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## Privatization, corporate control and regulatory reform: the case of Telefonica

Germà Bel<sup>a,b</sup>, Francesc Trillas<sup>c,\*</sup>

<sup>a</sup>*Cornell Institute for Public Affairs, 294 Caldwell Hall, Cornell University, Ithaca, NY 14853, USA*

<sup>b</sup>*Department of Economic Policy, Universitat de Barcelona, Avd. Diagonal 690, 08034 Barcelona, Spain*

<sup>c</sup>*Department of Economics and Economic History, Universitat Autònoma de Barcelona, 08193 Bellaterra, Spain*

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### Abstract

This study analyzes the interaction of agency problems in public policy and of agency problems inside the firm: it investigates the case of a large privatized firm subject to many policy constraints. The last steps of Telefonica's privatization were designed to promote a dispersed ownership and give managers a high level of discretion in running the company. This effectively created an agency problem inside the firm. There were no powerful shareholders to constrain the managers, and the threat of a takeover was not a credible one, since the government kept a golden share. There is no overall evidence of capture of politicians and regulators by managers in the interest of shareholders, although evidence suggests the existence of collusion between politicians and managers. The authors interpret the political interference with the firm's control (a well-documented phenomenon both in this study and in the cross-country literature on privatization; e.g. political ends in privatization, influence in appointments, golden shares) as the most visible part of such collusion. Liberalization and multi-level regulation will likely make any type of collusion or capture more difficult in the future.

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\*Corresponding author. Tel.: +34 93 581 1717; fax: +34 93 581 2012.

*E-mail addresses:* [gbel@ub.edu](mailto:gbel@ub.edu) (G. Bel), [francesc.trillas@uab.es](mailto:francesc.trillas@uab.es) (F. Trillas).

## 1. Introduction

Studies of agency problems in regulation and of agency problems inside the firm have progressed in parallel in recent years. However, there is little research on the interaction between both agency problems.<sup>1</sup> This study provides a step in this direction, investigating the case of a large privatized firm still subject to many policy constraints.

The former public sector telecommunications monopolist in Spain, Telefonica, became a fully privatized firm in early 1997. Its shares were then owned by more than one in eight Spanish households (Jones, Megginson, Nash, & Netter, 1999). It had become one of the clearest examples of “popular capitalism.” Since December 1998 it also faced a widely liberalized market. However, the company also operates under a more complex regulatory system: its operations are constrained by decisions taken by a number of institutions: governments (in the different countries where the firm now operates), regulatory agencies, courts and supra-national authorities. The picture of a monolithic firm and a single-agent regulator is too simplistic to permit proper analysis of the interaction between agents in the firm and agents in the political arena.

The company responded to the challenge of competitive product and capital markets by undertaking a strategy of diversification and corporate change. Telefonica became one of the European companies with the highest direct investment in Latin America and a global operator in what has been called the New Economy. Its behavior illustrates the changes that the telecommunications sector faces as it adapts to deregulation, convergence and globalization.<sup>2</sup> This paper analyzes this strategy and quantifies its impact on shareholder value. The agency theory of the firm and also the capture theory in regulation, based on the seminal work by Stigler (1971) and Peltzman (1976), are used to analyze and interpret the facts. Previous studies have analyzed either one or the other,<sup>3</sup> but not the interaction of both theories. The main hypothesis tested here is that some agents in government (the politicians) collude with some agents in the firm (the managers), at the expense of voters and shareholders. We interpret the well-documented political interference in the firm in terms of such collusion.

Regulatory changes determine to some extent the internal structure of firms. Kole and Lehn (1997) make specific predictions about the changes in corporate behavior that should be expected after deregulation. Their main point is that deregulated companies should adopt structures that make them more similar to other large firms that compete in open capital and product markets. However, many privatized companies still face regulation in some segments (most notably, the regulation of access or other constraints on prices). Also, many of these firms are still subject to

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<sup>1</sup>An exception is the 2002 special issue of *Telecommunications Policy* on “Corporate Control and Industry Structure in Global Communications”. Among the articles published there, the following ones shed light on the issue of the relationship between regulation and the firm’s behavior and organization: Waverman and Trillas (2002), Trillas (2002), Lehn (2002), Megginson, Bortolotti, D’Souza, and Fantini (2002). See also Trillas (2001) for a similar approach on the electricity industry.

<sup>2</sup>Koski and Majumdar (2002) and Bulent Aybar, Guney, and Suel (2001) also study the performance of telecommunications incumbents in this context.

<sup>3</sup>A related event study testing the capture theory of regulation is Dnes and Seaton (1999). They find no overall evidence of capture of OFTEL by BT in the UK.

important policy-makers' decisions, not only through product market regulation, but also through corporate control restrictions, such as golden shares.<sup>4</sup>

To illustrate the issue with the case of Telefonica just before its full privatization and until 2000, the paper focuses on two sets of events.<sup>5</sup> The analysis of the impact of *policy decisions* is designed to test for several variations of the capture theory of regulation, and *managerial decisions* are analyzed to test hypotheses related to the agency theory of the firm. Among the latter, many of the decisions in this period had to do with mergers and acquisitions. Some conclusions are derived from stock returns. Although markets may anticipate the broad expansion strategy of the firm, the announcement of the implementation of this strategy by management releases new information. The same can be said about regulation and public policy: although markets can anticipate the broad aspects of policy, announcements by relevant agents release new information. According to the financial markets efficiency hypothesis, the stock price provides the best estimate for the change in market value of the company as a result of unanticipated announcements.

