Stéphanie Renaud
7767491

Term paper

Financialization of the Non-Financial Corporate Sector in Canada: A Theoretical and Empirical Analysis

Submitted to
Professor Mario Seccareccia

For the course of
Post-Keynesian Theory
ECO 4114

University of Ottawa
April 6, 2017

This page has been left blank intentionally

1. Introduction

Over the past decades, the financial sector has revealed its important role in economic outcomes. Financialization, characterized by a greater importance of the financial sector and financial activities in aggregate output, is a process contributing to the transformation of the system into "financialized capitalism". The structure of this essay is the following. Section 2 of this paper provides some explanation on the origin and the definition of the concept of financialization. Section 3 presents the Post-Keynesian theory on the process of financialization. Based on Post-Keynesian economic theories and empirical evidence, section 4 attempts to improve the understanding of the non-financial business sector transformation in the era of financialized capitalism in Canada. More specifically, this paper focuses on the issue of the growing «shareholder orientation» of non-financial corporations. By analyzing the historical evolution of the financial position of non-financial businesses in Canada, this paper sheds light on whether the «shareholder orientation» concept lead to a transformation of the behaviour of non-financial corporations. Section 5 of this paper provides a theoretical analysis of the impacts of the process of financialization on the corporate investment behavior and section 6 concludes.

2. Financialization – Origin and Definition

In a context of constantly evolving financial activities, some economists have attempted to develop a theory to explain the current evolution of the financial sector and financial relations– the so-called financialization process. Financialization is a process that attempts to explain the changes observed within the financial sector, as well as the

evolution of the relationship between the financial sector and the real economy.[1] Even though the definition of this process is still not unanimous among economists, financialization may be described as "*a process whereby financial markets, financial institutions, and financial elites gain greater influence over economic policy and economic outcomes."*[2] More precisely, "*financialization means the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies*". (*Hein, 2009, p.1*) Moreover, operating through several channels, this process leads to significant changes in the economy, including in the behaviour of non-financial corporations. (*Palley, 2007, p.2*) In short, even though there is no consensus on the actual definition, economists seem to agree on the fact that financialization attempts to explain the evolving relation between the various economic sectors with the financial sphere of the economy.

3. Post-Keynesian Theory on Financialization

The objective of this section is to provide a post-Keynesian theoretical analysis of the impact of financialization on corporate behaviour. To explain the ascendency of shareholder's value as the main guiding principle of corporate behaviour, post-Keynesians mainly refer the theory of the firm.

Over the past decades, the maximization of shareholder's value as a guiding principle in corporate governance has emerged, which has changed the ideology of corporate behaviour by putting a greater importance on shareholders. Mainly observed in the United-States during the 1980s, this vision of corporate management based on the

[1] HEIN, E. (2009), p.1.
[2] PALLEY, T. (2007), p. 1

creation of shareholder value, principally in the form of returns, has led to significant job losses in attempt to increase the level of return on equity.[3] As suggested by Stockhammer, higher financial profits combined with this new vision of corporate governance have generated a change in the priorities and incentives of firms, which can be interpreted as "*a shift away from the earlier managerial objectives of long-term growth through real capital accumulation*" in favour of "*an adoption of institutional investors' interests in short-term stock price appreciation*".[4] Under this new vision, top managers have been reducing the size of their corporations, more specifically by cutting down the size of the labour force employed and by reallocating resources and returns away from the perspective of 'retain and reinvest' and towards a 'downsize and distribute' strategy. (*Lazonick, 2000, p. 18*) The new corporate behaviour of 'downsize and distribute', which refers to the fact "*that managers attempt to reach their profit objectives by reducing their workforce and reducing the relative wages of their workers*"[5], is therefore linked to the process of financialization as a greater importance is accorded to the redistribution of higher levels of profits to shareholders in the form of dividends at the expense of long-term growth and expansion of the firm.

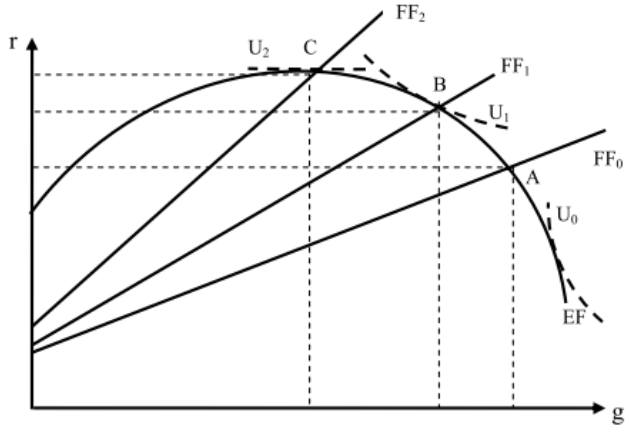
With the shareholder value orientation, which generates a desire of greater flow of dividend payments, the post-Keynesian' theoretical conception of financialization becomes highly relevant. The post-Keynesian's perspective on the theory of the firm largely differs from the mainstream, which simply promotes the firm's profit-seeking objective. In the traditional view of the firm, the post-Keynesian theory highlights the

