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Institutional Factors and Investors Sentiments for Dividends

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Abstract

This paper is built upon the predictions of the catering theory of dividends and examines how the different institutional environments impact catering effect.
The focus of our analysis is the argument that when companies belong to different institutional environments and the nature of existing agency problems also differs, there will also be differences in the relationship between dividend policy and the catering effect. To achieve this aim, we propose a dividend model that incorporates a variable at a firm-level proxying for the catering effect. The results from the estimation of the model by using the GMM provide interesting results. Consistent with the predictions of the catering theory, we find that companies in Eurozone countries and the US, UK, Canada and Japan cater to their investors' sentiments. More interesting, our findings show an interaction effect between catering and institutional factors, particularly the legal protection of investors, development of capital markets and the orientation of the financial systems, the effectiveness of the market for corporate control, the level of ownership concentration and the effectiveness of boards of directors. We find a substitute effect of external corporate governance mechanisms on catering dividends. Specifically, dividend payers with weak governance are significantly more likely to pay dividends than dividend payers with strong governance.

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1 Introduction

Recent analyses studying the financing patterns around the world emphasize the importance of institutional differences across countries for the dividend policy (La Porta et al. [1]; Demirgüç-Kunt and Levine [2]; Shleifer and Wolfenzon [3]; Aivazian, Booth and Cleary [4], among others). Closely related literature has also shown that the access to external financing is shaped by the country's legal and financial environment (La Porta et al. [5], [6]; Rajan and Zingales [7]; Demirguc-Kunt and Maksimovic [8]). A direct implication of these studies is that in countries with weak legal and financial systems, firms obtain less external financing and have lower payouts. After controlling for the traditional determinants of dividends, such as the free cash flow, leverage, earnings, tangible fixed assets, and size, we go a step further and we investigate whether or not different institutional characteristics moderate the catering effect of dividends. Specifically, we argue that the extent to which firms cater to their investors' sentiments changes according to the institutional environment in which the firm operates.

The agency theory proposes a number of corporate governance mechanisms that are designed to reduce the agency costs associated with the separation of ownership and control (see, for instance, Jensen and Meckling [9].Their purpose is to align shareholders' and managers' interests. Governance mechanisms can be split into two categories: internal and external. Internal mechanisms include, among others, the effectiveness of boards and corporate ownership. Among the external mechanisms we can highlight the legal protection of investors, the orientation and development of the financial systems and the contestability of the market for corporate control.

The legal origin influences dividends, and it is a very important question in the corporate governance research. However, evidence on the role played by investors' legal protection in determining a firm's payout ratio is somewhat mixed, and even confusing. For example, Shleifer and Wolfenzon [3] find a positive relationship between the degree of protection of investors and the payout ratio for Anglo-Saxon firms. In contrast, in accordance with the substitute pattern proposed by La Porta et al. [10]; Faccio, Lang and Young [11] find that in countries with weak legal protection the allotment of dividends is higher as a measure to limit the minority shareholders' expropriation. The development of the capital markets and the orientation of the financial systems have been used thoroughly to establish institutional differences across countries (see, for instance, Rajan and Zingales [12]; Beck and Levine [13], Demirgüç-Kunt and Maksimovic [8]; and Levine [14]). The financial literature offers arguments that justify that dividends differ when there is an active market for corporate control or not (see, for example, Bebchuk, Cohen and Allen [15]; or Cremers and Nair [16]).

Regarding internal mechanisms, we also focus our investigation on the differences in the ownership concentration for the different countries, expecting dividends to be higher in firms with more ownership concentration, because this mechanism is a supervisory device of managerial discretion. We also expect higher dividends in firms with independent boards and two-tier structures, in that it is assumed that they supervise managers to a larger extent in the interests of shareholders.

Despite the lack of previous evidence, there are strong arguments that lead us to argue that investors' preference for dividend-paying stocks changes according to the above-mentioned institutional characteristics. Within this context, the focus of our analysis is the argument that when companies belong to different institutional environments and the nature of existing agency problems also differs, there will also be

differences in the relationship between dividend policy and the catering effect. To learn which of these institutional variables are more likely to influence the firm's dividend policy, we examine the payout of the following countries: United States, United Kingdom, Canada, Japan and the Eurozone countries, which represent a great variety of institutional environments. Hence we offer a study of the impact of several institutional factors on the investors' sentiment that supports the catering theory of dividends. As far as we know, our work differs from existing literature in that it tries to answer several unanswered questions about the dividends policy from the perspective of catering incentives around the world. There is no prior evidence supporting this view, and providing empirical support to this issue is thus one of the major contributions of this research.

In this context, the aim of our study is to explain how the different institutional factors in different corporate governance systems affect dividends decisions according to a firm's desire of satisfying investors' sentiments. The results from the estimation of the model by using the Generalized Method of Moments provide interesting results. Consistent with the predictions of the catering theory, we find that companies in Eurozone countries and the US, UK, Canada and Japan cater to their investors' sentiments. More interesting, our findings show an interaction effect between catering and institutional factors, particularly the legal protection of investors, development of capital markets and the orientation of the financial systems, the effectiveness of the market for corporate control, the level of ownership concentration and the effectiveness of boards of directors. We find a substitute effect of external corporate governance mechanisms on catering dividends.

The remainder of this paper is organized as follows: First, we describe the main legal and institutional factors characterizing the corporate governance systems and summarize previous literature and empirical evidence on this matter, which leads us to pose our hypotheses. Section 3 describes the data and our model of dividends and discusses the estimation method. The results are discussed in Section 4 and, finally, the concluding remarks are presented in Section 5.

2 Institutional Features: Previous Evidence and Hypotheses

In what follows, we describe the key institutional factors that may influence a firm's dividend policy and review previous evidence on the matter in order to pose our hypotheses about the role played by the institutional context in moderating the implications of the main dividend theories.

2.1 The Legal Protection of Investors

The new institutional economics that has come to be called the Law and Finance approach (see La Porta et al. [6]) assumes that the quality of law across countries depends on their legal origin. In this way, two legal traditions are identified: civil law and common law. According to the results in La Porta, et al., ([5], [6], [10], [17]), common law countries protect investors better than those with civil law. This piece of evidence has given rise to an extensive literature on the efficiency of laws in protecting investors (both shareholders and creditors) and on their enforcement across countries (see, for instance, Shleifer and Vishny [18]; La Porta et al., [5], [6]; Demirgüç-Kunt and Levine [2]). La Porta et al. [10] provide evidence that the stronger the protection of minority shareholder, the higher the

dividend payouts. This evidence is consistent with the so-called outcome agency model of dividends, according to which firms operating in countries where shareholders' protection is weak pay lower dividends because of the higher agency problems between managers and shareholders, whereas in countries where shareholders are more protected, more dividends are paid because shareholders are enabled to force managers to disgorge cash. This result is corroborated by Shleifer and Wolfenzon [3]. However, the dividend policy can also be seen as a substitute for the legal protection of investors. According to the substitute model, insiders interested in issuing equity in the future pay dividends in order to establish a reputation for a decent treatment of minority shareholders. In short, the influence of laws on dividends is a matter of record. However, previous evidence on the role played by the legal protection of investors in shaping a firm's dividend policy is somewhat mixed, or even perhaps confusing. For the whole exposed literature, we know that payout ratio is systematically related to the degree of shareholders' legal power. To shed light on this matter, we analyze the differences in payout ratios across different legal contexts to learn whether the outcome or the substitute model applies. On the basis that the different legal features of a country will shape managers' incentives to accommodate payout ratios to the firm characteristics and the investors' sentiments, we pose our first hypothesis:

Hypothesis 1: The degree of investor's protection will influence the extent to which firms cater to their investors' sentiments.

