Corporate Governance and Ownership: Measurement and Impact on Corporate Performance in Argentina (*)

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Abstract

The goal of this paper is twofold. First, we put together, for the first time, quantitative measures on the quality of the corporate governance and the ownership structure for 65 non-financial listed companies in Argentina with information for 2003-2004. A wide array of official and private sources were used to this purpose. In a nutshell, companies seem to be poorly governed vis-à-vis international practices. In turn, ownership appears to be quite concentrated at the level of the largest ultimate shareholder, but separation of control and cash flow rights prevails in less than half of the companies, with pyramiding being the main mechanism to create such wedge. Second, we put to the test the predictions of recent theories linking those measures with corporate performance in 2000-2003. Concerning performance, the results point to a sizable and robust effect of our governance measure on both the return on assets and Tobin's q. Moreover, the separation of control and cash flow rights for the largest shareholder –an indicator of the incentives to expropriate minority shareholders- hinders performance directly, and also attenuates the beneficial impact from good governance rules.

Códigos JEL: G3

(*) This study was financed by the IADB under the IADB Research Network. For brevity, the present paper does not include various sections on dividend policies in Argentina. A substantial part of the paper was written while the author was serving as Chief Economist at the Center for Financial Stability in Buenos Aires. We are very grateful for comments from Alberto Chong, Florencio Lopez-de-Silanes, Enrique Kawamura, Juan Cruces, Alberto Musalem, Pedro Elosegui and seminar participants at the IADB Research Network meetings, the Center for Financial Stability, and the universities of La Plata and San Andres, Argentina. The superb research assistantship of Horacio Pozzo and Máximo Sangiácomo is gratefully acknowledged. The usual disclaimer applies.

Introduction

Since the 1970s a growing literature has developed linking corporate policies and performance with governance and ownership structures. While profusely studied within academic circles, these models did not gain a more widespread popularity until very recently. Corporate scandals around the world in the last years contributed to raise awareness among managers, investors and regulators, and an effort is under way in many countries to produce quantitative measures on ownership and governance, and to estimate their impact on the value and decision making process of firms.

The present study builds on this line of research by providing empirical evidence for Argentina on the role of governance and ownership on corporate performance and dividend policies in 1996-2003, with particular emphasis in the last years (2000-2003). Guided by this goal, we have assembled a unique set of corporate governance and ownership indicators for the available sample of 65 non-financial listed firms. The Argentine stock market is poorly developed, and so are the standards and practices of corporate governance, so it is of interest to assess whether the agency and information problems usually studied and found in more active markets have also a bearing on the functioning of a much thinner one. Equally relevant is to stress the focus of this work around the recent financial crisis in 2001-2002. In the midst of a deep financial crisis, financial distress and uncertainty are exacerbated, making the emergence of conflicts of interests and opportunistic incentives much more likely to arise. Henceforth, financial crises are a particularly appealing study case to assess the disciplining role of corporate governance on company´s insiders.

The paper is structured as follows: In Section 1, we present our working hypotheses. In Section 2, we portray the situation of corporate governance and ownership structure in Argentina as of 2003-2004, relying on a set of measures specifically built for this study. In Section 3, we investigate the empirical link between such measures and corporate performance, with Section 4 devoted to the link with dividend policies. Some concluding remarks close.

1. Literature review and working hypotheses

A great deal of attention has been given to understanding how corporate governance and ownership structures affect firm's performance. Corporate governance can influence a firm's performance whenever a conflict of interest arises between management and shareholders and/or between controlling and minority shareholders. In the management-shareholders conflict, the agency problem manifests itself in management´s low effort and unproductive investments, usually known as perquisites. In the controlling-minority shareholders conflict, the controlling ones use their power to benefit themselves at the expense of the minority shareholders, in what is called expropriation or private benefits of control. The root of both conflicts is the fact that the manager in the first case, and the controlling shareholders in the second one, receive only a portion of the firm`s net revenue, while they fully appropriate the resources diverted. Thus, it is conceivable that, in light of this incentive structure, insiders will maximize their (pecuniary and non-pecuniary) utility even when the firm as a whole will not.

Of course, the ability to fulfill these goals is conditioned to the power insiders have in the company´s decision process. Managers will enjoy more power as they are part or act in connivance with the board and the controlling shareholders. In turn, the power of controlling shareholders relies in how effectively they can manipulate board decisions by the way of voting majorities and other means – distortionary policies will then be heightened as the ratio between voting to cash flow rights is higher (see La Porta et al. (1999) and Claessens, Djankov, Fan and Lang (1999)). Outsiders have two main instruments to counterbalance this power: the enforcement of adequate corporate governance standards and the quality of the

regulatory and legal environment, which should discourage detrimental actions by insiders and, once committed, allow affected stakeholders to challenge them through corporate and judicial channels.

While a wedge between control and cash flow rights are likely to harm minority shareholders and corporate valuation, Jensen and Meckling (1976) and Morck, Shleifer and Vishny (1988) make the point that concentrated ownership may actually have an ambiguous effect: on one hand, there may be a beneficial effect on performance and valuation (the so-called "incentive effect") in that higher cash flows rights in the hands of a few shareholders tends to reduce the free riding problem associated to dispersed ownership when it comes to monitor and punish opportunistic managers; on the other hand, the negative effect (the "entrenchment effect") above mentioned may take place whenever there is high concentration of control rights and/or separation between control and cash flow rights.

International evidence has flourished in the last few years. Claessens et al. (op.cit.), Klapper and Love (2002) and La Porta, Lopez-de-Silanes, Shleifer and Vishny (2002) are prominent efforts in proving the nexus between corporate governance and performance using cross-country data, while other studies look at individual countries, like the U.S. (see Gompers, Ishii and Metrick (2003)), Korea (see Black, Jang and Kim (2003)) and Germany (see Drobetz, Schillhoffer and Zimmermann (2003)). By aiming to analyze the relationship between corporate governance and ownership structure with performance (as measured by the return on assets and the Tobin's q) in Argentina in 2000-2003, the present work forms part of the latter country-level line of research.

2. Corporate Governance and Ownership Structure in Argentina

This section describes the current status of corporate governance and ownership structure in Argentina to motivate the subsequent analytical work. Even though we are initially reporting information on the total 103 listed companies as of November 2003, the usable sample for econometric purposes was substantially reduced because: (i) We excluded listed financial institutions -because of the specificity of their line of business and their heavy regulation- and firms in general without complete information. This leaves 65 firms; and (ii) We were able to gather complete ownership information was assembled for only 54 firms out of these 65 companies.

As a preliminary remark, it must be said that the Argentina stock market is quite undeveloped, as shown in the following table:

Table 1

Capital market indicators in Argentina and selected regions
Average 1997-2001, in percentage of GDP, unless stated otherwise

	Argentina	Developed countries	Latin America (excl. Argentina)	Other developing countries
Domestic equity issues	0.23	3.60	1.10	2.35
Foreign equity issues	0.32	1.30	0.23	0.49
Number of listed companies (2000)	129	1093	409	410
Change in number of listed companies (in %, 1990-2000)	-30.2	37.0	-3.2	117.5
Value traded	4.7	61.4	10.5	40.6
Market capitalization	30.8	90.7	43.6	48.0

Source: Own calculations based on data from the International Federation of Stock Exchanges.

As apparent from the table, Argentina ranks lowest compared to other regions in terms of key variables such as domestic equity issues, value traded, market capitalization, number of listed companies and fraction of delistings.

Historically, listed firms have displayed very poor standards of corporate governance in Argentina. Nevertheless, a host of changes took place since the nineties that affected corporate governance standards in a priori positive fashion: the renewed access to foreign capital flows, a moderate growth of domestic capital markets, the privatization of public utilities, the emergence of the institutional investors industry (led by private pension funds), the growing importance of foreign capital in the financial and nonfinancial sector, and the foreign listing of some domestic companies. These features induced the Government to issue the so-called Transparency Decree (Decreto de Transparencia, No. 677/2001), where a number of governance guidelines inspired by international best practices and standards were established for listed companies. However, modest progress has been actually achieved so far in spite of the well-intended goals of the reform. It is worth noting that the virtual inactivity of the primary stock markets, both before and after the 2001-2002 crisis, creates no incentives for firms to upgrade their governance practices.

