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Explaining Dividend Policies in Argentina

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Documento de Trabajo Nro. 50
Abril 2004

First draft
March 2004

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Abstract

Dividend policy is central to the performance and valuation of listed companies, but the issue still remains scarcely investigated in emerging countries. The purpose of this paper is to study, for the first time, the determinants of the dividend policy of listed companies in Argentina over the 1996-2002 period. Although the modern theory stresses agency and other informational problems as the principal explanations of the so-called dividend puzzle, we will contend here that for many companies with highly concentrated ownership, a model of a sole owner-manager provides most (but not all) of the needed clues to answer the question as to why companies pay dividends in Argentina. Our main findings are that: (a) Bigger and more profitable firms without good investment opportunities pay more dividends; (b) Companies with more fluid access to debt pay more dividends; (c) Furthermore, riskier and more indebted firms prefer to pay lower dividends, and the same applies to foreign-owned firms; (d) ADR issuers disburse more dividends than other companies; and (e) Firms do not seem to care about maintaining stable payout ratios over time, but there is some inertia in that non-payers tend to stay that way and otherwise.

(*) I would like to especially thank Martín Cicowiez for its invaluable and generous help in solving the model in GAMS. The efficient assistantship of Máximo Sangiácomo and the insightful suggestions of Jorge Balat and Walter Cont are also gratefully acknowledged. The usual disclaimer applies. Comments welcome at ricardob@lpsat.com.

Introduction

Dividend policy is central to the performance and valuation of listed companies, but the issue still remains scarcely investigated in emerging countries. The purpose of this paper is to study, for the first time, the determinants of the dividend policy of listed companies in Argentina over the 1996-2002 period. Although the modern theory stresses agency and other informational problems as the principal explanations of the so-called dividend puzzle, we will contend here that for many companies with highly concentrated ownership, a model of a sole owner-manager provides most (but not all) of the needed clues to answer the question as to why companies pay dividends in Argentina.

The interaction of dividends with debt and investment policies is central to rationalize dividend payments. Especially, risk management considerations, often disregarded in corporate finance models, prove to be of crucial relevance. By introducing risk aversion on the part of the entrepreneur, we show in a simple model that the choice between self-financing and debt is not only influenced by the relative cost of these sources of funding –as in the traditional pecking order theory-, but also by the risk faced by the entrepreneur. While the opportunity cost of internal funds is fixed and certain once such resources are sunk into the firm's projects, the repayment of debt principal plus interest will be high in good states of nature –in which full repayment takes place- and low in bad, default states, as far as the borrower is protected by contractual limited liability. We will test this hypothesis.

The paper is structured as follows: In Section1, we succinctly survey the literature on dividend policy to motivate the theoretical model outlined in Section 2. Afterwards, in Section 3, we describe the database. We discuss the econometric results in Section 4. Some conclusions and policy implications close.

1. A brief survey of the dividend literature and its relevance for emerging markets

The reasons why firms pay dividends or not has attracted a great deal of attention for the last five decades since the seminal paper by Lintner (1956). This and many subsequent pieces of research convincingly established that firms aim to avoid drastic changes in dividends over time. However, early dividend theories did not warrant such preference

for smoothing cash distributions. As a matter of fact, Miller and Modigliani (1961) advanced the idea that, when financial markets are frictionless, investors are indifferent between dividends and capital gains as far as they can substitute one for the other to reach their desired level of cash dividends by selling or buying stock. Usually observed differences in tax rates between dividends and capital gains rose as the first argument against this dividend irrelevance proposition. It was at this time that Black (1976) coined the label "dividend puzzle" to illustrate the astonishing contrast between a theoretical body claiming either the irrelevance or the disadvantage of paying dividends and the indisputable fact that firms pay relatively high and stable dividends.