To test this hypothesis, we have constructed several indices. The first one, Legal Origin index, classifies the countries under analysis according to their legal origin, and it takes value 1 if the country is a common law country[2] and 0 if it is a civil law one.[3] Within this law-driven approach, additional indices have been proposed to assess the effectiveness and quality of enforcement of laws across countries. The second one, Anti-director Rights, measures how strongly the legal system favors minority shareholders over managers or dominant shareholders.[4] Like other previous papers, such as Demirgüç-Kunt and Maksimovic [21], [8]); Beck et al. [22] and Leuz, Nanda and Wysocki [23], we follow La Porta et al. [5],[6] in the construction of this index, which results from adding up the scores of six indices referring to the protection of minority shareholders.[5] The third index, Creditor Rights, is obtained following Pindado and Rodrigues [25] who provide a deeper analysis of the insolvency law than La Porta et al. [6] and also correct some of their indices.[6] The fourth index proxies for the degree of

[2]US, UK, Canada and Ireland are common law countries in our study.

[3]Austria, Belgium, Finland, France, Germany, Greece, Italy, Japan, Netherlands, Portugal and Spain are civil law countries in our study.

[4]For example, Ball, Robin, and Wu [19] and Hope [20] find that the presence of strong anti-director rights provides an effective deterrent against the manipulation of financial reports because managers would be aware that investors might sue them for losses.

[5]Proxy by by mail allowed, shares not blocked before meeting, cumulative voting or proportional representation, oppressed minorities mechanism, pre-emptive rights, and percentage to call an extraordinary shareholders' meeting. Note, however, that the score of Germany in the Proxy by Mail Allowed index and the score of the US in the Cumulative Voting or Proportional Representation index reported by La Porta, et al. [6] have been corrected following Miguel, Pindado, and de la Torre [24].

[6]Specifically, the score of the United States in the Absolute Priority and Reorganization with Creditors' Consent indices, and the score of Spain in the Absolute Priority index, have been

enforcement of a country's laws (see La Porta et al. [6]; Beck and Levine [13]; Beck, Demirguç-Kunt and Levine [26]; Giannetti [27], and Leuz, Nanda and Wysocki [23]) and is constructed through the average of Law and Order and Efficiency of Judicial System. The last two indices, Protection of Investors and Effective Protection of Investors, are constructed by using the previous ones to reinforce the underlying idea.[7]

2.2 Capital Markets

Rajan and Zingales [12] were the first to establish the dichotomy between bank-oriented and market-oriented financial systems and since then, a lot of empirical studies on the matter have been developed (see, for instance, Beck and Levine [13]; Demirgüç-Kunt and Maksimovic, [8]; and Levine [14]). Market-oriented systems, such as the ones of the US, the UK and Canada, are characterized by well-capitalized stock markets. In contrast, the banking sector is of great importance in financing firms, and financial markets are usually small in bank-oriented countries, such as Continental European countries and Japan. The influence of the development of capital markets on the dividend decision has received scarce attention in the literature. On the one hand, according to Demirgüç-Kunt and Maksimovic [28] in countries with developed stock markets there is a substitution of equity for debt financing. This reliance on equity financing makes managers more concerned with aligning interests with those of shareholders in order to maintain a good reputation in the capital market. In short, dividend payments are expected to be higher in firms operating in market-oriented systems than in firms operating in bank-oriented systems. To go further in the effect of capital markets' development on a firm's dividend policy, we pose our second hypothesis:

Hypothesis 2: Market-oriented systems encourage managers to cater to a larger extent to investor's dividend demand.

Following Beck et al. [22] and Demirgüç-Kunt and Maksimovic [8], we have constructed a Market index that takes value 1 if the country is classified as a market-oriented system and 0 if it is considered a bank-oriented system. We provide four additional indices of capital market development (see Beck and Levine [13]). The first one, Stock Market Capitalization relative to GDP, captures the importance of stock markets in the financial system. The second index, Total Value Traded to GDP, is a measure of the capital market's liquidity. Note that common law countries are characterized by higher market capitalization and liquidity than those with civil law. The last two indices, index of market development and index of banking development, were constructed by us using the previous ones to reinforce the underlying idea.[8] In sum, at the macro level, King and Levine [29], Levine and Zervos [30], and Beck, Levine and Loayza [31] show that financial development promotes growth and that differences in legal systems could

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corrected according to their respective insolvency laws.

[7]The Protection of Investors index is measured through the average of the Anti-director rights index and Creditor rights index; the Effective Protection of Investors is measured by averaging the indices of Protection of Investors and Enforcement.

[8]The índex of market development is measured by the average of the market capitalization to GDP with Total Value Traded to GDP, and index of banking development is the average of the ratio of the sum of bank liquid liabilities, bank assets and deposit bank domestic relative to GDP.

explain most differences in financial development.

2.3 Contestability of the Market for Corporate Control

The concept of the market for corporate control as a control mechanism was originally suggested by Marris [32] and Manne [33], and subsequently, the financial theory has traditionally held the assumption that the takeover market plays an important role in disciplining management by aligning the interests of owners and managers.[9] First, even the widespread threat of a takeover places the management under greater discipline by institutionalizing an evaluation mechanism of corporate decision-making. Second, when the threat of an acquisition is not enough to guarantee managers' efficiency in the construction of value, the threat is carried out and management in charge is substituted. Consistent with previous arguments, the financial literature supports the effectiveness of the market for corporate control in resolving shareholder-manager conflicts (see, among others, Jensen and Ruback [35]; Brickley, Lease and Smith [36] ; Jarrell, Brickley and Netter [37], Franks and Mayer, [38]). On the one hand, market-based systems are generally characterized by highly active markets for corporate control. Specifically, a market for corporate control is usually associated with the US and the UK (see Jensen and Ruback [35]; Jarrell, Brickley and Netter [37] for the US; Franks and Mayer [39] for the UK),[10] where firms' stock rights are highly decentralized and shareholders have limited influence over companies' operations and management. Something different occurs in the case of Canada. The market for corporate control is quite inactive in this country. In Spain, a weak market for corporate control is dominant. Traditionally, the market for corporate control among Spanish firms was practically non-existent because of high ownership concentration of quoted firms and poor minority shareholder rights. Perotti and Von Thadden [44] argue that a society with more diffused financial wealth should exhibit developed equity markets, strong minority protection, and a market for corporate control. They show for a sample of 13 OECD countries that in 1970, stock market capitalization as a percentage of GDP was highest in Britain, Canada, and the US, and lowest in Austria, France, Germany, and Italy, closely followed by Belgium. Our results also show that with information for 13 OECD countries, given the available information, it seems that Japan, Austria, and Belgium are close to Germany and France, while Canada are closer to the US and the UK.[11] The influence of the market for corporate control contestability on firms' dividend policy is scarcely documented in the literature. Zwiebel [46] proposes a model in which managers voluntarily pay dividends when they are under a constant takeover threat. This previous evidence suggests higher dividends when there is an active market for corporate control, which is consistent with the role played by this market as an

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[9]See Becht, Bolton and Roell [34] for a comprehensive review of the conventional corporate governance mechanisms that include market for corporate control.