To dispose of a quantitative and mostly objective measure of corporate governance, we are constructing, for the first time, a Corporate Governance Index for listed companies in Argentina. The work closely relates to others in this direction (see OECD (1999), Fremond and Capaul (2002), COSRA (2000), Klapper and Love (2002), Standard and Poor´s (2002), Gompers et al. (op.cit.), Black et al.(op.cit.), Drobetz et al. (op.cit.)). The CGI was designed to encompass two complementary measures: (a) A Transparency and Disclosure Index (TDI) based on public information on each company, reflecting their norms of transparency and disclosure, which are a crucial element of corporate governance. This information comes from a number of public information sources (balance sheets, annual reports, filings with domestic and foreign regulatory agencies, security issuance prospects, company's internet websites, and the like); (b) A complete Corporate Governance Index (CGI) based on a questionnaire sent out to each company to be answered either electronically or personally. The TDI was designed and completed between August and November 2003, while progress

on the CGI has been hindered due to the extremely low rate of response on the part of surveyed firms and thus will not be used in what follows.[1] We are confident that the TDI is a comprehensive measure of corporate governance that will be highly correlated with the whole CGI, as happened in other cases (see for example Black et al. (2003)), and we will be using it as our measure of corporate governance hereafter. Furthermore, the TDI has three distinctive advantages in that: (i) it is clearly objective and documented, (ii) in a country like Argentina where disclosure requirements are low and mostly limited to accounting information, it reflects voluntary rather than mandatory information, and thus it may display a desirable variability across firms, and (iii) it is not affected by the frequent low response rate in company surveys, which with a small universe of listed nonfinancial firms in Argentina can be a unsolvable obstacle to perform econometric analysis as a result of the very small final sample. Conversely, it has the limitation that it does not allow to know about corporate governance features that the company has decided not to disclose openly.

Next we discuss the most salient features and results from the TDI based on our usable sample of 65 listed firms. The TDI tries to assess how transparent corporate information is and how protected against expropriation outside investors are, thus providing a measure about the balance of power between insiders and outsiders. The items cover a broad range of governance topics, including the functioning of the executive organs, the communication with outside stakeholders, and the flow of information required for a proper monitoring of the firm by minority shareholders. The TDI comprises a total of 32 binary items, for each of them, the company is given a value of 1 if there is partial or total public information, and a value of 0 otherwise. We further divide the Index into three subindices: *Board*, *Disclosure*, and *Shareholders*. The subindex Board measure the structure, procedures and compensation of Board and Top Management members. The subindex Disclosure measures the degree to which the company informs relevant corporate facts to outside stakeholders. Finally, the subindex Shareholders measures the quality of information regarding the compensation to minority shareholders. The structure of the TDI, and the percentage of positive entries on each item, are presented in Table 2.

Following the methodology outlined in the seminal paper by La Porta et al. (op.cit.), we have also investigated the ownership structure of listed Argentine firms. The task proved to be quite challenging as a result of data limitations. Companies are not legally required to disclose their ownership structures.[2] Accordingly, we needed to rely on an array of dispersed resources, such as annual reports, issuance prospects, filings with local and foreign regulators, the company´s and other websites, and newspapers and business magazines. The field work was developed between September 2003 and May 2004.

La Porta et al. (op.cit.), Claessens et al.(op.cit) and subsequent related research look for the ultimate owners of each firm in order to establish the degree of ownership concentration and the difference between cash flow and voting rights –this difference being explained by the use of pyramiding, deviations from the one share-one vote rule, and cross-holdings. After going through the different chains of ownership, four main types of ultimate owners will come up: families, the government, and widely held financial or nonfinancial corporations.

In the case of Argentina, as state enterprises have been privatized and there are no domestic widely held companies, we distinguish two types of ultimate ownership, namely, national families and foreign firms. For each firm, starting from their direct shareholders, we trace back the shareholders of these shareholders until finding an Argentine family or individual, or a foreign firm. In the latter case, we did not identify the ultimate owners because it was not especially relevant for the present work.

[1] Questionnaires were sent out in early March 2004, and after many reminders, only 9 responses were obtained as of November 2004.

[2] The only exception is that they must inform about changes involving more that 5% of capital, but even in these cases they are not obligated to present information on owners that not participate in such particular transaction.

We have defined the following variables: (a) Cash flow rights of the main ultimate shareholder; (b) Control rights of the main ultimate shareholder on the company; (c) Voting-to-Cash Flow rights of the main ultimate shareholder; (d) No one share-one vote rule; (e) Pyramiding; (f) Cross-holdings; (g) Domestically-owned company; and (h) Widely held company. For the precise definitions of these variables, as well as of the other variables used along the present work, the reader is referred to Table 3.

Summary statistics on the TDI and ownership variables appear in Table 4. Out of 100, the average TDI is just 39.1, with a minimum of 18.8 and a maximum of 84.4, revealing a low average quality of corporate governance. The three subindices are equally low on average, with Disclosure showing the highest level (49.4 out of 100) and Board the lowest (28.4 out of 100). Concerning ownership, it is evident that property is quite concentrated, with the largest ultimate shareholder owing, on average, the 63.1% of votes and 56.9% of cash flows. Ownership structures are relatively simple, and deviations of control and cash flow rights of 2 percentage points or more occur in just 22 out of the 54 companies under study. For these 22 firms, the control-to-cash flow ratio is 1.74 (1.30 for the 54 firms). It is known that this wedge can be attained through deviations from the one share-one vote rule, pyramiding and cross-holdings. In the Argentine case, pyramiding has been found in 20 company and dual class shares in 6 companies, with no cross-holdings detected in the sample. Argentine families and individuals are the largest ultimate owners in 25 firms (46% of the sample), and foreign firms are the largest ultimate owners in the remaining 29 firms (54%). No widely held companies exist in Argentina.

Table 5 contains the frequency of some of the measures just discussed. The TDI distribution is heavily skewed to the left, with a thick tail, as 60% of the sample is below a ranking of 37.5. The opposite applies to the distributions of control and cash flow rights, where only the first decile is below 30%. Likewise, the control-to-cash flow ratio is above unity in only the last three deciles. The pairwise correlation among governance and ownership indicators can be seen in Table 6. The TDI is strongly correlated with each of the subindices, and have a weak and negative association with the control and cash flow rights variables (which, owing to the lack of separation between them, do have a high correlation to each other). The TDI and the control-to-cash flow ratio show a positive and significant, but rather low, correlation.

Section 3: Determinants of corporate performance

We now turn to the determinants of corporate performance. The period of analysis is 2000-2003.[3] As the severe, full-blown financial crisis unraveled at the beginning of 2002 may have affected the behavior and performance of firms, the sample was broken down to run separate cross-section regressions for the whole period, and for the 2000-2001 and 2002-2003 subperiods.

We follow previous studies by taking the return on assets (henceforth, ROA) and Tobin's q as indicators of performance. The return on assets is an accounting measure of profitability and efficiency, while Tobin's q captures market expectations about future earnings. Even though one would expect some correlation between them, this may not be always the case – as a matter of fact, the simple correlation in our sample is positive but not significant. Furthermore, the implications are radically different in each case: while the ROA-corporate governance link reflects a tangible, balance-sheet effect, the q-corporate governance nexus has more to do with market perceptions about the value of corporate governance. In light of the absence of a primary capital market in Argentina, firms are to a great extent unable to capitalize their governance quality, but may be encourage to upgrade it as long as a direct

[3] The decision not to go back in time comes from the fact that our governance and ownership indicators reflect the situation as of 2003-2004. Even though these variables change slowly over time (and thus we are assuming that they are valid for the whole period 2000-2003), we cannot be certain that they are an adequate representation for the 1990s.

effect on accounting profitability exists. In line with the arguments offered in Section 1, the key explanatory variables are the TDI (with a positive expected sign), the cash flow rights (positive), the control rights of the largest shareholder (negative), and the control-to-cash flow ratio (negative).

We include a set of controls in the regressions. We expect firm age to have a negative effect on performance as long as older firms may poorly managed under archaic rules dictated by members of the founding family. Firm size may have a negative effect if size is correlated with the exhaustion of growth opportunities, but may contrarily have a positive impact whenever size is correlated with more diversification, more economies of scale and scope, more professionalized management, and less severe financial constraints. The leverage ratio (debt to assets) can, on one hand, improve performance by limiting managerial misbehavior and by serving as a signal of high quality, but, on the other hand, a high leverage may lead to asset substitution and underinvestment (see Weill (2003) and Bebczuk (2003, op. cit)). Sales growth is a proxy for the product demand faced by the firm and its productivity. We also postulate that ADR issuers may have comparatively better performance driven by the need to compete for funds with foreign firms. Additionally, firms are classified into four broad sectors (industry, utilities, other services, and primary products) that vary in productive technology and international tradeability. We use lagged values from the two years previous to the sample period of the debt ratio and the sales growth rate as regressors.