Since the early 1980s, a host of papers offer alternative and appealing approaches to disentangle this enigma, most of them rooted in information asymmetries between firm insiders and outsiders and bounded rationality of the latter (see Baker et al. (2003) for an excellent survey and Bebczuk (2003) for a textbook presentation). One of such recent hypotheses is that firms pay dividends to credibly signal their quality to the market in order to mitigate the undervaluation that arises in an adverse selection context. By paying high and stable dividends, high-quality companies might distinguish themselves from low-quality competitors for funds (see for example Miller and Rock (1985)), which may be unable to mimic the first group –unlike poor-performance companies, profitable firms can replace the diminished retained earnings with the more expensive external funds. Another strand of literature focuses on the agency problems between managers and shareholders, making the point that higher dividends partially prevent managers from committing moral hazard at the expense of shareholders, by reducing the free cash flow at the disposal of those running the firm (see Jensen (1986)). Finally, other scholars have put forward behavioral explanations that support the investor preference for cash dividends, such as the psychological (but not necessarily rational from a purely financial standpoint) loss derived from the principal reduction of selling stock or the regret of liquidating stock just before its price rises.

At this point, it is imperative to establish the explanatory power of this theoretical framework for financially developed as opposed to emerging markets. The model implicit in the theories just described is one where: (a) Ownership is highly dispersed, dividend recipients are different from the company's decision-makers. In this context, dividend policy is mostly driven by market value considerations, in which dividends are

a device to mitigate potential conflicts of interest between insiders and outsiders. The ultimate goal of the dividend policy is to maximize the stock price so as to reduce the cost of equity in future stock issues; (b) Capital markets are efficient –in that stock prices fully capture any value-related corporate change-; and (c) Firms do not appear to face important financial constraints in the present, as they enjoy some freedom to determine how much to distribute from their net earnings, filling the gap with other sources of funding, such as external equity or debt.

However, when it comes to analyze dividend policy in Argentina -and most emerging countries in general-, one must realize that these assumptions lack a great deal of realism on several grounds, namely: (a) Companies exhibit concentrated ownership. For instance, the (simple) average free froat in the sample is only ….% as of December 2002. As a result, outside shareholders are not a primary concern for the company's officers, and neither it is the principal-agent paradigma, as ownership and management are not clearly separated in most cases.[1] Furthermore, the incentive mechanism that leads the firm to please outside shareholders in other markets, i.e., the ability to issue more valuable stock in the near future, does not seem to work in this case in view of the almost negligible activity of primary equity markets as a whole; (b) Even though the evidence is mixed (see Fernandez (2002) and Bebczuk (1997)), capital market efficiency is under suspicion because markets are thin and transparency is questioned by many analysts. Thus, dividend announcements might not be clearly reflected in stock prices; and (c) Most importantly, current financial constraints are likely to have an overwhelming impact on dividend policies. Meeting the cash dividend demand from outside shareholders may mean that good investment opportunities have to be passed up in response to the funding shortage. In other words, retained earnings may have no close (not even more onerous) substitutes at all. We will refer to as "Dispersed Ownership Model (DOM)" the previous theoretical body as opposed to an alternative "Concentrated Ownership Model (COM)" that we outline next.

Even though some shares float, firms seem to be governed to a great extent as if outside shareholders do not count at all. Henceforth, when we go back to the owner-manager model, many features of the dividend model must be revisited as well. For our purposes,

[1] A thorough study is under way to describe this and other corporate governance practices of listed companies in Argentina.

dividends are set to maximize the owner's utility from lifetime dividends. Under this framework, the entrepreneur's decision has to do with debt, investment and risk management aspects.[2] Essentially, the entrepreneur faces a trade-off in that high dividends today forces the firm to raise more expensive debt that may reduce investment and dividends tomorrow. The model that follows displays some of the desired features of the dividend policy decision-making.

2. The model

We next set up a model that gives a more formal flavor to the previous discussion, and in which dividends, debt, and investment are simultaneously determined. The model does not aim to be a thorough representation of all dividend-related decisions, but it solely intends to highlight the role of uncertainty and the relationship of dividends and debt.

A risk-averse entrepreneur-manager maximizes his expected two-period utility from dividends *d*. We assume that the utility function is isoelastic, with parameter σ>1 :

$$(1)\ \text{Max}\ U = \frac{d_1^{1-\sigma}}{1-\sigma} + \beta\left[\pi_h \frac{d_{2,h}^{1-\sigma}}{1-\sigma} + \pi_l \frac{d_{2,l}^{1-\sigma}}{1-\sigma}\right]$$

