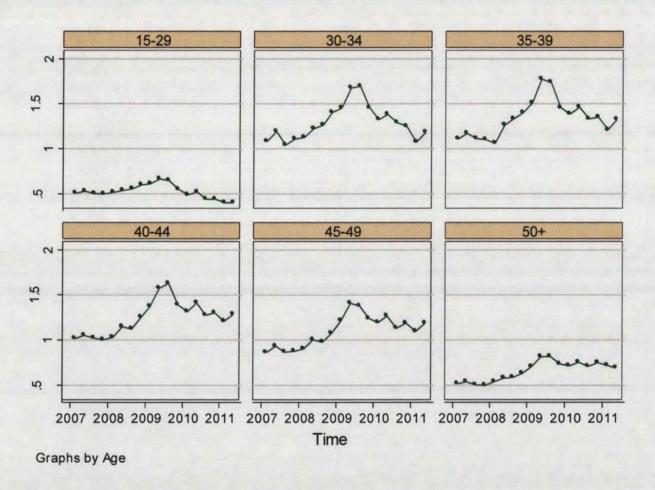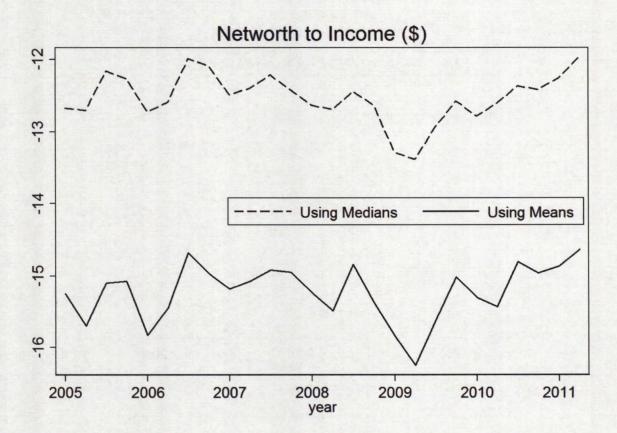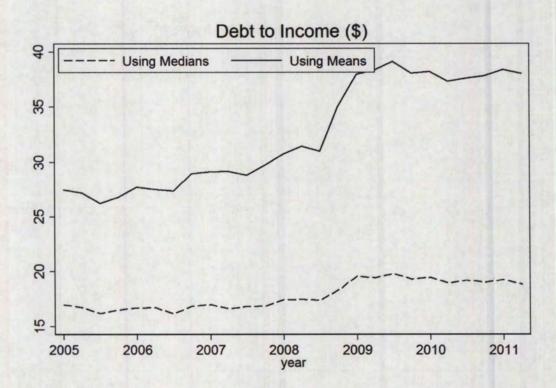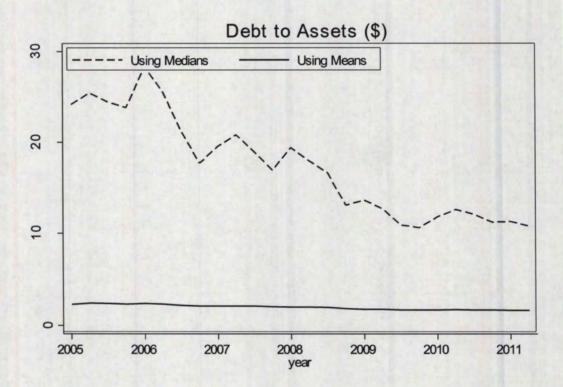
Fraction of Filer Assets