[3] LAZONICK, W., O'SULLIVAN, M. (2000), p.18
[4] ORHANGAZI, O. (2007), p.10
[5] LAVOIE, M. (2014), p.145

divergence of objectives between managers and shareholders (*Orhangazi, 2007, p.10*). Firms, by operating under oligopolistic competition, tend to be more interested in increasing their market power than maximizing profits in the short-run. In order to maximize their market power, the firms' objective therefore corresponds to the expansion of market shares by long-run growth maximization. (*Lavoie, 2006, p.36-37*) However, the post-Keynesian theory of the firm differs in presence of financialization. Firms tend to shift their long-run growth maximization objective towards an greater expansion of profits in the short-term, where a greater level of profits is associated with a lower growth rate. Associated with a disconnection of interests between owners and managers, the process of financialization also generates a growth-profitability trade-off. By imposing a limit on the managers' ability to seek expansion and changing managers' preferences, financialization aligns traditional corporate behaviours and objectives with a greater shareholder value orientation.[6] The traditional strategy of "retain and invest" under growth maximization objectives therefore now takes the form of a "downsize and distribute" strategy, which corresponds better to shareholders' profit maximization objectives.[7] The evolution of the firm objective may be analyzed graphically by looking at the shifts in the expansion and finance frontier, as shown in figure 1.

[6] HEIN, E. (2009), p.4
[7] LAZONICK, W., O'SULLIVAN, M. (2000), p.18

Figure 1: The impact of financialization on accumulation decisions of the firms



Source: Hein, (2009, p. 5)

In absence of financialization, the existing constraints of finance and expansion reflect the decision of accumulation. The expansion frontier represents the profit rate that firms may expect to receive for each growth rate, while the finance frontier represents the minimal profit rate required to growth at a specific rate, given the interest on borrowing and dividend rates. (*Lavoie, 2006, p.38*) A relaxation of interest rates or dividend rates therefore leads to a greater growth rate, which is aligned with the firm's objective of increasing market power through growth maximization.

However, as the firm adopts a greater shareholder value orientation, the importance of dividend payments rises. An increase in the dividend payments, which is one of the main impacts of financialization, corresponds to an upward shift of the finance frontier, from FF_0 to FF_1. As the firm becomes more financialized, the finance frontier keeps shifting up, thus leading to higher rates of profits and lower growth rates. As long as the expansion frontier remains the same, the equilibrium shifts from point A to C, which represents a higher preference for short-run profits. This directly refers to the shareholders' profit maximization objective and is one of the main consequences of the

financialization process. This graphical analysis therefore illustrates the impacts of the shareholder's value orientation, which correspond to a higher distribution of profits, which can take the form of higher dividend payment or lower retained earnings. Higher dividend payments are also related to a reduction of the labour income share as profits are redistributed in favour of shareholders. (*Hein, 2009, p.21*) In other words, the evolution of the corporate behaviour leads to the development of corporate practices favouring shareholders over other stakeholders (e.g. workers) of the firm.

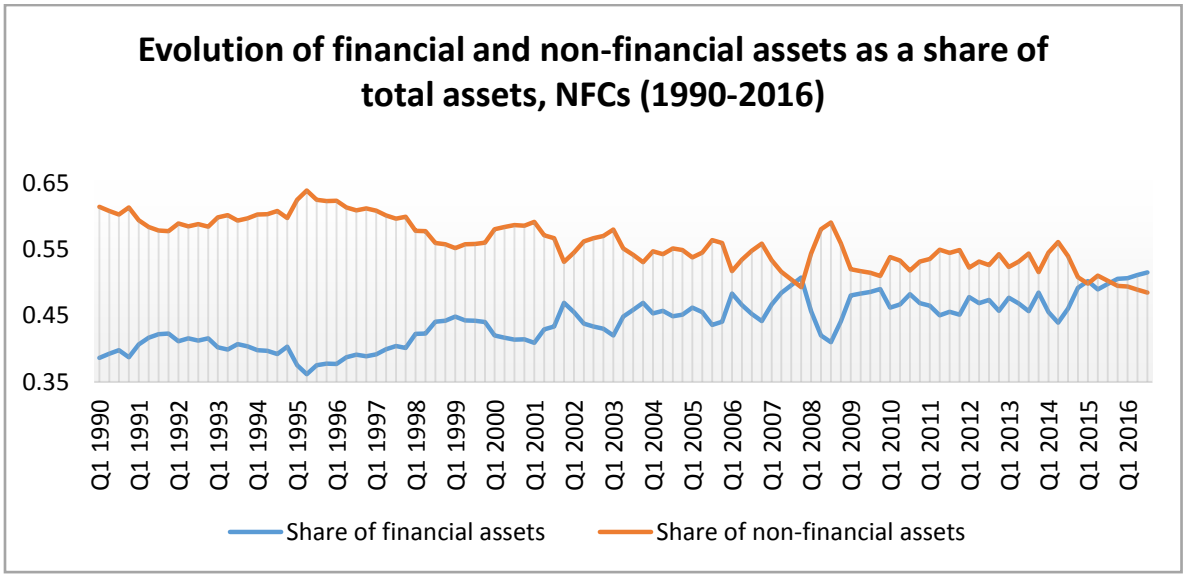
4. Empirical analysis of the Canadian non-financial corporate sector

In an attempt to investigate whether the process of financialization takes place in the Canadian non-financial sector, this section will analyze the empirical evidence corresponding to the theoretical post-Keynesian assumptions. Based on the post-Keynesian theory, we expect financialization to have multiple impacts on the non-financial sector. Using the financial statistics of non-financial corporations, the goal of this section is therefore to find an empirical relation between financialization and the non-financial sector of the Canadian economy.[8] In the case that the financialization process has started to affect the activities within the non-financial sector of the Canadian economy, we would potentially expect to find that empirical evidence supporting the following assumptions.

