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OWNERSHIP STRUCTURE, CORPORATE CONTROL AND DIVIDEND PAY-OUT IN CANADA

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Abstract

This paper examines the relationship between the structure of the ownership of equity in a company and the company's dividend policy. For this purpose, a company's dividend policy is characterised by the level and frequency of changes with regular dividend payments. A survey of the literature reveals that several hypotheses have been put forward regarding changes in dividend policy.Dividend policy is used to signal important information to potential investors, dividend policy can be used to increase or decrease the need for a company to resort to external capital markets, or dividend policy can serve the interests of major shareholders. The implications of these hypotheses are developed, and then compared to the actual behaviour of a sample of 600 Canadians in listed firms in order to examine which hypotheses are most useful in accounting for their behaviour. In using ordinary and logit regressions and conditional probability models to test the hypotheses, the results indicate that: (1) voting rights and equity ownership are highly concentrated in Canada; this result confirms those of Gadhoum (1999), Claessens et al. (2000), and La Porta et al. (2000); (2) large shareholders (in 81% of cases, a company) have a strong influence on dividend decisions; this result confirms that of Faccio et al. (2000) in Western Europe and East Asia; and (3) a firm with concentrated ownership pays more dividends because, in most cases, such payments are inter-company and non-taxable for the receiver. The latter effect, termed 'tax effect' in this paper, dominates the two known effects of dividends, namely signalling and agency costs. No prior reference to this tax effect has been found in the literature by the author of this paper.

***Keywords*:** Ownership Structure, Dividend Policy, Shareholder Protection.

1. Introduction

Since the Modigliani and Miller (1961) irrelevance paradigm, a huge body of research was devoted to explain firms' dividend policy. By relaxing the hypothesis of symmetric information, Bhattacharya (1979), Miller and Rock (1985), John and Williams (1985) and Fuller (2003), have shown the absence of neutrality of dividend policies. Within such a framework, dividends can be understood as a mechanism to signal information held privately within the company to the market. In fact, the dividend, as a signal, allows investors to better estimate the firm's prospects and also to evaluate the firm at its proper value. The market reaction to dividend announcements can be seen as a response not to the dividend itself, but rather to its informative value. In addition, because dividend payments drive immediate and future outlays, they prove the existence of sufficient liquidity within the firm. An increase of the dividend signals the existence not only of high current cash flows, but also the growth potential that management anticipates and which is necessary for the continuation of those payments.

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On the other hand, Easterbrook (1984), Rozeff (1982), Carow, Cox and Roden (2004) and Hung, Duan and Nwanna (2003), have shown the non-neutrality of dividend policy within the framework of agency theory. They show that dividend payments subject managers to the control of the capital market for external financing in cases where they have falsely signalled their firm's prospects. By requiring the firm to go more often to the capital market, dividend payments provide a possible mechanism for monitoring a company's performance. Alternatively, Jensen (1986) argues that dividend payments can reduce the manager's propensity to waste free cash flows, either by providing for their own professional benefit or by dissipating them in investments which exceed the optimum. Consequently, dividend payments reduce agency costs, and this explains the positive market reaction to dividend announcements.

The extant theories are only adequate for companies where there is a wide dispersion of equity ownership.1According to the interpretation offered in this paper, these theories did not adequately predict the dividend policy of a firm, since they do not account for ownership structure2 or the nature of the largest owners3. Nevertheless, when ownership is concentrated, large shareholders have an influential impact on firm's behaviour, in general and dividend policy in particular. First, large shareholders have the incentives and ability to monitor (entrenched) managers. Therefore, they can alter managerial dividend choices if they run against the rule of firm value maximization. Second, since dividends are generally taxed twice (at the firm level and in the hands of investors), they have a direct, and possibly huge, impact on large shareholders' wealth. For instance, large shareholders may want to limit dividend payments to minimize their tax burden.

The principal interest in the present analysis is to investigate whether the traditional theoretical approaches to understanding dividend policy remain valid if one takes into account the ownership structure. In other words, it is important to discover whether the differences in dividend payments between firms could be explained by the differences in ownership structure, other things being equal.

[1]Capital needs for large firms, as well as small ones with high growth potential, force them to resort to a large number of shareholders, which can explain the wide dispersion of their ownership. In a capital market as described by the CAPM (Capital Asset Pricing Model), the shareholders own a market share but will wish to develop a risk-free portfolio. It follows that company ownership would be dispersed: large investors would diversify their investments through vast mutual funds. According to the CAPM, concentration signifies an imperfectly diversified portfolio and is therefore inefficient. No investor would accept the increased exposure to risk, unless there was an additional compensation.

[2]Ownership structure corresponds to the distribution of equities among shareholders. In the empirical part werestricted the term to the rights to vote in order to take into account stocks with multiple voting rights which accentuate the separation between ownership and control. Concentrated ownership corresponds to a situation where the proportion of shares (votes) held by the large shareholders is high. It is the antonym of widely dispersed ownership.

[3]"Nature" in this context means whether the large shareholders are individuals, companies, financial institutions or a governmententerprise

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Canada is well suited to explore the relation between ownership structure and dividend policy. Unlike the US where ownership is generally dispersed, Canada features high ownership concentration. Indeed, the results of this paper show that, on average, insiders and the largest shareholder hold 40% and 43% of the voting rights, respectively. When I consider the five largest shareholders as a group, the results indicate that they hold more than 50% of the voting rights. Besides, while US shareholders must pay taxes on dividend income, inter-corporate dividends are not taxed in Canada. Therefore, large corporate shareholders do not face a tax burden if they receive higher dividends. The results show that in Canada, large shareholders are corporations in 81% of the sample firms.