Cash

Property

Vehicle
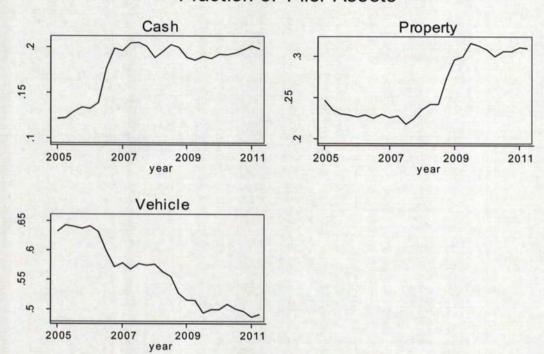
Figure 20

Fraction of Filers with Assets>$1000

Cash

Property

Vehicle
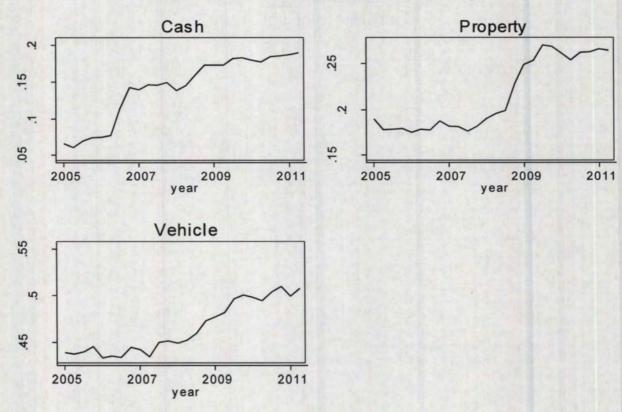
Figure 21

Fraction of Filer Debts
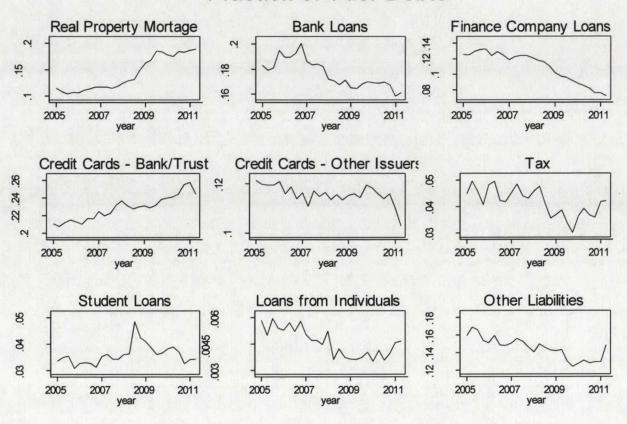
Fraction of Filers with Debts>$1000
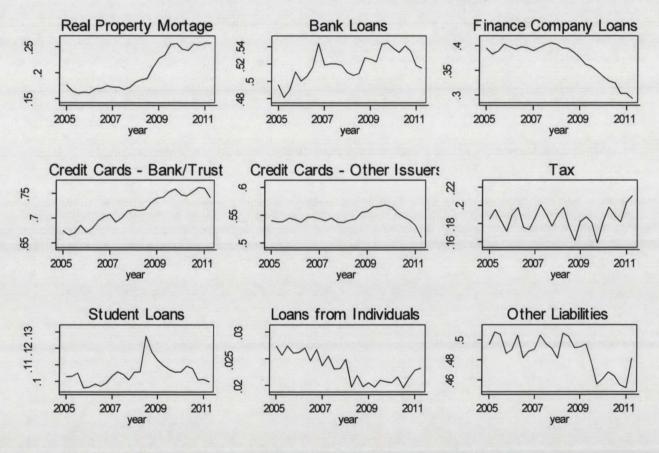
Figure 23 – Fraction of Filers with Student Loan Debt
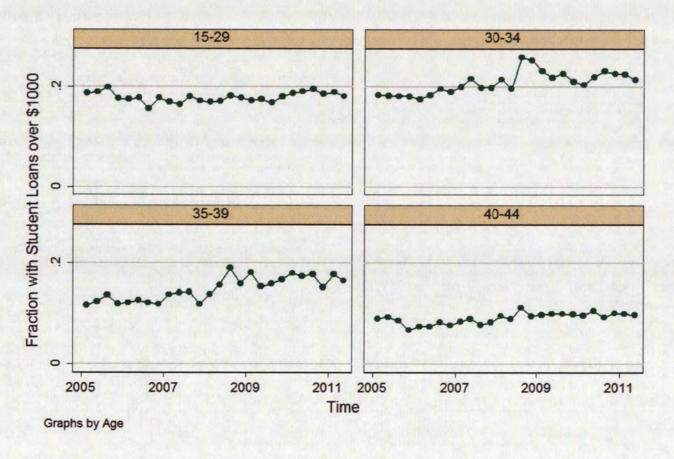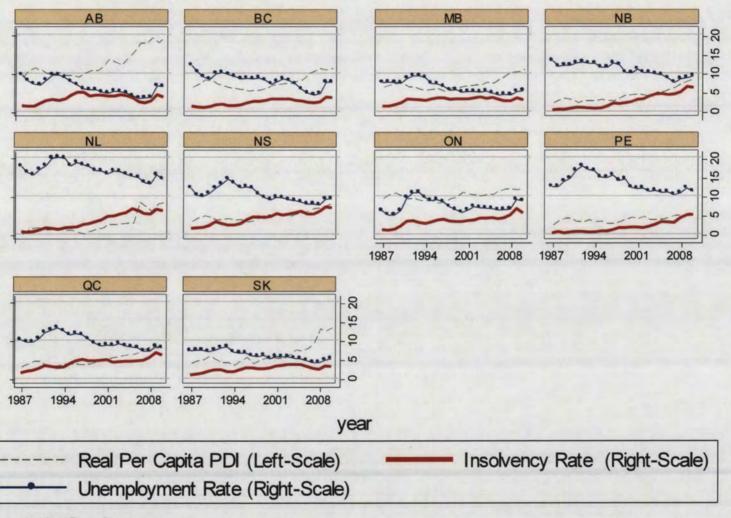
Figure 24 - Personal Disposable Income, Unemployment and Insolvency from 1987-2010

