Languages and Cross-Border Dividend Payment Policies*

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Abstract

The Sapir-Whorf hypothesis theorizes that the structure of a language may affect the way that its speakers think. We investigate if there is a significant difference in dividend payment policy of firms headquartered in a country whose primary language uses a strong 'future-time reference' (FTR) compared with a country that uses a weak FTR language. We posit that use of future tense to describe future events increases the mental distance from the future, and as a result, reduces a person's concern about the future. As today's dividend payment policy is determined based on both today's and future expected performance of the firm, we hypothesize that firms in strong FTR language speaking countries follow a dividend policy to pay out more today than firms in weak FTR language speaking countries. Our empirics confirm this hypothesis as we find higher dividend payouts by firms in strong than in weak FTR countries. We further investigate if firms in strong FTR countries make changes in dividend policy more frequently than firms in weak FTR countries.

Keywords: Languages, Dividend policy, Logit Estimation

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1. Introduction

The Sapir-Whorf hypothesis, found in the linguistics literature, theorizes that the structure of a language may affect the way that its speakers think, resulting in different thinking and behaving patterns in speakers of different languages (Whorf et al., 1956). One example of this hypothesis is how different languages grammatically reference the future. In general, languages can be categorized into two groups based on their methods of referencing the future: strong future-time reference (FTR) languages and weak FTR languages. Strong FTR language speakers grammatically mark future events by using future tense (e.g., "will" or "be going to" in English). On the other hand, weak FTR language speakers are not required to use future tense to describe a future event, and they can simply use present tense to imply the future. Dahl (2000) and Thieroff (2000) find that mandatory use of future tense to describe future events (as seen in strong FTR languages) increases the psychological distance from the future, and as a result, reduces a person's psychological importance of the future. In line with this finding, Chen (2013) presents evidence that speakers of the languages in which the future is grammatically associated with the present (weaker FTR languages) engage more with future-oriented behavior, such as exercise for preserving future health.

In the finance and economics literatures, we find only a handful of studies involving language heterogeneity, or more specifically, the effect of future reference in languages. For instance, Chen (2013) finds that individuals who speak weak FTR languages save more than those who speak strong FTR languages. Sutter et al. (2015) use data from a bilingual city in Northern Italy and experimentally show that German-speaking primary school children are about 46% more

likely to delay gratification than Italian-speaking children in an intertemporal choice experiment. Italian is a strong FTR language while German is a weak FTR language. At a firm level, Liang et al. (2014) find that firms with strong FTR languages as their official/working language perform worse in future oriented activities such as corporate social responsibility (CSR) than those in weak-FTR language environments. Chen et al. (2017) examine whether differences in corporate savings behavior may partially be attributable to language heterogeneity. They find that firms in weak FTR language countries have substantially higher average cash holdings than firms in strong FTR language countries. This finding is consistent with the previous evidence on the savings behavior of individuals provided by Chen (2013). Kim et al. (2017) hypothesize that managers of firms in weak FTR language perceive future consequences of earnings management to be more imminent, and therefore they are less likely to engage in earnings management. They find that accrual-based earnings management and real earnings management are less dominant at firms in countries with weak FTR languages than those in countries with strong FTR languages.

While dividend policy in a specific country has been often investigated in the corporate finance literature, research on comparative international dividend policy, particularly those that would link forms' dividend policy with non-economic and non-financial factors, are very rare. Within the domain of international dividend payment policies, a few prior contributions deserve citing. For instance, Denis and Osobov (2008) examine the propensity to pay dividends in the US, Canada, UK, Germany, France, and Japan. They find that firms that are larger, more profitable, and have a higher retained earnings to total equity ratio, tend to pay out dividends to shareholders. Among the studies on international dividend policy that focus on cultural effects, Bae et al. (2012) show that cultural differences such as uncertainty avoidance, masculinity, and long-term orientation have explanatory powers on variations in dividend policies. Similarly, Fidrmuc and

Jacob (2010) study the effect of individualism, uncertainty avoidance, and power distance. Shao et al. (2010) investigate the effect of conservatism and mastery on dividend payout ratios.

The above latter group of research on dividend policy are more closely related to our work. We contribute to this literature of behavioral explanation on international payout policy by examining the effect of two groups of languages. We resort to the psychological distance towards the future, as it is implied by the languages spoken. Unnoticed, silent, but specific references to future time in the languages that are currently spoken are of interest to us in this paper.

Specifically, we investigate if there is a significant difference in dividend policy of firms headquartered in a country where the primary first language is a strong FTR compared with a country that uses a weak FTR language. Based on the findings by Dahl (2000) and Thieroff (2000), we posit that the use of future tense reduces firms' concern about the future, and therefore, firms in strong FTR countries care more about today's events than expected activities taking place in the distant future. As today's dividend policy is determined based on both today's and future predicted performance of the firm, we hypothesize that dividend policies of the firms in strong FTR language speaking countries pay out more dividends than the firms in weak FTR language speaking countries. Those firms that are highly concerned about future cash flows may decide not to pay out much to shareholders today in order to maintain a certain level of precautionary savings. In other words, those firms which focus more on today's cash flow rather than future may pay out more dividends now than those firms which focus more on the future's cash flows.

We further hypothesize that firms in a country with a strong FTR language make changes in dividend policy more frequently than firms in a country with a weak FTR language. Managers who have low apprehension for the future of the firm may determine how much to pay out today

based primarily on today's performance rather than future performance. This may require the firms to adjust dividend policy according to the current financial condition every so often.

Our empirical results confirm our hypotheses as we find higher dividend payouts and more frequent dividend policy changes by firms using a strong FTR language than firms using a weak FTR language. These results are robust after controlling for firm specific characteristics as well as for year, industry, and country fixed effects. We also test the validity of our findings by using a sub-sample that excludes the United States. The US, which is a strong FTR country, accounts for 29.8% of the total sample. This exclusion removes the effects of bias, if any, in the choice of our sample. The sub-sample analysis also confirms our hypotheses.

The rest of the paper is organized as follows. Section 2 develops the hypotheses. Section 3 presents our data and methodology. Section 4 discusses the main empirical results. The last section includes our concluding remarks.