Assumption #1: Financialization is assumed to lead to an increase in the holding of financial assets as a share of total assets in the non-financial sector.

[8] See appendix 1 for details on the empirical analysis

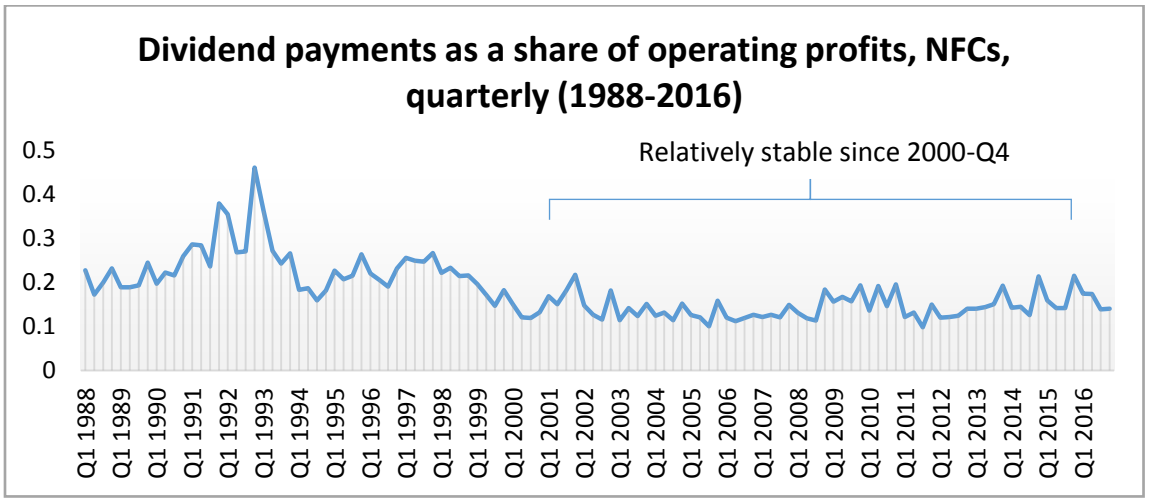
As suggested by the definition of financialization, this process is expected to lead to a greater importance of financial activities. Therefore, in order to assess this first feature of financialization, we can use balance sheet statistics of enterprises to determine the existence of a shift in favour of financial assets in the in non-financial corporate sector of the Canadian economy. The following chart clearly shows the upward trend in the share of financial assets in total assets of non-financial corporations, illustrating the increased importance of financial activities in the activities of Canadian non-financial firms. Even more indicative, the non-financial sector has been holding a larger share of financial assets than non-financial assets since the last quarter of 2015, which clearly shows a greater level of participation of non-financial corporations in financial activities. Based on the evolution of the composition of their total assets, we can therefore conclude that the non-financial corporate sector of the Canadian economy is subject to a greater level of financial activities, in line with the concept of financialization.



Reference: CANSIM table #378-0121

<u>Assumption #2</u>: In presence of financialization, the flow of dividends in the non-financial sector is expected to be relatively stable.

In addition, the post-Keynesian theory of financialization implies a relatively stable, or even increasing, flow of dividends over time. As firms' objective shifts away from a growth maximization objective in favour of a shorter-term profit maximizing strategy, the theory suggests that firms, as their main goal, want to maintain as much as possible a constant flow of dividend for their shareholders and will adjust other cost components to preserve this flow of dividend. This new "downsize and distribute" vision of firms, which puts a greater importance on the shareholders' management strategy of profit maximization, can be empirically analyzed using the financial statistics of the non-financial corporate sector. More specifically, based on the ratio of dividend payments relative to operating profits, the following chart shows that the flow of dividends in the non-financial sector has been relatively stable since the last quarter of 2000.