The results presented in this paper show that Telefonica certainly introduced significant changes following privatization and deregulation, most notably diversification, although the previous management had already engaged in investments in Latin America. Although there are scale and scope economies that may justify consolidation in the telecommunications sector, this does not imply that every deal is a value creating one. Agency problems in acquiring firms may be the reason for expansion projects that do not create value for the shareholders, either because the price is too high or because synergies fail to materialize. The quantitative results show that investors welcomed the announcement of international alliances and mergers (even when they eventually did not take place) but not always those of direct investment in Latin America and other acquisitions. Some of the acquisitions in the media industry had a positive impact on shareholder value, but not all of them. Overall, there is no evidence of capture of politicians by shareholders, in the sense that facts and data do not show a pattern of policy decisions having a positive impact on shareholder value. There is some evidence of collusion between managers and politicians. This is made possible by agency problems in politics (voters are unable to fully control politicians) and by agency problems inside the firm (shareholders are unable to fully control managers).

The content of the paper is structured as follows. Section 2 summarizes the history of Telefonica and the theory behind the several issues that are taken up in the empirical analysis. Section 3 presents the methodology used in the analysis. Section 4 shows the evidence and Section 5 presents concluding comments.

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<sup>4</sup>Within this context, Wallsten (2001) has shown that privatization without attention to regulation may be costly to consumers, and privatization combined with a separate regulator yields better results. Moreover, Wallsten (2002a) also shows that sequencing matters: countries that create separate regulators before privatizing perform better.

<sup>5</sup>Other policies of the new management team that are of interest in this period, but beyond the scope of this paper, are restructuring measures that have to do with the labor force, and marketing efforts as a reaction to competition such as discount plans or expenditure in publicity.

## 2. Background

### 2.1. Path to privatization and telecommunications reform

Telefonica, the former telecommunications public monopoly in Spain, was totally transferred to the private sector in 1997, after the State sold its last stake in the company. This ended a long period of public ownership of the telecom company.

However, the company had also been privately owned in the past.<sup>6</sup> Telephone service was introduced in Spain in the early 1880s of the 19th century. After a few years (1884–1886) of public ownership of the first lines being put in service, in 1886 the government legally established that the telephone service was to be operated mainly by private firms. The service was extended by many small firms and local concessions. Because of lack of coordination and underinvestment, the need emerged for service unification.<sup>7</sup>

In 1924 the *Compañía Telefonica Nacional de España* (Telefonica henceforth) was set up as a private firm with national as well as foreign shareholders. Among the latter, the International Telephone and Telegraph Co. (ITT) held the largest stake. Telefonica was granted the monopoly through an arrangement with the Spanish Government. Between 1924 and 1944 telephone service in Spain was provided by a privately owned monopoly.

After the Spanish Civil War (1936–1939) and during the late years of the Second World War, Franco's Regime nationalized many network companies operating in Spain at that time. Telefonica was one of them. In December 1944, the government began negotiating with ITT in order to transfer ITT's shares to national ownership. After buying 80 percent of ITT's shares in 1945 the State became the largest shareholder in Telefonica, although the state's stake in the total capital of the company was not above 50 percent (the remainder being owned by ITT, banks and as many as 250,000 small investors). However, Telefonica was a publicly controlled monopoly, in the sense that the government appointed those in charge of strategic and day to day decisions.

In the mid-1980s, the Socialist government (in office since 1982) started a privatization program.<sup>8</sup> Within this framework, in 1987 the government sold a small stake of 6 percent of Telefonica through a Public Offering (PO) in the Stock Market.<sup>9</sup> Revenues from the PO amounted to 283.7 million Euros, and it reduced the state's stake from 38 to 32 percent. However, day to day operation, including the Chairman's appointment, continued under government control. The sale of this stake was neither intended to relinquish public control of the company nor mainly oriented to raise money because of fiscal pressures. Instead, the objective was to float Telefonica on the New York Stock Exchange; as a matter of fact, there was only an international tranche. The objectives pursued by the socialist government in doing so were (1) to get foreign partnership to stimulate supervision on company management under public control, thus increasing efficiency, and (2) to increase the possibilities of financing Telefonica's expansion

<sup>6</sup>Wallsten (2002b) argues that, in many European countries, privatization is a *return* to the private sector.

<sup>7</sup>See Calvo (1998) for a detailed history of telecom business in Spain.

<sup>8</sup>Privatization was total for many small and medium size state owned enterprises (SOEs). However, in the case of large size network SOEs, the socialist government did not totally privatize and relinquish control. See Bel (2002).

<sup>9</sup>This very gradual privatization (full divestiture would not be completed until 1997) makes it very difficult to use "before and after" comparisons.

investments without affecting the Budget. This was consistent with other POs of large State Owned Enterprises (SOEs), such as Endesa (electricity) and Repsol (gas) in the late 1980s.

In the mid-1990s the Maastrich Treaty fiscal criteria to qualify for joining the European Monetary Union put strong pressure on Spanish government finances. Within this context, in autumn 1995 there was a PO to sell another stake (11 percent) of Telefonica. Revenues from the PO amounted to 1,000.2 million Euros and it further reduced the state's stake from 32 to 21 percent. After the PO in 1987, day to day operation continued under government control.

In March 1996 the conservative Popular Party won the national election promising to privatize the entire public sector. In Telefonica, a new Chairman—Juan Villalonga—was appointed by the government in June 1996. Telefonica's privatization was completed subsequently. Villalonga, 43 years old at the time, had no previous experience in the Telecoms industry. He came from the investment bank sector. He had held executive positions in the consultancy firm McKinsey, in CS First Boston and in Bankers Trust. This financial background fitted the move of the company towards setting as a first priority the creation of shareholder value. In addition to this experience, the new Chairman had worked with experts and politicians in or close to the incumbent Popular Party in the design of the privatization strategy of the new government.

The 21 percent stake that the state still retained in the company was sold through a PO in January–February 1997. Revenues from this PO amounted to 3,885.5 million Euros. After this last PO, the company was totally privately owned, and the government relinquished day to day control, although a temporary (10 years) 'golden share' was kept to preserve government influence on some strategic decisions.