In this paper, dividend policy is characterized by 1) the dividend payout, and 2) the frequency of dividend changes. Using various measures of ownership concentration, I find that large shareholders have a significant influence on dividend policy in that they prefer higher and stable flows of dividend payments. At the same time, there is no evidence that firms with high free cash flows and firms operating in opaque environments pay higher dividends. As such, the results of this paper are consistent with a "tax effect" where corporate large shareholders demand higher dividends because, unlike individuals, they do not pay taxes on dividend income. This "tax" effect dominatesthe agency costs and signals motives to pay dividends.

2. Research objectives and hypotheses

The purpose of the present study is to examine whether the ownership structure influences the decisions of the directors regarding dividends and especially if the content of these decisions depends on the degree of ownership concentration and on its nature.

More specifically, the principal objectives are: (1) to measure ownership concentration in Canadaand (2) to show the possible effects on dividend policy, as revealed in the level and frequency of changes in regular dividend payments.

For objectives (1) and (2), it is argued that ownership concentration, by creating stronger links between management and shareholders, reduces conflicts of interest and asymmetry of information. When the ownership structure of the firm is widely held, insiders are likely to pursue their own objectives and depart from maximizing shareholders' wealth (Jensen &Meckling, 1976). Hence, the opportunistic behaviour of insiders in widely held firms generally creates asymmetric information, as dispersed shareholders cannot anticipate insiders' actions. However, when ownership concentration increases, insiders become more attentive to maximizing shareholders wealth. This, in turn, reduces asymmetric information and the need to signal or control agency problems by frequently varying the regular dividend. There is some evidence consistent with these arguments. Beer (1993) finds that the market reaction to unexpected dividend changes and dividend initiations on the Brussels Stock Exchange (where ownership is highly concentrated) is weak and statistically insignificant. Lippert et al. (2000) find that the price reaction to dividend increases is lower when managers and shareholders' interests are aligned.

Most theoretical approaches to date have assumed that large shareholders are individuals. However, unlike capital gains, *inter-firm* dividends are not taxable in Canada. Thus, one may argue that an increase in ownership concentration will lead to an increase in dividend

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payments.In line with this reasoning, the present study seeks to estimate the impact of Article 112 of Canadian tax law on the behaviour of Canadian firms regarding dividend payments. It is provided for in the Quebec tax law, art. 738; equivalent to Canadian tax law, art. 112(1): "*A corporation can deduct from its revenue for a given tax year the amount of all taxable dividends which it receives for this year from a Canadian corporation or from a corporation which it controls, which resides in Canada and which is not an investment corporation belonging to individuals who do not reside in Canada or a corporation which is tax exempt by virtue of the present party*".[4]In contrast, the U.S tax treatment of dividends is based on "double taxation": where dividends are taxed twice at the paying firm level and the shareholder level no matter what is the identity of the shareholder (a corporation or an individual). Morck (2003) argues that the inter-corporate double taxation of dividends in the U.S was introduced by the Congress in the early 1930's to avoid ownership concentration by corporations and lead to the dismantling of pyramidal business groups in the U.S. This is because the double taxation of dividends would have imposed a substantial "tax" burden on these organizational forms.[5]He also notes that, in Canada, the emergence of inter-corporate ownership in general, and pyramidal business groups in particular, have to do with the tax exemption of inter-corporate dividends. It will be argued that, in the Canadian setting, firms where the large shareholders are also firms pay higher dividends than similar firms where the large shareholders are individuals, even in the absence of agency costs and asymmetry of information (when the ownership concentration is high). Consideration of Article 112 produces a prediction which is in direct contrast to the prediction of financial theory, and is therefore open to testing.

3. Methodology and data

To test these hypotheses, the present study investigated the relationship between dividend policy and ownership concentration, using a random sample of 600 Canadian listed firms. Dividend policy was characterized by: i) cash dividend levels, and ii) the (direction of) cash dividend changes. First, multiple ordinary regressions were used to test the possible relationship between the level of cash dividends and ownership concentration. Secondly, the association between the frequency of dividend changes and ownership concentration was investigated using a logit model with repetition. Finally, the direction of dividend change was explored using a conditional probability model.

The information on voting rights held by insiders and the five largest shareholders along with their identities was collected for the 600 firms from (1) the Financial Post, (2) the Stock-Guide database, and (3) the publication of Statistics Canada: inter-corporate ownership. The information was collected for the period 1989-1991. The comparison of the databases allowed the information to be cross-checked and cases were eliminated where the data from different sources could not be reconciled.

Several measures to characterize ownership concentration and the identity of large shareholders were employed. For ownership concentration, the following variables are used:

[4]The citation of the law is from Royer and Drew (1994, pp. 488-9).

[5] Intuitively, the tax burden is increasing in the number of corporations within pyramidal business groups as dividends flowing from the bottom to the apex of the pyramid are taxed as many times as the number of layers in the pyramid.

