

# Regulatory Changes and New Banking: the Case of Canada

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## Abstract

This paper documents some stylized facts about Canadian banking. I explore these empirical facts in the context of the Canadian financial legislation. I find that, over the 1990s, Canadian businesses became more heavily dependent on financial markets as their primary source of external funding. Data display a trend towards a more “market-oriented” financial system. The analysis also suggests that this new trend started after the 1980 banking legislation amendments. The trend was considerably accentuated after the 1992 amendments. I construct a new series for market-oriented activities of Canadian banks that converts the non-interest income of banks into an asset equivalent. Combined with other evidence, this credit equivalent series suggests a healthy growth trend in banking. Financial institutions are broadening their business lines and participating more actively in the arrangement of market financing, a phenomenon that could be called new banking.

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**Keywords:** *Indirect finance, non-interest income, regulatory changes* **JEL:** G20, G21

# 1 Introduction

This study is documenting some facts regarding Canadian external financing. I describe the financial trend, i.e. the trend in the way firms get their external financing. The main observation is that the financial system is becoming more market-based, with a greater proportion of financing being done through corporate bonds and equity. Moreover, the intermediaries providing indirect financing to Canadian firms are also more “market-oriented”, because they are increasingly involved with financial market activities such as underwriting securities.

The contribution of this paper is to relate this new trend to Canadian legislative developments, which allowed financial intermediaries, especially banks, to become more market-oriented. The regular revisions in Canadian financial legislation often happen when market conditions shift (Freedman and Goodlet 1992, Engert et al 1999, Engert and Freedman 2003). They are usually followed by a series of financial innovations as intermediaries adjust to the new regulatory environment and take advantage of it. In turn, these financial innovations can potentially lead to a structural break in the nature of external financing.

The legislative restructuring is undoubtedly related to market conditions, and both lead to structural changes in the Canadian financial system. Consequently, in this paper, I recognize the endogeneity of regulatory changes and consider Canadian legislative developments and market conditions almost interchangeably to discuss how the legislative environment can potentially contribute to the change in the trend of external financing.

The aim of the paper is to document some stylized facts about Canadian banking, by exploring these empirical facts in the context of the Canadian financial legislation. As it stands, the Canadian financial system has evolved from its

traditional four-pillars structure<sup>1</sup> into a resilient, complex financial web. It is reasonable to think that this transformation is somewhat related to legislative revisions. The next section describes the trends I draw from the data, while the third section explains them in relation to regulatory changes. Simple econometric exercise suggests that regulatory revisions might have contributed to the structural trend-breaks I observe in the data. Last section concludes.

## 2 Indirect Finance

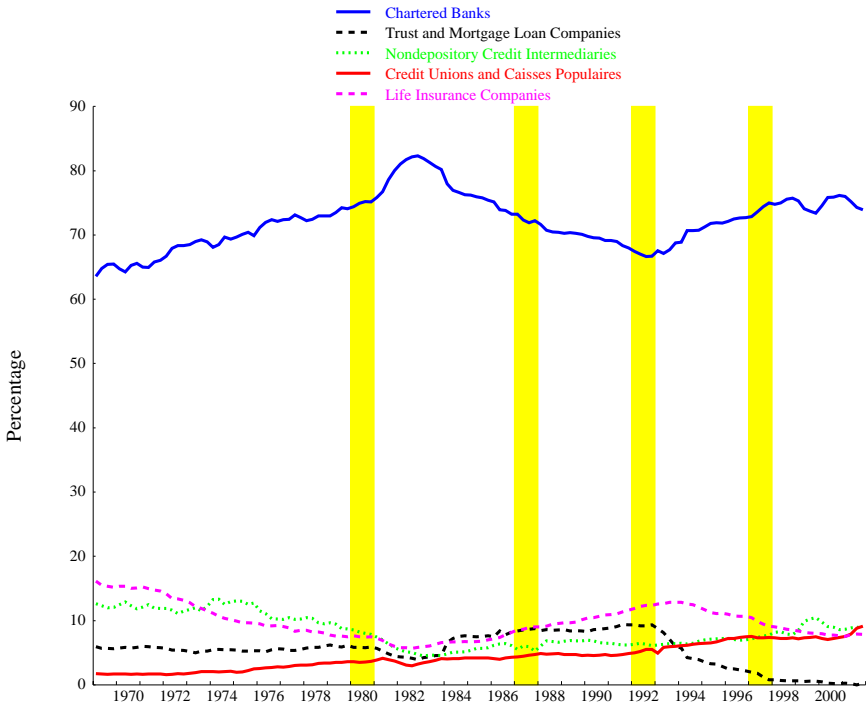
### 2.1 Canadian banks and other financial institutions