After complete privatization, Telefonica's shareholder dispersion increased. This was a consequence of the technical design of the 1995 and 1997 POs. Both of them included discounts on the final price for small investors (4 percent for general investors and 8 percent for employees). Also, both POs included fidelity bonuses for small investors: that is, the promise of getting 1 free share for every 20 shares bought, provided that the investor did not sell the shares during the year after the PO. Rationing was needed in both POs, since small investor demand was considerably higher than the offer directed to them. The ratio demand/offer was 7.3 in 1995 and 7.2 in 1997 (Table 1).

Besides the enlargement of the number of shareholders, a 'hard core' of financial investors existed since the mid-1990s, although it lost practical importance progressively. Three financial institutions (two banks and one savings bank) held stakes of around 5 percent of total capital: *Banco Bilbao Vizcaya*, *Argentaria* and *La Caixa*.

Table 1  
Privatization of Telefonica and public offerings

Date	Revenues (10 <sup>6</sup> Euros)	% Capital sold	% State–stake after PO
June 1987	283.7	6	32
October 1995	1000.2	11	21
February 1997	3885.5	21	0

Source: Bel (2002).

Table 2  
Stock prices of selected European incumbent operators

	April 1996	February 2000	July 2000	% Change (Apr. 1996/Jul. 2000)
Telefonica	14.89	80.09	58.49	293
British Telecom	40.54	172.42	128.77	218
Deutsche Telekom	19.04 <sup>a</sup>	78.99	41.21	116
France Telecom	34.15 <sup>b</sup>	153.44	121.24	255
Telecom Italia	27.87	169.25	124.10	345

Stock prices are in US \$ as quoted in the New York Stock Exchange, adjusted for dividends and stock splits. The stock prices of the same company in different markets (say, New York and Madrid) should be the same due to the existence of arbitrage opportunities if the prices were different.

<sup>a</sup>DT started trading in November 1996.

<sup>b</sup>FT started trading in October 1997.

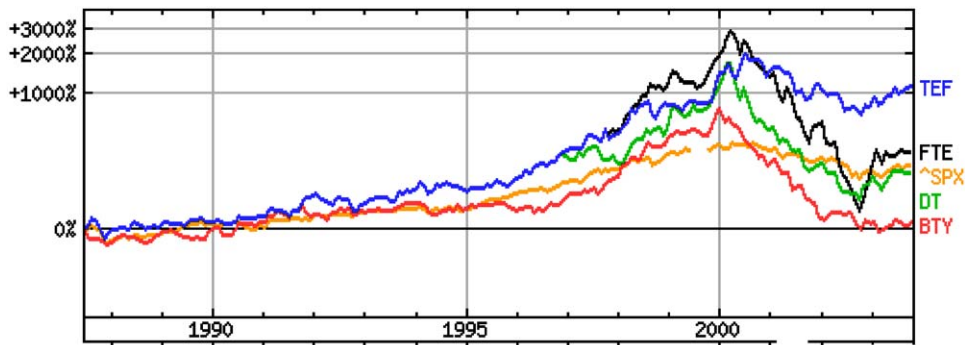


Fig. 1. Comparison between Telefonica, S&P 500 and other telecom incumbents. TEF: Telefonica, FTE: France Telecom, DT: Deutsche Telekom, BTY: British Telecom, SPX: Standard & Poor 500.

Table 2 shows that the behavior of Telefonica in the stock markets was remarkable: share prices increased by almost 300 percent during the period under study (1996–2000). Share prices of some other telecommunications incumbents reached peaks in early 2000 to decline subsequently.

Fig. 1 extends the analysis to 2003, comparing the firm to an international stock index and to other telecom incumbents. It is apparent that the company has performed well as far as stock prices are concerned. This is a relevant piece of evidence, since as a fully privatized company, the management has the maximization of shareholder value as a main stated objective.<sup>10</sup>

It is conventional wisdom that at the moment of privatization the industrial framework in which the privatized company is to operate should be as clear as possible. In Spain, it was decided to privatize Telefonica as a vertically integrated firm. In 1996, the government announced its new telecommunications policy. As far as regulation is concerned, there were no formal price caps in the period of interest, and rates were annually decided by the government on an ad hoc basis.

<sup>10</sup>Soon after his appointment as Chairman of Telefonica, Juan Villalonga stated that one of his priorities would be to “increase the value of the company for all investors in the new framework of the sector” (*El Pais*, 8/6/96).

A separate regulatory agency was first created in 1996, the Commission of the Telecommunications Market (CMT in Spanish), which would act as the anti-trust authority in the sector. The government, under pressure from the European Union, decided to liberalize entry in telecommunications starting in 1998, after a short-lived duopoly policy in mobile telephony. The second firm in the mobile telephony sector was *Airtel*. Soon after liberalization a second firm entered the fixed telephony sector. This was *Retevisión*, a partially publicly owned company that started to compete with *Telefonica* (later on *Retevisión* was fully privatized), and formerly operating in the transmission of TV signals. Neither *Airtel*'s nor *Retevisión*'s shares were traded in the stock market in their first years of operation.

As a result of its expansion abroad, most notably in Latin America, the company was also increasingly exposed to regulatory risk in other countries. As opposed to the experience of the United Kingdom (analyzed by Spiller & Vogelsang, 1997; Dnes & Seaton, 1999) privatization did not take place in a context of stable regulation and industry structure. The newly privatized company had to immediately adapt to a rapidly changing environment.

In 2000, at the end of the period investigated below in the event study, Telefonica was the first Spanish firm in profit, income and equity value. It had 50 million clients in 11 countries.

## 2.2. Hypotheses

This subsection presents the hypotheses and related literature for the issues analyzed in the quantitative study.