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- BLCi: The voting rights held by the i^{th} largest shareholder, where i = 1,2, 3, 4, 5
- CONC : The voting rights held by the five largest shareholders
- BLCI: The voting rights held by insiders

- BLCE: The voting rights held by external shareholders

These variables were averaged over the sample period to obtain one observation per firm.
As for the identity of large shareholders, four broad categories are defined:

- INDIV : The voting rights held by individuals
- INSF : The voting rights held by financial institutions
- AUTI: The voting rights held by corporations
- GOUVThe voting rights held by governmental institutions

The dividends were standardised by the book value of the equity for the ten-year period from 1982 to 1991 (NDIVit). The information on dividends was collected from Canadian Compustat. Then, the dividend to the book value of equity was averaged over the years of 1982 to 1991 in order to obtain one dividend observation for each firm (NDIVi). This measure is more appropriate for a cross-sectional study than the dividend yield or the dividend payout, measures that are frequently used in empirical studies.[6]

3.1 The relationship between ownership concentration and dividend payments

For years, dividends have puzzled financial economists. Dividend policy is in fact complex. Ownership concentration is not the only explanatory variable of the dividend. The objective of the present study is to find out if the integration of ownership concentration as an independent variable in a dividends model can improve its explanatory power and the significance of its parameters. According to theories already described, two opposing forces influence the decision to pay dividends:

i) The dividend payment will be required by shareholders in order to reduce agency costs. Furthermore, it may be an attempt to signal higher future prospect.
ii) Shareholders will limit their dividend demands because of the transaction costs of external financing which would be generated.
Firms seek to minimise the sum of the two costs. However, since the costs are company-specific, dividends are not randomly distributed among them. More precisely, five variables could influence dividends:

i) Agency costs. According to Easterbrook (1984), Rozeff (1982) and Aivazian, Booth and Cleary (2003), dividend payments are part of the firm's package for monitoring performance

[6]Robustness tests were conducted using alternative measures of dividend levels. These measures include the dividend per share, the dividend payout and the dividend yield. The results of the study are robust to changing the independent variable, as the estimated coefficients and the associated t-tests barely change. Besides, it is worth noting that the ratio of cash dividends to book equity is highly (and significantly) correlated with the alternative measures of dividend levels. For instance, the correlation coefficient between the dividends to book equity ratio and the dividend yield is 0.75 (p-value = 0.00).

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and serve to reduce agency costs. According to Jensen (1986), firms with substantial free cash flows will have a tendency to have high agency costs. In fact, free cash flows can be used at the discretion of managers. They can waste them by using them for professional advantages (on-the-job consumption) or by aggrandizing themselves (over-investing them by accepting negative net present value projects), as such, the size of the firm is increased and at the same time, their power. The model presented here; therefore, predicts that if the free cash flows (hereafter CFLI) increase, managers will be urged by the shareholders to pay more dividends. The free cash flows are defined as net operating income on an after-tax basis, corrected for the change in working capital, less depreciation, and regular and preferred share dividend payments, all the while accounting for financial activities, such as new issues and the repayment of debt which comes to term in less than a year. All of this is divided by total assets, so as to control for the effect of the size of the company. The necessary information was gathered from the Stock-Guide database over the 1987-1991 period.

ii) Information asymmetry. Despite the costs of paying dividends, such as adverse personal taxes and transactions costs of external financing, firms continue to pay them. Paying dividends is effective because they reduce the presumed information disequilibrium between managers and shareholders by conveying credible private information to the market (Bhattacharya, 1979; John & Williams, 1985; Miller & Rock, 1985; De Jong, Van Dijk& Veld, 2003). In fact, dividend payments require managers to go to the capital market more frequently. It is assumed that cash dividends are accompanied by raising capital to finance existing and future investments. Since it is likely that the suppliers of funds will not provide them unless managers disclose the uses for which they are intended, shareholders may gain new information about management intentions. The model developed in the current study anticipates a positive relationship between information asymmetry and dividends. Many theoretical studies, such as that of Glosten and Milgrom (1985), explain the existence of a positive relationship between the level of information asymmetry and the bid-ask spread. Consistent with dividends as a signal, Mitra and Rashid (1997) find that dividend initiations are associated with a decrease in bid-ask spreads.Given that the estimation of the latter was not accessible while carrying out this research, and that many studies have shown the existence of a strong negative correlation between the spread and the volume of transactions (hereafter VOLM)[7], the volume will be used as a substitute for the former. Consequently, the model anticipates a negative relationship between the dividend payment and the volume of transaction since dividend payment reduces the bid-ask spread and therefore, increases the volume. The information on the volume of transactions is gathered from the Stock-guide database over the 1987-1991 period.

iii) Past growth. According to pecking order theory, firms can be expected to pay lower dividends if they experienced past growth. This conjecture supports the view that growth entails higher investment expenditures and may influence dividend payments because external finance is costly (Myers and Maj1uf, 1984). The implicit relationship between dividend policy and investment policy is confirmed by Higgins (1972), Rozeff (1982) and Gugler (2003). The model developed in this article anticipates a negative relationship between past growth and dividend

[7]Easley and O'Hara (1987) and mostly Howe and Lin (1992) showed that dividend payments convey information which reduces the bid-ask spread. This is normal since the spread is fixed by the market maker in relation to (1) the cost of holding the stocks (opportunity costs and fundamental risks); (2) the cost of portfolio processing and management; and (3) the information cost (the risk of compromise if investors are better informed).