Indirect finance involves a financial intermediary that stands between lender-savers and borrower-spenders and helps transfer funds from one to the other. The principal financial intermediaries that exist in Canada are: (1) chartered banks; (2) trusts and mortgage loan companies; (3) non-depository credit intermediaries; (4) credit unions and caisses populaires; and (5) life insurance companies. Figure 1 provides a comprehensive way of looking at the 30-year-evolution of loan provision to non-financial businesses by these five categories. In the figure, the *Chartered Banks* category includes business loans, foreign currency loans to residents, bankers' acceptances, non-residential mortgages, and leasing receivables. Securitization is not included since it does not constitute a purely indirect financing activity. The loans extended by *Trust and Mortgage Loan Companies* are composed of non-residential mortgages, leasing receivables, and short-term business loans. The category of *Non-depository Credit Intermediaries* also consists of business loans, non-residential mortgages, and leasing receivables. Finally, the loans extended by *Credit Unions*

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<sup>1</sup>Canadian financial system used to be divided into four distinct pillars: banking, insurance, securities, and trust services. Participants in each of these "pillars" were generally confined to offering products and services within their respective core businesses. For more detailed definition of the traditional financial system see Binhammer (1993).

Figure 1: Shares of Non-Financial Canadian Business Loans Extended by Financial Institutions (in Canadian Dollars)



Note: The vertical lines represent the years in which significant revisions of the Bank Act were made.

*and Caisses Populaires* is a category composed of short-term business loans and non-residential mortgages, while *Life Insurance Companies* category includes only non-residential mortgages.

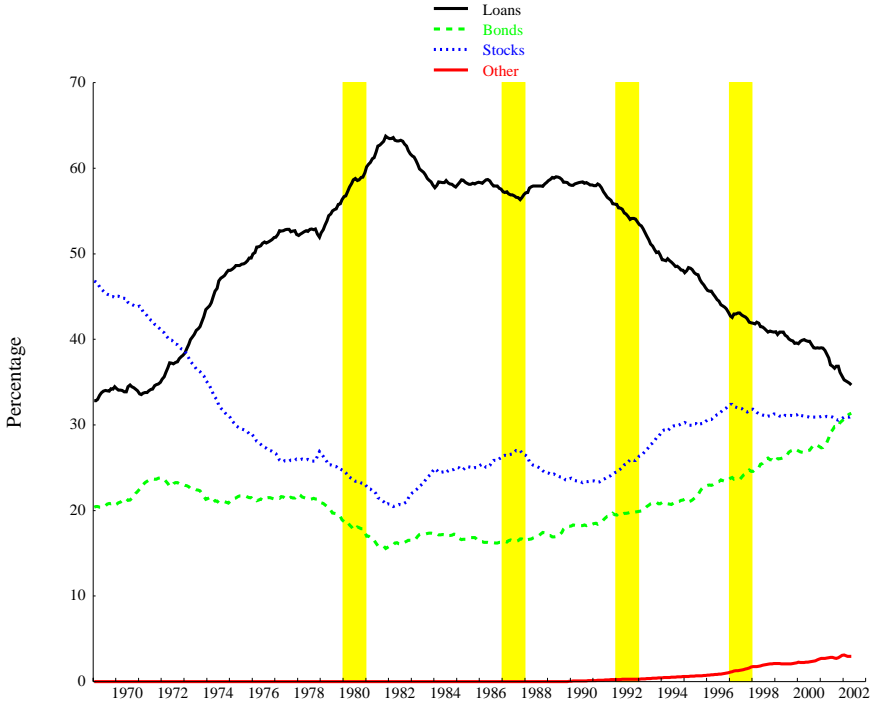
The figure shows that trust and mortgage loan companies grew gradually until the early 1990s when they started to be bought up by the large Canadian banks. This change became noticeable in 1991; in 1993 the major trust and mortgage loan companies begun to be controlled by the Canadian banks. Recently, 75 per cent of loans have been provided by Canadian banks, having risen slowly from a low point around 65 per cent in 1992. The increasing share of banks has also been at the expense of life insurance companies whose share has declined slowly since 1994.