[10]In fact, , there is evidence on a substantial number of takeovers in the US and the UK, particularly during the nineties (see, for instance, Conn and Connell [40]; Hopt et al.[41]; and Goergen and Renneboog [42]), and although most of the takeovers in these countries are non-aggressive bids, the fraction of unfriendly bids is not negligible (approximately 47% for the US, see Cottner, Shivdasani and Zenner [43]; and 25% for the UK, see Franks and Mayer, [38]).

[11]For more literature, Bebchuk, Cohen and Allen [15] and Cremers and Nair [16] examine one important dimension of corporate governance, namely, the market for corporate control.

external control mechanism, capable of bringing down agency costs and mitigating conflicts between shareholders and management. Our third hypothesis relies on this assumption and predicts the following:

Hypothesis 3: In countries with active markets for corporate control, firms will cater to a larger extent to their investors' sentiments.

We have constructed the Corporate Control variable, which accounts for the role played by this market in corporate governance, in order to test this hypothesis. This index takes value 1 in countries where an active market for corporate control exists and 0 otherwise. Note that the coincidence between this index and the Market variable defined in the previous section is complete, with the exception of Ireland. In fact, the usefulness of the market for corporate control is based on the premise that stock prices reflect managerial inefficiencies, thus creating the threat of a takeover.

2.4 The Level of Ownership Concentration

With the increased separation of ownership from control, managers frequently face very little supervision. In this context, a commitment to a high dividend policy attenuates managerial opportunism and forces the firm to frequently intersect with the capital markets. The separation of ownership and control in the modern corporation has given rise to the well-known principal-agent problem, which is the basis of corporate ownership being a key governance feature. In fact, financial literature proposes ownership structure as one of the main corporate governance mechanisms, especially helpful in solving the conflicts of interests between owners and managers and in minimizing the associated agency costs. Actually, the interesting point for corporate governance is that in an environment of highly dispersed ownership, the individual shareholder has little or no incentive to monitor management. Hence a concentrated ownership is considered one of the key mechanisms of corporate governance in that larger stakes provide shareholders with enough capability and incentives to undertake monitoring activities (Jensen and Meckling [9]; Shleifer and Vishny [47]). In common law countries investor protection is reinforced by stronger law enforcement, whereas in countries with weaker investor rights higher ownership concentration is needed. Therefore, a relatively high ownership concentration in many developed and developing economies may be an equilibrium response to a low level of protection of minority shareholders.[12] The results in La Porta et al. [6] support this argument and show that the stronger the legal protection of shareholders' rights, the lower the ownership concentration. The financial literature traditionally distinguishes between two types of ownership concentration systems (see, for instance, Mayer and Sussman [56]). On the one hand, the so-called Anglo-Saxon legal system, prevalent in the US, the UK, and Canada, among others, is characterized by dispersed shareholdings and a high level of institutional ownership. On the other hand, the Continental European model, dominant not only in continental European countries but also in Japan, is characterized by concentrated ownership, which usually belongs to families and banks.

[12]Recent theoretical and empirical studies relating ownership and payout include, among others, Fenn and Liang [48]; Short, Zhang and Keasey [49]; Farinha [50]; Gugler [51]; Gugler and Yurtoglu [52], Brav et al [53], Mancinelli, and Ozkan [54], or Baker et al., ([55], among others.

For example, Becht and Mayer [57] report that in more than 50% of European companies there is a single voting block of shareholders that commands a majority of shares. In contrast, in the UK and US, it is less than 3%.[13]. Previous research has focused on the role of corporate ownership in shaping the dividends decision. For instance, Faccio, Lang and Young [11] examine the structure of ownership and control, and they find evidence of systematic expropriation of outside shareholders' interests by controlling owners in European and East Asian firms. They then try to find how this phenomenon is related to firms' dividend behavior. What they find is that a second large shareholder mitigates agency conflicts in European firms by increasing dividend payments, whereas multiple controlling shareholders intensify the conflicts of interest in East Asian firms, because they tend to collude in expropriating minority shareholders by paying lower dividends. Gugler and Yurtoglu [52] claim that dividend payouts decrease with the control stake of the largest shareholder, whereas the size of the second-largest shareholder is positively related to dividend payouts. More recently, Khan [60] obtains results consistent with dividends being a substitute for poor monitoring by a firm's shareholders.[14] We focus on the differences in ownership concentration levels across countries and expect higher dividends in firms with more concentrated patterns, on the basis of ownership concentration being a monitoring device of managerial discretion. This monitoring effect leads us to pose our fourth hypothesis:

Hypothesis 4: The higher a firm's ownership concentration, the larger the extent to which firms cater to their investors' sentiments.

In our study we have constructed, following La Porta et al., [6] an index measuring Ownership Concentration. This index reveals a high level of ownership dispersion in common law countries, whereas ownership is much more concentrated in those with civil law, except for Japan.

2.5 The Effectiveness of Boards of Directors

The function of the board of directors in the corporate governance is to protect shareholders' interest and discipline management. If the board succeeds in carrying out its implementation and ratification roles, it will ensure that shareholder interests are safeguarded. However, if the functioning of this internal control mechanism is weak or inadequate, shareholder interests will become of secondary importance and managers' discretionary activity will increase. Thus, if boards of directors fail, shareholders suffer because of the combined effects of costly discretionary behavior, poor financial performance and a falling stock market valuation. In short, this internal control mechanism represents an alternative way of restricting potential conflicts of interests between managers and shareholders. There seems to be no disagreement on the need for

[13]These differences between Anglo-Saxon and Continental European countries are corroborated by Franks and Mayer [39]. Faccio and Lang [58] reveal the same results; moreover, they found that the role of financial institutions is scarcely relevant in Spain, France and Italy, where families usually control most of the firms. See too, Mayer and Sussman [56] and Volpin [59].

[14]In the same vein, Fenn and Liang [48] report that firms with low managerial stock-option holdings have significantly higher dividend and total payout ratios (including repurchases). This result could be due to the lack of "dividend protection" afforded by most executive stock option contracts (Lambert, Lanen and Larker [61]).