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payments. Empirical studies have used several methods of measuring growth. Following Gonedes (1978) and Rozeff (1982), the average of the historical sales growth (hereafter CRCA) for the 1987-1991 period was used in this study. The information was gathered from the Stock-Guide database.

iv) Growth potential. For reasons outlined in the preceding paragraph, prudent managers will retain a greater proportion of the cash flows of their firm if they anticipate an expansion, as to avoid external financing with its attendant costs. Hence, the model developed in this study predicts a negative relationship between anticipated growth and dividend payments. Rozeff used Value Line's forecast of the growth of sales revenue as a measure of the management's expectation of growth. According to Thomadakis (1977), the latter is an evaluation specific to the market. On this basis, and in line with the work of Lang and Litzenberger (1989), the expected growth will be estimated using a practical version of the Tobin's Q Ratio (hereafter QRMT)[8]. QRMT is the average of the market value over the book value of equity during the 1987-1991 period. The information was gathered from the Stock-Guide database.

v) Size effect (hereafter TAIL). Zeghal (1979) showed that firms produce a quantity of information (in addition to their financial statements) that is proportional to their size, and that information about large firms is more widely disseminated than the information from smaller firms. If this information provides knowledge for investors, which would otherwise be made available to them through dividend policy, the signalling efficiency of the latter diminishes. Given the signalling costs, we can expect a negative relationship between size and dividend payments. However, it is usually assumed that large firms tend to have high free cash flows and weak growth (Deshmukh, 2003). Hence, it is arguable that rational shareholders demand high dividends from large firms in order to lessen agency costs. Thus, a positive relationship between the size and dividend payments can be expected. In summary, it is difficult to anticipate the sign of this relationship. Many measures of a firm's size are suggested in empirical studies. The present study uses the average of the total assets over the 1987-1991 period. The information was gathered from the Stock-Guide database.

In conclusion, the multiple regression equation used is as follows:

$$NDIV_i = \beta_0 + \overset{(+/-)}{\beta_1} CONC_i + \overset{(+)}{\beta_2}\ CFLI_i + \overset{(-)}{\beta_3}\ VOLM_i\ + \overset{(-)}{\beta_4}\ CRCA_i + \overset{(-)}{\beta_5}\ QRMT_i + \overset{(+/-)}{\beta_6} TAIL_i + \varepsilon_i \quad (1)$$

Where *i* is the observation index, NDIV is the average ratio of yearly dividends to the book value of equity over the sample period[9], ε_i is the error term.[10]

[8]If QRMT > 1, this may mean that the market offers a price which is determined according to its perceptionof the firm's growth potential. When QRMT < 1, this may mean that the market reduces the firm's valueby an amount equal to the net present value of the perceived decline.

[9]The advantages of using this measure are threefold. First, the dividend yield (dividends scaled by the stock price) is contaminated by the market reaction to dividend announcements (through the denominator).Since, I want to explore the relationship between ownership concentration and dividend levels, the dividend yield is not appropriate for the purpose of my study. Second, the ratio of dividends to book equity is easily interpretable as it is the amount of dividends paid per dollar of invested capital. Third, taking the average ratio has the advantage of smoothing out the noise in the variable. For instance,

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3.2 Frequency of dividend changes

A positive relationship between ownership concentration and stability of the dividend policy (hereafter STAB) can be expected. To measure stability for each firm the quarterly dividends for ten years (1982-1991) from the Laval data file have been taken. There is a change in the level of dividends in the following case:

$$\text{If } \Delta NDIV_{it} = NDIV_{it} - NDIV_{it-1} \neq 0 \text{ then } CHGT_{it} = 1 \text{ and } STAB_{it} = 0 \qquad (2)$$

where $NDIV_{it}$ symbolises a yearly dividend which is the sum of the quarterly dividends after we have taken into account all possible splits of stocks, and CHGT is a dummy variable which indicates the presence of a dividend change. The model to test is the following:

$$E(STAB_{it} = 1 \,|\, CONC_i, VARC_i) = P(STAB_{it}) = \beta_{0t} + \beta_{1t}\ CONC_i + \sum_{K=1}^{K} \beta_{kt} VARC_k \qquad (3)$$

where k is the number of control variables (VARC, hereafter), E(.) is the operator of mathematical expectations and P ($STAB_{it}$) is a latent variable which indicates the probability with which one observes dividend stability for the firm i to the period t, given the values of the independent variables. P($STAB_{it}$) is a bounded variable belonging to the interval [0,1], which is not the case for the independent variables. The transformation of this response variable to [P(STABit) / 1-P(STABit)] allows the elimination of the upper limit (P (.) = 1) and the transformation of the latter to log [P($STAB_{it}$) / 1-P($STAB_{it}$)] allows the elimination of the lower limit (P (.) = 0). In keeping with these transformations and when the model is repeated (N_i-1) times, it can be formulated in the following way[11]:

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suppose that there is an economy wide shock that affected realized earnings, and consequently book equity. Thus, even if the firm does not change its cash dividend, the ratio of cash dividends to book equity will be higher. Therefore, employing the ratio of average dividend to equity over the sample period attenuates the effect of exogenous shocks on the variable of interest.

[10] A potential concern with this approach is that the dividend variable and the explanatory variables are measured over different time intervals. We know from the extant literature that ownership structure and ownership concentration are quite stable over a reasonable period of time (LaPorta et al., 1999). At the same time, dividend policy is more likely to exhibit time series variation than ownership structure. If I used the same time horizon for ownership structure and the dividend variables, I would be likely to underestimate the time series variation of dividends and find results biased towards an insignificant relationship between dividends and ownership. However, as I increase the time period for dividends, I will be more likely to catch the time series variation of dividends and more likely to uncover the true relationship between dividends and ownership structure. Therefore I faced a trade-off between employing:
i. A short sample period (3/5 years) with more accurate sample matching (the dividend observations, the control variables observations and the ownership variables observations) but less variation in dividend policy, and
ii. A longer sample period (10 years) with less accurate sample matching but more variation in dividend policy
As mentioned before, several studies suggest that ownership concentration is quite stable over time. Thus, I opted for the first alternative (dividends observedover a 10 year period and ownershipobserved over a 3 years period) with an acceptable level of confidence that the sample matching is quite accurate.