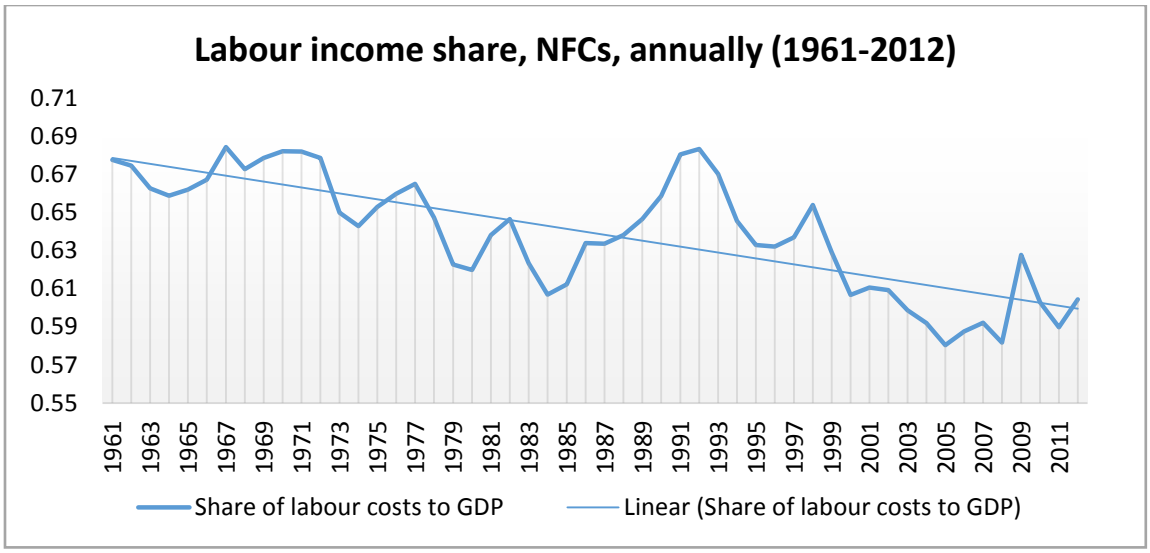


Reference: CANSIM table# 187-0001

Based on some calculations, we find that the standard deviation of dividend payments for the period of 1988q1-1999q4 and 2000q1-2016q4 is 5.90 percent and 2.77 percent, respectively. We can therefore conclude that the empirical evidence on dividend payments highlights some aspects of financialization, as the volatility of flow of dividends to shareholders has been reduced since 2000. However, since dividend payments still fluctuate between 10 and 20 percent as a share of operating profits, we cannot conclude that the non-financial corporate sector is completely driven by the process of financialization.

Assumption #3: In presence of financialization, the labour share of income is expected to fall as income is redistributed towards the remuneration of shareholders. Labour compensation is therefore expected to be more volatile than dividend payments.

Another feature of the financialization process supported by the post-Keynesian theory is a decrease in the labour share of income as capital is redistributed in favour of shareholders. This expected shift in labour share in favour of capital refers to the principle of "downsize and distributes" of firm. With financialization, the theory assumes that firms do everything to maintain their dividend payments to shareholders. Therefore, for firms to maintain the flow of dividends, labour compensation is expected to be more volatile since workers are most likely to absorb the shock of any fluctuation in the firm's economic activity. The following chart presents the historical evolution of the labour share of income.



Reference: CANSIM table#383-0032

By looking at the trend line added to this chart, we observe a slightly decreasing trend in the labour share of income over the past decades. Therefore, we may assume that there is a slight shift of income towards shareholders. Although this suggests that the process of financialization has started to take place in the non-financial sector of the Canadian economy, it would also be relevant to look at the variability of the compensation costs and dividend payments, as this would allow us to verify the second part of our assumption.

We may assess the volatility of compensation costs and dividend payments using the *financial and taxation statistics for enterprises by North American Industry Classification (CANSIM table#180-0003).* The coefficient of variation (CV), known as "the ratio of the standard deviation of a set of observations to their mean value"[9], permits direct comparison of dispersion across different data sets. In this analysis, we must use the CV

[9] CFA INSTITUTE (2016), p. 417-419

to compare the volatility of the compensation costs and dividend payments, as it allows us to correct for difference of scales. (*CFA, 2016, p.417-419*) The following table shows the results of some measurements of volatility for both compensation costs and dividend payments.

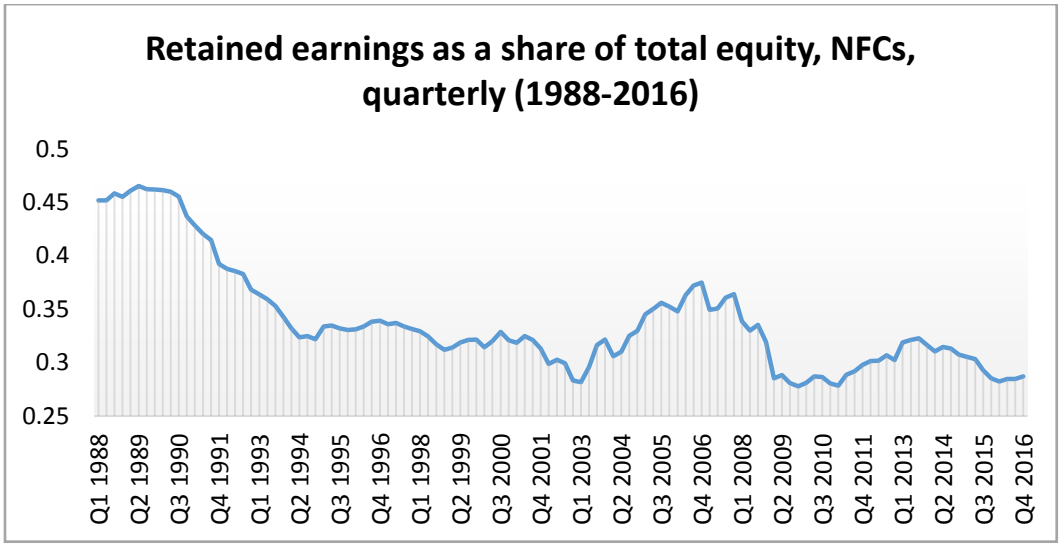
Measurements of Volatility		
	Compensations costs	**Interest and dividend payments**
Standard Deviation	74775.06	7252.24
Mean	427380.63	25805.81
Coefficient of Variation	0.1750	0.2810

Reference: CANSIM table #180-0003 and calculations.