2. Hypothesis Development

Prior studies find that speakers of weak FTR languages show more future-oriented behavior (Chen, 2013; Liang et al., 2014; Sutter et al., 2015; Chen et al., 2017; Kim et al., 2017). More specifically, firms in countries with weak FTR languages have higher precautionary cash holdings (Chen et al., 2017) and firms in weak FTR language countries engage in less earnings management that could lead to restatements, enforcement actions, litigations, and dismissals (Kim et al., 2017). All of these are regarded as positive managerial features that usually aid the firm to achieve a higher firm value. As a result, it is highly likely that managers of firms headquartered in weak FTR countries adhere to more cautious policy when deciding to pay out from today's earnings. These managers are more preoccupied with somewhat predictable yet unknown future

prospects than those headquartered in strong FTR countries. We posit that other things being equal, firms in strong FTR countries pay more dividends than firms in weak FTR countries. Therefore, our hypothesis is set as follows:

> ***H1:*** *Firms in strong FTR countries pay out more dividends than firms in weak FTR countries.*

We further investigate if there is any difference in dividend policy changes between firms in strong FTR countries and weak FTR countries. Managers who have less concern about the future may determine how much to pay out as dividends today while heavily relying on the current financial situation of the firm, and barely considering future earnings. As a result, such relatively quick dividend policy management may be difficult to maintain a steady level of dividend payouts and may require frequent adjustments in the dividend payout ratio. Therefore, it is highly likely that firms in strong FTR countries practice more frequent dividend policy changes than firms in weak FTR countries.

To account for the above firm behavior, we specifically look at two groups of firms: a) firms that paid dividends in the previous year but stop paying dividends in the current period, and b) firms that did not pay dividends in the previous year but initiate dividend payments in the current period. We hypothesize that firms in a country with a strong FTR language make changes in dividend policy more often than firms in a country with a weak FTR language. Therefore, we posit the following two hypotheses that examine a shift from paying to non-paying dividends and vice versa:

> ***H2:*** *Firms in strong FTR countries have a higher likelihood of making a change in dividend policy, shifting from* ***paying to non-paying****, than firms in weak FTR countries.*

H3: *Firms in strong FTR countries have a higher likelihood of making a dividend policy, shifting from* ***non-paying to paying*** *dividends, than firms in weak FTR countries.*

3. Data and Methodology

3.1 Sample and Data

Our first challenge is to assemble data on categorization of languages into weak and strong FTR. Considering Kim et al., 2017, Chen et al., 2017, and a few other studies, we adopt the identification of FTR of each language based on the blueprints of the European Science Foundation's Typology of Languages in Europe (EUROTYP) project as well as a few other prior studies. This project studies the cross-linguistic grammaticalization of future time referencing. We use the same definition of strong and weak FTR languages as defined in these studies. "Weak-FTR" languages are the ones defined by Dahl (2000) as "futureless" and by Thieroff (2000) as "weakly-grammaticalized future" languages. Other languages are categorized as "strong-FTR" languages. We assign a language dummy variable, FTR, to categorize the languages. It takes a value of one if the firms' headquarters are located in countries whose first language is a strong-FTR language, and zero if the headquarters are located in a country whose first language is a weak-FTR language.

We then obtain firm-level data from Compustat Global for all countries except the U.S. and Canada. Data for these two countries are obtained from Compustat North America. Further, we collect country-level data from La Porta et al. (1998) and World Bank. Our coverage is over the period of 1987 to 2017. The sample consists of all firms covered in the two Compustat databases subject to meeting our analyses. These include, requiring firm-year observations to have the necessary data observations to identify our dependent and control variables. We exclude firms

in the financial industry and firms in a country with fewer than 50 firm-year observations. All numerical variables are winsorized at 1% at each tail.

Figure 1 illustrates the geographical distribution of the countries with strong FTR and weak FTR languages in our sample. We point out that several countries are not included in our sample as we exclude observations for which necessary firm-level data are not available, or countries with fewer than 50 firm-year observations. We observe that all Scandinavian countries, several Asian and European countries, as well as Brazil use languages with weak FTR.

Table 1 reports the sample distribution by country. The final sample consists of 331,547 firm-year observations across 46 countries. The US has the most firm-year observations, with 98,787 observations (29.8% of the sample). Japan, China, and Taiwan provide the next three largest numbers of sample observations, with 43,619, 37,016, and19,803, respectively.

Table 2 presents the summary statistics of all variables included in this study. The descriptive statistics are summarized and are delineated based on the two language categorizations: strong and weak FTR samples. Summary statistics include the number of observations, mean, standard deviations, twenty-fifth percentile, median, and seventy-fifth percentile of the firm-year observations. Variable definitions are provided in Appendix A.

3.2 Methodology

To identify the effect of languages on dividend policy, we first establish a number of specifications that link these variables together. In this regard, we draw heavily from the prior literature on firms' dividend policies. Employing our compiled data samples, we then estimate the parameters of these specifications via OLS and logit regressions. Throughout, FTR is the dependent variable and a host of other variables form the independent or control variables.

We control for several firm-level characteristics in all specifications. We consider, in particular, prior work released by Denis and Osobov, 2008; Javakhadze et al., 2014; and Pevzner et al., 2015. Among firm-level control variables, we include ten variables: size (measured by the logarithm of total assets), profitability (measured by ROA), firm leverage (measured by long-term debt scaled by total assets), cash (scaled by total assets), asset growth, capital expenditure, current ratio, net profit, asset turnover, and research and development. In addition, retained earnings to total equity (RETE) is included to control for the life cycle hypothesis. Among country-level control variables, we include income tax rates. This variable is shown in prior literature to be highly influential in decisions on dividend policy and a host of other factors, including choice of country of incorporation. We also include an indicator for the origin of country laws and regulations. It takes the value of one if the country's laws and regulations are based on common laws and zero otherwise. The significance of the origin of laws and regulations on dividend policy is studied by La Porta et al. (1998).