[11]Model 4 is simply a logit model. We chose a logit model since, contrary to P($STAB_{it}$), the logarithm of

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$$\log\left(\frac{P(STAB_i)}{1-P(STAB_i)}\right) = \beta_0 + \beta_1 CONCi + \sum_{K=1}^{K}\beta_k VARC_{ki} \qquad (4)$$

i = firm index; j = 1, ...,(Ni - 1) which corresponds to a repetitive index; $VARC_k$ are the k control variables and P symbolises the probability. The ß parameters are estimated according to the maximum likelihood method (MLM, hereafter). The variable of interest in model (4), is $P(STAB_i)$. Equation (5) can be transposed as follows:

$$P\ (STAB_i) = \frac{\exp(\beta_{0+}\ \beta_1 CONC_i + \sum_{K}^{K}\beta_k VARC_{i\,k})}{1+\exp(\beta_0\ +\ \beta_1 CONC_i\ +\ \sum_{K=1}^{K}\beta_k VARC_{ik})} \qquad (5)$$

where exp (.) is the exponential operator.

3.3 Dividend rises and cuts

An improved analysis can be developed by studying the direction of dividend changes. For this, the number of increases and the number of cuts in dividends during the 10-year test period was calculated. The results were standardised using the number of years that the firm survived (Ni) within the research period. The variables increase in dividends (hereafter HAUS) and cuts in dividends (hereafter BAIS) are dummy variables and are defined:

If ΔNDIVi t > 0 then HAUSi t = 1;
If ΔNDIVi t < 0 then BAISi t = 1

A multivariate logit model with repetitions but conditional to change[12]was used. The reasoning behind this approach is similar to that set out for the test of stability (model 5) above. The parameters were estimated following the MLM.

$$Logit[P(HAUS_{ij}\,|\,CHGT_i)] = \log\left(\frac{P(HAUS_{ij}\,|\,CHGT_i}{1-P(HAUS_{ij}\,|\,CHGT_i}\right) = \beta_0 + \beta_1 CONC_i + \sum_{k=1}^{k}\beta_k VARC_{ik} \qquad (6)$$

thetransformed variable is linearly related to the independent variables. Besides, no constraints on the latter areimposed, contrary to Burr's transformation which requires non-negativity of the independent variables or thatofGompertz which requires a symmetrical distribution. Finally, as Aldrich and Nelson (1986) show, theestimators of the logit model differ from that of the probit model (normal transformation) by a proportionalityfactor (approximately by 1.8).

[12]It is more precise to estimate the probability of dividend rises or cuts from the case where there are dividendchanges. Otherwise, the likelihood of the occurrence of these events is underestimated. This reasoning is derivedfromBaye's theory.

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$$Logit[(P\,BAIS_{ij}\,|\,CHGT_i)] = \log\left(\frac{P(BAIS_{ij}\,|\,CHGT_i}{1-P(BAIS_{ij}\,|\,CHGT_i}\right) = \beta_0 + \beta_1 CONC_i + \sum_{k=1}^{k}\beta_k VARC_{ik} \quad (7)$$

4. Empirical results

Tables 1 and 2 present the basic information from our sample on the intensity and identity of the ownership of firms in Canada. Table 1 shows that the concentration of ownership is high.On average, the five largest shareholders in each firm own approximately 55 percent of all the voting rights.[13] Data not reported here, show a 96% significant correlation between ownership and voting rights. Only 11% of the companies in the sample used dual or multiple class shares. Voting rights were stable over the period under study, as were ownership rights.

The principal shareholder owns on average more than 43% of the voting rights making him very powerful. Indeed, the second largest shareholder owns on average only around 8% of the voting rights. The second largest shareholder, therefore, cannot exercise any power over the principal shareholder. The ratio BLC2/BLC1 is about 19% on average, which makes possible the expropriation of minority shareholders by the principal shareholder. The principal shareholder is in 81% of cases a firm, not an individual. It can also be seen in Table 2 that the principal shareholder, where they are an individual, is in almost all cases an insider (CEO, chairman, honorary chairman or a key executive officer). Table 2 shows that in this sample state control is rare, as is control by financial institutions. Other results not reported here show that the largest owners are usually families.

Table 4 presents the results of OLS estimates of the ratio of dividend over book value of the equity (equations 1 to 3) and its logarithm (equations 4 to 8) after adjusting for multicollinearity[14]. Equation 1 shows the influence of the principal shareholder on dividend decisions after eliminating outliers based on a 3 dimensional graph realized with the S+ software. Equation 2 shows the results in the presence of outliers. Equation 3 shows the results without the variable QRMT which is not significant. Equations 4 and 5 show the results of robust and very robust regressions respectively. Robust regression consists of weighting each

[13]The ownership concentration measures span the 0%-100% range. For example, when the CONC variable is equal to 0%, this indicates that the firm is widely held so that no shareholder controls more than 10% of the voting rights. At the other extreme end, when the CONC variable is equal to 100%, this means that one ore more large shareholders own all the voting rights. This situation arises when the firm has two classes of voting and non-voting shares.

[14]Apreliminary multicollinearity diagnosis indicated that the variablesVOLM, QRMT, L-TAIL AND BLC1 were highly correlated. Therefore, muticollinearity may be an issue and could affect the estimation of the regressions. To deal with multicollinearity, I estimated the following model where the natural logarithm of TAIL (L-TAIL) is regressed on VOLM, BLC1 and QRMT.

L-TAIL= 11.66 + 41.89 VOLM + 0.02 BLC1 - 0.26 QRMT + RES
(0.000) (0.000) (0.000) (0.000)

Adj-R^2 = 35.17; Prob> F = 0.000.