In the first period, the entrepreneur has an initial endowment $y_0=k_0^{\alpha}$ and must decide how much to invest, k_1, how much to borrow, b_1, and thus how much dividends to pay, $d_1 = k_0^{\alpha} + b_1 - k_1$. In the second period, one of two states of nature will be realized: either a high-productivity state, with $y_2=a_h\, k_1^{\alpha}$, or a low-productivity one, with $y_2=a_l\, k_1^{\alpha}$, and $a_h > a_l$; each state is associated with probabilities π_h and π_l, respectively. In state h, dividends equal output less debt repayment, $(1+i_b)b_1$, and the opportunity cost of retained earnings from period 1, $[(1+r)(k_1-b_1)]$:

$$(2)\ d_{2,h} = a_h k_1^{\alpha} - (1+i_b)b_1 - (1+r)(k_1 - b_1)$$

The gross loan interest rate $(1+i_b)$ is determined by perfectly competitive and risk-neutral lenders, according to the following break-even condition:

[2] Gobert (2001) emphasizes the importance of risk management in capital structure decisions.

(3) $(1+r)b_1 + \omega(b_1/k_1)^{\gamma} = b_1\pi_h(1+i_b) + \pi_l\theta_c(a_l k_1^{\alpha})$

where r is the required return in frictionless credit markets, and the second term in the right-hand side is a moral hazard premium increasing in the proportion of the project financed with debt, (b_1/k_1) (see Gertler and Hubbard (1988) and Bebczuk (2002)), with parameters $\omega>0$ and $\gamma>0$. Expected revenues come from the full repayment in the high-productivity state and the appropriation of the company's income in the bad state, in which case the company defaults on its debt. We allow for a imperfect seizure, $0\leq\theta_c\leq 1$, by the creditor in favor of the borrower, who therefore retains $0\leq\theta_b\leq 1$, with $\theta_c+\theta_b=1$. Here, deviations from the benchmark case, $\theta_c=1$ and $\theta_b=0$, can take place in countries with pro-borrower bankruptcy laws and weak contract enforcement (see La Porta et al.(1997)). In turn, under the bad state, the entrepreneur just loses the retained earnings sunk in the project and eventually keeps part of the revenue:

(4) $d_{2,l} = \phi_b[a_l k_1^{\alpha}] - (1+r)(k_1 - b_1)$

To solve the model we impose the following constraints:

(5) $k_1 \geq 0, b_1 \geq 0, b_1/k_1 \leq 1$

(6) $\left[\pi_h \frac{d_{2,h}^{1-\sigma}}{1-\sigma} + \pi_l \frac{d_{2,l}^{1-\sigma}}{1-\sigma}\right] \geq \frac{[(1+r)(k_1-b_1)]^{1-\sigma}}{1-\sigma}$

(7) $a_l k_1^{\alpha} - (1+i_b)b_1 < 0$

In (5) we established the non-negativity of the state variables b_1 and k_1, and that b_1 is only used to finance investment. Inequality (6) means that the entrepreneur will only use internal funds if the expected utility from dividends is at least equal to the utility derived from investing the funds in a risk-free asset with return r. The default condition, which makes clear that uncertainty affects corporate decisions, in the bad state appears in equation (7).

The first order conditions with respect to b_1 and k_1 are:

k_1:

$$(k_0{}^{\alpha} + b_1 - k_1)^{-\sigma} + \beta\pi_h\left[a_h k_1{}^{\alpha} - \left[\frac{(1+r)b_1 + \omega(b_1/k_1)^{\gamma} - \pi_l\theta_c(a_l k_1{}^{\alpha})}{b_1\pi_h}\right]b_1 - (1+r)(k_1 - b_1)\right]^{-\sigma}$$
$$\left(-\frac{\omega\gamma(b_1/k_1)^{\gamma-1}}{\pi_h}\right) + \beta\pi_l\left[\phi_b[a_l k_1{}^{\alpha}] - (1+r)(k_1 - b_1)\right]^{-\sigma}(1+r) = 0$$

b_1:

$$-(k_0{}^{\alpha} + b_1 - k_1)^{-\sigma} + \beta\pi_h\left[a_h k_1{}^{\alpha} - \left[\frac{(1+r)b_1 + \omega(b_1/k_1)^{\gamma} - \pi_l\theta_c(a_l k_1{}^{\alpha})}{b_1\pi_h}\right]b_1 - (1+r)(k_1 - b_1)\right]^{-\sigma}$$
$$\left(a_h\alpha k_1^{\alpha-1} - \frac{\omega\gamma(b_1/k_1)^{\gamma-1}(-b_1/k_1^{2}) + \pi_l\theta_c\alpha a_l k_1{}^{\alpha-1}}{\pi_h} - (1+r)\right)$$
$$+\beta\pi_l\left[\phi_b[a_l k_1{}^{\alpha}] - (1+r)(k_1 - b_1)\right]^{-\sigma}(1+r) + \beta\pi_l\left[\phi_b[a_l k_1{}^{\alpha}] - (1+r)(k_1 - b_1)\right]^{-\sigma}\left\{\phi_b\alpha a_l k_1{}^{\alpha-1} - (1+r)\right\} = 0$$

In short, the model describes the behavior of an entrepreneur deciding simultaneously his optimal investment, debt, self-financing and dividends. The separation of investment and financing is ruled out here by introducing the moral hazard premium explained above. As for the financing choices, self-financing (meaning less dividends) is attractive in that its opportunity cost is lower than the cost of debt for any positive value of b_1. But for a risk-averse agent facing some positive probability of default like our entrepreneur, debt is relatively appealing because it acts as an insurance device: while the cost of internal funds is the same across all possible states of nature, the creditor gets a high payoff in the good state, but a low one in the bad state, thus contributing to dividend smoothing.

The presence of nonlinearities prevents us from finding a closed form solution, but we have solved the problem numerically using GAMS to explore the more relevant comparative statics exercises referred to the level of first-period dividends, d_1, our dependent variable.[3] In particular, the model yields the following predictions that will be tested empirically afterwards:

[3] I am very grateful to Martín Cicowiez for his invaluable assistance on running the model in GAMS.

(1) *The higher the amount of internal funds available for distribution (y_0), the higher d_1*. This is simply due to the fact that entrepreneurs prefer more dividends to less, everything else equal.

(2) *The higher the (endogenous) investment k_1, the lower d_1*. An optimal investment plan suggests that all projects carrying a return higher than the opportunity cost of dividends must be undertaken;

(3) *The higher the risk -as measured by a higher probability of failure π_l-, the higher d_1*.[4] Due to its insurance properties, debt financing becomes more valuable for firms with unstable cash flows, by enabling more risk sharing with creditors instead of forcing the entrepreneur to absorb an expected negative shock entirely by himself; and

(4) *The easier the access to debt, here measured by the wedge between the actual cost of debt and the required return r –represented by lower values ω and γ-, the higher d_1*.

3. Some exploratory analysis of the data

The study will cover 55 listed companies in Argentina from 1996-2002 using annual data. The primary source of information is Economatica, a for-profit firm that assembles a balance sheet database for Latin American countries. Economatica contains 77 Argentine companies, but we exclude all banks -because of the specificity of their line of business and their heavy regulation- and firms in general without complete annual information for at least 1995-2002.

We start by showing some summary measures of dividend activity. The first noticeable fact is that many companies do not distribute dividends at all: the proportion of dividend payers ranges, out of a total 55 firms, from a minimum of 12 in 2002 (22% of total firms) to a maximum of 31 in 1997 (56%). Three subperiods can be distinguished from a visual inspection: (i) In 1995-2000, with rather stable ratios of dividends to earnings, cash flow and sales, averaging 55.4%, 27.3% and 7.7%, respectively; (ii) A steep increase in dividend payments in 2001, and (iii) An equally pronounced reduction in

[4] To isolate the uncertainty effect, changes in the probability of success are made such under a mean-preserving value of dividends, that is, the expected value of dividends is kept constant by altering the productivity parameter a_h.

2002. The change in 2001 and 2002 is allegedly attributable to the financial crisis initiated in 2001 that induced firms to first pay high dividends as a means of allowing shareholders to cover themselves from the expected devaluation and banking system by buying external assets; then, in the context of a marked contraction in sales and the balance sheet problems derived from the currency crisis, companies seem to have adjusted through dividend cuts.

For comparison purposes, Faccio et al. (2001) show that, for 14 European and Asian countries in 1992-1996, the dividend to earnings, cash flow and sales ratios were 34%, 23.4% and 3.57%, respectively, that is, lower than in our sample. Regarding the proportion of payers, Fama and French (2002) find that in the U.S. only 23.5% of firms did so in 1993-1998.[5] This striking finding can be partially explained on a tax motive: dividends in Argentina are tax-exempt unlike director and manager fees.