Based on the empirical evidence, the coefficient of variation clearly highlights that dividend payments are more volatile than compensation costs. Therefore, even though dividend payments seem to be relatively stable since 2000, they remain more variable than compensation costs. In other words, it is possible to conclude that the income has started to shift in favour of shareholders as labour share of income follows a relatively downward trend. However, since dividend payments remain more volatile than compensation costs, we cannot conclude that the process of financialization has been completely integrated in the non-financial corporate sector of the Canadian economy.

Assumption #4: In presence of financialization, we expect a lower ratio of retained earnings.

This fourth assumption comes directly from the shift in the objective of the firm supported by the post-Keynesian theory. As financialization takes place, firms tend to shift from an objective of growth maximization to a profit maximization strategy. The theory also refers to this as the shift from a "retain and invest" objective to a "downsize and distribute" strategy. Based on the quarterly balance sheet and financial statement of the Canadian non-financial corporate sector, this feature of financialization may be assessed by looking at the historical evolution of the retained earnings as a share of total equity.

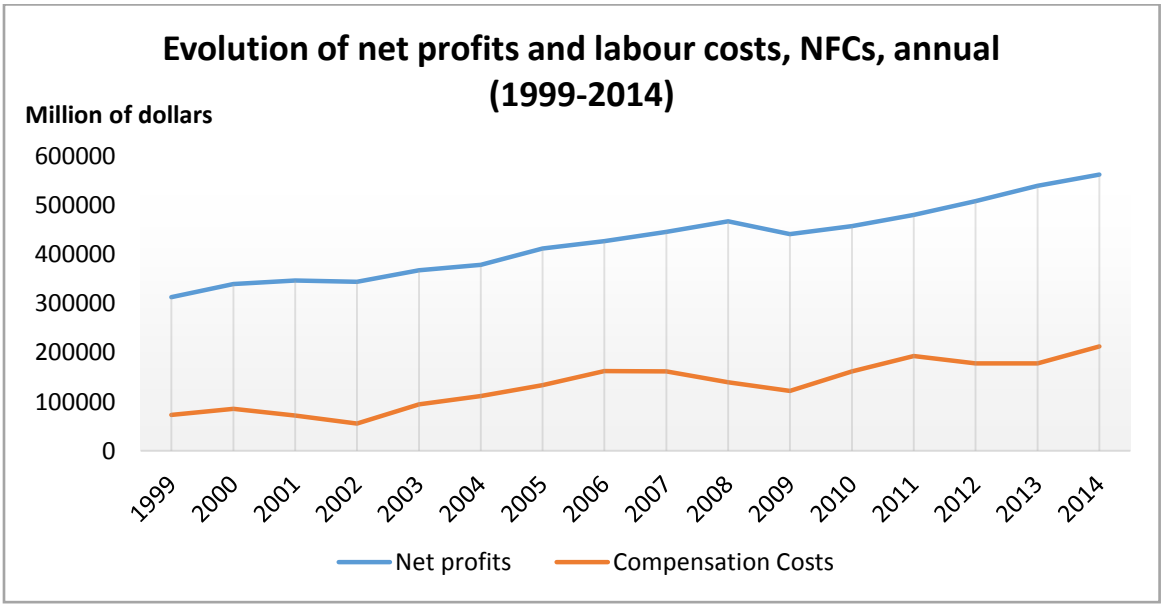


Reference: CANSIM table# 187-0001

This chart highlights the decrease in the retained earnings as a share of total equity in the non-financial corporate sector. As observed, the empirical evidence therefore supports the new "downsize and distribute" strategy of firms, which represents a feature of the financialization process. We can thus conclude that the assumption stating that financialization leads to a lower ratio of retained earnings is verified.

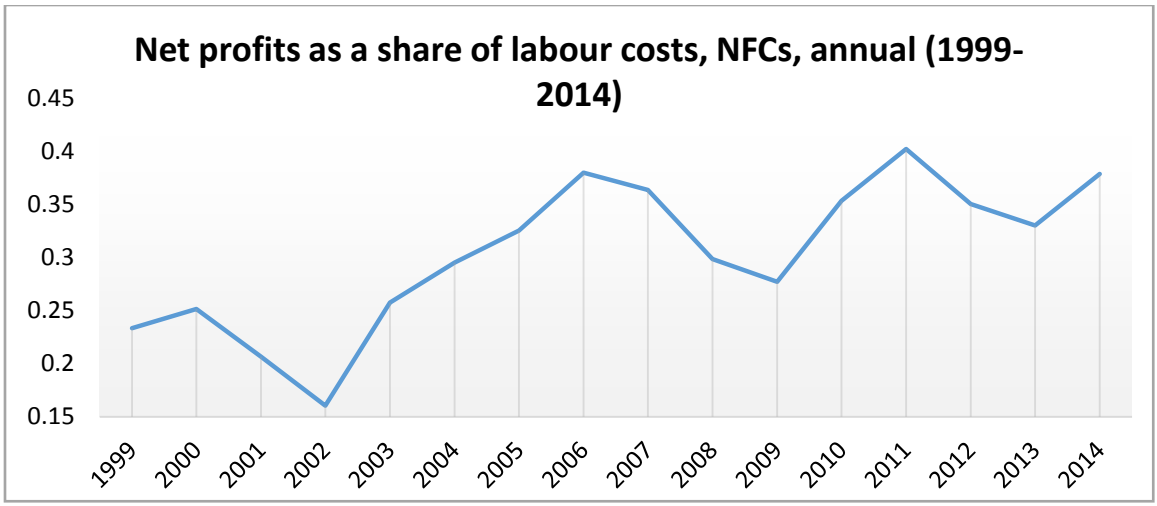
<u>Assumption #5</u>: In presence of financialization, the ratio net profits relative to labour costs is expected to increase, as income shifts away from labour to capital.