Since the residuals of this regression are orthogonal with respect to the other variables, the variable RESI was used instead of L-TAIL in the regressions presented in table 4.

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variable according to its potential influence (Huber, 1981). These regressions are run with S^+, which does not give the significance level of the parameters. Equations 6 and 7 show the regression results after eliminating respectively observations (firms) that never distribute dividends and also show those with a negative payout. The exclusion of those cases makes very little difference to the results. The coefficient of the BLC1 variable is positive and significant at the 1% level. This indicates that dividend payout significantly increases with ownership concentration. Consistent with predictions, firms with past and future growth pay lower dividends. However, the coefficients of the VOLM and CFLI variables have not the predicted signs. Therefore, the evidence presented in this paper suggests that signalling and agency costs arguments do not play a role in explaining dividend payout. The Equation 8 presents the results of a regression where a new dummy variable was introduced: INTN = 1 when the principal shareholder is an insider (CEO, chairman, honorary chairman or a key executive officer) and 0 otherwise. The interaction variable (BLC1*INTN) is INTR. The results of Equation 8 show no significance of INTR which suggests that the influence of the principal shareholder on dividend does not depend on whether he or she is insider or outsider. The influence of the principal shareholder on dividend distribution is important in both cases.

Table 5 shows the results of logit regressions of the explanatory variables on the probability that the dividend payments will not change, using the method of maximum likelihood. Equations 1 to 3 show respectively the results of changing the variable BLC1 for CONC and BLCI. Equations 4 to 6 present the same results without outliers. In equation 7, the dependent variable (stability of dividends) is replaced by the variable "change in dividends". The two variables are complementary, and one would, therefore, expect their parameters to be opposite. The results show that ownership concentration is positively and significantly correlated with the decision not to change dividends. As in table 4, the coefficient of the VOLM has the unexpected sign. The coefficient of the CFLI variable is as expected but is not significant.

According to Equation 8, the results are not very sensitive to whether the principal shareholder is an insider or an outsider. Equation 9 introduces a new dummy variable PRES instead of BLC1. PRES = 1 if BLC1>20% and PRES = 0 otherwise. The results of Equation 9 show that the mere existence of a principal shareholder, no matter the size of his or her stake in the company, induces more frequent changes in cash distribution.

Table 6 summarises the results of logit regressions of the explanatory variable on the probabilities of dividend increases (Equations 1 to 3) and of dividend cuts (Equations 4 to 5) using the method of maximum likelihood estimates. The regressions show no significant influence from the principal shareholder on decisions to raise or cut dividend payments. These results do not contradict those of Table 5, but suggest that the largest shareholder's preference for dividend changes depends on his or her financial needs. The principal shareholder, who is in most cases a firm, does not care about stability or growth over time of dividend payments, which is not the case with individual shareholders. Besides, this finding suggests a possible complex cash flow exchange between companies having cross-holdings, reciprocal holdings or pyramidal holdings. An internal capital market may be established in such groups of companies. The cash-flows may depend also on the tax status of a company in a given year (positive or negative earnings) which will influence the increase or decrease of dividends. To sum up, these results show that the largest shareholder exerts an influence on dividend payments irrespective of the expectations of minority shareholders.

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Conclusion

The investigation of Canadian shareholding conducted in this study showed that (1) the rights to vote, and the rights of ownership, are concentrated, and (2) this concentration is due to the principal shareholder, who is in 81% of cases a company. This characterization allows us to develop a new interpretation of dividend payments.

The results suggest that the ratio of regular cash dividends to the book value of equity increases with the concentration of ownership and that the largest shareholder plays an important role in this decision. This evidence is explained by the tax advantage of inter-firm dividend payments in Canada. Furthermore, the largest shareholder seems to demand frequent changes of dividends, whether up or down, perhaps as a function of his, her or its financial needs.

Two conclusions can be reached and represent the main contribution of this research: (1) the main shareholder exerts a preponderant influence on the dividend policy with a possible expropriation of minority shareholders; and (2) the data clearly supports the hypothesis that a "tax effect", not previously studied, dominates the two known effects of signalling and agency costs in dividend payment policy.

Despite the vast literature on dividend research, few studies have used ownership to explain this phenomenon.The notion of ownership is, however, particularly important because of the concentration of ownership in Canadian firms, the omnipresence of block holders and family owners and the tax specificity of the processing of dividend revenues for companies in Canada. These features stand in sharp contrast to the characteristics of U.S corporate ownership. As such, this study substantially contributes to our understanding of Canadian shareholding, where it can be seen that relatively little is known and was believed to resemble U.S shareholdings.

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Table 1

Descriptive statistics of the level of ownership concentration by year. CONC is the sum of voting rights held by the five largest shareholders. BLC1, BLC2, BLC3, BLC4 and BLC5 are the voting rights of the first, second, third, fourth and fifth largest shareholders, respectively.