As explained in Freedman (1998), this situation is partly related to the change in banking regulation that permitted banks to own trust subsidiaries. Indeed, after the 1992 amendments, most of these banks acquired trust subsidiaries either by purchase or creation. This is obvious from the figure: the vertical bar marking the 1992 amendments coincides with the reversal of a declining trend at banks. Since that time, banks have been gaining market share, primarily at the expense of the trust and mortgage loan industry but also from life insurance companies. Hence, with the regulatory amendments, the loan business has been increasingly absorbed by Canadian banks.

## **2.2 The loan business**

While the share of Canadian banks has been stable relative to other lending institutions, the financial institutions together have been losing market share to the financial markets in the provision of external funds to Canadian non-financial businesses. As illustrated in Figure 2, the trend in the Canadian financial structure is towards a more market-based system. The *Loans* category includes total short-term business credit excluding commercial paper and

Figure 2: Sources of External Funds for Canadian Non-Financial Businesses



Note: The vertical lines represent the years in which significant revisions of the Bank Act were made.

securitization. It is the sum of business loans, chartered bank foreign currency loans to residents, bankers' acceptances plus other business credit by institutions (non-residential mortgages and leasing receivables). The *Bonds* category includes bonds and debentures plus commercial paper issued by non-financial corporations, while *Stocks* consists of shares outstanding. Finally, the *Other* category includes other sources of external funds such as special purpose corporations (securitization).

The vertical bars once again correspond to the amendments in financial regulation. Indirect financing clearly decreased, in relative terms, in the 1990s and has returned to the same level as in the late 1960s. In other words, Canadian financial institutions have been experiencing a relative decline in the market share of their loan portfolios. More precisely, there has been a relative drop in loan business, from approximately 60 per cent of external financing in the early 1980s to just under 40 per cent in recent years.

The Canadian financial system is undergoing noticeable restructuring and traditional operations of Canadian banks are changing. For example, advances in computer technology enable financial firms to design and sell different types of financial instruments that are sometimes more closely related to direct market financing than to traditional loan business (Engert et al 1999). Diverse financial innovations give banks more flexibility than they used to within the conventional business of lending (Freedman and Goodlet 1998). Hence, the relative decline of the loan business can be seen as the result of a historical trend towards the blurring of the boundaries between financial intermediation and direct financing: there has been a shift toward direct financing and an increased involvement of banks in the securities-underwriting business.<sup>2</sup>

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<sup>2</sup>On that topic see the special issue of the *Journal of Financial Intermediation*, vol 10 (3/4), July/October 2001.