### 2.2.1. The firm

(a) *First hypothesis: Since privatization involves political and economic ends, there will be political interference with the company's control.* Privatization per se may not change incentives, although it offers an opportunity to change the corporate governance of the firm.<sup>11</sup> Jones et al. (1999) and Bel (2003) empirically show that share issue privatizations have both political and economic objectives,<sup>12</sup> and that many governments keep some form of control after selling the assets (such as golden shares or partial privatization). This may create corporate governance problems, since the ownership structure of the company is not necessarily the one that maximizes shareholder value. Trillas (2000) argues that political objectives, in the form of collusion between managers and privatizing governments, yield higher levels of shareholder dispersion than the ones that would obtain if privatization maximized financial proceeds. The reason for this is that managers “lobby” the privatizing government for a higher than optimal dispersion, in order to benefit from larger control rents.

(b) *Second hypothesis: After privatization, managers will undertake expansion projects beyond those that generate positive net present value (Free cash-flow theory).* Telecommunications firms

<sup>11</sup>According to Dewenter and Malatesta (1998), private firms are more profitable than public sector ones, but privatization per se does not increase profitability, as proved by the good results obtained on average for their international sample of firms 3 years before privatization. Cragg and Dyck (1998), in their study on managerial turnover in British privatized firms, reach the conclusion that the effect of privatization on incentives was more pronounced after four years in the private sector and in sectors not subjected to price regulation.

<sup>12</sup>Empirical studies on political objectives in privatization rely basically on hypotheses established in Perotti and Guney (1993), Perotti (1995) and Biais and Perotti (2002).

after privatization and on the eve of deregulation are potential candidates for the application of Jensen's (1986) free cash-flow theory: the firms identified by Jensen for his theory face declining revenues in the core business and may have flawed corporate governance mechanisms. This gives incentives to managers with deep pockets to undertake expansion projects beyond those that generate positive net present value. When managers perform poorly, they may diversify to try to improve performance and save their jobs. If industry conditions are changing, they may well want to diversify their human capital, irrespective of the most efficient strategy to undertake from the investors' point of view.<sup>13</sup>

Telefonica's management had at its disposal a large free cash flow, since the company was still enjoying important incumbency advantages. This was certainly the case after it was decided that the firm would not distribute dividends, as had been traditional for decades in the company.<sup>14</sup> However, Jensen mentions another condition for the free cash flow theory to hold: firms must face low growth prospects in the core business. It is arguable whether the core business of Telefonica was telephony in Spain or telecommunications services in general. It can be argued as well that the potential for growth in telecommunications has varied over time in recent years, and it was arguably high for most of the period analyzed in the quantitative study below (1996–2000). Then, whether Telefonica and similar firms fall within the set of firms that fulfill the conditions for the application of the free cash flow theory is an empirical issue.

There are also arguments that can be used to justify that some degree of expansion was value-enhancing. Scale and scope economies due to technological change, and the enlargement of the market due to both technology and privatization in other countries (especially in Latin America), made some acquisitions potentially profitable. One of the main reasons for diversification from the demand side is that developing countries may need the presence of foreign operators to benefit from some know-how necessary to develop new technologies. Noll (2000) argues that the typical privatization choice in developing countries is selling controlling stakes of telecommunications incumbents to operators in developed countries, or at least to consortia that include a major telecoms operator. Besides, since giving cash back to shareholders may draw the attention of politically motivated regulators, internal capital markets may provide a way to avoid the expropriation of the firms' returns. In contexts that allow a rate of return above the cost of capital, diversification may provide an efficient investment opportunity.<sup>15</sup> A utility may prefer productive diversification rather than capital markets to spread its risk, due to costs of transacting in capital markets and due to tax advantages of conglomerates (reinvesting within the firm can avoid the tax payments that accompany dividends).<sup>16</sup> Conversely, failure in some other field can endanger a utility's credit and earnings. Whether the agency or the synergy reasons prevail is an empirical matter, and the conclusion depends on the value of each acquisition

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<sup>13</sup>Robison, Davidson, and Glascock (1995) Sherman (1989) confirm the existence of agency problems in the diversification activities of utilities.

<sup>14</sup>Hyman and West (1989) argue that deregulation induces lower dividend payout.

<sup>15</sup>Investment in related sectors may trigger the reaction of regulators or anti-trust authorities, which is not the case for investments in multi-utilities or foreign investment.

<sup>16</sup>From a social welfare maximizing point of view, the potential efficiency gains from diversification must be balanced against the loss from more difficult regulation due to blurred cost estimates (most notably, the equity cost of capital), cross-subsidization incentives and difficulties in implementing yardstick competition. Efficiency gains may then not be easily passed on to consumers.

for the firm, the price paid for it, the regulatory reaction and other time and country-specific characteristics. The exercise below contributes to clarification of which events increased shareholders' wealth and which ones did not for a particular firm and in a particular time-period.