Tables 7 and 8 present summary statistics for the additional controls and their simple correlations with ROA, q, and the governance and ownership variables. On a visual inspection, the correlation between ROA and TDI (0.31) is the only significant one. Also worth mentioning is the high correlation between ln(Assets) and TDI -0.62-. Since this gives rise to multicolinearity, preventing us from correctly estimating the independent contribution of each of them, in the reported regressions we have replaced ln(Assets) for a dummy variable that takes the value 1 if the company is in the highest 20% in terms of average total assets in 2000-2001, and 0 otherwise.

3.1 Baseline results

Tables 9 and 10 show the regression of ROA and q, respectively, against the TDI without adding additional controls, while in Tables 11 and 12 appear the regressions with such controls (except the ownership variables, which are included later on). The overall assessment is that the TDI has a positive and highly significant effect on both ROA and q – besides, the estimated coefficients remain reasonably stable across specifications and time periods. The quantitative effect is also remarkable: looking at the estimates for the entire 2000-2003 period with controls, for a firm with the average TDI (39.13), an increase of 10 points in its TDI to 49.13 would translate into a jump of 2.62 percentage points in its ROA, that is, an increase of 1.9 percentage point from the 2000-2003 average ROA (0.73%). Assuming a worst-to-best improvement in TDI (18.75 to 84.38), the ROA increase would amount to 3.58 percentage points. Repeating the exercise for q (whose 2000-2003 average is 0.89), the magnitudes are much more modest but still noticeable: a 10-point improvement in TDI would induce q to go up by 0.059 and a worst-to-best improvement by 0.38. For both ROA and q, the TDI estimates are statistically more significant in the 2000-2001 than in the 2002-2003 subperiod, although the coefficient do not change much. In principle, the lost explanatory power might be blamed on the noise brought about by the financial crisis in the latter subperiod.

No control variable reaches acceptable levels of significance in the ROA equations. In the q equations, conversely, the size dummy enters positively at 5% and the leverage ratio at 10%. For 2002-2003, the industry and primary product dummies also become significant, which may be explained by the boost in profitability linked to the steep peso devaluation – meanwhile sales growth enters with a difficult to rationalize negative sign.

3.2 Robustness checks

In what follows we carry out a battery of robustness checks to test the validity of the previous empirical findings. We start by running individual regressions, keeping the same control set as before, of each of the subindices and other alternative governance measures. As apparent from Table 13, Board and Disclosure, but not Shareholders, have a positive and significant loading in the ROA equation for the whole 2000-2003. The coefficient on Disclosure is the highest (0.00056) and is similar to that of the overall TDI –the ones on Board and Shareholders are 0.00038 and 0.00014, respectively. Again, results seem to be much stronger in 2000-2001 than in 2002-2003, and, as a matter of fact, all coefficients are significant in the former two-year period but not in the latter. Since it is to be expected that most governance provisions are interrelated and have some degree of commonality, we also use the first principal component of the three subindices to minimize such overlapping. In this case, as when we take the median TDI, the estimates stay significant. The q regressions from Table 14 reveal that Board is the highest and most significant subindex and that the median TDI is the only one lacking significance across all time periods.

We can ask ourselves whether the TDI is the only proper measure of corporate governance. In spite of being an objective and documented index, there might be a caveat against our TDI in that it does not directly reflect the actual governance practices but how much about them the company decides to disclose openly. In order to circumvent this possible criticism, we come up with a couple of alternative measures. In the first place, we made an attempt with a detailed survey sent out to all listed firms, which unfortunately was completed by just 10 companies –we go back to this later on in the paper. Afterwards, we intended to fill this informational void by running a short 3-question phone company survey, with similar poor results.[4] Subsequently, we proceeded to go over the charters of all the companies in the sample in search of distinctive features regarding corporate governance that are not legally binding (and hence can display the desirable cross-section variability), such as the self-imposition of the one share-one vote rule and of minimum (i) dividends, (ii) percentage of independent directors, or (iii) percentage of votes to call a Extraordinary Shareholders Meeting (in the latter case, below the legal 5%). Once again, this effort turned out to be fruitless, as virtually all companies have very standardized Charters that merely stick to the legal framework.[5]

Ultimately, we constructed a compact Corporate Governance Index including three binary (0-1) variables, namely, whether the firm: (a) has a positive weight the stock portfolio of any Argentine pension fund (40% of the companies); (b) accepted to complete our governance survey (15% of the companies); and (c) has a percentage of independent directors above the mean for our sample (22%, and 37% of the companies). Even though this index is restricted to few variables, it has a valuable informational content regarding governance, as Item (a) is a nice proxy for market perception on corporate governance by professional fund managers, Item (b) gives a notion of the willingness to disclose corporate information (and, due to some degree of self-selection, would most likely be correlated with good governance), and Item (c) offers most relevant information about governance practices not included in our TDI.[6] Table 15 presents the results, where it is apparent that this new index is highly significant in the

[4] As a matter of fact, the Investor Relations Officer (Responsable de Relaciones con el Mercado) of only three companies responded to our phone calls after two reminders over a two-week period. To facilitate participation, the survey was narrowed down to just 3 questions: (a) Has the company issued or subscribed to a Code of Best Practices on Corporate Governance?; (b) Does the External Auditor provide any additional paid-for service to the company?; and (c) Does the company inform its controlling and minority shareholders about the rationale and amount of the remuneration to the top management and the Board, discriminating the fixed and variable components and the form of payment (cash, shares, options)?

[5] With the exception of the one share-one vote rule, which is voluntarily included by 66% of the companies in their Charters, the remaining items are present in at most 3 out of the 65 companies.

[6] The new index ranges from 0 to 3, and its mean value is 0.93, with a correlation of 0.4 with the TDI. We also tried other components for the index, including the one share-one vote dummy, whether the CEO and the Chairman of the Board are the same person, and whether the CEO and/or any director are at the same time direct controlling shareholders of the company. However, the results lose statistical significance when any of these variables were added to the index. Given that these variables are usually associated with good governance, these results call for additional work about what role these variables actually play on corporate governance and performance.

ROA regressions for 2000-2003 and 2000-2001 and in the q regression for 2002-2003. Since the three components may be correlated to each other, and the new index may be in turn correlated with the TDI, we additionally computed the principal component with and without the TDI. From the same table, we witness a greater significance in both ROA and q regressions, especially when the TDI is included. This implies that the new index seems to complement rather than to substitute the TDI as a measure of corporate governance.

To have another robustness proof, we sent out a questionnaire to pension funds operating in Argentina to inquire about their perception of corporate governance practices in the companies they usually trade. We included only 4 general questions, giving for each of them 5 choices, from "Very Good" to "Very Bad".[7] 8 out of the 10 pension funds returned the questionnaire filled out. Even with a much smaller sample (26 companies), the baseline regressions keep yielding highly significant estimates on this index when the dependent variable is ROA, but not when it is q, as shown by Table 16.

Once proved the quality of our corporate governance measure, we went on to substitute ROA and q for the return on equity and the return on sales as dependent variable in unreported regressions where the TDI estimate is still significant but only in 2000-2001. In Table 17 and 18 we introduce several interaction terms. The square TDI seeks to capture a possible non-linear effect of TDI. Although the coefficient is negative, suggesting a positive but decreasing effect, it is only significant, at 10%, for 2000-2001. The TDI-Size interaction is intended to measure whether in bigger firms, where management complexity may a priori create more acute agency problems, the role of good governance is reinforced. By the same token, good governance may be more valuable in older firms where founding shareholders or their relatives may exert an excessive, value-reducing power. Growing firms (as proxied by the growth of sales) may need adequate governance standards to enhance their access to financing and to avoid overinvestment. Finally, highly leveraged firms may, on one hand, require a proper governance as a disciplining device to mitigate the incentives towards overinvestment and excessive risk-taking, but, on the other hand, it may have a less prominent effect as far as the default risk associated to fixed financial obligations may by itself be enough to mitigate the conflicts of interest between large and minority shareholders. With the exception of a striking negative TDI-Sales growth interaction in the q regressions, none of these additional terms are significant for the whole period. The individual TDI significance is unchanged, except when interacted with age.