monitoring and control by boards of directors; however, their effectiveness differs considerably across countries, which allows us to establish institutional differences according to two key features: the composition of the board and its internal structure.[15] The composition of the board is critical to its efficacy in that the more independent the board members, the greater its effectiveness in monitoring management. In this context, a considerable body of the ongoing debate in the US and the UK deals with the optimal composition of the board of directors.[16] Actually, Anglo-Saxon boards have been generally considered a competent control mechanism because of their independence of management, since the designation of independent or non-executive directors constitutes a widespread practice in these countries. In contrast, the role of boards of directors in most Continental European countries may be questioned, given the lack of clear regulation.[17] In fact, given the diversity of board structure among several countries in our study, we used the term board in a broad sense; in other words, as an internal mechanism of corporate governance with either management, monitoring or supervisory functions. We should stress that the obvious difficulty of classification of the "boards" in the different countries is attested by the fact that they do not always adjust their characteristics to legal systems or guidelines and principles accepted and globally recognized.[18] Where shareholdings are highly concentrated, as occurs in Continental European countries and Japan, non-executive directors may be considered as a mechanism to control majority shareholders, but without them being able to actively take part in the firm's decision-making process. This is why boards are rarely composed of independent directors in these countries. Although boards in most European counties are evolving towards an effective governance mechanism thanks to the various Codes of Best Practice, they are still far from this concept because the greater presence of controlling shareholders there makes it difficult to comply with these Codes' voluntary requirements. Besides composition, the internal structure of the board is also fundamental for the effectiveness of this mechanism in corporate governance. In this sense, the existence of a one-tier or a two-tier board structure plays a key role in guiding and supervising a company. Firms in Anglo-Saxon countries (specifically the US, the UK and Canada (Adams and Ferreira [64]; and Dargenidou, Mcleay and Raonic [65]) and in most European countries except Germany, the Netherlands (Renneboog, Franks and Mayer [66] and Chirinko et al. [67]), and Denmark have adopted the unitary board structure, which

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[15]See Raheja [62] for an extensive review of board structure and function.

[16]See, for instance, for a recent research on corporate boards, Dahya, Dimitrov and McConnell [63] although in another perspective, of value. They find that firm value is positively correlated with the fraction of directors unaffiliated with dominant shareholders, especially in countries with weak legal protection for minority shareholders.

[17]An interesting study by Adams and Ferreira [64] show a theory of friendly boards from cross countries variation on board structure. They argue that shareholders should be allowed to choose between board structures (sole board system or dual board system) and their model illustrates that shareholders are always at least slightly better off if the board has an advisory role.

[18]The diversity diversity of board structures among IOSCO members and the OECD Principles' recognition that there are potentially many differences, and in that measured the studies on this matter should cover non-executive board members of companies with unitary boards; members of supervisory (i.e., non-executive) boards of companies with dual board structures; and members of the board of auditors elected by shareholders (which exist, for example, in Italy, Japan and Portugal): See IOSCO (2002), and OECD (2004).

implies that all board members are considered to be in the same position since they manage the company and also supervise its activity. There is thus no distinction between managing and supervisory functions. In contrast, the two tier structure is characterized by the existence of two bodies, an executive board and a supervisory board, which guarantees that the last is separated from and independent of management. There is not previous empirical evidence, as far as we know, on the structure and composition of boards being determinants of a firm's dividend policy. However, given that there is no disagreement on the key role played by this mechanism in protecting shareholders from managers' abuses, higher dividends are likely to be found in firms with independent and two-tier structures in that they are assumed to better monitor managers in shareholders' interests. This argument leads us to pose the following hypothesis:

Hypothesis 5: Independent boards and two-tier boards will lead managers to better fit their dividends to investors catering incentives.

To consider the role played by boards of directors in our analysis, we have constructed the Board variable: a score of 1 is assigned to a country with a predominant two-tier board structure or when non-executive directors represent a significant proportion on boards,[19] and 0 otherwise. The control over the behavior of managers will be more effective when there is a clearer distinction between the 'supervisor' and those being 'supervised'.

2.6 Corporate Governance

La Porta et al. [1] explain for 33 countries the economic basis for testing for a relationship between dividends and quality of governance, highlighting two considerations with opposite implications for the sign of this relationship. On one side, these authors describe an outcome model that leads to the prediction of a positive relationship between dividends and the quality of governance. They interpret their evidence of higher dividends in well-governed firms as a result of effective pressure by minority shareholders on insiders to release cash. On the other hand and in opposition of the outcome model, the substitute view expected a negative relationship; that is, weak governance increases the need to pay out cash as dividends in order to overcome agency problems.[20] Gugler and Yurtoglu [52] find large negative effects of announced dividend changes in German companies where corporate insiders have more power. Correia da Silva, Goergen and Renneboog [42] find a U-shaped relationship such that dividends first decrease and then increase with the voting share of the largest owner. In fact, most theoretical and empirical corporate governance studies use U.S data. We can see an exception in Denis and McConnell [70], who provide a most comprehensive international literature review on corporate governance, and the lack of cross-country European studies is quite evident. Faccio and Lang [58] is another exception, as they examine ownership structure throughout Europe. The several arguments given above by the literature described lead us to pose our last hypothesis:

Hypothesis 6: Governance characteristics will moderate the extent to which firms cater to

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[19]Both rules prevent those supervised from being supervisors, and thus lead to independent boards of directors. In fact, an outside-dominated board can be considered as coming close to the two-tier board regime (Hopt, et. al. [41]).

[20]See, for instance, the traditional models of Rozeff's [68] and Jensen's [69] with managers versus shareholder agency conflict.

their investors' sentiments.
To test the hypotheses posed we construct a joined index of corporate governance that is measured by averaging the indices of ownership by three largest shareholders, corporate control, independent and two-tier index.

3 Data Empirical Model and Estimation Method

3.1 Data

To test the hypotheses posed in the previous section, we use data from several Eurozone countries, United States, United Kingdom, Canada, and Japan, which represent a great variety of institutional environments.
We have thus used an international database, Worldscope, as our principal source of information. Additionally, international data such as the growth of capital goods prices, the rate of interest of short term debt, and the rate of interest of long term debt, have been extracted from the Main Economic Indicators published by the Organization for Economic Cooperation and Development (OECD).
Since our study is intended to present a wide variety of institutional environments, we selected fifteen representative countries and for each country we constructed an unbalanced panel of non-financial companies from 1990 to 2003.
Three of the fifteen countries have been excluded from our analysis for different reasons. As occurs in La Porta et al. [10] Luxembourg has been removed from our sample because there are just a few firms listed in Luxembourg's stock exchange, and Greece because dividends are mandatory in this country. Finally, Finland had also to be excluded because no sample with the above-mentioned requirement could be selected. The structure of the samples by number of companies and number of observations per country is provided in Table 1. As shown in Table 2, the resultant unbalanced panel comprises 3000 companies and 20,395 observations.

Table 1: Structure of the samples by countries

Country	**Number of companies**	**Percentage of companies**	**Number of observations**	**Percentage of observations**
Germany	427	14.23	4,263	20.90
France	391	13.03	3,812	18.70
Netherlands	137	4.57	1,412	6.92
Spain	99	3.3	1,046	5.13
Belgium	83	2.77	841	4.12
Portugal	43	1.43	366	1.80
Ireland	43	1.43	438	2.15
Austria	57	1.9	561	2.75
Italy	135	4.5	1,316	6.45
US	535	17.83	2,140	10.49
UK	560	18.68	2,240	10.98
Canada	79	2.63	316	1.55
Japan	411	13.7	1,644	8.06
Total	3,000	100.00	20,395	100.00

Data of companies in Eurozone countries and US, UK, Canada and Japan were extracted. The resultant samples comprise 427 companies (4,263 observations) for Germany, 391 companies (3,812 observations) for France, 137 companies (1,412 observations) for the Netherlands, 99 companies (1,046 observations) for Spain, 83 companies (841 observations) for Belgium, 43 companies (366 observations) for Portugal, 43 companies (438 observations) for Ireland, 57 companies (561 observations) for Austria, 135 companies (1,316 observations) for Italy, 535 companies (2,140 observations) for US, 560 companies (2,240 observations) for UK, 79 companies (316 observations) for Canada and 411 companies (1,644 observations) for Japan.