(c) *Third hypothesis: Deregulation induces a better alignment between managers and shareholders interests.* Research on the interaction between regulation and the relationship between managers and shareholders concludes that more information from the regulatory agency has the effect of subsidizing the monitoring actions of managers by shareholders. On the one hand, this creates scope for more dispersed shareholding and/or causes less need for performance related compensation to managers.<sup>17</sup> On the other hand, since regulated executives have less influence on outcomes, different skills are needed, and labor markets for regulated and unregulated firms are different. According to this view, the typical utility CEO would be like a bureaucrat: in regulated firms “public relations” and “political” skills are more valued due to the need for the company to play the regulatory game. According to Kole and Lehn (1997: 424) and Lehn (2002) deregulation would in part remove these constraints and would make regulated managers resemble more their colleagues in non-regulated firms. They argue that deregulation increases the importance of the managerial function in the firm: “Deregulation provides a unique opportunity to observe the Darwinian process at work. It serves as a shock that requires firms to adapt their strategies and organizational structures to the new rules of the game.” An enlarged room for maneuver for managers should lead to cost-cutting operational changes, to pricing and marketing innovations (new products, more aggressive publicity), as well as to an increased number of mergers and acquisitions. Moreover, greater business instability makes it harder to distinguish the effects of management decisions on firm performance from the effects of other factors. Consequently, the value of actions that better align the incentives of managers and shareholders increases (better monitoring, incentive schemes in compensation, a more concentrated ownership structure<sup>18</sup>). Since smaller boards result in less free-riding and promote more rapid decision-making, board size is likely to contract. They also claim that, to the extent that outside directors play an important monitoring role, it might be expected that outside representation on boards of directors increases after deregulation. However, they also observe some degree of path-dependence in the internal governance decisions of firms. Part of the inertia may be explained by defensive measures taken by managers. In Europe, the post-privatization control restrictions kept by governments are certainly a potential source of inertia in the corporate structures of deregulated firms.

### 2.2.2. *Regulatory policy and other issues in public policy*

Regulatory decisions on industry structure determine the horizontal and vertical competition implications of different ownership forms. Regulated prices determine the free cash flow that managers will have access to, in order to finance diversification activities.

<sup>17</sup>Joskow, Rose, and Shepard (1993) argue that intervention in the compensation process by well-informed and influential outsiders may affect the contracts between shareholders and top executives. Moreover, utilities operate in an environment where low risk derives into lower compensation.

<sup>18</sup>Since deregulation increases monitoring costs, ownership structure becomes more concentrated to make it privately rational for individual shareholders to incur these costs.

The traditional view of the role of interest groups in regulation is based on Capture Theory. According to it (Stigler, 1971), regulators are puppets under the influence of producer interests, much better organized and with higher stakes per capita than consumers. Peltzman (1976) supplemented this theory with the more complex argument that regulators face competing interests that may push policy into different directions. One can distinguish between upper level and lower level capture (Dnes & Seaton, 1999). The former would take place when interest groups lobby the government at the policy design level (Grossman & Helpman, 2001), and the latter when they lobby regulators at the policy implementation level (Laffont, 2000). The possibility of capture at different stages of the policy making process is an instance of the multi-principal nature of government. Checks and balances between different governmental institutions may reduce the leverage of interest groups (Spiller & Vogelsang, 1997). In addition to this, as Laffont and Tirole (2000) describe, the subsidiarity principle holds in the European Union telecommunications liberalization process: European authorities set principles and governments adapt them through more detailed policies. For example, the European Union set up a policy principle of interconnection according to which prices have to be based on direct costs, which goes against the interests of incumbents such as Telefonica.<sup>19</sup> The implementation of this principle, however, differs widely across countries.

- (a) *Fourth hypothesis: Policies which voters are less informed about are more prone to be captured by lobbies than those about which voters have more information.* Some theoretical reasons for the opposite of capture theory happening (i.e., incumbents being punished by regulators) can be found in Grossman and Helpman (2001): voters' information may reduce the ability of organized interests to provide campaign contributions, because such contributions can do nothing to sway an informed electorate. Therefore, it should be expected that policies which voters are less informed about (e.g. policies on corporate control, such as golden shares or takeovers restrictions) are more prone to be captured by lobbies than those which voters have more information about (e.g. pricing policies). The existence of several competing lobbies is also another reason for which one single lobby may fail to make its interests prevail. Hence liberalization, insofar as it implies the entry of new interest groups, should be associated with less clout for incumbents. In particular, one would expect that incumbents can do little to press for favorable access pricing policies, where the pressure of entrants in the opposite direction will be fierce. Another reason for capture not being observed in equilibrium is because constitutional measures may be taken to prevent it. But then these constitutional measures have a cost, e.g. in terms of less powerful incentive schemes to reduce rents (Laffont, 2000). Following this rationale, the levels of capture that are observed in reality are just the tip of the iceberg of a much larger set of transaction costs.
- (b) *Fifth hypothesis: Existence of a firm's agency problems and politics' agency problems induces collusion between politicians and managers.* Trillas (2000, chapter 3) shows that managers, due

<sup>19</sup>Sidak and Spulber (1997) analyze the specific problems that former regulated monopolists face when confronted with deregulation. They provide arguments supporting the existence of an implicit regulatory contract. If the existence of this contract is not recognized and its terms are not fulfilled, new investment will be more costly than needed. In particular, according to these authors, interconnection prices should be set as to allow the former monopolists to obtain a rate of return that covers its cost of capital. Although their analysis is centered on the US, the point they make on the risks of not compensating for former monopolists' past investments is of general relevance.

Table 3  
Hypotheses

Area	Hypothesis	References
Effects of privatization	Privatization has political and economic ends. There will be political interference with the company's control After privatization managers will undertake expanding projects beyond those that are net present value	Jones et al. (1999) and Bel (2003) Jensen (1986)
Effects of deregulation	Deregulation induces a better alignment between managers and shareholders interests	Kole and Lehn (1997)
Policy and regulation	Policies about which voters are less informed are more prone to be captured by lobbies than those about which voters have more information	Grossman and Helpman (2001)
Firm's agency problems + politics' agency problems	Collusion between politicians and managers	Trillas (2000)

to the endogenous rents they capture with a dispersed ownership of the firm, may collude with politicians at the privatization stage, inducing a less concentrated than optimal ownership structure. Politicians may adopt a high dispersion policy (through privatization techniques, golden shares, takeover restrictions) to share with managers the rents from dispersion at the expense of shareholders, in the form of campaign contributions, politically orientated investments, etc. Notice that such collusion is just a more detailed account, based on micro-foundations, of capture. This collusion gives substance to the usual claim that privatizations have both *political* and economic ends.