Dividend measures for dividend paying firms

Year	Total # of firms	# of dividend paying firms	Total Dividends (in mill.$)	Dividends to:		
				Earnings	Cash flow	Sales
1995	55	15	1,114,034	0.48	0.25	0.08
1996	55	27	1,377,950	0.56	0.27	0.08
1997	55	31	1,391,101	0.46	0.25	0.07
1998	55	28	1,644,654	0.62	0.31	0.08
1999	55	30	1,449,132	0.67	0.30	0.07
2000	55	24	1,310,618	0.53	0.26	0.07
2001	55	23	2,488,017	1.62	0.58	0.15
2002	55	12	303,355	0.06	0.04	0.01

The three next tables present the medians and means of the main explanatory variables, splitting the sample into dividend payers and non-payers. As the tests on cross-section means make clear, it is evident that dividend-paying firms are bigger, earn more, and have less debt.

[5] This number looks smaller than in Argentina, but we should bear in mind that many of the firms not included in the Economatica database most likely do not pay any dividends at all.

Medians of the variables
Dividend-paying firms

Variable	1996	1997	1998	1999	2000	2001	2002
Observations	27	31	28	30	24	23	12
Dividend to cash flow	23.9	22.7	25.2	32.3	45.7	24.0	5.9
ln(Sales)	12.4	12.4	12.6	12.4	12.4	12.5	11.1
ROA	0.057	0.060	0.047	0.028	0.019	0.019	-0.099
q	0.752	0.831	0.830	0.751	0.824	0.689	0.739
Debt to assets	0.133	0.196	0.171	0.201	0.173	0.159	0.076
Cash flow to fixed investment	0.572	1.650	0.683	0.610	-0.780	-0.448	0.047
Change in debt to assets	-0.002	0.007	0.011	-0.006	-0.001	0.008	0.010
Coefficient of variation of ROA	0.497	0.485	0.286	0.480	0.525	0.256	-0.908

Medians of the variables
Non-dividend-paying firms

Variable	1996	1997	1998	1999	2000	2001	2002
Observations	29	24	27	23	31	32	41
Dividend to cash flow	0	0	0	0	0	0	0
ln(Sales)	10.6	10.7	10.9	10.7	11.0	10.7	11.6
ROA	-0.010	-0.017	-0.002	-0.051	-0.106	-0.115	-0.236
q	0.848	0.881	0.871	0.847	0.780	0.734	0.796
Debt to assets	0.245	0.195	0.176	0.240	0.267	0.328	0.255
Cash flow to fixed investment	0.419	-0.124	0.294	0.309	0.249	0.541	1.152
Change in debt to assets	0.009	-0.023	0.038	-0.007	0.000	0.001	0.000
Coefficient of variation of ROA	-0.323	-0.682	-0.497	-0.401	-0.661	-0.771	-1.310

Mean difference test
Dividend non-payers vs. payers

Variable	Non paying firms	Paying firms	p-value
ln(Sales)	10.9	12.2	0.000
ROA	-0.116	0.032	0.000
q	1.540	1.040	0.117
Debt to assets	0.250	0.170	0.000
Cash flow to fixed investment	-3.530	0.407	0.374
Change in debt to assets	0.013	0.006	0.261
Coefficient of variation of ROA	0.549	2.246	0.247

The correlation matrix appears in the next table, in which it can be seen that the dividend-to-cash flow ratio is not strongly correlated to neither explanatory variable, as most coefficient are either not statistically significant or low in absolute value.

Correlation Matrix

	D/CF	Lagged D/CF	Ln(sales)	ROA	q	Debt	Cash flow	Change debt	Coef.var. ROA	ADR	Foreign
D/CF	1										
Lagged D/CF	0.09*	1									
Ln(sales)	0.06	0.07	1								
ROA	0.17***	0.0699	0.08*	1							
q	-0.005	0.019	-0.035	-0.003	1						
Debt to assets	-0.094*	-0.08	0.0329	-0.11**	-0.05	1					
CF to change in LT assets	0.03	0.006	-0.05	0.01	-0.001	0.05	1				
Change in debt to assets	0.01	0.006	0.045	-0.039	-0.033	0.61***	0.01	1			
Coefficient of variation of ROA	-0.04	-0.00	-0.015	0.023	0.002	-0.047	0.021	-0.003	1		
ADR Issuance (dummy)	0.168***	0.173***	0.298***	0.063	-0.045	-0.025	-0.042	-0.01	-0.027	1	
Foreign-owned firm (dummy)	-0.020	-0.019	0.3057***	-0.013	0.122***	0.055	-0.047	-0.019	-0.034	0.41***	1