Real Per Capita PDI (Left-Scale)
Unemployment Rate (Right-Scale)
Insolvency Rate (Right-Scale)

Graphs by Province
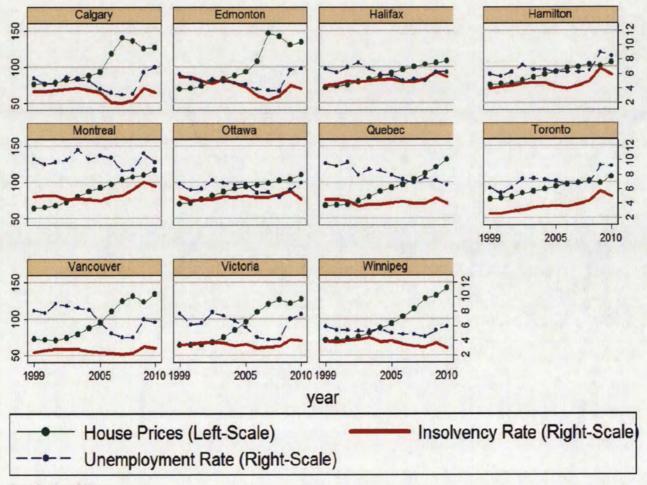
Figure 25 - Unemployment, House Prices and Insolvency Rates by City: 1999-2010

Graphs by City

Figure 26 – Business Lending Standards
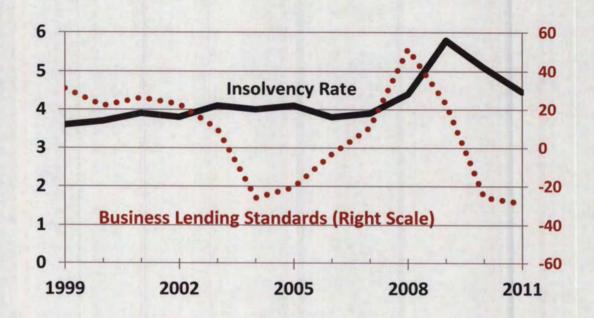
Figure 27 – Weekly Effective Interest Rate: 2007:Q3 - 2011:Q1
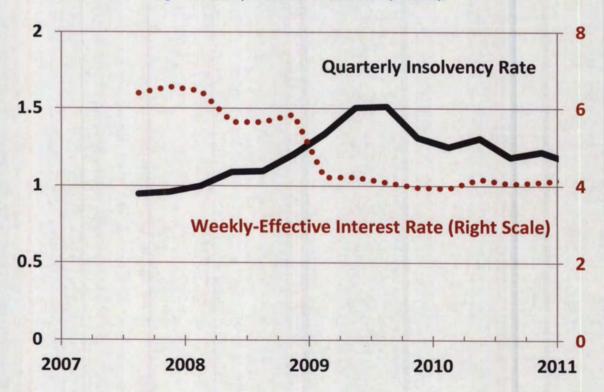
Figure 28 - Average Filer Assets in 2002 Dollars: 1976-2009
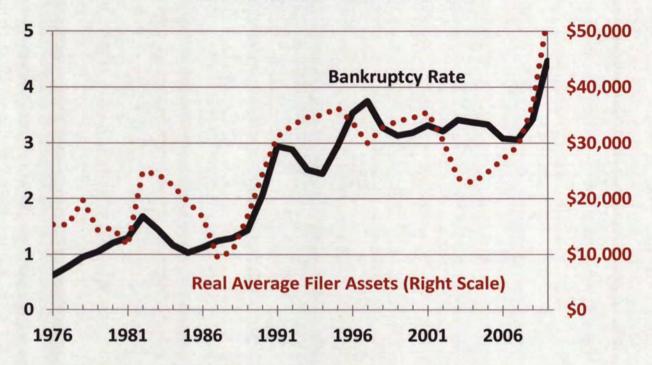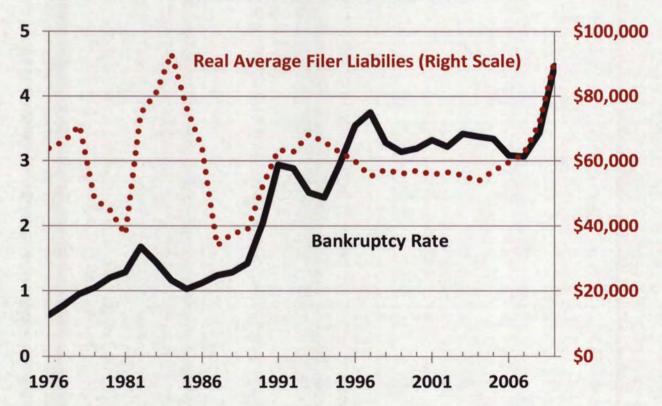
Figure 29 – Average Filer Liabilities in 2002 Dollars: 1976-2009