Table 2: Structure of the panel

No. of annual observations per company	**Number of companies**	**Percentage of companies**	**Number of observations**	**Percentage of observations**
14	327	10.90	4,578	22.44
13	99	3.30	1,287	6.31
12	99	3.30	1,188	5.83
11	93	3.10	1,023	5.02
10	119	3.97	1,190	5.83
9	135	4.50	1,215	5.95
8	159	5.30	1,272	6.24
7	129	4.30	903	4.43
6	124	4.13	744	3.65
5	131	4.40	655	3.21
4	1,585	52.80	6,340	31.09
Total	3,000	100.00	20,395	100.00

Data from firms for which information is available for at least five consecutive years between 1990 and 2003 were extracted. After removing first-year data, used only to construct several variables, the resultant unbalanced panel comprises 3000 companies (20,395 observations).
Table 3 provides summary statistics (mean, standard deviation, minimum and maximum) of the variables used in our analysis.

Table 3: Summary statistics

Variable	Mean	Standard deviation	Minimum	Maximum
FCF_{it}	.04239	.11581	-1.1651	1.9621
D_{it}	.10094	.11518	.0000	.89555
$N2_t$	.02199	.07218	-.84731	.62594
$TANG_{it}$	.27837	.18929	.00008	.99679
$S2_t$	13.0143	1.9605	8.4024	20.3265
CAT_{it}	.0000	.74661	-6.0792	8.8978

The table provides summary statistics (mean, standard deviation, minimum, and maximum) of the variables used in our analysis. FCFit , is the free cash flow, N2t denotes net income, TANGit denotes tangible fixed assets, and S2t is the size.

3.2 Empirical Model and Estimation Method

Using the dependent variable, payout ratio, obtained as explained in Neves, Pindado and de la Torre [71][21] and the traditional explanatory variables,[22] as well as the catering variable obtained through the value model (explained in the same paper) our basic model is as follows:

$$CPR_{it} = \gamma_0 + \gamma_1 FCF_{it} + \gamma_2 D_{it} + \gamma_3 NI_{it} + \gamma_4 TANG_{it} + \gamma_5 SIZE_{it} + \gamma_6 CAT_{it} + \varepsilon_{it} \quad (1)$$

Additionally, and in accordance with the aim of our study, we investigate whether or not several institutional characteristics moderate the catering effect, and for that we propose the following model to be estimated:

$$CPR_{it} = \gamma_0 + \gamma_1 FCF_{it} + \gamma_2 D_{it} + \gamma_3 NI_{it} + \gamma_4 TANG_{it} + \gamma_5 SIZE_{it} + CAT_{it}\left(\gamma_6 + \lambda DV_{it}\right) + \varepsilon_{it} \quad (2)$$

where DVit is a dummy variable constructed according to the institutional characteristics of legal protection of investors; development of capital markets and/or market-oriented financial system and bank-oriented, active markets for corporate control; the level of ownership concentration; effectiveness of boards of directors, and corporate governance. It is worth noting that in all cases whenever the dummy variable equals one and both parameters ($\gamma 6$ and λ) are significant, a linear restriction test is needed in order to know whether their sum ($\gamma 6+\lambda$) is significantly different from zero. The null hypothesis to be tested in these cases is the hypothesis of no significance, H0: $\gamma 6+\lambda=0$.
In fact, in our study we have constructed different indices, in accordance with Section 1, which we can see in Table 4.

[21]Once the dependent variable is a censured variable in that some companies pay dividends whereas some do not, we predicted a Tobit model following Auerbach and Hasset [72].
[22]For more details about measures used, see once more Neves, Pindado and de la Torre [71]).

Table 4: Institutional Factors

Country / Variables	Legal Protection of Investors Variables					Development of Capital Markets Variables				Ownership Variable	Corporate Governance
	Anti-director Rights	Creditor Rights	Enforcement	Protection Investor	Effective Protection Investor	Market Capitalization /GDP	Total Value Traded/GDP	Index of Market Development	Index of Banking Development	Ownership Concentration	Corporate Governance Index
Germany	2.00	3.00	7.32	2.50	6.10	0.24	0.28	0.48	0.94	0.48	0.33
France	3.00	0.00	6.89	1.50	3.45	0.33	0.17	0.34	0.85	0.34	0.28
Netherlands	2.00	2.00	8.00	2.00	5.33	0.69	0.43	0.61	0.95	0.39	0.80
Spain	4.00	1.00	5.78	2.50	4.81	0.30	0.23	0.40	0.80	0.51	0.34
Belgium	0.00	2.00	7.85	1.00	2.62	0.36	0.05	0.23	0.81	0.54	0.35
Portugal	3.00	1.00	5.99	2.00	3.99	0.13	0.05	0.17	0.68	0.52	0.17
Austria	2.00	3.00	7.85	2.50	6.54	0.12	0.08	0.25	1.03	0.58	0.53
Italy	1.00	2.00	6.19	1.50	3.10	0.17	0.08	0.22	0.64	0.58	0.36
Japan	4.00	3.00	7.49	3.50	8.74	0.79	0.28	0.55	1.46	0.18	0.23
Ireland	4.00	1.00	6.53	2.50	5.44	0.26	0.14	0.30	0.39	0.39	0.63
U.K.	5.00	5.00	7.29	5.00	12.14	1.13	0.55	0.82	1.09	0.19	0.56
U.S.	4.00	1.00	8.00	2.50	6.67	0.80	0.62	0.75	0.66	0.20	0.57
Canada	5.00	1.00	7.78	3.00	7.78	0.59	0.29	0.49	0.66	0.40	0.63
Sample average	3.00	1.92	7.15	2,46	5.90	0.45	0.25	0.43	0.84	0.41	0.44

The resultant table of institutional factors comprises different index constructed in accordance with section 1 of the paper. Anti-director Rights, measures how strongly the legal system favours minority shareholders over managers or dominant shareholders; Creditor Rights, is obtained follow Pindado and Rodrigues [25]; the third index, proxy the degree of enforcement of a country's laws constructed through the average of Law and Order and Efficiency of Judicial System. The last two indices, protection of investor and effective protection of investor were constructed by us using the previous ones to reinforce the underlying idea. We provide four additional indices of capital market development (see Beck and Levine [13]). The first one, Stock Market Capitalization relative to GDP, captures the importance of stock markets in the financial system. The second index, Total Value Traded to GDP, is a measure of the capital market's liquidity. The last two indices, index of market development and index of banking development were constructed by us using the previous ones to reinforce the underlying idea. Following La Porta, et al. [6] we constructed an index measuring Ownership Concentration. Finally we constructed a corporate governance index.