Table 3 summarizes all the hypotheses.

### 3. Methodology and data

The study analyzes the statistical impact of new information release. The “event study” is a statistical approach<sup>20</sup> that researchers commonly use to measure the impact of a particular information release. The methodology is suitable for interpreting the effect on shareholders of facts that have not been progressively anticipated by the market to a significant extent. There are some examples of event studies applied to regulatory events related to one single firm, such as Dnes and Seaton (1999). It is also illuminating to use the technique to analyze other events related to privatized and regulated companies, mainly the strategy of the company itself. In other words, the purpose is to translate a technique that has been fruitfully used for other firms (e.g. Lys and Vincent (1995) and De Angelo, Angelo, and Gilson (1996)), to the analysis of a large privatized, regulated firm, combining the case study and the statistical analysis of information disclosure about events related to the firm's performance. Event studies, in its most widespread version, are a

<sup>20</sup>See Bhagat and Romano (2001) for a recent survey.

marriage of efficient market theory with an index model for predicting stock returns. It consists of first translating variables into rates of return, then netting out general market movements, and, finally, examining the relationship between residual returns and events. The objective is to measure the unexpected return that results from an event. This is the difference between the actual stock return and the return that might have been expected given the performance of the market. This expected return can be calculated using an index model.

According to this model, stock returns are determined by a market factor and a firm-specific factor. The stock return,  $r_t$ , during a given period  $t$ , would be expressed mathematically as

$$r_t = a + br_{mt} + e_t,$$

where  $r_{mt}$  is the market's rate of return during the period and  $e_t$  is the part of a security's return resulting from firm-specific events. The parameter  $b$  measures sensitivity to the market return, and  $a$  is the average rate of return the stock would have in a period with a zero market return. The firm's specific return may be interpreted as the unexpected return that results from the event.

The parameters are usually obtained for a period before the events of interest (estimation window) and the difference between the predicted returns and the actual returns for the days of interest (event window) are called abnormal returns. From this, it is possible to compute the cumulative abnormal returns (CARs), adding several observations of abnormal returns.

### 3.1. Data

- (i) Relevant facts related to Telefonica have been obtained from the web page of the Spanish Stock Exchange Commission (*Comision Nacional del Mercado de Valores*) and in the *Hydra* and *Lexis-Nexis Executive* databases. A total of 56 events have been analyzed. The period under study coincides with Juan Villalonga's period as Chairman of Telefonica, i.e., between June 1996 and July 2000. This provides a useful window to analyze the impact of changes in the company and in public policy as a result of privatization and deregulation.
- (ii) All the information and articles about Telefonica in the world's major newspapers, including English speaking and Spanish speaking ones, from the *Lexis-Nexis Executive* database in 1996–2000 has been used to check the accuracy of dates and descriptions.
- (iii) Stock prices have been obtained from *Datastream*, and they come from a return index that takes into account the reinvestment of dividends.<sup>21</sup> Details on the statistical treatment of data are presented in Appendix A.

## 4. Facts and impact on shareholder value

Tables 4 and 5 in Appendix B summarize the results about the impact of different events on the stock returns of the company. Each event corresponds to an announcement that implies an update

<sup>21</sup>The same exercises were performed with a price series that did not take into account re-investment of dividends, without changes in the results.

on the market information about decisions taken either by policy-makers or by managers. Events with overlapping dates were eliminated, unless they belonged to the same set of events.<sup>22</sup> Still, the impact on stock prices of the new information is relative to the expectations. Care must be exercised in the inferences derived from this evidence. Authors' judgement and qualitative and factual knowledge are used in interpreting the results.

Table 4 provides aggregate results about the reaction of shareholder wealth to four sets of events: regulatory policies (decisions by the Spanish Telecommunications Agency), managerial decisions on acquisitions, managerial decisions on mergers and alliances, and managerial decisions on corporate governance. The table reports the number of days of each set of events, the cumulative abnormal returns for these days and the *t*-statistic. It must be stressed that these data do not provide a welfare analysis, but just evidence of the creation of shareholders' value. Furthermore, the methodology reflects market expectations, not the actual performance of the company after the events reported here.

#### 4.1. *The firm*

Three sets of managerial decisions have been analyzed to explore the extent of the agency problems in Telefonica: (1) acquisitions (MA), (2) mergers<sup>23</sup> and alliances (MMA), and (3) managerial decisions on corporate governance (MG).

The aggregate effect of acquisitions is positive but not significantly different from zero. This is consistent with most of the empirical results of bidding firm returns in takeovers and acquisitions. Due to the free-rider effect amongst target firm shareholders, the bidding firm tends to offer an acquisition price that equals the ex-post value of the acquired firm with the new management, which eliminates any gain for bidding shareholders.<sup>24</sup> Notice that this may be consistent with an overall creation of shareholder value, where such value may be captured by the target shareholders. Notwithstanding this is what happens in most empirical studies, nothing can be said about it here, because target share returns have not been analyzed (in many cases, they cannot be analyzed, because some of the targets were not quoted in the stock market, as is the case with many media firms).

Telefonica had already started a very ambitious investment activity in Latin America, with controlling stakes in Chile, Argentina and Peru's largest telecommunications operators in the early 1990s. The managers appointed in 1996 maintained this policy. The effect of the individual acquisitions in Latin America was not statistically significant. The exception is the takeover in 2000 to acquire the remaining shares in most of the Latin American subsidiaries (events of January 13 and July 3, 2000, in Table 5). Two explanations seem equally plausible to explain such a positive effect. First, taking full control of the subsidiaries implied a new organization for the company, creating a truly global management structure that could better respond to a global market. Secondly, the deal implied that small shareholders in the subsidiaries would now become

<sup>22</sup>The events on June 7, 8 and 12 in 1996 overlap but belong to the same set of government policy. In Table 5, only the abnormal return for the cluster of dates between the day before these three events and the day after is reported.