4. Empirical strategy and results

Our preferred dividend measure is the ratio of cash dividends to cash flows, for it best reflects the choice over distributing or not the money generated each year, as cash flow is the relevant measure of company's disposable income. According to the Concentrated Ownership Model, the explanatory variables should capture: (1) The availability of resources to distribute once investment funding is secured, which should increase dividend payments. This will be proxied by the return on assets and the ratio of cash flows to investment in long-term assets; (2) The demand of funds for investment purposes, with a negative impact on dividends, represented by Tobin's q; (3) The business risk, with a positive expected sign, measured through the debt to assets ratio[6] and the coefficient of variation (the ratio of quarterly standard deviation to the average of each year); and (4) The availability of external funding, as proxied by the change in the debt to assets ratio, which should increase dividends. Besides this set of variables,

[6] For a given interest rate, the debt to assets also ratio affects negatively the availability of funds available for paying dividends.

we will control for the level of sales (in logs) as a measure of size. Size is a priori attributable to several of the previous factors, as bigger firms tend to have fewer investment opportunities, to be more diversified and thus less risky, and to have a more fluid access to credit.

In addition, we test the effect of some variables to be consistent with the competing Dispersed Ownership Model, namely: (a) The lagged dividend to cash flow ratio. From the empirical finding by Lintner (op.cit.) and the more recent signalling models, we should presume that firms attempt to maintain stable dividends over time, creating a persitent pattern; and (b) A dummy variable for ADRs (American Depositary Receipts) issuers. Firms cross-listing in the U.S. may be induced to mimic the dividend policies of those firms they compete with for funds in foreign markets;[7] and (c) A dummy variable for foreign-owned firms. These firms may follow the dividend policy decided by their main houses abroad, which are probably influenced by the DOM. Anyway, the fact of being foreign-owned may also be related to the COM: an often heard argument is that, due to their reputation and the affiliation to big firms from abroad, these companies are likely to have less stringent financial constraints and to overcome more easily situations of financial distress. This, in combination with the desire of recovering the investment in as short a period as possible in macroeconomic and politically unstable countries, may induce firms to pay high dividends to foreign shareholders.[8]

A Tobit estimation will be carried out to establish the determinants of dividend policies in Argentina.[9] The need to use this technique is clear once we note that the dependent variable is truncated at zero, with many individual observations displaying such value. In view of the nature of the subject under study, endogeneity does not seem to be a critical issue here. Dividend payments are decided by the firm right after each fiscal year t has ended, and balance sheet variables are known. From this timeline structure, it

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

[8] The mean dividend-cash flow is 48.3% and 12.5% for ADR and non-ADR issuers, respectively, being the difference statistically significant at a 1% level. Conversely, the mean for foreign firms is lower than for domestic ones (19.1% against 23.1%) and is not statistically significant.

[9] Other panel data, GMM-based techniques recently developed for dealing with dynamic panel data are not appropriate in the present context. For one, we only have seven annual observations, and the instruments' structure for these technique would consume a great deal of our usable sample. Secondly, the short time span of our database creates biased estimates of its own, reducing the attractiveness of these methods. Thirdly, it is not clear whether the desirable properties of GMM hold when the dependent variable is truncated. Finally, endogeneity –a major reason for using GMM- does not seem particularly relevant in this work.

is unlikely that year t dividends could cause changes in past, realized variables, such as earnings, sales, and the like. On the contrary, year t dividends are prone to have some impact on investment and debt policies from t+1 on, as highligthed in the theoretical model. However, our regressions explain dividends based on accounting information dated at t, preventing the usual endogeneity critique to be relevant in the present context, although we will take some steps when estimate consistency is in doubt.