In light of the above control variables, we test our first hypothesis using OLS regression s. We point out that in this experiment the dependent variable contains 'real' numerical values.[4] Therefore, we estimate the following specification:

$$div\_payout_{i,t,c} = \beta_0 + \beta_1 FTR_{i,t,c} + \boldsymbol{\gamma_1} \boldsymbol{X'_{i,t,c}} + \boldsymbol{\gamma_2} \boldsymbol{Z'_{i,t,c}} + \boldsymbol{\lambda} \boldsymbol{DI'} + \boldsymbol{\tau} \boldsymbol{DT'} + \boldsymbol{\delta} \boldsymbol{DC'} + \varepsilon_{i,t,c} \quad (1)$$

where *div_payout* is the total amount allocated to dividend payouts scaled by either total assets or total sales in a given year; *FTR* is our variable of interest indicating the language; $\boldsymbol{X_{i,t,c}}$ is the vector of firm-level controls for firm i in year t; $\boldsymbol{Z_{i,t,c}}$ is the vector of country-level controls for firm i in

[4] As compared with binary numbers.

year t; **DI, DT**, and **DC** are dummy variable vectors that account for variations across industry, over time, and across countries, respectively; $\boldsymbol{\gamma_1}$ and $\boldsymbol{\gamma_2}$ are row vectors of parameters to be estimated; λ, τ, $and\ \delta$ are also each row vectors of parameters to be estimated; these indicate, respectively, time-invariant industry characteristics, time-varying factors common across all industries and countries, and time-invariant country characteristics; and $\varepsilon_{i,t,c}$ is a random error term. We estimate the above specification with several combinations of industry, year, or country fixed effects. Although dividend payout is normally defined as the total amount of cash dividend payouts scaled by net income, we scale it by total assets and total sales since approximately 1/3 of the observations in the sample indicate negative net income. The coefficient of interest is β_1 which indicates the effect of languages on firms' decision to pay dividends. Unlike other corporate finance research, causality does not pose a concern to our study as it is impossible to change the language that people speak in a country based on dividend policy set by firms.

To test our second hypothesis, we use a logistic regression because the dependent variable is now a binary value indicating whether a firm '*stops paying'* dividends. Therefore, we estimate the following specification which is similar to relation (1) except for its dependent variable:

$$former\_div_{i,t,c} = \beta_0 + \beta_1\, FTR_{i,t,c} + \boldsymbol{\gamma_1}\, \boldsymbol{X'_{i,t,c}} + \boldsymbol{\gamma_2}\, \boldsymbol{Z'_{i,t,c}} + \boldsymbol{\lambda DI'} + \boldsymbol{\tau DT'} + \boldsymbol{\delta DC'} + \varepsilon_{i,t,c} \quad (2)$$

where *former_div* is a binary variable that takes a value of one if the firm pays dividends in the previous year but stops paying in the current year, and zero otherwise. Other notations are as defined in relation (1). As in relation (1), our variable of interest is *FTR*, and the coefficient of interest is β_1 which represents the effect of languages on firms' decision to '*stop paying'* dividends.

Our third hypothesis is very similar to our second hypothesis. To test it, we also use a logistic regression because the dependent variable remains a binary variable, indicating, in this instance whether the firm '*starts to pay*' dividends. Therefore, we estimate the following specification:

$$initiate\_div_{i,t,c} = \beta_0 + \beta_1 FTR_{i,t,c} + \boldsymbol{\gamma_1 X'_{i,t,c}} + \boldsymbol{\gamma_2 Z'_{i,t,c}} + \boldsymbol{\lambda DI'} + \boldsymbol{\tau DT'} + \boldsymbol{\delta DC'} + \varepsilon_{i,t,c} \quad (3)$$

where *initiate_div* takes a value of one if the firm does not pay dividends in the previous year but initiates dividend payment in the current year, and zero otherwise. Other variables are as defined in relation (1). Again, our variable of interest is *FTR*, and the coefficient of interest is β_1 which represents the effect of languages on firms' decision to '*start paying*' dividends.

To examine if our results are unduly influenced by the U.S., we exclude the U.S. observations from the sample and re-estimate all specification. This concern arises because the U.S. accounts for approximately 1/3 of the total sample. This step also provides some robustness checks on our modeling effort and results. It also provides information on the sensitivity of our results to a variant (= shorter) data base.

4. Empirical Analysis

4.1 Baseline Results

Table 3 presents regression estimates of dividend payouts on FTR, the language indicator, and other control variables described in the previous section. The variable of interest is *FTR*, the indicator for strong and weak FTR languages, taking the value of one if the firm is located in a strong FTR country, and zero if the firm is located in a weak FTR country. Columns 1 through 3 in this table exhibit the estimates for the models wherein the dividend payout level is computed as

the amount of total cash dividends divided by total assets. The models under columns 1 through 3 differ in their treatment of the fixed effects: column 1 includes year and country fixed effects, column 2 includes industry and year fixed effects, and column 3 includes year, industry, and country fixed effects. Columns 4 through 6 are similar to columns 1 through 3 except that the dependent variable, the dividend payout level, is computed as the amount of total cash dividends divided by total sales. The model for column 4 includes year and country fixed effects, the model for column 5 includes industry and year fixed effects, and the model for column 6 includes year, industry, and country fixed effects. The coefficients for the FTR variable in models (1) and (2) are positive and statistically significant at the 1% level or below with t-statistics of 4.339 and 6.045, respectively. When all the three fixed effects are introduced, i.e., in column (3), the significance of the FTR variable slightly decreases, but still remains statistically significance at the 1% level with t-statistics of 4.037. All in all, these results indicate that firms in strong FTR countries pay more dividends than those in weak FTR countries.

Considering the estimated results in columns (4) through (6) of Table 3, the coefficients of the FTR variable in models (4) and (5) are positive and statistically significant at the 1% level or below with t-statistics of 5.980 and 7.348, respectively. Inclusion of year, industry, and country fixed effects in model (6) results in slightly lower statistical significance for the FTR variable but this variable of interest still remains highly statistically significant with a t-statistic of 5.455. These results again imply that firms in strong FTR countries pay more dividends than firms in weak FTR countries.

We note that the estimated coefficients of all remaining explanatory variables that are reported in Table 3 are also statistically significant, with the majority of them at 1% level or below.

Table 4 exhibits our baseline results for firms that '*start'* or *'stop'* paying dividends according to whether they are located in the weak or strong FTR countries. Since the dependent variable is binary, a logit regression estimation methodology is employed, as discussed in Section 3.2. The variable of interest is still *FTR*, the language indicator identifying strong and weak FTR countries.

Columns 1 and 2 of Table 4 report the estimated coefficients for models wherein former dividend payers *'stop'* paying. This pattern of dividend payment is indicated as *former_div*. which is a binary dependent variable. Column 1 includes year and country fixed effects; column 2 includes year, industry, and country fixed effects. We do not estimate a specification with year and industry fixed effects since our interest is mostly in identifying differences within the context of FTR and their respective countries.