<sup>23</sup>The distinction established here between acquisitions and mergers is that in acquisitions the target firm is significantly smaller than Telefonica.

<sup>24</sup>Regulation in the target firm's product market also constrains the potential gains of bidding shareholders. See Trillas (2000).

shareholders of Telefonica itself. That meant also that the ownership structure of Telefonica was becoming global, and hence any attempt to control the company from the political process in Spain would now be more costly.

Although investors may value the scope economies in a converging business such as media, some of the moves into this and other sectors were probably motivated by non-economic reasons. There is probably a trade-off between productive synergies and private benefits from control (which are potentially substantial in a high profile industry such as the media,<sup>25</sup> where these benefits can additionally be shared collusively with politicians).

The activities of the new management in the media sector triggered accusations of collusion with the ruling Popular Party in its aim of creating a media holding competing with *Prisa*, a left-wing leaning media holding with important stakes in radio, TV and newspapers, and co-owner of the Digital TV platform *Canal Satelite Digital*. Investors reacted positively but not significantly to the creation of a Digital TV platform around Telefonica, and negatively but not significantly to investments in the radio sector. They also reacted ambiguously to the investment in *Antena 3 TV*. Concerning the investment in the group Recoletos/Pearson to create a multimedia group and undertake common business in the contents sector, investors reacted positively and significantly (event of September 24, 1997, in Table 5). The reaction to the acquisition of Endemol was negative but not statistically significant and the acquisition of Mediaways had a negative and significant effect on shareholder value (event of June 6, 2000, in Table 5).

Events in 1999 and early 2000 show the ambition of Telefonica to be an active player as a global operator in the New Economy. The flotation of Terra Networks, the Internet subsidiary, was a great success, becoming the largest European Internet firm by market capitalization. The spin-off took place after Telefonica had been aggressively acquiring Internet firms in Spain and Latin America. Terra Networks value would subsequently decline, following the trend of the “new economy” in 2000 and 2001.

The aggregate effect of corporate governance decisions is not statistically significant either, although it is positive. In spite of the fact that most of the announcements in this set reflected a process of management entrenchment, shareholders did not value it negatively. This may be consistent with two possible explanations: the shareholders anticipated that an “initiative effect” would be positive for managerial effort; or the shareholders anticipated that making takeovers more expensive for potential bidders would increase the gains for target shareholders of any actual takeover.

The hard core of shareholders in place during the Socialist government period was kept in place after appointment of the new management and full privatization. However, the institutions in the hard core remained passive in all the changes that the company undertook during these years. The appointment of nine “independent” directors can also be interpreted as a move to a more controlled Board by the Chairman, Juan Villalonga, since he proposed the names of the new directors and at the time there were no objective legal criteria in Spain as to what an “independent” director was.

The evidence about how consistent Telefonica’s evolution is with the predictions made by [Kole and Lehn \(1997\)](#) is mixed. A leaner hierarchy was achieved by eliminating the position of CEO. However, to make sure that it would be very costly to change the new structure, defensive

<sup>25</sup>See [Demsetz and Lehn \(1985\)](#).

measures were taken in 1998 to prevent takeovers, proxy fights or any form of losing control. According to these measures, (1) a candidate for the Board of Directors must have held more than 1000 shares of Telefonica for at least 3 years before nomination, unless 85 percent of the members of the Board agree to remove such a condition; (2) a candidate to become Chairman must have held a position in the Board of Directors for at least 3 years before nomination, also with the 85 percent rule; (3) independently of his or her holdings, no shareholder's votes can account for more than 10 percent of the total votes.<sup>26</sup> As predicted by [Kole and Lehn \(1997\)](#), the Board of Directors became smaller than before. With this more nimble structure, Telefonica's management had a high degree of discretion to undertake ambitious expansion and diversification programs and more aggressive marketing campaigns.

Concerning financial structure, the most significant change was the new dividend policy announced in 1998. Telefonica would not distribute dividends, in order to have more funds available for an aggressive investment policy. The investors' reaction to the new dividend policy was not statistically significant. Increasing cash-flow for investment was not deemed value enhancing.

Interestingly, the set of events on mergers and alliances had a positive and significant cumulative effect on shareholder value (MMA in [Table 4](#)). The events included in this set have in common that they increased the probability of the control structure of the firm being significantly altered. The new managerial team shifted international alliances in 1997, leaving Unisource to reach an agreement with BT first and WorldCom and MCI next (over time, this alliance lost practical importance for the company). The alliance with BBVA (Banco Bilbao Vizcaya Argentaria, which was a result of the merger between Banco Bilbao Vizcaya and the privatized bank Argentaria) strengthened the role in Telefonica of one of the financial institutions in the hard core of shareholders. According to the press information checked to build up the event list, with this alliance BBVA and Telefonica would co-operate in a number of projects involving information and communications new technology.

The events in this "mergers and alliances" set that had the largest impact on shareholder wealth were the announcements of an alliance with MCI-Worldcom and the merger with KPN. These deals, had they gone ahead as originally planned and announced, would have transformed Telefonica into a truly global operator controlled by non-Spanish shareholders, which would have made it very difficult for the Spanish government to keep any sort of residual control on the company.

The Spanish government eventually stopped the merger with KPN by threatening to use its golden share, on the grounds that KPN was a company controlled by the Dutch government. The Spanish authorities argued that the resulting entity would reverse the initial privatization in a paradoxical way. However, the announcement of the merger had a positive impact on shareholder value. Hence, the fact that the government stopped it is illustrative of a discrepancy between the control structure that maximizes shareholder value and the control structure that maximizes the objective function of the government. And it is also illustrative of the fact that

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<sup>26</sup>Given these restrictions, [Crespí i Cladera and García-Cestona \(1999\)](#) argue that "given the existent dilution for this company, these measures create an added power for the managerial team. (...) Through these measures, the company is breaking the one-share-one vote rule, giving more discretionary power to managers and seriously affecting the governance of the firm."

retaining the golden share gives the government a strong influence on the firm even in the post-privatization.