The post-Keynesian theory also supports that the process of financialization leads to a higher ratio of profits to labour costs. Empirically, this may be tested by looking at the evolution of the net profits made in the non-financial corporate sector as a share of total labour costs. First, it is important to highlight that net profits of the non-financial sector in Canada has been increasing at a faster pace than labour costs, as shown in the following chart.



Reference: CANSIM table #180-0003

Based on this information, we can now analyze the ratio of net profits as a share of labour costs. As demonstrated in the following chart, we observe that the ratio of net profits has been increasing over the past years.

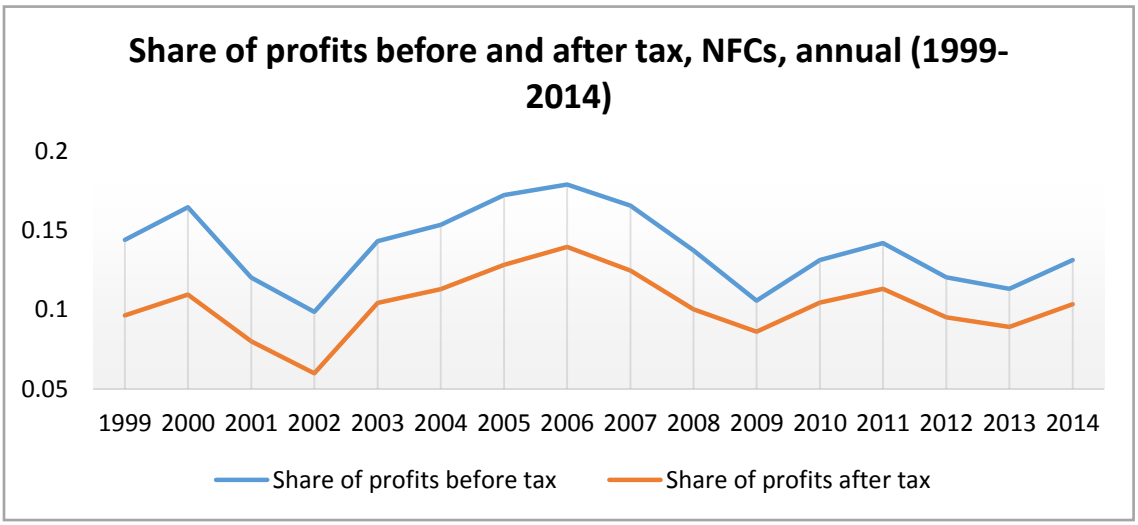


Reference: CANSIM table #180-0003

Since net profits grow faster than labour costs, the evolution of net profits supports the previous assumptions related to the shift of income in favour of shareholders. Therefore, we conclude that this assumption of higher net profit ratio as a share of compensation costs represents a feature of the process of financialization.

Assumption #6: In presence of financialization, corporate profit rates before and after tax are expected to be higher.

Due to the new vision of 'downsize and distribute', total profits before and after tax is expected to increase as financialization takes place. To verify this statement, we analyze the evolution of the share of profits before and after tax as a share of total equity. The following chart shows the evolution of these two shares for the non-financial corporate sector of the Canadian economy over the past decades.



Reference: CANSIM table ##180-0003

Based on the empirical evidence, we cannot verify this assumption as the shares of profits, both before or after tax, have been relatively stable over the past years. Therefore, according to this assumption, there is no clear evidence to confirm that the process of financialization is taking place in the Canadian non-financial sector.

In sum, the purpose of this section is to analyze the existence of some features of the financialization process in the Canadian non-financial corporate sector. As demonstrated by the empirical evidence, some features of financialization seem to take place in the non-financial corporate sector, whereas some others seem to be absent. Based on the financial statistics of non-financial corporations, on one hand, we observe some evidence that the process of financialization is taking place in the non-financial corporate sector. The share of financial assets relative to total assets has been increasing and dividend payments have become relatively more stable over time, retained earnings as a share of total equity has been decreasing, showing the new "downsize and distribute" vision of

firms, and net profits as a share of total labour costs has been following an upward trend over the past years. However, on the other hand, some expected features of the financialization process are not visible in the non-financial corporate sector. More specifically, dividend payments have remained more volatile than compensation costs and the share of profits before and after tax as a share of total equity has been relatively stable over the past few years. Since in the case of a financialized non-financial sector, dividend payments would be more stable and profits before and after tax would be constantly increasing, this leads to the impossibility to conclude the financialization of the Canadian non-financial corporate sector. Although the sector demonstrates some aspects of the financialization process, we cannot conclude with certitude that it is financialized.

5. The impact of financialization on investment behaviour

As the objectives of firms shift towards shareholder value orientation, we may analyze the impact of the financialization process on real investment decisions. According to the theoretical literature, there are two main channels through which financialization may have a negative effect on real investment, namely 1) the crowding-out effect, on real investment, of increased investment in financial assets and 2) the pressure on firm's management to increase returns.