Column 3 and 4 of Table 4 report the estimates for the models wherein the firms that do not pay dividends in the last year initiate dividend payments in the current year. We label this group as *initiate_div,* which is a binary dependent variable in these two columns. Column 1 includes year and country fixed effects, and column 2 includes year, industry and country fixed effects. We do not estimate the specification that includes year and industry fixed effects for the reasons cited above.

The coefficients for the FTR variables in columns (1) and (2) are positive and statistically significant at the 1% level or below, with t-statistics of 6.402 and 6.516, respectively. These results indicate that firms in strong FTR countries have a higher likelihood of eliminating dividends than firms in weak FTR countries. The estimated coefficients for the FTR variables in columns (4) and (5) are also positive and statistically significant at the 1% level, with a t-statistic of 4.194 and

4.384, respectively. These values imply that firms in strong FTR countries have a higher likelihood of initiating dividend payouts from a level of zero than firms in weak FTR countries.

4.2 Robustness Tests

To examine our concern as to whether our results are unduly driven by the weight (about one-third) of the U.S. in our sample, we excluded the U.S. from the sample and re-estimated all specifications. The new estimates are reported in this sub-section. Overall, our results hold very well, confirming the robustness of our modeling and estimation methodologies.

Table 5 includes the details of the estimates. It is similar to Table 3, except that it excludes the U.S. from the sample. The U.S. accounts for about 1/3 of the whole sample. The variable of interest in these models is still *FTR*. Similar to the baseline analysis presented in Table 3, columns 1 through 3 estimate the models for the dividend payout level computed as the amount of total cash dividends divided by total assets. The models in column 1 through 3 include, respectively, year and country fixed effects, industry and year fixed effects, and industry and country fixed effects. Similarly, columns 4 through 6 include estimates of the models wherein the dividend payout level is computed as the total amount of cash dividends divided by total sales. The models in column 4 through 6 are differentiated as to the type of fixed effects that are included.

Based on the estimates in Table 5, the coefficients for the FTR binary variable in models (1) and (2) are positive and statistically significant at the1% level or below with t-statistics of 4.438 and 4.755, respectively. In model (3) with all of three fixed effects, the significance of the FTR slightly decreases, but still remains highly statistically significant with a t-statistic of 4.112. This suggests that firms in strong FTR countries pay more dividends than firms in weak FTR countries. This finding is consistent with the result from the baseline analysis that includes the U.S. The

estimated coefficients for the FTR binary variable in models (4) through (6) are also positive and statistically significant at the 1% level or below, with t-statistics of 6.367, 6.545, and 5.740, respectively. These values again indicate that firms in strong FTR countries pay more dividends than firms in weak FTR countries.

All results from the above robustness tests show that even with a sub-sample that excludes the U.S., the baseline results presented in Table 3 still hold, implying that the results are not driven by the observations from the U.S. firms.

Table 6 exhibits further robustness test results for '*former'* or '*initiating'* dividend payer firms. We have also referred to these firms as '*stop'* and '*start'* paying dividend firms. In these tests, as indicated above, The U.S. observations are excluded from our sample. The variable of interest in these models is still *FTR*, the language indicator for weak and strong FTR languages. The specifications for Columns 1 through 4 are the same as the ones employed in the baseline models presented in Table 4. The estimated coefficients for the FTR binary variable in models (1) and (2) are positive and statistically significant at the 5% level or below, with t-statistics of 2.261 and 2,401, respectively. These results indicate that firms in strong FTR countries have a higher likelihood of abruptly stopping dividend payments than firms in weak FTR countries. The estimated coefficients for FTR in columns (4) and (5) are positive and significant at a 10% level or below, with t-statistics of 1.666 and 1.806, respectively. Compared with our baseline results, the explanatory power of the language indicator decreases. However, FTR still stays statistically significant, though at a lower level, to indicate that the firms in strong FTR countries have a higher likelihood of initiating dividends from a non-dividend status than firms in weak FTR countries. These findings are in line with the findings of the baseline analysis presented in Table 4, implying that our main results are not driven by the U.S. firm observations.

Overall, our empirics in this paper support the three hypotheses we posited in Section 2. Firms in strong FTR countries are found to pay out more dividends than the ones in weak FTR countries. In addition, firms in strong FTR countries are found to have a higher likelihood to *'stop'* paying dividends than firms in weak FTR countries. In contrast, firms in weak FTR countries are found to have a higher likelihood to *'start'* or '*initiate*' paying dividends than firms in strong FTR countries.

5. Conclusions

We examine, in a global context, the effect of languages on firms' dividend payment policies. More specifically, we investigate if using future tense in a language has any impact on dividend policy of a firm. Following a few pioneers on the effect of languages spoken across the globe, we posit that the use of '*future tense*' to describe future events increases the psychological distance from the future, and as a result, reduces managers' concern about the future. We find that firms in strong FTR (=future-time reference) countries have higher dividend payouts than firms in weak FTR countries. Therefore, we find evidence that languages do influence decision making in dividend payment policy. We also show that firms in strong FTR countries practice more frequent dividend policy changes than firms in weak FTR languages.

Our research contributes to the global finance and managerial literature through linking global behavioral aspects, languages in our instance, to form dividend policy. Our findings are significant and robust under a few alternatives that are considered. We show, overwhelmingly, that languages spoken in various countries can explain how firms decide policies on dividend payouts. Our results impart significant information that are valuable to global investors, corporate managers, government policymakers, and social scientists.

References

Whorf, B.L., Carroll, J.B., Chase, S., 1956. *Language, Thought and Reality: Selected Writings of Benjamin Lee Whorf.* MIT Press, Cambridge.

Thieroff, R., 2000. On the areal distribution of tense-aspect categories in Europe. In Ö. Dahl (ed.), *Tense and aspect in the languages of Europe*, 265-289. New York: Mouton de Gruyter.

Dahl, Ö., 2000. The grammar of future time reference in European languages. *Tense and Aspect in the Languages of Europe,* (6), 309–328.

Chen, M.K., 2013. The effect of language on economic behavior: evidence from savings rates, health behaviors, and retirement assets. *American Economic Review*, 103 (2), 690–731.