3.3 Endogeneity checks

A recurring concern with econometric studies on corporate governance and performance is the potential presence of endogeneity. Specifically, if there exists a casual positive link from performance to governance, the estimated coefficient on governance would be upward biased, thus rendering the previous results anything but reliable. Among other reasons, good performance may encourage the adoption of a better governance framework because: (i) Implementing governance reforms is costly, so only profitable companies are capable of affording the associated expenses; (ii) There may be a multiple equilibria problem at work, in which there is a group of low-performance/bad governance companies, whose insiders reap substantial private benefits of control and struggle to perpetuate the statu quo, and a second high-performance/good governance group of companies that are aware of and enjoy the benefits of good governance rules, and hence have the incentives to continue along this path.

The use of an instrumental variable and the running of a simultaneous equation model are two popular devices to deal with endogeneity. An instrumental variable is one that is correlated with the endogenous explanatory variable but not with the dependent variable. Meeting such binding conditions in financial economic studies is frequently hard. However,

[7] The questions had to do with general opinion on corporate governance, functioning of the Board and top management, disclosure, and minority shareholder protection.

we propose three possible options. The first one is a dummy with value 1 if the company has set an Audit Committee as of May 2004, and 0 otherwise. Unlike other governance provisions, the creation of the Audit Committee was imposed by law (through the Decree 677/2001 cited in the Introduction) but the requirement, due by May 2004, was only compulsory for big firms. Small firms (according to a classification dictated by Resolution 408/1993 of the Ministry of the Economy that establishes maximum levels of assets, sales and employees by sector) were dispensed. In principle, as the Audit Committee is clearly part of a good governance framework and its creation was legally forced (and thus, by definition, exogenous with respect to firm performance), it stands out as a nice instrumental variable. Nevertheless, its use casts some doubt as we realize that its correlation with the TDI, yet statistically significant, is rather low (0.32). Moreover, 60% of the firms with below-average TDI have an Audit Committee, and 20% of the above-average TDI companies do not, reinforcing the impression that this may not be as good an instrument as we hoped for. This observation suggests that firms choose their own governance regimes for reasons other than this particular legal duty. Anyway, as can be seen in Table 19, we rerun the baseline regressions with this instrument in lieu of the TDI, without finding any significant coefficient.

The second alternative instrument comes from the very field work carried out to construct our index of corporate governance. As mentioned in Section 2, we did a survey of corporate governance among all listed firms. After several reminders, we received no answers. At that point, we personally contacted top managers in 24 companies we knew before this study was put in motion, and asked them to complete the survey. As a result of this new personal request, we managed to have the questionnaire completed on just ten companies. Predictably, the companies that agreed to respond in this instance had an average TDI (49.3) higher than that of the whole sample (39.1), indicating that the participation in the survey is a signal of good governance.[8] Even more importantly, the selection of these companies was totally unrelated to their performance. In consequence, we are able to claim that participation in the survey is a legitimate (dummy) instrumental variable. The regression output in Table 20 for the ROA regressions, but not for q, yields a highly significant estimate for the whole 2000-2003 period and also for 2002-2003.

Next, we postulate yet another instrument: a trading intensity variable, defined as the number of days the stock was traded in 2001-2003 as a proportion of total trading days in that period. This variable ranges from 0 to 1.[9] As we should expect that companies with good corporate governance are more attractive to -and thus more actively traded by- outside investors, the positive nexus between trading and governance is evident –actually, the correlation with TDI is 0.5. Nevertheless, trading may not be exogenous with respect to accounting performance, but the correlation in this case would not be positive, that is, should not necessarily lead to the usual upward bias that is behind the endogeneity criticism. For instance, Chordia, Huh and Subrahmanyam (2003) investigate the determinants of stock trading in the U.S. and argue that ROA should actually reduce trading intensity because high ROA shares are preferred by investors following buy-and-hold strategies.[10] Their empirical finding, after controlling for a large number of variables, is that ROA has no statistical effect on different measures of trading. Back to our estimations, the baseline regressions presented in Table 21 suggest that this instrumental variable enters significantly in all ROA regressions.

The independence of trading and q is perhaps more questionable because investors may display loss aversion, leading them to hold on to past losers and to trade more actively past winners. In line with this behavioral approach, Odean (1999) and Chordia et al.(op.cit.) document that high return stocks are more traded. The expected positive correlation between

[8] The correlation of the TDI and the grade obtained through the questionnaire was positive and statistically significant (0.29). Obviously, the sample is too small to draw definite conclusions, but this positive association reinforces our confidence on the informative content of the TDI.

[9] Note that the median of Trading Intensity is 0.44, indicating that many stocks listed in Argentina are quite illiquid.

[10] This is why we discard one additional instrument: a dummy for companies held by pension funds. Pension funds, as minority shareholders, should naturally be inclined towards good governance companies, but since they mostly follow long-term, buy-and-hold strategies, a positive relationship between this instrument and ROA is probably present.

q and trading intensity turns the latter an inappropriate instrument for corporate governance. Anyway, we run in the same Table 21 the baseline q regressions, although no significant estimates were obtained, except marginally for 2000-2003.

As a final exercise, we confront the potential endogeneity by running a two-stage least square simultaneous equations model, that is, treating Trading as an endogenous variable. To save space, we only report in Table 22 the estimates on Trading, where we observe significant coefficients in all cases with the exception of q in 2002-2003. We also went back to our original regressions and apply this same technique for TDI in the same table. Again, the estimations support the claim that endogeneity does not drive our econometric results.

3.4 Ownership and Performance

Resuming the discussion in Section 1, we now report the results involving ownership variables displayed in Tables 23 and 24, where we show the estimated coefficients on TDI and the following indicators for the largest ultimate shareholder: control rights, cash flow rights, the control-to-cash flow rights ratio, and the nationality.[12] Most coefficients for both ROA and q equations, and for different sample periods, turn out to be non significant –results do not change before changes in the set of additional regressors. The exception is the ratio of control to cash flow rights, which enter with the expected negative and significant sign in the crisis period of 2002-2003 for both performance measures. A plausible explanation for this finding is that the conflicts of interest among shareholders are accentuated at times of financial distress and economic slump. Furthermore, the reigning macroeconomic instability (inflation, devaluation, abrupt relative price changes, and the like) allows controlling shareholders to expropriate minority shareholders and other stakeholders more easily, as the ability to monitor the company and its managers is seriously undermined in a scenario where balance sheets and conventional analytical tools become less informative. In this sense, we also introduce a Default dummy, with value 1 if the company defaulted on its debt as a result of the 2002-2003 crisis (which was the case of 9 out of the 65 companies), and 0 otherwise. The incentive to self-dealing and other forms of expropriation is heightened under these circumstances, so we would predict a negative sign on Default. However, the estimation leads to reject any noticeable effect.

Interaction terms of ownership variables with TDI were included in Tables 25 and 26 to test whether the power of TDI as a disciplining tool has anything to do with the power of controlling shareholders. Two contrasting hypotheses are sensible: (a) Good governance is more valuable in firms with more powerful insiders, as it helps to restrict the abusive actions that these insiders would otherwise commit; (b) Good governance is less valuable in firms with more powerful insiders, as governance rules, no matter how good they are, are circumvented or plainly disregarded by controlling shareholders. Regression outcomes lend some support to hypothesis (b) in that the separation of control and cash flow rights attenuate, but does not neutralize whatsoever, the impact of TDI on both ROA and q.[13] For instance, in the third column of Table 30 (ROA in 2002-2003), the overall TDI loading goes down to 0.00048 (for a control-to-cash flow ratio of 1.74, the average for the 22 firms whose ratio exceeds 1.02) from 0.00058 (for no separation).

[11] Note that the median of Trading Intensity is 0.44, indicating that many stocks listed in Argentina are quite illiquid.
[12] Note, by the way, that the usable sample drops from to 54 and 46 observations for ROA and q, respectively. As TDI remains significant after such change, these regressions provide an additional robustness check for governance.
[13] It must be noted that, due to multicolinearity, the regressions do not include the ownership variables but their interactions with TDI.

Conclusions

The goal of this paper was twofold. First, we put together, for the first time, quantitative measures on the quality of the corporate governance and the ownership structure in 65 non-financial listed companies in Argentina with information for 2003-2004. A wide array of official and private sources were used to this purpose. In a nutshell, companies seem to be poorly governed vis-à-vis international practices. In turn, ownership appears to be quite concentrated at the level of the largest ultimate shareholder, but separation of control and cash flow rights prevails in less than half of the companies, with pyramiding being the main mechanism to create such wedge. Second, we put to the test the predictions of recent theories linking those measures with corporate performance in 2000-2003. Concerning performance, the results point to a sizable and robust effect of our governance measure on both the return on assets and Tobin's q. Moreover, the separation of control and cash flow rights for the largest shareholder –an indicator of the incentives to expropriate minority shareholders- hinders performance directly, and also attenuates the beneficial impact from good governance rules.