Year	Mean	Median	Standard-deviation	Minimum	Maximum
Panel A. Voting rights held by the five largest shareholders (CONC)					
1989	55.71	56.25	23.67	0	100
1990	54.52	56.5	25.05	0	100
1991	54.21	55.75	24.44	0	100
Panel B. Voting rights held by the first largest shareholder (BLC1)					
1989	43.39	42.75	24.11	0	100
1990	43.58	42.9	24.68	0	100
1991	43.2	43.8	23.96	0	100
Panel C. Voting rights held by the second largest shareholder (BLC2)					
1989	8.48	4.51	9.92	0	42.3
1990	8	3.3	9.94	0	45.7
1991	8.16	2.05	10.29	0	46.3
Panel D. Voting rights held by the third largest shareholder (BLC3)					
1989	2.87	0	6.1	0	33.6
1990	2.29	0	5.47	0	33.3
1991	1.92	0	4.91	0	33.3
Panel E. Voting rights held by the fourth largest shareholder (BLC4)					
1989	0.64	0	2.88	0	23.3
1990	0.51	0	2.43	0	18.6
1991	0.61	0	2.65	0	18
Panel F. Voting rights held by the fifth largest shareholder (BLC5)					
1989	0.33	0	2.9	0	12.2
1990	0.13	0	1.1	0	12.2
1991	0.31	0	2.66	0	17.6

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Table 2

Descriptive statistics by shareholder's identity and year. BLCI is the fraction of voting rights held by insiders. BLCE is the fraction of voting rights held by external shareholders. INDV is the fraction of voting rights held by individuals. INSF is the fraction of voting rights held by financial institutions. AUTI is the fraction of voting rights held by corporations. GOUV is the fraction of voting rights held by governmental institutions.

Year	Mean	Median	Standard-deviation	Minimum	Maximum
Panel A. Voting rights held by insiders (BLCI)					
1989	41.61	46.1	30.06	0	100
1990	40.54	42.5	31.26	0	100
1991	39.64	43.6	30.58	0	100
Panel B. Voting rights held by external shareholders (BLCE)					
1989	14.13	0	23.09	0	87.6
1990	14.02	0	23.32	0	92.3
1991	14.6	0	23.39	0	95.5
Panel C. Voting rights held by individuals (INDV)					
1989	0.37	0	3.18	0	42.8
1990	0.21	0	1.82	0	20.7
1991	0.32	0	2.69	0	30.2
Panel D. Voting rights held by financial institutions (INSF)					
1989	0.87	0	3.89	0	33.9
1990	1.39	0	4.78	0	33.9
1991	1.95	0	6.6	0	47.6
Panel E. Voting rights held by corporations (AUTI)					
1989	11.44	0	22.07	0	87.6
1990	11.12	0	22.28	0	91.8
1991	10.82	0	21.64	0	95.5
Panel F. Voting rights held by governmental institutions (GOUV)					
1989	1.25	0	6.42	0	63
1990	1.13	0	5.52	0	57
1991	1.14	0	5.43	0	42.3

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Table 3

Descriptive statistics of the dependent and explanatory variables. NDIV is the ratio yearly dividends to the book value of equity. VOLM is the volume of transactions of the firm's shares. QRMT is the ratio of market value over the book value of equity. CFLI is the free cash flows, defined as net operating income on an after-tax basis, corrected for the change in working capital, less depreciation, and regular and preferred share dividend payments, all the while accounting for financial activities such as new issues and the repayment of debt which comes to term in less than a year. Free cash flows are standardized by total assets. TAIL is total assets. CRCA is the historical sales growth. All variables are averaged over the 1987-1991 period.

Variable	Mean	Std dev	Median	Min	Max
NDIV	4.03	9.24	2.71	-32.76	122.51
VOLM (000$)	7.51	19.42	1.63	0.00	162.10
QRMT	3.03	15.08	1.21	0.17	216.49
CFLI (000$)	4.51	98.16	-0.18	517.74	1,036.40
TAIL (000$)	1,687.91	9,350.05	68.23	0.82	124,259.38
CRCA	15.04	42.49	7.03	-82.94	431.02

Table 4

OLS estimates of the ratio of dividend over book values of equity NDIV (equation 1 to 3) and the logarithm of NDIV (equation 4 to 8) after taking care of multicollinearity. NDIV is the ratio yearly dividends to the book value of equity. BLCI is the fraction of voting rights held by insiders. VOLM is the volume of transactions of the firm's shares. QRMT is the ratio of market value over the book value of equity. CFLI is the free cash flows, defined as net operating income on an after-tax basis, corrected for the change in working capital, less depreciation, and regular and preferred share dividend payments, all the while accounting for financial activities such as new issues and the repayment of debt which comes to term in less than a year. Free cash flows are standardized by total assets. TAIL is total assets. CRCA is the historical sales growth. All variables are averaged over the 1987-1991 period. The equations 4 and 5 correspond to Huber's robust and very robust regressions. P-values are between parentheses.

	1	2	3	4	5	6	7	8
CONSTANT	0.80 (0.000)	0.80 (0.000)	0.81 (0.000)	0.78	0.86	0.56 (0.006)	0.79 (0.000)	0.83 (0.000)
BLC1	0.01 (0.000)	0.01 (0.000)	0.01 (0.000)	0.01	0.01	0.01 (0.006)	0.01 (0.000)	0.01 (0.008)
VOLM	6.50 (0.002)	7.28 (0.000)	6.5 (0.002)	7.53	4.63	5.11 (0.079)	5.87 (0.009)	6.49 (0.002)
QRMT	0.01 (0.851)	-0.01 (0.077)	-	-0.01	-0.01	0.16 (0.012)	0.01 (0.740)	0.01 (0.886)
CFLI	-1.04 (0.026)	-0.98 (0.012)	-1.04 (0.026)	-0.90	-0.54	-1.22 (0.049)	-1.07 (0.035)	-1.03 (0.028)

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RESI	0.24 (0.000)	0.23 (0.000)	0.24 (0.000)	0.24	0.30	0.19 (0.001)	0.24 (0.000)	0.24 (0.000)
CRCA	-0.01 (0.002)	-0.01 (0.008)	-0.01 (0.001)	-0.01	-0.01	-0.01 (0.000)	-0.01 (0.002)	-0.01 (0.002)
INTN								-0.05 (0.800)
INTR								-0.0003 (0.946)
Adj-R ^{2}	28.77	28.08	29.08			20.71	27.22	28.25
N	227	234	227			183	204	227
Prob > F	0.000	0.000	0.000			0.000	0.000	0.000