Sutter, M., Angerer, S., Glätzle-Rützler, D., Lergetporer, P., 2015. The effect of language on economic behavior: Experimental evidence from children's intertemporal choices. IZA Discussion Paper.

Liang, H., Marquis, C., Renneboog, L., Sun, S. L., 2014. Speaking of corporate social responsibility. Working paper. Harvard Business School.

Kim, J., Kim, Y., Zhou, J., 2017. Languages and earnings management. *Journal of Accounting and Economics,* 63 (2-3), 288–306.

Chen S., Cronqvist, H., Ni, S., Zhang, F., 2017. Languages and corporate savings behavior. *Journal of Corporate Finance*, 46, 320–341.

Denis, D. J., Osobov, I., 2008. Why do firms pay dividends? International evidence on the determinants of dividend policy. *Journal of Financial Economics*, 89(1), 62-82.

Bae, S. C., Chang, K., Kang, E., 2012. Culture, corporate governance, and dividend policy: International evidence. *Journal of Financial Research*, 35(2), 289-316.

Fidrmuc, J. P., Jacob, M., 2010. Culture, agency costs, and dividends. *Journal of Comparative Economics,* 38(3), 321-339.

Shao, L., Kwok, C. C., Guedhami, O., 2010. National culture and dividend policy. *Journal of International Business Studies,* 41(8), 1391-1414.

La Porta, R., Lopez□de-Silanes, F., Shleifer, A., Vishny, R.W., 1998. Law and Finance. *Journal of Political Economy,* 106(6), 1113-1155.

Pevzner, M., Xie, F., Xin, X., 2015. When firms talk, do investors listen? The role of trust in stock market reactions to corporate earnings announcements. *Journal of Financial Economics*, 117(1), 190-223.

Javakhadze, D., Ferris, S. P., Sen, N., 2014. An international analysis of dividend smoothing. *Journal of Corporate Finance*, 29, 200-220.

Figure 1. Strong FTR and Weak FTR Countries in the World

This Figure illustrates the geographical distribution of strong and weak FTR countries. Countries colored in blue are the countries which first language is categorized as a strong FTR language, and countries colored in orange are the countries which first language is categorized as a weak FTR language.

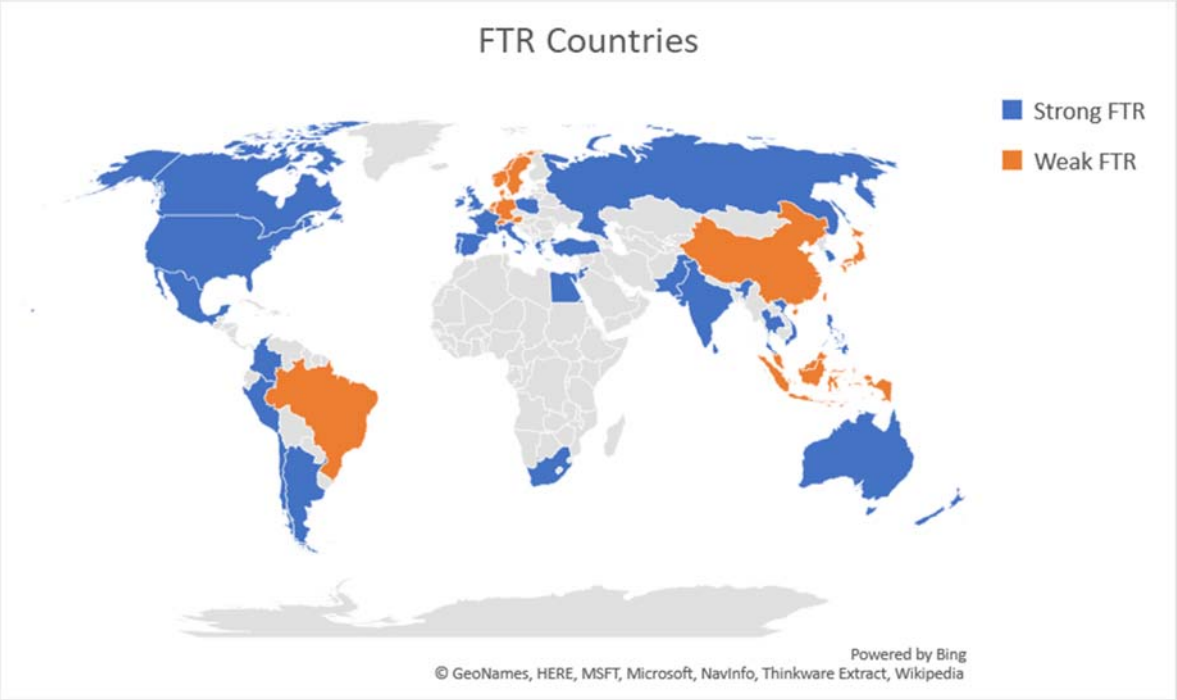

Table 1. Sample Distribution by Country

This Table presents the distribution of countries with strong FTR languages and firm-year observations per each country in the sample for the period of 1987 to 2017.

Country	Country Code	Strong FTR	Firm-Years	% of Total Firm-Years
Argentina	ARG	1	405	0.1%
Australia	AUS	1	7,750	2.3%
Austria	AUT	0	706	0.2%
Belgium	BEL	0	882	0.3%
Brazil	BRA	0	2,576	0.8%
Canada	CAN	1	3,368	1.0%
Switzerland	CHE	0	2,142	0.6%
Chile	CHL	1	1,375	0.4%
China	CHN	0	37,016	11.2%
Germany	DEU	0	5,059	1.5%
Denmark	DNK	0	1,116	0.3%
Egypt	EGY	1	621	0.2%
Spain	ESP	1	852	0.3%
Finland	FIN	0	1,550	0.5%
France	FRA	1	6,220	1.9%
United Kingdom	GBR	1	7,954	2.4%
Greece	GRC	1	1,471	0.4%
Hong Kong	HKG	0	7,638	2.3%
Indonesia	IDN	0	3,243	1.0%
India	IND	1	18,890	5.7%
Ireland	IRL	1	693	0.2%
Israel	ISR	1	2,667	0.8%
Italy	ITA	1	1,494	0.5%
Jordan	JOR	1	345	0.1%
Japan	JPN	0	43,619	13.2%
South Korea	KOR	1	8,630	2.6%
Sri Lanka	LKA	1	560	0.2%
Mexico	MEX	1	982	0.3%
Malaysia	MYS	0	10,282	3.1%
Netherlands	NLD	0	1,884	0.6%
Norway	NOR	0	1,594	0.5%
New Zealand	NZL	1	985	0.3%
Pakistan	PAK	1	1,967	0.6%
Peru	PER	1	712	0.2%
Philippines	PHL	1	1,438	0.4%
Poland	POL	1	2,065	0.6%
Portugal	PRT	1	371	0.1%
Russia	RUS	1	650	0.2%
Singapore	SGP	0	6,402	1.9%
Sweden	SWE	0	3,648	1.1%
Thailand	THA	1	5,438	1.6%
Turkey	TUR	1	1,201	0.4%
Taiwan	TWN	0	19,803	6.0%
United States	USA	1	98,787	29.8%
Vietnam	VNM	1	1,965	0.6%
South Africa	ZAF	1	2,531	0.8%
Total	**Strong FTR**	**1**	**182,387**	**55.0%**
	Weak FTR	**0**	**149,160**	**45.0%**
Total			**331,547**	**100.0%**