The following table display the main regression results. In Column (1) we find that the previous year's payout does not affect current dividend decisions, in contrast to the well documented goal of avoiding abrupt dividend changes on the part of companies listed in industrial countries. Sales (in logs), ROA, and cash flow have the expected positive signs at 1% significance levels. Investment opportunities, as reflected in Tobin's q, reduce dividends as expected.[10] More access to debt, represented by an increase in the debt to assets ratio, raises dividend payments.[11]

The one finding that does not seem to fit into the model's predictions is that uncertainty, captured by the Debt/Assets ratio and the coefficient of variation of ROA, diminishes the average payout. One plausible explanation to reconcile this behavior with the model above has to do with the expected costs of financial distress and default. Our two-period model has no room for them, because the company starts with this one project and automatically disappears after it matures, neglecting the existence of future benefits should the firm continue as a going concern. Furthermore, the limited liability condition prevents creditors from seizing any assets not committed to this particular project in case of default, such as personal assets posted as collateral or other company assets.[12] Also, there could be psychological costs for managers and other insiders associated with the bankruptcy and loss of control over the firm. No matter the precise form of these costs, what seems clear is that firms behave in a rather conservative way, avoiding excessive risk-taking that could trigger default. In a sense, they exhibit precautionary saving behavior, under which they diminish dividend payments to create a buffer stock for anticipated bad events.

[10] Fama and French (2001) claim that size, return on assets and investment opportunities explain a great deal of dividend payouts in the US.

[11] The estimated coefficient is, in all cases, greater than one, indicating that there a high elasticity of dividends to external funding.

Somewhat at odds with this argument, the time dummies included in the regression reveal that companies paid more dividends as macroeconomic instability began to escalate, and especially in 2000 -that is, the dividends decided and paid in early 2001, just a few months before the climax of the crisis. However, this preference for dividend in a turbulent macroeconomic environment is linked to the desire of most shareholders to transform domestic financial wealth into dollars –as a matter of fact, individuals and firms also withdrew their money from the banking system for the same purpose, contributing to the currency crisis that lasted from December 2001 through July 2002. Subsequently, it is noteworthy that a generalized dividend cut took place in 2002, likely as a result of delicate financial situations in the aftermath of the crisis and the lack of alternative financing sources.

All previous results repeat themselves in Columns (2) and (3), which shows two changes with respect to Column (1): First, we added dummy variables for foreign-owned firms and for ADR issuers. The estimation shows that ADR issuers pay more dividends than other companies but, surprisingly, foreign firms pay lower dividends than local ones, an issue that calls for further research. Second, we instrumented the change in the debt to assets ratio to make sure that endogeneity is not plaguing the results. Banks and other financiers monitor the dividend policy of borrowing companies, extracting signals about the liquidity of the firm, its financing needs and its willingness to repay. Therefore, reverse causality, from dividends to credit availability may be present. The chosen instruments (tangibility –fixed to total assets-, the change in total sales, and long-term to total debt) are usually recognized in the literature as important drives of the access to credit. The estimation appears to be robust to this instrument, as no major change is observed in the results.

[12] The model can be easily modified by including a new cost in the utility function in the bad event.

Regression results
Dependent variable: Dividend to cash flow
(Heteroskedastic-consistent t-statistics in parenthesis)

Variables	(1)	(2)	(3)
Lagged dividend to cash flow	0.023 (0.44)		
Paid any dividend last year (dummy)		64.36*** (4.68)	58.42*** (4.8)
Ln(sales)	13.84*** (5.75)	5.57** (2.74)	4.41** (1.97)
ROA	261.23*** (4.37)	232.80*** (4.46)	237.96*** (4.61)
q	-35.66*** (-2.86)	-23.83** (-2.01)	-29.55** (-2.51)
Debt to assets	-153.03*** (-3.39)	-112.0** (-2.61)	-105.18*** (-2.77)
Cash flow to change in long term assets	0.044*** (2.63)	0.034** (2.53)	.038*** (2.62)
Change in debt to assets	153.01*** (2.87)	114.61** (2.42)	109.0** (2.34)
Coefficient of variation of ROA	-1.613*** (-2.96)	-1.18** (-2.36)	-1.19** (-2.31)
Dummy 1996	17.02 (1.31)	16.31 (1.63)	19.16* (1.73)
Dummy 1997	19.44* (1.7)	25.56** (2.16)	24.69** (2.08)
Dummy 1999	35.63*** (3.0)	36.39*** (3.12)	36.05*** (3.35)
Dummy 2000	54.94*** (2.83)	47.70*** (2.71)	48.28*** (2.95)
Dummy 2001	17.91 (1.45)	18.56 (1.54)	17.82 (1.43)
Dummy 2002	-45.7** (-2.12)	-39.94** (-2.31)	-38.54** (-2.33)
ADR Issuance (dummy)			41.50*** (2.77)
Foreign-owned firm (dummy)			-23.22** (-1.98)
Constant	-128.15*** (-4.7)	-90.45*** (-4.19)	-72.99*** (-3.03)
Observations	319	319	319
Censored observations	172	172	171
Wald test	62.55***	80.08***	79.73***