Any policy recommendation emerging from this research should internalize that corporate governance upgrading entails the consideration of both the private and the public interest. Controlling shareholders will not be inclined in this direction unless the incremental benefits (acting as regular shareholders) outweigh the loss of their private benefits of control. The evidence reported here on the ROA-governance nexus should be hopefully taken into account by insiders. Less apparent are the benefits from higher q. Historically, stock issuance has been almost negligible in Argentina, so a topic for future research is whether stock prices and returns play any role at all in enhancing the access to market and bank debt. But corporate governance is, at the same time, a public policy issue in that uninformed minority shareholders should be legally protected against expropriation. Raising awareness among investors and businesses about it is a first, obvious step that should be taken by the authorities to stimulate a cultural change in this area. Likewise, our poor TDI scores suggest that disclosure requirements frequently found in other emerging and developed markets should be put in place. Nevertheless, legal reforms that are not supported to some extent by the very companies that must apply those rules may not come to fruition –the mixed and rather disappointing outcome from the 2001 reforms in Argentina is a case in point. A compulsory, full-fledged regime of strict governance provisions may be self-defeating as long as some companies may ultimately decide to delist –delisting is another cronic problem of the Argentine stock exchange that forms part of the future research agenda. This conclusion comes from the observation that implementing a proper governance frawework is costly and time-consuming, and some expected benefits may not easily materialize. Thus, a balance between the adequate protection of minority shareholders and the incentive structure of controlling shareholders should be attained in designing corporate governance reforms.

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[14] The source of dividend data is IAMC (2002) and the Buenos Aires Stock Exchange. Garcia Zamora (2002) investigates dividend policies in Argentina in the 1990s.

[15] As explained in footnote 6, we are not certain that corporate and ownership characteristics in 2003-2004 are representative for the 1990s.

[16] Actually, absent bankruptcy costs, firms find debt attractive as an insurance device, as it enables more risk sharing with creditors instead of forcing shareholders to absorb an expected negative shock entirely by themselves.

[17] ADR issuance might also be an indicator of lax financial constraints because of the positive signal of being listed in more regulated foreign markets.

[18] This of course does not mean that endogeneity should be overlooked: even without knowing the direction and magnitude of the bias, it should be reminded that endogeneity of any one regressor may cause other regressors to have biased estimates unless no correlation exists among the whole set of independent variables.

[19] Assets and ROA are excluded from this regression due to the ensuing multicolinearity.

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Table 2
Structure of the Transparency and Disclosure Index (TDI)

The Transparency and Disclosure Index (TDI) measures a broad set of corporate governance features for 65 listed firms in Argentina using public information in August 2003 to May 2004. Public sources include Annual Reports, fillings with national and foreign regulators, internet sources, and business publications. For each feature, the company is given a value 1 if there is partial or total public information, and 0 otherwise. The subindex Board measure the structure, procedures and compensation of Board and Top Management members. The subindex Disclosure measures the degree to which the company informs relevant corporate facts to outside stakeholders. Finally, the subindex Shareholders measures the quality of information regarding the compensation to minority shareholders

Item	% of firms with public information on each item
A. Board structure and procedures	
Independency criteria for directors	73.8
Years in office of present Directors	18.5
Code of Conduct for Directors	6.2
Manager and director fees	52.3
Form of manager and director fee payment (cash, stock, stock options)	12.3
Rationale of manager and director fees	30.8
Information on whether manager and director fees are performance-based	26.2
Shareholdings of managers and directors	15.4
Number and percentage of independent directors	86.2
Details on the nomination process of new directors	12.3
Report on issues by dissident directors	0.0
Composition of the different Board committees	33.8
Details on activities of the different Board committees	1.5
B. Disclosure	
Bio of main company officers	13.8
Bio of Directors	20.0
Calendar of future events	3.1
English-translated corporate website	29.2
Financial indicators for the last 5 years	98.5
Strategic plan and projections for the following years	47.7
Publication of Board meeting resolutions	89.2
Publication of shareholders meeting resolutions	93.8
Details on the appointment process of new directors	10.8
Details on attendance of minority and controlling shareholders in shareholders' meetings	10.8
Reports on issues raised by dissident shareholders	30.8
Year of hiring of the external auditor	96.9
Report of the external auditor	96.9
C. Shareholders	
Details of corporate ownership (principal shareholders)	56.9
Type and amount of outstanding shares	98.5
Document on internal corporate governance standards	3.1
Dividend policy in the past 5 years	20.0
Projected dividend policy for the following years	27.7
Rationale of the past and/or future dividend policy	35.4

Source: Own elaboration from public sources.

Table 3

Variable Definitions

Variable	Definition
Corporate Governance Variables	
Transparency and Disclosure Index (TDI)	See Table 2
TDI-Board	See Table 2
TDI-Disclosure	See Table 2
TDI-Shareholders	See Table 2
Audit Committee Dummy	This variable takes the value 1 if the company set an Audit Committee as of May 2004, and 0 otherwise.
Trading Intensity	Number of days the stock was traded in 2001-2003 as a proportion of total trading days in that period. This variable ranges from 0 to 1.
Corporate Ownership Variables	
Control rights of the main ultimate shareholder	It is the weakest link, in terms of voting rights, of the main ultimate shareholder along his control chain, based on a 20% cutoff (see the definition of Widely Held below)
Cash flow rights of the main ultimate shareholder	It is the product of all voting rights of the main ultimate shareholder along the control chain.
No one share-one vote rule dummy	This variable takes the value 1 if there are shares having higher voting power than others (at any link of the control chain) of the main ultimate shareholder, and 0 otherwise.
Pyramid dummy	This variable takes the value 1 if the main ultimate shareholder exerts its control through other companies along the control chain, and 0 otherwise.
Cross-holding dummy	This variable takes the value 1 if the company owns shares in its main ultimate shareholder or in firms that belong to his control chain, and 0 otherwise.
Domestically-owned dummy	This variable takes the value 1 if the main ultimate shareholder is an Argentine individual or family, and 0 if it is a company located abroad. Ultimate ownership of such foreign companies is not analyzed in this paper.
Widely held	This variable takes the value 1 if there are no ultimate shareholder with at least 20% of control rights, and 0 otherwise.
Other Dependent and Control Variables	
Return on Assets (ROA)	Earnings before interest and taxes to total assets
Return on Equity (ROE)	Earnings before interest and taxes to total equity
Return on Assets (ROS)	Earnings before interest and taxes to sales
Tobin's q	It is the market value of equity plus the book value of liabilities to book value of assets
Dividends to cash flow	Cash dividends to (total earnings plus depreciation)
Dividends to earnings	Cash dividends to total earnings
Dividends to sales	Cash dividends to sales
Ln(Age)	Logarithm of the company's age as of 2003
Ln (Assets)	Logarithm of the company's total assets
Size dummy	This variable takes the value 1 if the company is in the highest 20% in terms of average total assets in 2000-2001, and 0 otherwise.
Debt to assets	Total debt to assets
Sales growth	Percentage sales growth
ADR dummy	This variable takes the value 1 if the company issued American Depositary Receipts before or during the period under analysis, and 0 otherwise.
Industry dummy	This variable takes the value 1 if the company belongs to the industrial sector, and 0 otherwise. The activity classification is taken from the Buenos Aires Stock Exchange.
Utilities dummy	This variable takes the value 1 if the company supplies utilities, and 0 otherwise. The activity classification is taken from the Buenos Aires Stock Exchange.
Primary products dummy	This variable takes the value 1 if the company produces agricultural products, livestock, minerals, or other commodities, and 0 otherwise. The activity classification is taken from the Buenos Aires Stock Exchange.
Services dummy	This variable takes the value 1 if the company provides services not included in the other three categories, and 0 otherwise. The activity classification is taken from the Buenos Aires Stock Exchange.

Table 4

Corporate Governance and Ownership: Descriptive Statistics

The table shows the mean, standard deviation, minimun and maximum values of the corporate governance and ownership variables, whose definitions are provided in Table 1.