Table 2. Descriptive Statistics

This Table presents the descriptive statistics of the entire sample of firm-year observations. The observations are presented in two groups: strong FTR (*FTR* = 1) and weak FTR (*FTR* = 0). *Mean* is the average of the firm-year observations. *St Dev* is the standard deviation of firm-year observations. 25% is the twenty-fifth percentile, *Median* is the median value, and 75% is the seventy-fifth percentile of the firm-year observations. Variable definitions are provided in Appendix A.

	Strong FTR						Weak FTR					
	Obs.	**Mean**	**St Dev**	**25%**	**Median**	**75%**	**Obs.**	**Mean**	**St Dev**	**25%**	**Median**	**75%**
Dependent Variables												
div/assets	182,387	0.016	0.030	0.000	0.004	0.019	149,160	0.021	0.029	0.005	0.012	0.026
div/sales	182,387	0.020	0.043	0.000	0.004	0.020	149,160	0.032	0.051	0.004	0.014	0.038
former_div	182,387	0.034	0.182	0.000	0.000	0.000	149,160	0.027	0.162	0.000	0.000	0.000
initiate_div	182,387	0.022	0.148	0.000	0.000	0.000	149,160	0.026	0.160	0.000	0.000	0.000
Independent Variables												
Size	182,387	6.369	2.904	4.284	6.068	7.995	149,160	8.369	2.509	6.656	8.169	10.096
Lev	182,387	0.151	0.170	0.003	0.097	0.243	149,160	0.086	0.113	0.000	0.038	0.135
RETE	182,387	-0.324	3.291	-0.031	0.306	0.687	149,160	0.239	1.510	0.136	0.356	0.618
AssetGrowth	182,387	4.024	34.457	-3.184	6.044	16.816	149,160	5.041	27.792	-1.977	5.061	14.135
Capex	182,387	0.060	0.065	0.018	0.039	0.076	149,160	0.048	0.053	0.013	0.032	0.064
CurrentRatio	182,387	2.536	2.872	1.188	1.736	2.785	149,160	2.289	2.558	1.153	1.620	2.488
NetProfit	182,387	-2.388	107.928	-0.010	0.035	0.082	149,160	-0.143	34.128	0.011	0.040	0.091
AssetTO	182,387	1.119	0.756	0.599	0.974	1.451	149,160	0.967	0.633	0.538	0.841	1.232
Cash	182,387	0.113	0.141	0.021	0.061	0.148	149,160	0.155	0.137	0.057	0.118	0.211
ROA	182,387	-0.027	0.679	-0.009	0.038	0.079	149,160	0.028	0.152	0.010	0.035	0.069
TaxRate	182,387	36.186	5.277	35.000	35.000	39.600	149,160	42.469	10.675	40.000	45.000	50.000
CommonLaw	182,387	0.784	0.411	1.000	1.000	1.000	149,160	0.094	0.292	0.000	0.000	0.000

Table 3. Baseline Results – Regressions of Dividend Payout in Strong and Weak FTR Countries

This Table reports the results of six regression models of dividend payouts on the FTR dummy and control variables. The variable of interest is *FTR* that takes a value of 1 when a firm is headquartered in a country where a strong FTR language is spoken as the first language, and 0 when a firm is headquartered in a country where a weak FTR language is spoken as the first language. The sample period is 1987 – 2017. The robust t-statistics are indicated in parenthesis. Variable definitions are provided in Appendix A, and ***, **, and * indicate p-values of 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	div/assets	div/assets	div/assets	div/sales	div/sales	div/sales
FTR	0.026***	0.032***	0.022***	0.057***	0.066***	0.050***
	(4.339)	(6.045)	(4.037)	(5.980)	(7.348)	(5.455)
Size	0.001***	0.001***	0.001***	0.002***	0.002***	0.002***
	(12.753)	(18.049)	(12.836)	(15.459)	(19.015)	(15.013)
Lev	-0.016***	-0.018***	-0.017***	-0.012***	-0.017***	-0.017***
	(-20.544)	(-22.341)	(-21.990)	(-8.998)	(-13.062)	(-12.905)
RETE	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
	(21.965)	(22.129)	(22.258)	(14.089)	(15.595)	(15.116)
AssetGrowth	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
	(-12.148)	(-11.535)	(-12.020)	(-17.265)	(-15.892)	(-16.418)
Capex	0.024***	0.018***	0.020***	0.016***	0.003	0.006**
	(16.604)	(12.059)	(13.901)	(6.494)	(1.183)	(2.390)
CurrentRatio	0.000***	0.000***	0.000***	0.001***	0.002***	0.002***
	(5.790)	(6.432)	(6.447)	(13.329)	(14.400)	(14.452)
NetProfit	0.000**	0.000*	0.000**	0.000**	0.000**	0.000**
	(2.004)	(1.726)	(2.065)	(2.309)	(2.192)	(2.282)
AssetTO	0.004***	0.005***	0.005***	-0.012***	-0.011***	-0.011***
	(19.503)	(22.462)	(22.022)	(-42.683)	(-34.742)	(-35.250)
RD	-0.018***	-0.019***	-0.019***	-0.052***	-0.040***	-0.040***
	(-6.511)	(-6.614)	(-6.697)	(-14.826)	(-11.040)	(-11.184)
Cash	0.028***	0.030***	0.027***	0.023***	0.022***	0.019***
	(26.802)	(28.789)	(25.921)	(13.845)	(13.210)	(11.288)
ROA	0.004**	0.004***	0.004***	0.004**	0.004**	0.004**
	(2.553)	(2.591)	(2.583)	(2.428)	(2.484)	(2.471)
TaxRate	-0.000***	-0.000***	-0.000***	-0.001***	-0.000***	-0.001***
	(-7.921)	(-3.646)	(-8.260)	(-11.316)	(-6.536)	(-11.483)
CommonLaw	-0.038***	-0.043***	-0.035***	-0.074***	-0.080***	-0.069***
	(-6.679)	(-8.675)	(-6.877)	(-8.016)	(-9.254)	(-7.837)
Constant	0.022***	0.009***	0.023***	0.056***	0.051***	0.074***
	(8.269)	(3.178)	(7.245)	(14.389)	(9.231)	(12.937)
Observations	331,547	331,376	331,376	331,547	331,376	331,376
Year FE	YES	NO	YES	YES	NO	YES
Industry FE	NO	YES	YES	NO	YES	YES
Country FE	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.186	0.193	0.204	0.197	0.209	0.217