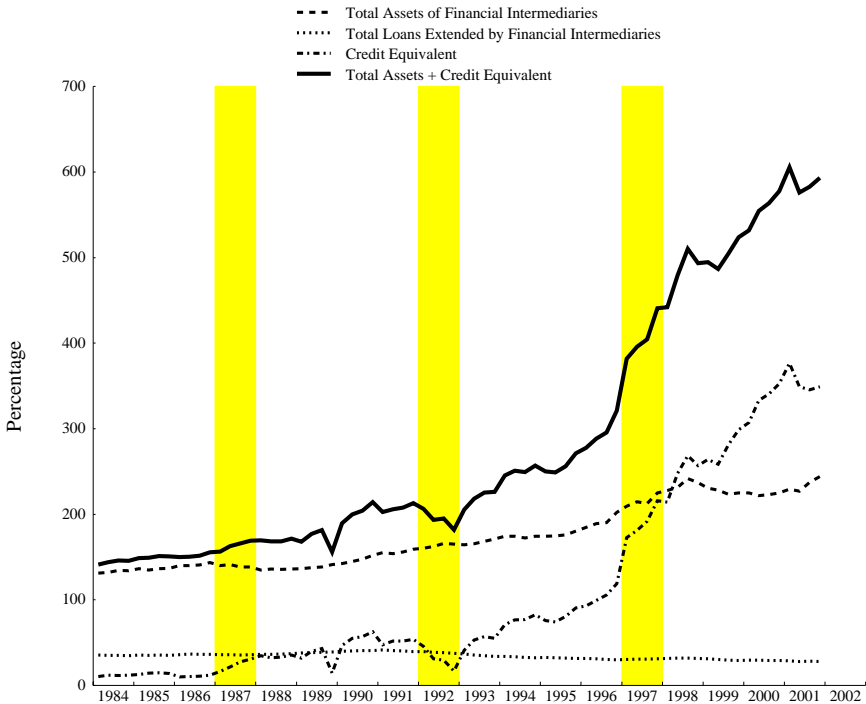
### 2.3 An asset equivalent series for Canadian banks

There are several indicators showing that new banking is growing well despite the decreasing trend in the loan business. The banks' total assets as a percentage of nominal gross domestic product indicates that Canadian banks are quite healthy: these findings are similar to those obtained by Boyd and Gertler (1994) for the U.S. banks. Indeed, as illustrated by Figure 3, total assets of financial intermediaries have been obviously increasing relative to nominal GDP. The balance sheet numbers indicate a continual increase in banking relative to overall economic activity over the entire period.

However, even more important is the increase in non-traditional activities. These activities generate non-interest income *outside* of the traditional activities -e.g., OBS activities including market-related activities. For this reason they are generally overlooked. For example, it is customary to analyse the evolution of banks assets in the balance sheet only (D'Souza and Lai 2003). If assets are increasing, income derived from them also must be increasing. The caveat of using balance sheet assets as a measurement of bank profitability is that this method substantially underestimates the "true value" of banks since it does not account for all banks activities. Hence, in order to get a clearer picture of banks' total assets, the noninterest income associated with the non-traditional activities must be also accounted for. Indeed, Statistics Canada (The Daily 2002, p.6) reported that, in 2000, noninterest income of Canadian financial institutions rose to \$23.8 billion, a 19.5 per cent increase from the previous year (74.3 per cent gain for corporate and institutional finance services).

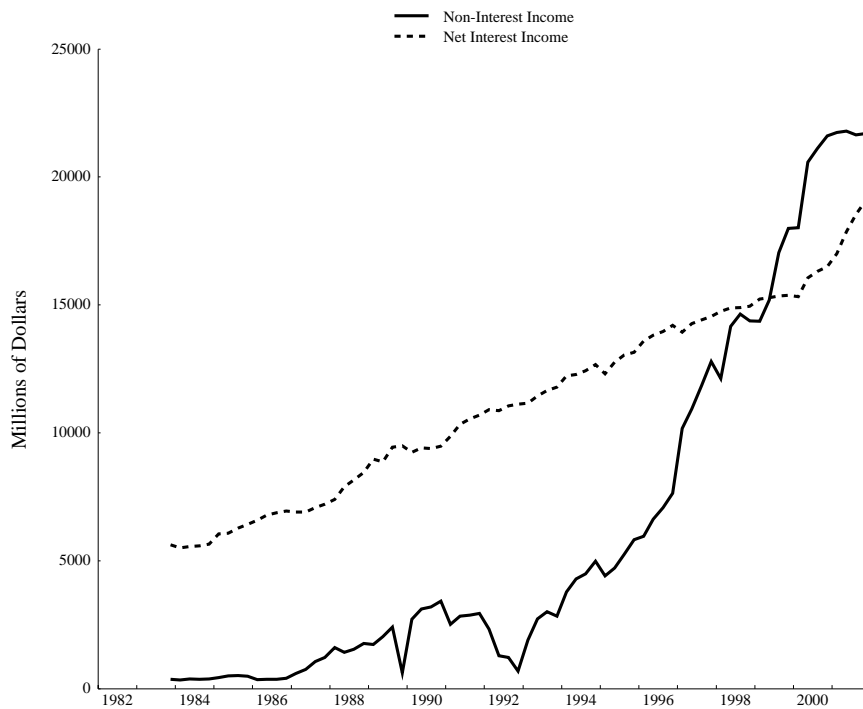
As shown in Figure 4, noninterest income has grown much faster than net-interest income. This has been particularly true during the last decade, and more precisely since the 1992 (and 1997) Bank Act amendments. The financial restructuring mentioned above also explains why a growing share of bank