Regression results (*)
Dependent variable: Dividend to cash flow
(Heteroskedastic-consistent t-statistics in parenthesis)

Variables	(4)	(5)	(6)	(7)
Lagged dividend to cash flow	0.028 (0.49)			
Paid any dividend last year (dummy)		66.82*** (4.74)	61.69*** (4.89)	66.47*** (4.75)
Ln(sales)	15.65*** (5.86)	6.79*** (3.12)	5.68** (2.37)	7.58*** (3.11)
ROA	242.92*** (3.76)	213.87*** (3.99)	219.68*** (4.23)	214.75*** (4.11)
q	-42.01*** (-3.26)	-28.46** (-2.27)	-31.69*** (-2.6)	-24.76** (-2.0)
Debt to assets	-191.74*** (-3.14)	-146.24** (-2.4)	-128.56** (-2.31)	-152.89** (-2.41)
Cash flow to change in long term assets	0.047*** (3.32)	.037*** (3.23)	0.038*** (3.2)	0.035*** (3.19)
Change in debt to assets	233.77** (2.14)	208.34** (2.0)	164.4 (1.62)	228.55** (2.04)
Coefficient of variation of ROA	-1.68** (-2.5)	-1.23** (-2.06)	-1.22** (-2.04)	-1.21** (-2.03)
Dummy 1996	10.15 (0.78)	11.59 (1.18)	14.11 (1.29)	12.73 (1.25)
Dummy 1997	13.65 (1.19)	21.54* (1.85)	20.95* (1.78)	21.02* (1.8)
Dummy 1999	30.35*** (2.6)	32.17*** (2.78)	32.22*** (3.02)	32.23*** (2.78)
Dummy 2000	43.78** (2.44)	38.27** (2.35)	38.50** (2.51)	38.41** (2.35)
Dummy 2001	9.19 (0.75)	12.94 (1.12)	12.71 (1.06)	14.25 (1.22)
Dummy 2002	-60.03*** (-2.63)	-50.00*** (-2.84)	-47.83*** (-2.85)	-50.86*** (-2.94)
ADR Issuance (dummy)			38.62*** (2.62)	
Foreign-owned firm (dummy)			-24.25** (-2.03)	-10.33 (-1.16)
Constant	-132.10*** (-4.64)	-92.50*** (-4.11)	-79.17*** (-3.24)	-99.8*** (-4.12)
Observations	321	321	321	321
Censored observations	173	173	173	173
Wald test	58.96***	83.63***	85.15***	84.38***

(*) Change in debt to assets instrumented with tangibility, percentage change in total sales and long-term debt to total assets

Additional exploratory regressions made use of: (i) Industry dummies, which turned out to be not significant, and (ii) a random-effects Tobit technique, which did not alter the main results reported above.

Conclusions

The study looked for explanations for observed dividend policies in Argentine listed firms in 1996-2002. The results are to a great extent consistent with a model of a firm where the conflicts of interest between managers and shareholders, and between controlling and minority shareholders, appear to be less relevant than the conventional decision-making process of a sole owner-manager. Our main findings are that: (a) Bigger and more profitable firms without good investment opportunities pay more dividends; (b) Companies with more fluid access to debt pay more dividends; (c) Furthermore, riskier and more indebted firms prefer to pay lower dividends, and the same applies to foreign-owned firms; (d) ADR issuers disburse more dividends than other companies; and (e) Firms do not seem to care about maintaining stable payout ratios over time, but there is some inertia in that non-payers tend to stay that way and otherwise.

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