Table 4. Logit Regressions of Start or Stop Dividend Payments in Strong FTR and Weak FTR Countries

This Table reports the results of logit regression models of dividend policy changes on the FTR and control variables. The variables *former_div* is an indicator for the firm that paid dividends in the previous year but stopped paying this year, and *initiate_div* is an indicator for the firm that did not pay dividends in the previous year but initiates dividends this year. The variable of interest is *FTR* that takes a value of 1 when a firm is headquartered in a country where a strong FTR language is spoken as the first language, and 0 when a firm is headquartered in a country where a weak FTR language is spoken as the first language. The sample period is 1987 to 2017. The robust z-statistics are indicated in parenthesis. Variable definitions are provided in Appendix A, and ***, **, and * indicate p-values of 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)
VARIABLES	former_div	former_div	initiate_div	initiate_div
FTR	3.035***	3.080***	3.176***	3.222***
	(6.402)	(6.516)	(4.194)	(4.384)
Size	-0.194***	-0.193***	-0.102***	-0.098***
	(-28.524)	(-27.833)	(-13.423)	(-12.556)
Lev	1.120***	1.143***	0.416***	0.405***
	(16.114)	(16.120)	(4.893)	(4.727)
RETE	-0.011***	-0.009***	-0.001	0.001
	(-3.143)	(-2.668)	(-0.186)	(0.131)
AssetGrowth	-0.001***	-0.001***	0.003***	0.003***
	(-4.713)	(-4.363)	(4.276)	(4.354)
Capex	-0.424**	-0.641***	0.755***	0.668***
	(-2.342)	(-3.414)	(4.156)	(3.453)
CurrentRatio	-0.011**	-0.007	-0.007	-0.001
	(-2.354)	(-1.509)	(-1.453)	(-0.320)
NetProfit	-0.000*	-0.000*	0.000	0.000
	(-1.849)	(-1.862)	(0.611)	(0.587)
AssetTO	-0.158***	-0.158***	0.069***	0.104***
	(-9.000)	(-8.454)	(3.872)	(5.343)
RD	-2.283***	-1.921***	-2.438***	-2.232***
	(-10.748)	(-8.895)	(-8.042)	(-7.081)
Cash	0.276***	0.121	0.739***	0.594***
	(3.058)	(1.319)	(7.718)	(6.061)
ROA	-0.020	-0.018	0.469**	0.478**
	(-1.361)	(-1.453)	(2.290)	(2.330)
TaxRate	0.080***	0.080***	0.151***	0.151***
	(11.149)	(11.171)	(16.117)	(16.053)
CommonLaw	-1.874***	-1.923***	-0.865	-0.927
	(-5.251)	(-5.393)	(-1.265)	(-1.406)
Constant	-6.472***	-6.721***	-10.818***	-10.950***
	(-14.449)	(-13.988)	(-20.250)	(-19.460)

Observations	330,987	330,810	330,987	330,783
Year FE	YES	YES	YES	YES
Industry FE	NO	YES	NO	YES
Country FE	YES	YES	YES	YES
Pseudo R-squared	0.101	0.104	0.102	0.104

Table 5. Regressions of Dividend Payout in Strong and Weak FTR Countries Excluding the U.S.

This Table reports the results of six variant models of dividend payouts on the FTR dummy and control variables using the sample excluding the U.S. firms. The variable of interest is *FTR* that takes a value of 1 when a firm is headquartered in a country where a strong FTR language is spoken as the first language, and 0 when a firm is headquartered in a country where a weak FTR language is spoken as the first language. The sample period is 1987 – 2017. The robust t-statistics are indicated in parenthesis. Variable definitions are provided in Appendix A, and ***, **, and * indicate p-values of 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	div/assets	div/assets	div/assets	div/sales	div/sales	div/sales
FTR	0.025***	0.023***	0.020***	0.057***	0.055***	0.049***
	(4.438)	(4.755)	(4.112)	(6.367)	(6.545)	(5.740)
Size	0.000**	0.001***	0.000**	0.001***	0.002***	0.001***
	(2.419)	(4.846)	(2.350)	(7.834)	(9.536)	(7.184)
Lev	-0.022***	-0.024***	-0.023***	-0.015***	-0.025***	-0.024***
	(-14.681)	(-16.228)	(-15.922)	(-5.916)	(-10.136)	(-9.704)
RETE	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
	(4.745)	(5.346)	(4.986)	(4.601)	(5.271)	(4.854)
AssetGrowth	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
	(-8.061)	(-7.554)	(-7.858)	(-9.956)	(-9.154)	(-9.471)
Capex	0.034***	0.026***	0.029***	0.021***	0.009***	0.013***
	(15.147)	(12.417)	(13.449)	(5.750)	(2.661)	(3.642)
CurrentRatio	0.000**	0.000***	0.000***	0.002***	0.002***	0.002***
	(2.412)	(3.114)	(2.957)	(13.618)	(14.296)	(14.298)
NetProfit	0.000	0.000	0.000	0.000***	0.000**	0.000***
	(0.371)	(0.123)	(0.414)	(3.034)	(2.417)	(2.852)
AssetTO	0.004***	0.005***	0.005***	-0.018***	-0.017***	-0.017***
	(12.087)	(13.093)	(13.005)	(-37.657)	(-32.378)	(-33.021)
RD	0.028***	0.029***	0.028***	-0.030***	-0.005	-0.008
	(3.866)	(3.856)	(3.696)	(-3.646)	(-0.555)	(-0.883)
Cash	0.036***	0.037***	0.034***	0.030***	0.028***	0.024***
	(25.657)	(26.066)	(24.219)	(12.785)	(11.925)	(10.225)
ROA	0.044***	0.044***	0.043***	0.049***	0.049***	0.048***
	(4.270)	(4.236)	(4.236)	(4.078)	(4.033)	(4.028)
TaxRate	-0.000***	-0.000***	-0.000***	-0.001***	-0.001***	-0.001***
	(-7.337)	(-8.397)	(-7.665)	(-8.955)	(-8.834)	(-9.166)
CommonLaw	-0.023***	-0.021***	-0.020***	-0.063***	-0.057***	-0.055***
	(-3.982)	(-4.238)	(-3.898)	(-6.913)	(-6.773)	(-6.407)
Constant	0.014***	0.019***	0.014***	0.042***	0.064***	0.062***
	(4.066)	(5.990)	(3.673)	(7.283)	(10.342)	(8.254)
Observations	232,760	232,589	232,589	232,760	232,589	232,589
Year FE	YES	NO	YES	YES	NO	YES
Industry FE	NO	YES	YES	NO	YES	YES
Country FE	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.218	0.225	0.234	0.208	0.227	0.233