With respect to the crowding-out channel, as the investment opportunities in the financial sector become more profitable than those in the real sector, the firm tends to invest larger amounts in acquiring financial assets. Because the total value of capital available for investment corresponds to the sum of funds invested in both the financial and the real

sector, a higher level of investment in financial assets leads to a crowding-out effect on real investment as the remaining funds available for real investment are reduced. More specifically, there is a trade-off between internal and external financing. External financing is constrained by the relatively high cost of additional funds, as it depends on the rate of interest and other potential factors, and internal funds may be preferred due to the safety aspect associated with internal financing. *(Orhangazi, 2007, p. 6-7)*

With the new 'downsize and distribute' objective of the firm, which requires a higher rate of profit in the short-run for dividend payments to shareholders, investing in financial assets may also be preferred over real investment as it provides relatively significant returns in the short-run rather than in the medium to long-run. Therefore, in order to obtain the required flow of dividends for shareholders, non-financial corporations may be tempted to increase their financial investments, thus generating a crowding-out effect on real investment. This feature of the financialization process corresponds to the second channel, which refers to the pressures on the non-financial corporate sector to increase payments to financial markets. Moreover, as the time horizon of the decision-making process of firms is considerably reduced, managers are less likely to be tempted to invest in long-term investment projects such as research and development. As the cost to re-acquire the capital invested in financial assets is unknown, uncertainty rises and, as firms face greater uncertainty, some projects with attractive expected long-term returns become too risky to undertake. *(Orhangazi, 2007, p.7-8)* Therefore, as financialization takes place, these two channels support the evidence that financial investment becomes more attractive, and thus results in crowding-out effects on investment in the real sector of the economy.

These crowding-out effects on real investment may also have significant impacts on the economy. Based on the theoretical framework of the effective demand developed by Keynes, any change in the composition of aggregate demand could lead to effective demand problems. Contrary to neoclassical economists, Keynes starts his analysis with the product market, which is used to determine the point of effective demand – the intersection of the aggregate demand and aggregate supply. This point of effective demand then determines the level of employment in the economy and, as a residual, the level of unemployment. *(Lavoie, 2014, p.277-279)* In the context of financialization, this framework can be used to understand how the new shareholders' orientation of firms may lead to significant policy implications through the reduction of real investment. More specifically, a fall in real investment, as a result of the financialization process, corresponds to a negative shock on aggregate demand. As the point of effective demand decreases due to the lower level of real investment, the level of production also falls as aggregate demand is now lower than aggregate supply. Because the product market determines the level of employment, a fall in the level of production leads, via the channel of effective demand, to a rise in unemployment in the economy. Therefore, as firms shift towards financial activities, the process of financialization may generate a decoupling between financial and real activities, thus potentially leading to significant impact on the level of employment in the economy. Finally, in terms of economic policies, these effective demand problems created by the process of financialization may become a concern for the authorities as the level of unemployment is negatively correlated to the fluctuation in the level of real investment, thus potentially leading to greater pressures on the state to intervene in order to restore the level of employment.

In short, based on the empirical evidence from the non-financial corporate sector in Canada, we have observed that the share of financial assets now dominates the share of non-financial assets in total holdings of firms, which could suggest that this crowding-out effect on real investment is currently taking place in Canada. In addition, the analytical framework of effective demand presented by Keynes highlights the fact that these crowding-out effects must be taken into consideration when analyzing the effectiveness of economic policies. Further research is therefore required to assess the causality as well as the interactions between the investment behaviour and the financialization process. Any potential impact of the process of financialization should also be considered in the development of future economic policies, as it may significantly affect the evolution of the non-financial business sector in Canada.

6. Conclusion

Over the past decades, experience has shown that the financial sector may have important impacts on the economic outcomes. In this paper, some assumptions were presented to analyze the existence of financialization – a process referring to greater and more complexified financial relations between the financial sector and the real economy – in the non-financial sector of the Canadian economy. More specifically, as the corporate behaviour converges towards a 'downsize and distribute' vision, the post-Keynesian economic theory suggests that a financialized sector is expected to have an increasing share of financial assets, higher and stable dividend payments, lower retained earnings, decreasing labour income share as well as rising total profits before and after tax. Using financial statistics, these theoretical assumptions have been empirically tested to determine the existence of a link between the evolution of the non-financial corporate

sector of the Canadian economy and the process of financialization. Based on the empirical evidence provided in this paper, it is impossible to conclude with no doubt that the non-financial corporate sector *is* financialized, even though some empirical features do support this conclusion. Although the empirical evidence on financialization in the Canadian non-financial corporate sector remains ambiguous, the theoretical literature highlights that the new 'downsize and distribute' vision of firms leads to crowding-out effects on real investment as the firms increase their participation in the financial market. Therefore, since the financialization process highly depends on the pace at which the corporate behaviour adapts to the new environment dominated by financial relations, further empirical analyses will be required in the following years to assess the financial evolution of the non-financial corporate sector in Canada as well as the interactions between financialization and the corporate investment behaviour.

References

BANQUE DU CANADA (2013), "*The Residential Mortgage Market in Canada : A Primer*" [consulted online] http://www.bankofcanada.ca/wp-content/uploads/2013/12/fsr-december13-crawford.pdf

CFA INSTITUTE (2016), "*Ethics and Professional Standards and Quantitative Methods*", Reading 7: Statistical Concepts and Market Returns, p. 417-418.