Figure 3: Total Assets, Credit Equivalent, and Commercial Loans Extended by Financial Intermediaries as a Percentage of Nominal Gross Domestic Product



Note: The vertical lines represent the years in which significant revisions of the Bank Act were made.

Figure 4: Non- and Net- Interest Income



activities is done off-balance sheet.

OBS activities are by definition not reported as traditional lending. They are only partially linked to bank's assets. For this reason, it is difficult to get an accurate measure of a bank "true" assets. Following the Boyd and Gertler (1994) methodology, I use the noninterest income series to assess the importance of OBS activities. In fact, some noninterest income are reported on balance-sheet, hence, assuming a perfect mapping between OBS activities and noninterest income can only provide an approximative indication of the actual asset equivalent series corresponding to non-traditional activities. I build a new asset-equivalent series for these Canadian banks activities. The idea is to transform the noninterest income series into an asset equivalent series, as if this noninterest income had been generated from tangible assets in the same manner as regular lending. To account for the OBS activities, I adjust the measure of banks' assets by adding this credit equivalent. Bank profits  $\pi$  can be expressed as a function of interest income  $I_b$ , interest expense  $E_b$ , loan loss provision  $P_b$ , noninterest income  $Y_o$ , noninterest expense  $N_o$ :

$$\pi = (I_b - E_b - P_b) + (Y_o - N_o) \quad (1)$$

Where the subscript  $o$  stands for off-balance sheet and  $b$  stands for on-balance sheet. Now assume that the income flow  $Y_o - N_o$  is generated by some unknown asset  $A_o$  with the same properties as  $A_b$ . We want to compute the unknown  $A_o$  as an asset equivalent of  $Y_o - N_o$ . Since these assets are generated by the same sources of capital, then we can assume that  $A_b$  and  $A_o$  generate the same average profit and returns. We have:  $\pi_b/A_b = \pi_o/A_o$  and thus:

$$A_o = A_b * (Y_o - E_o - P_o - N_o)/(I_b - E_b - P_b - N_b) \quad (2)$$

$A_o$  is an asset equivalent series for off-balance sheet items. It is the level of on-balance-sheet-like assets that would have generated a net interest income ( $Y_o - N_o$ ), the actual noninterest income generated. Assuming symmetry and

noting  $E_b + P_b = N_b$  leads to  $N_b/A_b = N_o/A_o$  and thus to  $A_o = A_b * Y/(I_b - E_b - P_b)$ .