Table 6. Logit Regressions of Start or Stop Dividend Payments in Strong and Weak FTR Countries Excluding the U.S. Sample

This Table reports the results from logit regression models of dividend policy changes on the FTR dummy and control variables using the sample excluding the U.S. firms. The variable *former_div* is an indicator for the firm that paid dividends in the previous year but stopped paying this year, and *initiate_div* is an indicator for the firm that did not pay dividends in the previous year but initiates dividends this year. The variable of interest is *FTR* that takes a value of 1 when a firm is headquartered in a country where a strong FTR language is spoken as the first language, and 0 when a firm is headquartered in a country where a weak FTR language is spoken as the first language. The sample period is 1987 – 2017. The robust t-statistics are indicated in parenthesis. Variable definitions are provided in Appendix A, and ***, **, and * indicate p-values of 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)
VARIABLES	former_div	former_div	initiate_div	initiate_div
FTR	1.067**	1.146**	1.286*	1.371*
	(2.261)	(2.401)	(1.666)	(1.806)
Size	-0.241***	-0.238***	-0.135***	-0.127***
	(-24.370)	(-23.370)	(-13.526)	(-12.289)
Lev	1.021***	1.108***	0.767***	0.811***
	(9.612)	(10.204)	(5.943)	(6.133)
RETE	-0.030***	-0.027***	0.017	0.018*
	(-5.153)	(-4.766)	(1.548)	(1.725)
AssetGrowth	-0.001	-0.000	0.002**	0.002**
	(-1.488)	(-0.885)	(2.458)	(2.404)
Capex	-1.038***	-1.313***	0.846***	0.802***
	(-4.353)	(-5.368)	(3.554)	(3.307)
CurrentRatio	0.010**	0.007	0.007	0.010*
	(2.099)	(1.381)	(1.267)	(1.795)
NetProfit	-0.003	-0.003	0.009	0.008
	(-0.259)	(-0.278)	(1.449)	(1.336)
AssetTO	-0.308***	-0.271***	0.094***	0.129***
	(-10.560)	(-9.077)	(3.891)	(4.881)
RD	0.028	-0.126	-1.492***	-1.784***
	(0.071)	(-0.298)	(-2.974)	(-3.409)
Cash	0.284**	0.181	0.738***	0.562***
	(2.448)	(1.477)	(5.775)	(4.281)
ROA	-0.659***	-0.700***	1.362***	1.389***
	(-4.358)	(-4.617)	(2.658)	(2.695)
TaxRate	0.011	0.011	0.081***	0.080***
	(1.488)	(1.491)	(8.369)	(8.242)
CommonLaw	0.140	0.145	0.867	0.847
	(0.362)	(0.369)	(1.194)	(1.190)
Constant	-3.288***	-3.954***	-7.482***	-7.773***
	(-5.474)	(-5.622)	(-9.296)	(-9.213)

Observations	232,200	231,872	232,200	231,912
Year FE	YES	YES	YES	YES
Industry FE	NO	YES	NO	YES
Country FE	YES	YES	YES	YES
Pseudo R-squared	0.166	0.169	0.161	0.164

Appendix A. Variable Definitions

Variable	Definition
Dependent Variables	
div/assets	Dividend payout computed as total cash dividend amount divided by total assets for the year.
div/sales	Dividend payout computed as total cash dividend amount divided by total sales for the year.
former_div	Equals 1 if the firm paid dividends in the previous year and stopped paying dividends during the year, and 0 otherwise.
Initiate_div	Equals 1 if the firm did not pay dividends in the previous year and initiate dividends during the year, and 0 otherwise.
Control Variables	
FTR	Equals 1 if the firm's headquarters is located in a country which first language is categorized as a strong FTR language, and 0 if the firm's headquarters is located in a country which first language is categorized as a weak FTR language.
Size	Natural logarithm of total assets.
Lev	Leverage computed as long-term debt divided by total assets.
RETE	Retained earnings to total equity ratio computed as retained earnings divided by total shareholders' equity.
AssetGrowth	Asset growth computed as 100 x (total assets of year t – total assets of year t-1) / total assets of year t.
Capex	Capital expenditure computed as the amount used as capital expenditure divided by total assets.
CurrentRatio	Current ratio computed as current assets divided by current liabilities.
NetProfit	Net profit margin computed as net income divided by total sales.
AssetTO	Asset turnover computed as sales divided by total assets.
Cash	Cash level computed as total cash divided by total assets.
ROA	Return on assets computed as net income divided by total assets.
TaxRate	Income tax rate imposed in a country for a given year.
CommonLaw	Return on assets computed as net income divided by total assets.