All our models have been estimated by using the panel data methodology. Two issues have been considered in making this choice. First, unlike cross-sectional analysis, panel data allow us to control for individual heterogeneity and to eliminate the risk of obtaining biased results because of such heterogeneity (Moulton [73], [74]). This point is crucial in our study because the dividend decision is very closely related to the specificity of each company. Specifically, we have controlled for heterogeneity by modeling it as an individual effect, ηi, which is then eliminated by taking first differences of the variables. Consequently, the error term in our models, ε_{it}, has been split into four components: first, the above-mentioned individual or firm-specific effect, ηi. Second, dt measures the time-specific effect by the corresponding time dummy variables, so that we can control for the effects of macroeconomic variables on the dividend decision. Third, since our models are estimated using data of several countries, we have also included country dummy variables (ci). Finally, vit is the random disturbance. The second issue that we can deal with by using the panel data methodology is the endogeneity problem. The endogeneity problem is likely to arise in that the dependent variable (payout ratio) may also explain some of the explanatory variables. Finally, we have checked for the potential misspecification of the models. First, we use the m2 statistic, developed by Arellano and Bond [75] in order to test for lack of second-order serial correlation in the first-difference residual. Tables 5, 6, 7 and 8 show that there is no a problem of second-order serial correlation in our models (see m2). Note that although there is first-order serial correlation (see m1), this is caused by the first-difference transformation of the model and consequently, it does not represent a specification problem of the models. In second place, our results in Tables 5, 6, 7 and 8 provide good results for the following three Wald tests: z1 is a test of the joint significance of the reported coefficients; z2 is a test of the joint significance of the time dummies; and z3 is a test of the joint significance of the country dummies.

Table 5: Estimation results of the basic model

Constant	-.36405* (.01820)
FCF_{it}	.12729* (.02933)
D_{it}	.00847 (.01817)
$N2_t$	.20477* (.05143)
$TANG_{it}$	.03098** (.01202)
S_{it}	.00398* (.00146)
CAT_{it}	.01436* (.00268)
z_1	63.08 (6)
z_2	669.39 (12)
z_3	10.88 (11)
m_1	-5.37
m_2	-0.65

The regressions are performed by using the panel described in Table 2. The variables are defined in Table 2I. The rest of the information needed to read this table is: i) Heteroskedasticity consistent asymptotic standard error in parentheses. 2) *,** and *** indicate significance at the 1%, 5% and 10% level, respectively; 2i) z1, z2 and z3 are

Wald tests of the joint significance of the reported coefficients, of the time dummies and of the country dummies, respectively, asymptotically distributed as $\chi 2$ under the null of no significance, degrees of freedom in parentheses; iv) mi is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation.

Table 6: Estimation results of the moderating role of the legal protection of investors

	I	2	2I	IV	V	VI
Constant	-.3679* (.01495)	-.3599*(.01563)	-.3859* (.01575)	-.3608* (.01675)	-.3596* (.01615)	-.3557* (.01645)
FCF_{it}	.06793* (.01945)	.12132* (.02411)	.13536 * (.02740)	.13873* (.02679)	.10148* (.02534)	.12884* (.02588)
D_{it}	.03071* (.00987)	.02842*** (.01526)	.01258 (.01574)	.00541 (.01663)	.01507 (.01623)	.00769 (.01637)
$N2_t$	.37866* (.01736)	.29814* (.03813)	.19761 * (.04509)	.25902* (.04492)	.32389* (.04306)	.27232* (.04278)
$TANG_{it}$	.01139 (.00997)	.01225 (.00941)	-.00669 (.00976)	.01887*** (.01663)	.02429** (.01038)	.02441** (.01063)
S_{it}	.00393* (.00118)	.00437* (.00125)	.00320 * (.00126)	.00449* (.00134)	.00446* (.00128)	.00469* (.00131)
CAT_{it}	.01316* (.00234)	.01444 *(.00242)	.00856 ** (.00357)	.03954* (.00420)	.01605* (.00238)	.02157* (.00252)
$CAT_{it}DV_{it}$	-.00794* (.00269)	-.01916* (.00418)	.01219 * (.00426)	-.03863* (.00470)	-.00747** (.00379)	-.02078* (.00377)
T	3.66	-1.34	7.91	.378	2.61	.255
z_1	237.24 (7)	60.77 (7)	50.14 (7)	76.78 (7)	68.34 (7)	67.01 (7)
z_2	1001.58 (12)	776.19 (12)	794.46 (12)	736.00 (12)	748.03 (12)	771.93 (12)
z_3	14.05 (11)	17.15 (11)	10.83 (11)	9.20 (11)	11.23 (11)	8.69 (11)
m_1	-5.33	-5.35	-5.31	-5.36	-5.34	-5.35
m_2	-.66	-.65	-.60	-.58	-.66	-.65

The regressions are performed by using the panel described in Table 2. DVit is a dummy variable that takes the following values: a) 1 for common law countries and 0 for civil law countries in Column I; b) 1 if the index of anti-director rights is above the sample mean, and 0 otherwise in Column 2; c) 1 if the index of credictor- rights is above the sample mean, and 0 otherwise in Column 2I; d) 1 if the index of enforcement is above the sample mean, and 0 otherwise in Column IV; e) 1 if the index of protection investor is above the sample mean, and 0 otherwise in Column V; f) 1 if the index of effective protection investor is above the sample mean, and 0 otherwise in Column VI. Note these indexes are defined in the Table 5. The remainder of the variables is defined in Table 3. The rest of the information needed to read this table is: i) Heterostedasticity consistent asymptotic standard error in parentheses. 2) *,** and *** indicate significance at the 1%, 5% and 10% level, respectively; 2i) t is the t-statistic for the linear restriction test under the null hypothesis of no significance; iv) z1, z2 and z3 are Wald tests of the joint significance of the reported coefficients, of the time dummies and of the country dummies, respectively, asymptotically distributed as $\chi 2$ under the null of no significance, degrees of freedom in parentheses; v) mi is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation.

Table 7: Estimation results of the moderating role of the development of capital markets and the contestability of market for corporate control

	I	2	2I	IV	V	VI
Constant	-.3484* (.01595)	-.3512* (.01587)	-.3613* (.01582)	-.3555* (.01679)	-.3905* (.01657)	-.3377* (.01949)
FCF_{it}	.11946* (.02248)	.12954* (.02284)	.10996* (.02705)	.13621* (.02608)	.15493* (.02696)	.09933* (.03591)
D_{it}	.01376 (.01609)	-.00014 (.01592)	.00484 (.01598)	.00696 (.01632)	.01134 (.01668)	-.00503 (.02066)
$N2_t$	.31572* (.03523)	.27864* (.03616)	.24288* (.04599)	.26625* (.04458)	.27255* (.04340)	.27516* (.04952)
$TANG_{it}$	.02397** (.01066)	.02231** (.01051)	.02082** (.01052)	.02271** (.01077)	.01625 (.01052)	.02174*** (.01316)
S_{it}	.00550* (.00127)	.00549* (.00125)	.00442* (.00126)	.00475* (.00135)	.00222** (.00133)	.00652* (.00157)
CAT_{it}	.01677* (.00322)	.02532* (.00344)	.01989* (.00362)	.02996* (.00380)	.00186 (.00339)	.01379* (.00354)
$CAT_{it}DV_{it}$	-.01241* (.00321)	-.02218* (.00342)	-.01089* (.00409)	-.02529* (.00422)	.02015* (.00414)	-.01087* (.00365)
T	3.52	2.54	3.72	2.12	8.16	1.68
z_1	88.82 (7)	86.41 (7)	50.66 (7)	73.15 (7)	71.31 (7)	35.62 (7)
z_2	729.74 (12)	733.92 (12)	795.53 (12)	746.80 (12)	747.24 (12)	599.22 (12)
z_3	12.81 (11)	12.26 (11)	11.29 (11)	9.78 (11)	14.53 (11)	8.73 (11)
m_1	-5.37	-5.36	-5.29	-5.36	-5.39	-5.30
m_2	-.64	-.61	-.60	-.59	-.73	-.65