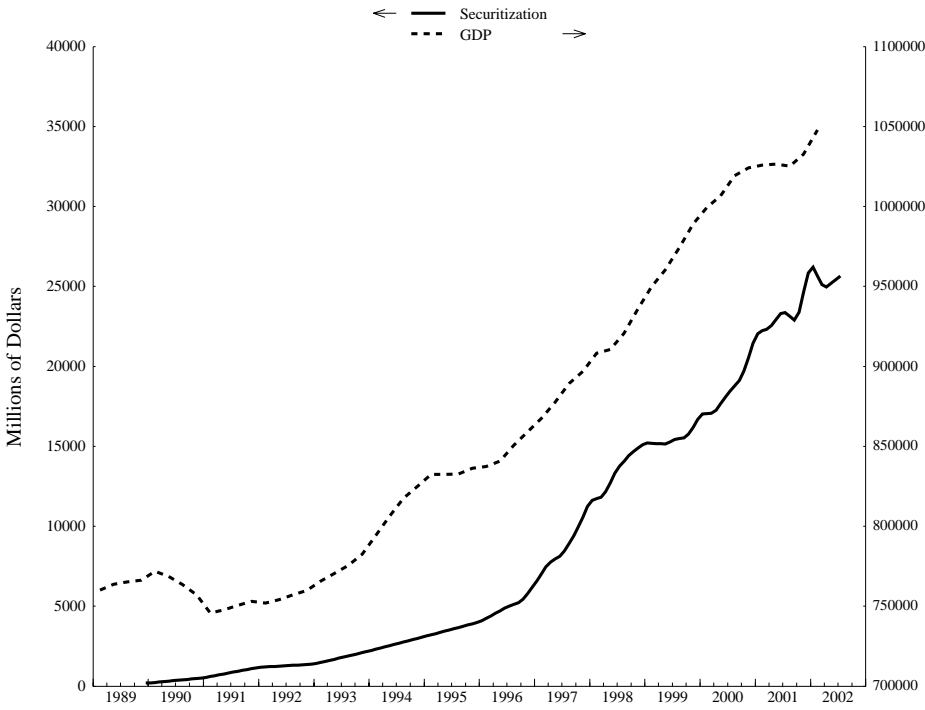
After the 1992 and 1997 amendments, this credit equivalent began to grow more quickly. In the last ten years much of the growth in total (adjusted) banks assets, on- and off-balance sheet, has in fact come from noninterest income. Since banks are competing over service fees it is unlikely that this growth comes from increased prices in fee-based services. Despite the fact that a detailed analysis of noninterest income is beyond the scope of this study, it is reasonable to think that the growth is driven by market-related activities such as trading income (Stiroh 2002, Stiroh and Rumble 2003). Yet another example of such non-traditional activities contributing to non interest income is securitization. As Figure 5 reveals, the use of securitization also started in the early 1990s, and exploded a few years later.

Finally, note that the transition toward a more sophisticated system of financial intermediation is taking place not only in Canada but also abroad. The increase in OBS activities corresponds to a transition driven by regulatory changes, financial innovations, as well as by the technological progress accompanying them. This common transition translates into more sophisticated relationships between firms, banks, and investors (see Olson 2002). Financial institutions provide more services to investors, while at the same time they are servicing the firms at different levels -i.e., the nature of their relationships has changed in a number of ways. As the financial system becomes more complex, financial intermediaries play the role of an expert adviser for both investors and firms (see Gale 2000).

### **3 Regulatory changes and the financial trend**

Banks' size and profitability have not declined: consistent with the transition mentioned above, data only suggest a relative decline in indirect financing

Figure 5: Short-term and Other Business Credit Securitization



(e.g., lending by Canadian banks, trust, other financial intermediaries) and a structural break in trend in the direct-indirect financing ratio. The 1980 amendments—the 1980 change in the Canadian financial regulation—was a first of a series that had a persistent effect on banks and other financial institutions. Canadian banks are all federally incorporated and regulated under the Bank Act, which defines their range of activities. A very important element of this banking legislation is the “sunset” clause, which requires a periodic re-assessment and updating of the laws governing Canadian banks. In the past, the legislation provided for a decennial review. The 1992 Bank Act, however, shortened the review period from ten to five years. The formal review process led to significant Bank Act amendments in 1980, 1987, 1992, and 1997. The 1980 Bank Act is important since it allowed banks to have subsidiaries

Table 1: The amendments in a nutshell

1980	Subsidiaries are allowed, e.g. venture capital, mortgage loans
1987	Distribution of government bonds is allowed Investment in corporate securities is allowed Banks purchase control of the investment dealers Banks make investments in the securities business
1992	Banks buy the trust companies Banks are permitted to offer in-house activities: Portfolio management, investment advice etc.
1997	Update and refinement of the 1992 amendment

in different areas such as venture capital and mortgage loans. This led to the creation or purchase of mortgage loan companies by the banks. Following the financial reforms in 1987 and 1992 the banks entered into a range of new businesses with a particular emphasis on OBS activities.