HEIN, E. (2009), "*A (Post-)Keynesian perspective on 'financialization'"*, Macroeconomic Policy Institute, [consulted online] https://ideas.repec.org/p/imk/studie/01-2009.html

LAVOIE, M. (2006), "*Introduction to Post-Keynesian Economics"*, Houndmills, UK: Palgrave Macmillan, 141 pages.

LAVOIE, M. (2014), *Post-Keynesian Economics: New Foundations*, Edward Elgar, Cheltenham, 2014, 646 pages.

LAZONICK, W., O'SULLIVAN, M. (2000), "*Maximizing shareholder value: a new ideology for corporate governance*", Economic and Society Volume 29 Number 1 [consulted online] https://www.researchgate.net/publication/233265777_Maximizing_Shareholder_Value_A_New_Ideology_for_Corporate_Governance

ORHANGAZI, O. (2007), "*Financialization and capital accumulation in the non-financial corporate sector*", Political Economy Research Institute of University of Massachusetts Amherst, Working paper no 149 [consulted online] http://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1120&context=peri_workingpapers

PALLEY, T. (2007), "*Financialization: What it is and why it matters*", The Levy Economics Institute of Bard College, [consulted online] http://www.levyinstitute.org/pubs/wp_525.pdf

STATISTICS CANADA, Cansim table #378-0121 "*National Balance Sheet Accounts*".

STATISTICS CANADA, Cansim table #187-0001 "*Quarterly Balance Sheet and Income Statement by North American Industry Classification System*".

STATISTICS CANADA, Cansim table #383-0032 "*Multifactor productivity, gross output, value-added, capital, labour and intermediate inputs at a detailed industry level, by North American Industry Classification System (NAICS)*".

STATISTICS CANADA, Cansim table #180-0003 "*Financial and taxation statistics for enterprises"*.

Appendix 1 – Data Analysis

This appendix provides details on the calculations used in the empirical analysis of this paper. For each assumption, data from Statistics Canada has been used to calculate the following ratios and produce the charts presented in this paper.

Assumption #1: Financialization is assumed to lead to an increase in the holding of financial assets as a share of total assets in the non-financial sector.

Using the National Balance Sheet Accounts (Cansim table #378-0121), the share of financial assets relative to total assets in the non-financial sector is calculated with the following ratio. Data reflects the market value, from 1990q1 to 2016q3.

$$\text{Finanical assets as a share of total assets} = \frac{\text{total financial assets}}{\text{total assets}}$$

Assumption #2: In presence of financialization, the flow of dividends in the non-financial sector is expected to be relatively stable.

Using the quarterly balance sheet and income statement (Cansim table #187-0001), the historical evolution of the flow of dividends in the non-financial sector is calculated with the following ratio.

$$\text{Dividend payments as a share of profits} = \frac{\text{interests and dividend revenues}}{\text{operating profits}}$$

The volatility of dividend payments is assessed by looking at the standard deviation of the ratio of dividend payments as a share of operating profits for the period of 1988q1-1999q4 and 2000q1-2016q4. The comparison of these two periods provides information on the change in the volatility of dividend payments over time. More specifically.

Assumption #3: In presence of financialization, the labour share of income is expected to fall as income is redistributed towards the remuneration of shareholders. Labour compensation is therefore expected to be more volatile than dividend payments.

Using the data on multifactor productivity, gross output, value-added, capital, labour and intermediate inputs (Cansim table #383-0032), the labour share of income can be calculated. More specifically, I aggregated the data provided at the industry level to obtain the data for the non-financial sector. Using the gross domestic product (GDP) as well as the labour compensation for the aggregated non-financial sector, the labour share of income is calculated as the following ratio.

$$\text{Labour costs as a share of GDP (at factor costs)} = \frac{\text{labour compensation}}{\text{GDP}}$$

To assess the volatility of compensation costs and dividend payments, I take the standard deviation of each distribution using the data provided by Statistics Canada. To provide a comparable analysis, I used to coefficient of variation to remove the difference in scale, which is calculated as:

$$\text{Coefficient of Variation (CV)} = \frac{\text{standard deviation}}{\text{mean}}$$

Assumption #4: In presence of financialization, we expect a lower ratio of retained earnings.

Using the quarterly balance sheet and income statement data from Statistics Canada (Cansim table # 187-0001), we calculate the ratio or retained earnings for the non-financial sector as:

$$\text{Retained earnings as a share of total equity} = \frac{\text{retained earnings}}{\text{total equity}}$$

Assumption #5: In presence of financialization, the ratio net profits relative to labour costs is expected to increase, as income shifts away from labour to capital.

Using the financial and taxation statistics for enterprises (Cansim table # 187-0003), we calculate the ratio of net profit relative to labour costs for the non-financial sector as:

$$\text{Net profits as a share of labour costs} = \frac{\text{Net profits}}{\text{Compensation costs}}$$

Assumption #6: In presence of financialization, corporate profit rates before and after tax are expected to be higher.

Using the financial and taxation statistics for enterprises (Cansim table # 187-0003), we analyze profits before and after tax using the following ratios:

$$\text{Profits before tax as a share of total equity} = \frac{\text{Profits before tax}}{\text{Total equity}}$$

$$\text{Profits after tax as a share of total equity} = \frac{\text{Profits before tax} - \text{Income tax}}{\text{Total equity}}$$