Variable	Observ.	Mean	Std. Dev.	Minimum	Maximum
Corporate Governance Variables					
TDI	65	39.13	14.53	18.75	84.38
TDI-Board	65	28.40	17.41	0.00	76.92
TDI-Disclosure	65	49.35	13.79	23.08	92.31
TDI-Shareholder	65	40.26	22.03	0.00	100.00
Audit Committee Dummy	65	0.72			
Trading Intensity	64	0.46	0.35	0.00	1.00
Corporate Ownership Variables					
Control Rights Main Ultimate Shareholder	54	63.14	23.24	20.75	99.14
Cash Flow Rights Main Ultimate Shareholder	54	56.90	26.58	4.31	99.14
Control-to-Cash Flow Rights	54	1.30	0.74	1.00	5.43
Control-to-Cash Flow Rights >1.02	22	1.74	1.03	1.03	5.43
No One Share-One Vote Dummy	54	0.11			
Pyramid Dummy	54	0.37			
Cross-holding Dummy	54	0.00			
Widely Held Dummy	54	0.00			
Domestically-owned Dummy	54	0.46			

Source: Own Elaboration based on public sources.

Table 5

Corporate Governance and Ownership: Deciles

Decile	TDI	Control Rights	Cash Flow Rights	Control-to-Cash Flow Rights
10	25.0	25.7	20.3	1.0
20	28.1	42.6	26.0	1.0
30	31.3	51.6	42.6	1.0
40	34.4	57.6	49.0	1.0
50	*34.4*	*62.9*	*60.7*	*1.0*
60	37.5	70.2	66.1	1.0
70	41.3	78.4	75.0	1.2
80	49.4	87.9	82.1	1.3
90	65.6	93.0	92.3	1.8
99	84.4	99.1	99.1	5.4

Table 6

Corporate Governance and Ownership: Correlation Matrix

Correlations statistically significant at 5% or less in bold face

	TDI	TDI-B	TDI-D	TDI-S	Control Rights	CF Rights	Control-to-CF
TDI	1						
TDI-Board	**0.9062**	1					
TDI-Disclosure	**0.8617**	**0.6441**	1				
TDI-Shareholder	**0.7979**	**0.6023**	**0.5722**	**1**			
Control Rights	**-0.2129**	**-0.1918**	-0.1282	-0.2544	**1**		
Cash Flow Rights	**-0.2008**	-0.1303	**-0.1855**	**-0.2387**	**0.9173**	1	
Control-to-CF	**0.2649**	**0.2355**	**0.2003**	**0.2624**	**-0.3304**	**-0.5602**	1

Table 7

Performance and Control Variables: Descriptive Statistics

The table shows the mean, standard deviation, minimun and maximum values of the performance and some control variables, whose definitions are provided in Table 2.

Variable	Observ.	Mean	Std. Dev.	Minimum	Maximum
ROA	65	0.0073	0.0265	-0.0658	0.0650
Q	56	0.8882	0.3096	0.3742	2.0755
Age	59	51.2	28.4	11.0	119.0
Assets	65	1726542	4350881	1446	29000000
Debt to Assets	65	0.209	0.158	0.000	0.544
Sales Growth	65	0.355	2.101	-0.399	16.440
ADR Dummy	59	0.237			
Industry Dummy	65	0.338			
Utilities Dummy	65	0.277			
Primary Product Dummy	65	0.215			

Table 8

Performance and Explanatory Variables: Correlation Matrix

Correlations statiscally significant at 5% or less in bold face

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
ROA	1	1.00													
Q	2	0.14	1.00												
TDI	3	**0.31**	-0.14	1.00											
CF Rights	4	-0.07	-0.01	-0.20	1.00										
Control Rights	5	-0.11	-0.05	-0.21	**0.92**	1.00									
Control-to-CF	6	-0.09	-0.07	0.26	**-0.56**	**-0.33**	1.00								
Ln(Age)	7	-0.07	0.02	-0.08	0.15	0.00	-0.04	1.00							
Ln(Assets)	8	0.29	-0.19	**0.62**	-0.11	-0.05	0.19	**-0.42**	1.00						
Debt / Assets	9	0.01	-0.18	-0.05	0.10	0.12	-0.01	-0.07	0.14	1.00					
Sales Growth	10	-0.10	-0.03	0.00	-0.19	-0.25	-0.05	0.18	-0.14	-0.18	1.00				
ADR dummy	11	0.14	-0.12	**0.59**	**-0.34**	-0.17	**0.47**	-0.26	0.50	-0.11	-0.09	1.00			
Industry	12	0.22	-0.03	-0.10	-0.10	-0.18	-0.14	0.20	-0.22	-0.06	-0.11	-0.23	1.00		
Utilities	13	-0.06	-0.13	0.21	-0.06	0.06	0.05	**-0.75**	**0.43**	0.09	-0.08	**0.44**	**-0.44**	1.00	
Primary Prod.	14	-0.16	0.17	-0.16	0.22	0.13	-0.19	**0.34**	-0.19	-0.05	0.21	-0.18	**-0.37**	**-0.32**	1.00

Table 9

ROA and TDI without additional controls

ROA and TDI without additional controls. OLS results for the whole period (2000-2003) and two subperiods (2000-20001 and 2002-2003). ROA is an average from quarterly data for each period. TDI (on a 0-100 scale) is the same for all periods, and is based on public corporate information for 2003.

	Dependent Variable: ROA		
	Reg 1	Reg 2	Reg 3
Explanatory Variables			
TDI	0.0005344	0.0005029	0.0005647
	(3.11)***	(3.82)***	(2.18)**
Constant	-0.0147703	-0.0146024	-0.0148466
	(-1.91)*	(-2.32)**	(-1.36)
Adjusted R^2	0.1283	0.125	0.0816
No. of observations	65	65	65
F Statistic (p-value)	9.7(0.000)	14.63(0.000)	4.77(0.032)
Period	2000-I/2003-IV	2000-I/2001-IV	2002-I/2003-IV

Notes:
T statistics based on robust standard errors in parenthesis
* Significant at 10%
** Significant at 5%
*** Significant at 1%

Table 10

Q and TDI without additional controls

Q and TDI without additional controls. OLS results for the whole period (2000-2003) and two subperiods (2000-20001 and 2002-2003). Q is an average from quarterly data for each period. Outlier observations with q>2.5 were dropped. TDI (on a 0-100 scale) is the same for all periods, and is based on public corporate information for 2003.

	Dependent Variable: q		
	Reg 1	Reg 2	Reg 3
Explanatory Variables			
TDI	0.0061043	0.0076789	0.0037968
	(3.28)***	(4.12)***	(1.78)*
Constant	0.5999676	0.4675686	0.733983
	(6.53)***	(5.36)***	(7.33)***
Adjusted R^2	0.0818	0.2098	
No. of observations	53	53	
F Statistic (p-value)	10.75(0.002)	16.95(0.000)	3.18(0.08)
Period	2000-I/2003-IV	2000-I/2001-IV	2002-I/2003-IV

Notes:
T statistics based on robust standard errors in parenthesis
* Significant at 10%
** Significant at 5%
*** Significant at 1%

Table 11

ROA and TDI with controls

ROA and TDI with controls. OLS results for the whole period (2000-2003) and two subperiods (2000-20001 and 2002-2003). ROA is an average from quarterly data for each period. TDI (on a 0-100 scale) is the same for all periods, and is based on public information for 2003. Size dummy is a dummy variable with value 1 for firms in the upper 20% of firms according to total assets, and 0 otherwise. Sales growth is the average quarterly sales growth in the two years previous to the sample period. Industry, Utilities, and Primary Product dummies show the productive sector each firm belongs. The definition of the remaining variables can be found in the text.

	Dependent Variable: ROA		
	Reg 1	Reg 2	Reg 3
Explanatory Variables			
TDI	0.0005449	0.0004813	0.0006292
	(2.61)**	(3.13)***	(1.79)*
Ln(Age)	-0.0154112	-0.0209034	-0.0072887
	(-2.11)**	(-2.63)**	(-1.03)
Size dummy	0.0069701	0.0099801	0.0038725
	(0.54)	(0.327)	(-0.23)
Debt to Assets	-0.0008561	-0.0041904	0.0042438
	(-0.06)	(-0.27)	(0.22)
Sales growth	4.20E-06	-2.11E-06	-0.0004995
	(0.12)	(-0.05)	(-0.74)
ADR dummy	-0.0025899	-0.0032994	-0.0009633
	(-0.41)	(-0.58)	(-0.1)
Industry dummy	0.0015554	-0.0053865	0.008823
	(0.25)	(-1.04)	(0.94)
Utilities dummy	-0.0171923	-0.0198887	-0.0135516
	(-1.21)	(-1.25)	(-0.95)
Primary production dummy	-0.0049964	-0.0054604	-0.0069393
	(-0.63)	(-0.73)	(-0.66)
Constant	0.048235	0.0736632	0.0110886
	(1.65)	(2.37)	(0.35)
Adjusted R^2	0.1513	0.309	0.0551
No. of observations	62	62	59
F Statistic (p-value)	2.51(0.000)	4.35(0.000)	3.72(0.000)
Period	2000-I/2003-IV	2000-I/2001-IV	2002-I/2003-IV

Notes:

T statistics based on robust standard errors in parenthesis

* Significant at 10%

** Significant at 5%

*** Significant at 1%

Table 12

Q and TDI with controls

Q and TDI with controls. OLS results for the whole period (2000-2003) and two subperiods (2000-20001 and 2002-2003). Q is an average from quarterly data for each period. Outlier observations with q>2.5 were dropped. TDI (on a 0-100 scale) is the same for all periods, and is based on public information for 2003. Size dummy is a dummy variable with value 1 for firms in the upper 20% of firms according to total assets, and 0 otherwise. Sales growth is the average quarterly sales growth in the two years previous to the sample period. Industry, Utilities, and Primary Product dummies show the productive sector each firm belongs. The definition of the remaining variables can be found in the text.