Given the nature of these amendments, it is legitimate to assume that they

constitute a credible candidate as one of the underlying sources of new banking. Indeed, part of the trend can be explained by the financial cycle and such factors as general economic conditions, market conditions, interest rates, inflation, and exchange rates. However, the accompanying regulation plays a significant role as well. The direct/indirect lending ratio (Ratio) seem to follow a data generating process with shifts in its trend. To determine whether there is any evidence that these shifts might coincide with the amendment dates to the Bank Act (1980, 1987, 1992, and 1997) I estimate a simple regression using dummy variables that correspond to these dates. More precisely, I conservatively assume that there is a phase-in period of six months for adjusting to new legislation and, thus, I start the shifts two quarters after the amendments. For example, in order to capture the effect of the amendments that took place in 1980Q4, I use a dummy variable at 1981Q2. After investigating various specifications, I found the following to be the most appropriate (based on Chow tests)

$$\Delta Ratio_t = \alpha + \beta_1 \Delta Ratio_{t-1} + \beta_2 y80_t + \beta_3 y92_t + \varepsilon_t \quad (3)$$

where  $\Delta Ratio_t$  represents the first difference in the ratio of *direct* to *indirect* financing; and  $y80_t$  and  $y92_t$  represent two amendments dummies. Table 2 shows the results of the estimation using quarterly data. Shifts in the AR slope coefficient proves to be insignificant. Dummy variables for the 1987 and 1997 Bank Act amendments are found significant. These dummies do have the expected positive sign also. One interpretation of the result is that it is not only the fact that banks were permitted to enter the securities business in 1987 that had the biggest impact. It could be also the fact that they were permitted to expand their in-house activities in 1992, rendering financial investment more attractive to their client depositors. This explanation would then be consistent with the idea of an adjustment phase starting before regulatory changes and continuing afterward. Before 1980, the direct to indirect

Table 2: Dependent variable:  $\Delta Ratio_t$ 

Variable	Coefficient	Standard error	T-statistic
Constant	-0.011	0.004	-3.197
$\Delta Ratio_{t-1}$	0.576	0.072	7.987
$y80_t$	0.014	0.005	2.960
$y92_t$	0.009	0.005	1.917

$R^2 = 0.631$ , Durbin - Watson Statistic = 1.861

financing ratio is characterised by negative drift (i.e. a significantly negative constant). However, after 1980, the drift term shifts to become slightly positive but insignificant (+0.003). The next significant change arrives with the 1992 amendment dummy, which raises the overall drift term to 0.012.

Obviously, this specification for the DGP of Ratio is very simple and ignores possibly important cyclical and other economic factors. It only highlights the significant impact that the concomitant regulatory changes can have.

## 4 Conclusion

I find some evidence that regulation that accompanies market pressures influences the financial structure trend. Regulatory aspects help explain the relative decrease of indirect financing since 1980. This decrease coincides with an increase in the asset equivalent I built for the banks' noninterest income component. The adjusted-total-asset-level of banks grew quickly after the 1987 and 1992 regulatory amendments.

However, the financial system is not only influenced by regulation. As I have suggested, the system is also heavily influenced by market and macroeconomic conditions. Investigating how the Canadian financial structure evolves throughout a financial cycle might prove useful to give a better assessment of

the stance of the financial system . Yet, a research question deserves priority. In the first place, is the current financial trend beneficial to Canadian banks, or would they be better served by limiting their non-traditional activities? This question deserves particular attention in the actual context of Canadian banking. Investigating this case might help shed some light on the mergers debate. This is left for future work.

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