Table 5

Logit regressions of explanatory variables on the probability to not change the dividend payments with the maximum likelihood estimate. The dependent variable STAB which is an indicator variable for the dividend payout stability, except in equation 7, where the dependent variable is CHG. BLC1 is the fraction of voting rights held by the first largest shareholder. BLCI is the fraction of voting rights held by insiders. VOLM is the volume of transactions of the firm's shares. QRMT is the ratio of market value over the book value of equity. CFLI is the free cash flows, defined as net operating income on an after-tax basis, corrected for the change in working capital, less depreciation, and regular and preferred share dividend payments, all the while accounting for financial activities such as new issues and the repayment of debt which comes to term in less than a year. Free cash flows are standardized by total assets. TAIL is total assets. CRCA is the historical sales growth. All variables are averaged over the 1987-1991 period. P-values are between parentheses. PC is the ratio of predicted values that are concordant with the actual value. IV is the likelihood ratio statistic. Pr is the likelihood ratio index.

	1	2	3	4	5	6	7	8	9
CONSTANT	0.99 (0.000)	0.96 (0.000)	0.86 (0.000)	0.75 (0.000)	0.65 (0.000)	0.64 (0.000)	0.75 (0.000)	1.14 (0.000)	0.65 (0.000)
CONC		0.01 (0.000)			0.01 (0.013)				
BLC1	0.01 (0.000)			0.01 (0.000)			0.01 (0.000)	0.01 (0.013)	
BLCI			0.01 (0.000)			0.01 (0.000)			
VOLM	18.69 (0.000)	19.00 (0.000)	19.08 (0.000)	16.5 (0.000)	16.25 (0.000)	16.73 (0.000)	16.5 (0.000)	18.60 (0.000)	15.89 (0.000)
CRCA	0.01 (0.000)	0.01 (0.000)	0.01 (0.000)	0.01 (0.000)	0.01 (0.000)	0.01 (0.000)	0.01 (0.000)	0.01 (0.000)	0.01 (0.000)
CFLI	0.49 (0.397)	0.50 (0.386)	0.58 (0.323)	0.40 (0.489)	0.41 (0.475)	0.47 (0.421)	0.40 (0.489)	1.66 (0.11)	0.42 (0.465)
QRMT	0.02 (0.344)	0.02 (0.328)	0.02 (0.329)	0.01 (0.240)	0.02 (0.217)	0.02 (0.222)	0.01 (0.240)	0.01 (0.23)	0.02 (0.219)
RESI	0.5 (0.000)	0.5 (0.000)	0.49 (0.000)	0.46 (0.000)	0.45 (0.000)	0.44 (0.000)	0.46 (0.000)	0.56 (0.000)	0.45 (0.000)
INTN								0.40 (0.196)	
INTR								0.000 (0.99)	
PRES									0.42 (0.002)
N	275	275	274	243	243	242	243	170	243
PC	74.1	74.2	74.6	71.5	71.5	71.8	71.5	73.3	71.5
IV	378.94	378.78	386.96	282.17	282..96	284.62	282.17	227.15	281.01
Pr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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Table 6

Logit regressions of explanatory variables on the probabilities to rise (equation 1 to 3) or to cut (equation 4 to 5) dividend payments with the maximum likelihood estimates. CONC is the fraction of voting rights held by the five largest shareholders. BLC1 is the fraction of voting rights held by the first largest shareholder. BLCI is the fraction of voting rights held by insiders. VOLM is the volume of transactions of the firm's shares. QRMT is the ratio of market value over the book value of equity. CFLI is the free cash flows, defined as net operating income on an after-tax basis, corrected for the change in working capital, less depreciation, and regular and preferred share dividend payments, all the while accounting for financial activities such as new issues and the repayment of debt which comes to term in less than a year. Free cash flows are standardized by total assets. TAIL is total assets. CRCA is the historical sales growth. All variables are averaged over the 1987-1991 period. P-values are between parentheses. PC is the ratio of predicted values that are concordant with the actual value. IV is the likelihood ratio statistic. Pr is the likelihood ratio index.

	1	2	3	4	5
CONSTANT	0.41 (0.143)	0.54 (0.006)	0.32 (0.186)	-0.32 (0.186)	-1.94 (0.000)
CONC	0.002 (0.52)				
BLC1			0.005 (0.175)	-0.005 (0.175)	0.003 (0.347)
BLCI		-0.002 (0.942)			
VOLM	9.68 (0.018)	9.10 (0.019)	10.06 (0.011)	-10.06 (0.011)	-0.77 (0.850)
CRCA	0.003 (0.657)	0.003 (0.586)	0.003 (0.581)	-0.003 (0.581)	-0.01 (0.017)
CFLI	0.01 (0.991)	0.05 (0.944)	0.02 (0.980)	-0.02 (0.980)	-0.45 (0.497)
QRMT	0.06 (0.461)	0.05 (0.499)	0.05 (0.485)	-0.05 (0.485)	-0.04 (0.464)
TAIL	0.26 (0.000)	0.26 (0.000)	0.26 (0.000)	-0.26 (0.000)	0.08 (0.059)
N	175	174	175	175	243
PC	61.4	61.4	61.4	61.4	54.9
IV	30.33	30.32	29.98	29.98	14.88
Pr	0.000	0.000	0.000	0.000	0.021