	Dependent Variable: q		
	Reg 1	Reg 2	Reg 3
Explanatory Variables			
TDI	0.0058871	0.0054073	0.0050566
	(2.27)**	(2.73)***	(2.1)**
Ln(Age)	0.0329557	-0.0650277	-0.0077511
	(0.33)	(-1.71)*	(-0.1)
Size dummy	0.2214558	0.256726	0.2455017
	(2.11)**	(3.28)***	(2.62)**
Debt to Assets	0.4502588	0.6344327	0.6112416
	(1.72)*	(3.01)***	(1.98)*
Sales growth	0.0007618	0.0001615	-0.0291134
	(0.74)	(0.32)	(-4.36)***
ADR dummy	-0.0387129	0.0035822	-0.0179075
	(-0.42)	(0.05)	(-0.21)
Industry dummy	0.1298286	-0.0183625	0.2894743
	(1.59)	(-0.25)	(2.78)***
Utilities dummy	0.0997021	-0.0471228	0.0802948
	(0.56)	(-0.53)	(0.65)
Primary production dummy	0.1634207	-0.0760166	0.3223821
	(1.13)	(-0.9)	(3.25)***
Constant	0.2775962	0.6843045	0.3910209
	(0.62)	(3.69)***	(1.21)
Adjusted R^2	0.0448	0.3784	0.247
No. of observations	54	53	50
F Statistic (p-value)	5.24(0.000)	25.83(0.000)	14.94(0.000)
Period	2000-I/2003-IV	2000-I/2001-IV	2002-I/2003-IV

Notes:

T statistics based on robust standard errors in parenthesis

* Significant at 10%

** Significant at 5%

*** Significant at 1%

Table 13

ROA and alternative TDI measures

Each line of the table displays, for the three sample periods, the estimated coefficient (and robust t statistic) on alternative TDI measures, namely, the three subindices defined in the text (Board, Disclosure, Shareholders) -each measured, as the TDI, on a 0 100 scale-, the principal component of these three subindices, and the median overall TDI. For each of the 15 OLS regressions, the controls are all the same as in the baseline regressions with controls. Outlier observations with q larger than 2.5 were dropped.

	Dependent Variable: ROA		
	2000-I/2003-IV	2000-I/2001-IV	2002-I/2003-IV
Explanatory variables			
TDI-Board	0.0003798	0.0003804	0.0004233
	(2.27)**	(3.13)***	(1.55)
TDI-Disclosure	0.0005578	0.0003138	0.0007863
	(2.38)**	(1.95)*	(2.14)**
TDI-Shareholders	0.0001353	0.0002087	0.0000662
	(1.22)	(2.11)**	(0.43)
TDI-Principal component	0.005078	0.0045892	0.0057355
	(2.5)**	(3.03)***	(1.7)*
TDI-Median	0.0116517	0.0137146	0.0152886
	(1.84)*	(2.51)**	(1.74)*

Notes:
T statistics based on robust standard errors in parenthesis
* Significant at 10%
** Significant at 5%
*** Significant at 1%

Table 14

Q and different TDI measures

Each line of the table displays, for the three sample periods, the estimated coefficient statistic) on alternative TDI measures, namely, the three subindices defined in the text (Board, Disclosure, Shareholders) -each measured, as the TDI, on a 0-100 scale-, the principal component of these three subindices, and the median overall TDI. For each of the 15 OLS regressions, the controls are all the same as in the baseline regressions with controls. Outlier observations with q larger than 2.5 were dropped.

	Dependent Variable: q		
	2000-I/2001-IV	2000-I/2003-IV	2002-I/2003-IV
Explanatory variables			
TDI-Board	0.0040451	0.0056068	0.004756
	(2.41)**	(2.22)**	(1.89)*
TDI-Disclosure	0.0030108	0.0042696	0.004586
	(1.82)*	(1.84)*	(2.44)**
TDI-Shareholders	0.0034545	0.0016843	0.0005941
	(2.19)**	(0.84)	(0.35)
TDI-Principal component	0.0536123	0.0536887	0.0449033
	(2.69)***	(2.16)**	(1.91)*
TDI-Median	0.1124944	0.1500073	0.1172497
	(1.3)	(1.33)	(1.42)

Notes:
T statistics based on robust standard errors in parenthesis
* Significant at 10%
** Significant at 5%
*** Significant at 1%

Table 15

ROA, Q, and Alternative Corporate Governance Measure - 1

Each line of the table displays, for the three sample periods, the estimated coefficient on an alternative corporate governance measure, consisting in an Index with range 0-3 that adds three dummy variables: whether the firm has a percentage of independent directors above the sample mean (22%), whether the firm is in the portfolio of pension funds, and whether the firm answer our corporate governance survey. For each of the OLS regressions, the controls are all the same as in the baseline regressions with controls. Outlier observations

	Period		
Explanatory variables	2000-I/2001-IV	2000-I/2003-IV	2002-I/2003-IV
	Dependent Variable: ROA		
Alternative CG Measure	0.0053662	0.0055044	0.0053446
	(2.45)**	(2.17)**	(1.26)
Principal component	0.0043242	0.0054439	0.0067902
	(2.73)***	(3.2)***	(2.28)**
Principal component with TDI	0.0060176	0.0064885	0.0068267
	(3.28)***	(3.08)***	(1.89)*
	Dependent Variable: q		
Alternative CG Measure	0.0533555	0.0268823	0.0696259
	(1.54)	(0.61)	(2.31)**
Principal component	0.0364547	0.0252562	0.0456212
	(1.39)	(0.81)	(2.05)**
Principal component with TDI	0.062501	0.0514405	0.0689372
	(2.73)***	(1.73)*	(2.71)***

Notes:
T statistics based on robust standard errors in parenthesis
* Significant at 10%
** Significant at 5%
*** Significant at 1%

Table 16

ROA, Q, and Alternative Corporate Governance Measure - 2

Each line of the table displays, for the three sample periods, the estimated coefficient on an alternative corporate governance measure: the score given by pension funds to all firms they usually trade and hold. The sample consists of 26 companies. For each of the OLS regressions, the controls are all the same as in the baseline regressions with controls. Outlier observations with q larger than 2.5 were dropped.

	Period		
Explanatory variables	2000-I/2001-IV	2000-I/2003-IV	2002-I/2003-IV
	Dependent Variable: ROA		
CG Score by Pension Funds	0.0008149	0.0013008	0.0012313
	(4.62)***	(3.21)***	(1.85)*
	Dependent Variable: q		
CG Score by Pension Funds	0.0058265	0.004319	0.0020239
	(1.57)	(1.57)	(0.37)

Notes:
T statistics based on robust standard errors in parenthesis
* Significant at 10%
** Significant at 5%
*** Significant at 1%

Table 17
ROA, TDI, and Interaction Regressors

	Dependent Variable: ROA		
	2000-I/2003-IV	2000-I/2001-IV	2002-I/2003-IV
Explanatory Variables			
TDI	0.0019735	0.0018288	0.0022953
	(1.83)*	(2.39)**	(1.38)
TDI^2	-0.0000156	-0.0000147	-0.000018
	(-1.35)	(-1.76)*	(-1.07)
TDI	0.0005612	0.000504	0.0006386
	(2.59)**	(3.09)***	(1.68)*
TDI*Size dummy	-0.0001358	-0.000189	-0.0000769
	(-0.17)	(-0.33)	(-0.07)
TDI	0.0003824	0.0000265	0.0007522
	(1.07)	(0.1)	(1.52)
TDI*Age	2.69E-06	7.52E-06	-2.12E-06
	(0.62)	(1.94)*	(-0.4)
TDI	0.0005546	0.0004673	0.0006774
	(2.52)**	(2.93)***	(1.85)*
TDI*Sales Growth	-5.89E-06	8.54E-06	-0.0013834
	(-0.46)	(0.9)	(-0.82)
TDI	0.000442	0.0004291	0.0001384
	(1.39)	(1.79)*	(0.27)
TDI*Debt to assets	6.47E-04	3.28E-04	0.0026687
	(0.40)	(0.32)	(0.97)