The regressions are performed by using the panel described in Table 2. DVit is a dummy variable that takes the following values: a) 1 if the country is classified as a market-oriented system and 0 if it is considered a bank-oriented system in column I; b) 1 if the index of market capitalization to GDP is above the sample mean, and 0 otherwise in Column 2; c) 1 if the index of total value traded to GDP is above the sample mean, and 0 otherwise in Column 2I; d) 1 if the index of market development is above the sample mean, and 0 otherwise in Column IV; e) 1 if the index of banking development is above the sample mean, and 0 otherwise in Column V; f) 1 in countries where an active market for corporate control exists, and 0 otherwise in Column VI. Note these indexes are defined in the Table 5. The remainder of the variables is defined in Table 2I. The rest of the information needed to read this table is: i) Heteroskedasticity consistent asymptotic standard error in parentheses. 2) *,** and *** indicate significance at the 1%, 5% and 10% level, respectively; 2i) t is the t-statistic for the linear restriction test under the null hypothesis of no significance; iv) z1, z2 and z3 are Wald tests of the joint significance of the reported coefficients, of the time dummies and of the country dummies, respectively, asymptotically distributed as $\chi 2$ under the null of no significance, degrees of freedom in parentheses; v) mi is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation.

Table 8: Estimation results of the moderating role of certain institutional characteristics (ownership concentration, independent director of boards and corporate governance)

	I	2	2I
Constant	-.3672* (.01588)	-.3583* (.01653)	-.3521* (.01572)
FCF_{it}	.14382* (.02653)	.10286* (.02575)	.10385* (.02473)
D_{it}	.01557 (.01538)	.00411 (.01672)	.01277 (.01554)
$N2_t$	.20439* (.04186)	.32892* (.04299)	.28613* (.03674)
$TANG_{it}$	.00343 (.01039)	.03195* (.01079)	.01077 (.01057)
S_{it}	.00444* (.00127)	.00430* (.00131)	.00554* (.00125)
CAT_{it}	.00774* (.00178)	.00329 (.00318)	.01755* (.00287)
$CAT_{it}DV_{it}$	.01097* (.00368)	.01228* (.00370)	-.01451* (.00294)
t	5.62	6.28	2.31
z_1	51.83 (7)	67.20 (7)	60.92 (7)
z_2	746.82 (12)	749.29 (12)	780.82 (12)
z_3	11.39 (11)	10.55 (11)	12.31 (11)
m_1	-5.32	-5.35	-5.32
m_2	-.60	-.66	-.62

The regressions are performed by using the panel described in Table 2. DVit is a dummy variable that takes value 1 if the index of ownership concentration is above the sample mean, and 0 otherwise in Column I. In column 2, DVit is a dummy variable that takes value 1 for countries with a predominant two-tier board or when non-executive directors represent a significant proportion on boards and 0 otherwise. DVit is a dummy variable that takes value 1 if the index of corporate governance is above the sample mean, and 0 otherwise in Column 2I. The indexes of the column 1 and 3 are described in the Table 5. The remainder of the variables is defined in Table 2I. The rest of the information needed to read this table is: i) Heteroskedasticity consistent asymptotic standard error in parentheses. 2) *,** and *** indicate significance at the 1%, 5% and 10% level, respectively; 2i) t is the t-statistic for the linear restriction test under the null hypothesis of no significance; iv) z1, z2 and z3 are Wald tests of the joint significance of the reported coefficients, of the time dummies and of the country dummies, respectively, asymptotically distributed as $\chi 2$ under the null of no significance, degrees of freedom in parentheses; v) mi is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation.

4 Results

In this section, we first present the results of model in equation (1), which includes the explanatory variables that have been traditionally considered as determinants of a firm's payout ratio at the same time that they also incorporate a variable capturing investors' sentiment, that is, the catering variable. We then extend this model, and we test the implications of the catering theory by means of some institutional variables, particularly variables capturing investors' protection, development of capital markets and the orientation of the financial systems, contestability of the market for corporate control, the level of ownership concentration, the effectiveness of boards of directors and corporate governance.

4.1 Results of the Basic and Extended Models

The results of the GMM estimation of our basic model in (1) are provided in the Column I of Table V. The level of a firm's free cash flow positively affects its payout ratio, consistent with Jensen's [69] theory. The coefficient of leverage is not significant. Consistent with Lintner [76], the positive relationship between a firm's earnings and its predicted payout ratio is confirmed by our results. Regarding the nature of the firm's assets, our results show that firms with more tangible fixed assets have larger payout ratios. Finally, we find a positive coefficient on size, according to which larger companies pay higher dividends, consistent, for instance, with Fama and French [77] or more recently, Denis and Osobov [78]. Regarding the influence of a firm's investors' sentiments on its payout ratio, the positive coefficient of the catering variable confirms the link between the propensity to pay dividends and catering incentives, consistent with Baker and Wurgler [79]. Our result suggests that firms cater to their investors' preferences, so that they are more prone to increase payout ratios when investors exhibit a preference for dividend-paying stocks.

4.2 The Moderating Role of Institutional Variables

Once the existence of a catering effect has been corroborated by our results, we go a step forward and investigate whether or not the institutional context moderates this effect. Columns I to VI of Table 6 report the results of the model, including the interaction of catering with investor protection. Column I shows the interaction of catering with a dummy variable, which takes value 1 for common law countries and value 0 for civil law countries. As can be seen, the catering effect in civil law countries ($\gamma 6=0.01316$) is stronger than the one in common law countries ($\gamma 6+\lambda=0.0052$, significantly different from zero, see t). This result corroborates that the stronger the legal protection of investors, the smaller the extent to which firms cater to their investors' sentiments, supporting the substitute model by La Porta et al. [1] The results in columns 2 to VI confirm this finding by using other investor protection dummies, such as anti-director rights, creditor's rights, enforcement, protection investor and effective protection investor.[23]The interaction of the catering effect and development of capital markets/market-oriented systems is tested in the models presented in Columns I to V of Table 7. In this case, as shown in column I, DVit takes value 1 if the country is classified as a market-oriented system and 0 if it is considered a bank-oriented system. This way, the coefficient of the catering variable is $\gamma 6$ for countries considered a bank-oriented system (since DVit takes value 0), and $\gamma 6+\lambda$ for firms considered a market-oriented system (since DVit takes value 1). As can be seen, the

[23]Column 2 shows the interaction of catering with a dummy variable which takes value 1 if the index of anti-director rights is above the sample mean and 0 otherwise; column 2I shows the interaction of catering with a dummy variable which takes value 1 if the index of creditors rights is above the sample mean and 0 otherwise; column IV shows the interaction of catering with a dummy variable which takes value 1 if the index of enforcement is above the sample mean and 0 otherwise; column V shows the interaction of catering with a dummy variable which takes value 1 if the index of protection investor is above the sample mean and 0 otherwise and finally, the interaction of the catering effect and effective protection investor is tested in the model presented in Column VI of Table VI with a dummy variable which takes value 1 if the index of effective protection investor is above the sample mean and 0 otherwise.