Table 18
Q, TDI, and Interaction Regressors

	Dependent Variable: q		
	2000-I/2003-IV	2000-I/2001-IV	2002-I/2003-IV
Explanatory Variables			
TDI	0.0162038	0.0080394	0.0158863
	(1.2)	(0.85)	(1.54)
TDI^2	-0.0001113	-0.0000283	-0.0001148
	(-0.89)	(-0.32)	(-1.23)
TDI	0.00637	0.0059362	0.0055036
	(2.21)**	(2.67)**	(1.96)*
TDI*Size dummy	-0.0038428	-0.0041979	-0.0033814
	(-0.88)	(-1.12)	(-0.94)
TDI	0.0055717	0.0052771	0.0119218
	(0.95)	(1.94)*	(3.32)***
TDI*Age	5.27E-06	2.21E-06	-0.0001216
	(0.05)	(0.06)	(-3.19)***
TDI	0.0065752	0.0054413	0.0050741
	(2.39)**	(2.55)**	(2.08)**
TDI*Sales Growth	-0.0004031	-0.0000196	0.0107459
	(-3.06)***	(-0.15)	(0.52)
TDI	0.0061942	0.0041172	0.0029627
	(1.42)	(1.24)	(0.82)
TDI*Debt to Assets	-0.0018984	0.0079738	0.0110808
	(-0.1)	(0.58)	(0.74)

Table 19
ROA, Q, and Instrumented TDI - 1

	Period		
Explanatory variables	2000-I/2001-IV	2000-I/2003-IV	2002-I/2003-IV
	Dependent Variable: ROA		
Audit Committee dummy	0.0074097	0.0073925	0.0068299
	(1.1)	(1.27)	(0.73)
	Dependent Variable: q		
Audit Committee dummy	0.0914799	0.0212256	0.0721781
	(0.94)	(0.27)	(0.79)

Table 20
ROA, Q and Instrumented TDI - 2

	Period		
Explanatory variables	2000-I/2001-IV	2000-I/2003-IV	2002-I/2003-IV
	Dependent Variable: ROA		
Survey Participation Dummy	0.0073902	0.0152633	0.0230707
	(1.5)	(2.8)***	(2.81)***
	Dependent Variable: q		
Survey Participation Dummy	-0.0007394	0.0167805	0.0441421
	(-0.01)	(0.2)	(0.68)

Table 21
ROA, Q and Instrumented TDI - 3

	Period		
Explanatory variables	2000-I/2001-IV	2000-I/2003-IV	2002-I/2003-IV
	Dependent Variable: ROA		
Trading intensity	0.0226526	0.0166014	0.0275019
	(2.41)**	(2.21)**	(2.21)**
	Dependent Variable: q		
Trading intensity	0.1475558	0.162527	0.0539047
	(1.23)	(1.71)*	(0.32)

Table 22
ROA, Q, TDI and Trading Intensity - Simultaneous Equations

	Period		
Explanatory variables	2000-I/2001-IV	2000-I/2003-IV	2002-I/2003-IV
	Dependent Variable: ROA		
Trading Intensity	0.0329259	0.0336572	0.0362385
	(2.67)***	(3.00)***	(2.21)**
TDI	0.0012004	0.0012271	0.001514
	(2.47)**	(2.81)***	(2.01)**
	Dependent Variable: q		
Trading Intensity	0.4245126	0.2596319	0.1694634
	(2.47)**	(2.06)**	(0.97)
TDI	0.0154811	0.0098527	0.0077623
	(2.14)**	(2.05)**	(1.00)

Table 23
ROA, TDI, and ownership variables

	Dependent Variable: ROA		
	2000-I/2003-IV	2000-I/2001-IV	2002-I/2003-IV
Explanatory variables			
TDI	0.000409	0.0003322	0.0004598
	(1.88)*	(2.74)***	(1.24)
Domestically-owned	0.0115982	0.0099056	0.0106716
	(2.16)**	(2.59)**	(1.24)
TDI	0.0004456	0.0003641	0.0004839
	(1.96)*	(2.65)**	(1.33)
Control rights	0.0000253	0.0000229	-0.0000503
	(0.22)	(0.26)	(-0.27)
TDI	0.0004412	0.0003569	0.0004899
	(1.98)*	(2.63)**	(1.38)
Cash flow rights	0.0000288	0.0000144	-0.0000177
	(0.26)	(0.17)	(-0.10)
TDI	0.0004365	0.0003528	0.0005157
	(1.97)*	(2.55)**	(1.41)
Control-to-Cash flow rights	-0.0039524	0.0003507	-0.0073614
	(-1.89)*	(0.24)	(-2.27)**
TDI			0.000621
			(1.69)*
Default			-0.0040768
			(-0.32)

Table 24
Q, TDI, and ownership variables

	Dependent Variable: q		
	2000-I/2003-IV	2000-I/2001-IV	2002-I/2003-IV
Explanatory variables			
TDI	0.0069655	0.006129	0.0053619
	(2.84)***	(3.80)***	(2.54)**
Domestically-owned	-0.1360339	-0.0098623	0.0533931
	(-1.09)	(-0.17)	(-0.03)
TDI	0.0072879	0.0054797	0.005555
	(2.47)**	(2.9)***	(2.45)**
Control rights	0.0016564	-0.0010065	-0.0002549
	(0.71)	(-0.93)	(-0.15)
	(2.71)***	(3.27)***	(2.49)**
Cash flow rights	0.0014618	-0.0009766	-0.0001199
	(0.75)	(-1.01)	(-0.08)
TDI	0.0064649	0.0060841	0.0057941
	(3.01)***	(3.64)***	(2.61)**
Control-to-Cash flow rights	-0.0659882	-0.0039019	-0.0761783
	(-1.27)	(-0.12)	(-2.35)**
TDI			0.0049681
			(1.97)*
Default			-0.0483392
			(-0.34)

Table 25
ROA, TDI, and Ownership: Interaction Regressors

	Dependent Variable: ROA		
	2000-I/2003-IV	2000-I/2001-IV	2002-I/2003-IV
Explanatory Variables			
TDI	0.0005468	0.0003577	0.0007089
	(2.28)**	(2.34)**	(1.80)*
TDI* Control-to-Cash flow	-0.000078	-0.0000318	-0.0001345
	(-1.98)*	(-0.12)	(-2.30)**
TDI	0.0003855	0.0003033	0.0005016
	(1.58)	(1.93)*	(1.2)
TDI* Control Rights	0.0000	0.0000	0.0000
	(0.53)	(0.8)	(0.01)
TDI	0.0003764	0.0003089	0.0004644
	(1.52)	(1.98)*	(1.09)
TDI* Cash flow Rights	0.0000	0.0000	0.0000
	(0.64)	(0.71)	(0.25)
TDI	0.0003309	0.0002463	0.0004327
	(1.42)	(1.94)*	(1.08)
TDI*Domestically-owned	0.0001984	0.0002064	0.0001157
	(1.62)	(2.33)**	(0.58)

Table 26
Q, TDI, and Ownership: Interaction Regressors

	Dependent Variable: q		
	2000-I/2003-IV	2000-I/2001-IV	2002-I/2003-IV
Explanatory Variables			
TDI	0.0081147	0.0062605	0.0077512
	(3.06)***	(2.92)***	(3.12)***
TDI* Control-to-Cash flow	-0.0011564	-0.0001199	-0.0013212
	(-1.73)*	(-0.23)	(-3.00)***
TDI	0.0051433	0.0066116	0.0057072
	(2.19)**	(4.28)***	(1.90)*
TDI* Control Rights	0.000031	-0.000014	0.000000
	(0.73)	(-0.71)	(-0.03)
TDI	0.0052544	0.0066949	0.0056783
	(2.32)**	(4.36)***	(1.90)*
TDI* Control Rights	0.000026	-0.000015	0.000000
	(0.72)	(-0.85)	(-0.00)
TDI	0.0081607	0.0058686	0.0048657
	(2.61)**	(3.43)***	(2.37)**
TDI*Domestically-owned	-0.0030955	0.0003422	0.0012361
	(-1.01)	(0.25)	(0.54)