catering effect in countries considered bank-oriented systems ($\gamma 6=0.01677$) is stronger than the one in countries considered market-oriented systems ($\gamma 6+\lambda=0.0044$, significantly different from zero; see t). As shown in Column I of Table 7, our evidence does not support Hypothesis 2; however, our evidence suggests that in countries considered a bank-oriented system, managers are more encouraged to cater to a large extent to investors' demand for dividends, confirming once more the substitute model by La Porta et al. [1]. The results in columns 2 to V of Table 7 corroborate the same conclusions by using other dummies of development of capital markets, such as market capitalization to GDP, total value traded to GDP, market development and banking development.[24] We next investigate the interaction between the catering effect and the contestability of market for corporate control by estimating the model presented in Column VI of Table V2. In this case, DVit takes value 1 in countries with effective markets for corporate control, and 0 otherwise. As can be seen, the catering effect in countries where there is less contestability in market for corporate control ($\gamma 6=0.01379$) is stronger than the one in countries where an active market for corporate control exists ($\gamma 6+\lambda=0.0029$, significantly different from 0; see t). These results are very similar to those obtained for the previous hypotheses and corroborate that the more active the market for corporate control is, the smaller the extent to which firms cater to their investors' sentiments. Column I of Table V2I reports the results of the model, including the interaction of catering with ownership concentration. Ownership concentration may be a monitoring mechanism, as it can be a bonding device triggering corporate control actions. Therefore, higher levels of ownership concentration may translate into higher dividends. As shown in column I, DVit takes value 1 if the index of ownership concentration is above the sample mean and 0 otherwise. As can be seen, the catering effect in countries with high levels of ownership concentration ($\gamma 6+\lambda=0.01871$, significantly different from 0; see t) is stronger than the one in countries with low levels of ownership concentration. It seems that catering incentives (i.e., investors' preference for dividend-paying stocks) manifest more strongly in firms with more concentrated patterns, corroborating the monitoring effect. The interaction of the catering effect and independent boards is tested in the model presented in Column 2 of Table V2I. In this case, DVit takes value 1 for countries with a predominant two-tier-board or when non-executive directors represent a significant proportion on boards and 0 otherwise. As shown in the table, there is no effect of a firm's investors' sentiments on its payout ratio when the firm has poor executive and supervisory boards ($\gamma 6$ not significantly different from zero). However, the effect is positive and significant for firms with predominant two-tier-boards characterized by the existence of two bodies, which guarantees that the supervisory board is separated from and independent of management ($\gamma 6+\lambda=\lambda=0.01228$, significantly different from 0; see t), which confirms that, as expected, the catering effect in countries with a predominant

[24]Column 2 shows the interaction of catering with a dummy variable which takes value 1 if the index of market capitalization to GDP is above the sample mean and 0 otherwise; column 2I shows the interaction of catering with a dummy variable which takes value 1 if the index of total value traded to GDP is above the sample mean and 0 otherwise; column IV shows the interaction of catering with a dummy variable which takes value 1 if the index of market development is above the sample mean and 0 otherwise; the interaction of the catering effect and development of capital markets is tested in the model presented in Column V of Table V2 with a dummy variable which takes value 1 if the index of banking development is above the sample mean and 0 otherwise.

two-tier-board or when non-executive directors represent a significant proportion on boards is stronger than the one in countries where this monitoring device is poor. These results point out that the expected catering effect clearly manifests itself when there are independent boards in the firm. Finally, we investigate the interaction between the catering effect and the corporate governance index by estimating the model presented in Column 2I of Table V2I. In this case, DVit takes value 1 if the corporate governance index is above the sample mean, and 0 otherwise. As can be seen in the table, the coefficient of the catering variable ($\gamma 6$=0.01755) is larger for firms with weak corporate governance than the one for firms with stronger corporate governance ($\gamma 6+\lambda$=0.00304, significantly different from 0). Our evidence suggests that investors' demand for dividends translates into higher payout ratios in firms that operate in countries with weak governance. It is worth highlighting that the results of this aggregated index of corporate governance make the legal influence prevail. In other words, the substitute model is supported once again in that this last result suggests that the weaker the governance in a country, the higher the need to cater to investors' sentiments regarding the payment of dividends. This evidence is consistent with the notion that firms adopt a policy of paying dividends under pressure to reduce agency costs, and is consistent with, for instance, Harford, Mansi and Maxwell [80],who report that firms with weak governance (shareholders' rights) hold lower cash reserves and are more likely to pay dividends.[25] Overall, this evidence provides an excellent robustness check for the results of the basic and extended models, since the sign of the coefficients of both the traditional explanatory variables and the catering variables remain identical once we control for the moderating role of certain institutional variables.

5 Conclusions

This paper provides a test of the predictions of the catering theory of dividends by proposing a new approach for analyzing the effect that investors' sentiments exert on corporate dividend policy.

Our results show that investors' sentiments impact the payout ratios in Eurozone countries, the US, the UK, Canada and Japan after controlling for traditional determinants of dividends, such as the free cash flow, leverage, earnings, tangible fixed assets and size. This finding seems to indicate that dividend policies are driven to some extent by investors' sentiments, thus revealing the desire of firms' managers to cater to such preferences. Therefore, our evidence provides empirical support for the existence of a physiological component in the decision to pay, as proposed by the catering theory.

Our analysis has several policy implications that are particularly relevant, allowing the possibility to better understand the implications of catering incentives for dividends by examining the moderating role played by certain institutional variables. This idea has not been accounted for in prior studies, either theoretically or empirically, but our findings corroborate that the way in which investors appreciate dividend payments depends on the

[25]See also, Hu and Kumar [81], who find that the likelihood and level of dividend payouts is increasing when factors such as managerial and outside blockholder ownership, CEO compensation policy, and board independence indicate a high likelihood of managerial entrenchment and high agency costs.

internal and external corporate governance mechanisms. In fact, our research makes a further check to see which institutional variables moderate dividend payout to managers' action to cater.

We trace firm-level corporate governance practices in fifteen countries around the world, and in our empirical tests, we find that the higher a firm's ownership concentration and independence of boards of directors, the better the fit of dividends to investors catering incentives. Our evidence also provides empirical support that external mechanisms are important to force firms to disgorge cash within the predictions of the substitute model. This suggests that the dividend payout is more important to investors when their level of investor protections is low.

According to our evidence and the substitute model, dividend payments can be a substitute for other characteristics because poorly-governed firms need alternative ways of establishing a reputation for acting in the interests of shareholders if they intend to raise capital from markets in the future; hence a policy of paying dividends is the most valuable at the margin to firms with agency problems.

In fact, our results suggest the presence of a more general phenomenon of the catering effect in companies with a high quality of internal corporate governance mechanisms. It is important to recognize that this view relies on the assumption that managers are more encouraged to cater to a large extent to investors' preferences for dividend-paying stocks in those firms with more efficiency and independence in the boards of directors and with higher ownership concentration by the three largest shareholders. Our evidence points out that the joined measure used in ownership concentration is in favor of a manager monitoring role for dividends. Therefore, the institutional context plays a key role in explaining managers' catering behavior and consequently firms' dividend policy.

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