A few weeks after the merger with KPN collapsed, the Chairman of Telefonica, who had been appointed by the government when the company was not yet fully privatized, resigned under strong pressure from the government (see below). The collusive equilibrium between manager and politicians was collapsing and a new manager was needed to sustain it.<sup>27</sup>

In 2000, at the end of the period of interest, Telefonica was the main telecommunications operator in Latin America, being present in Argentina, Chile, Peru, Puerto Rico, Venezuela, El Salvador, Guatemala and Brazil. In the media sector, it participated in Antena3TV and Via Digital in television, in newspapers Expansion and Marca and in radio networks, Onda Cero, among others.

To summarize the findings as they relate to the hypotheses in Table 3, there is evidence of political interference with the company's control, which is consistent with the notion of privatization with political and economic ends, and with lingering political controls in privatized firms. There is partial evidence of the free cash flow theory, as some of the acquisitions had a significantly negative effect on shareholder value but others had a positive effect, and the overall effect was not significantly different from zero. Still, it is clear that changes in the company's control were welcomed by shareholders (although they were eventually stopped by government intervention), revealing that the existing control structure was not optimal. Some of the predictions of Kole and Lehn (1997) about a better alignment between managers and shareholders are confirmed, but the findings also confirm that this process of better alignment was not complete.

#### 4.2. Regulation and policy

The first striking fact in the analysis of public policy is the diversity of institutions that have a potential impact on the value of the company. Contrary to simplistic views of “a firm” and “the regulator”, it is apparent from the event selection that decision-makers that can influence the value of Telefonica include the Spanish government, the Spanish Telecommunications Agency, foreign governments in countries where the company has invested, the European Commission and other institutions of the European Union, the Courts, the Spanish Stock Exchange regulator and the Spanish anti-trust authority. Decisions or announcements by the Spanish government, the Spanish Telecommunications Agency, the European Commission and the Brazilian government are found to have a significant impact on the share value of the firm.

There is no evidence of capture at the government level (upper level capture), in the traditional sense of the government being captured by the firm. It can be shown that the cumulative effect of the Spanish government's decisions on shareholder wealth is negative but not statistically significant.

The cumulative effect on shareholder value of announcements made by the Spanish telecommunications regulator (lower level capture) is positive (see Table 4), which would be

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<sup>27</sup>One referee suggests as an alternative explanation for Villalonga's firing, that the real reason could be that he was fired because he was a bad manager. However, the good performance of the company as reported in Table 2 makes this unlikely. In any case, what the facts show is that there was political interference in a fully privately owned company. However, is difficult to be conclusive about the real motives of the government interference.

consistent with the new regulatory agency being captured by Telefonica. However, this aggregate result must be interpreted with caution, since it is driven by two particular events (events of November 30, 1999, and February 8, 2000, in [Table 5](#)) with a strong positive effect, in both cases announcements that the Telecommunications Agency would start investigations, without yet revealing the results of these investigations. Announcements of decisions on other important policy issues, such as interconnection prices, appear to have a negative effect on shareholder value.

Policy decisions by other institutions do not have an overall statistically significant effect. The aggregate effect of all policy announcements on shareholder wealth is not statistically significant, which is consistent with a checks and balances multi-principal view of public policy. The European integration process and the process of liberalization itself, by which different firms have a stake in lobbying the policy-makers in opposite directions (for example, in the contentious issue of interconnection prices), make it more difficult for a telecommunications incumbent to influence the general direction of the regulatory process.

Two subtle effects must also be recognized. First, Telefonica's shareholders did not expect to lose from the liberalization process *per se*. The European Commission was the main advocate of such liberalization policy, and when it announced that it would press Spain to speed up liberalization in the Telecommunications sector, the reaction of the firm's shareholders was positive and statistically significant. This reflects the view of shareholders that Telefonica was in a prime position to benefit from liberalization, due to incumbency advantages and the growth in demand that was expected at the time as a result of deregulation. Secondly, Telefonica faced regulatory risk not only in Spain, but also in other countries, and most notably in Latin America. Governments such as the Brazilian had been under growing pressure from voting consumers and rivals of Telefonica to reduce the advantages that were conferred upon privatization to incumbents controlled by Telefonica. This is reflected for example in the negative and significant abnormal return in Telefonica's share prices when a Brazilian minister announced fines on Telefonica for inadequate service on March 1999 (event of March 29, 1999, in [Table 5](#)).

The size and importance of the company gives it a high lobby potential in front of the regulators and decision makers. The capture hypothesis would suggest that the public powers abide by the pressure of Telefonica, since consumers are too numerous and disorganized to counterbalance the producers' clout. However, the political economy of regulated sectors is more complex than that, as seen above in the subsection presenting the hypotheses. The bitter arguments that have taken place between Telefonica and the regulatory bodies can be related to the multi-level structure of government. The company's management may have captured policy-makers in some decisions and not in others. Overall, with more firms competing for policies after liberalization, it is very difficult for company managers to influence the general direction of regulatory policies. Telefonica's executives colluded to some extent with the top echelons of the government, interested in promoting media interests and maintaining some residual control in the company. Colluding with policy-makers in policies related to the control of the company was easier than capturing regulatory policy. In policies related to corporate control (privatization, golden shares, influence in appointments) voters are not well informed and managers do not face the opposition of well-organized rivals.

Hence, in relation to the hypotheses presented in [Table 3](#), the findings of this paper are consistent with Grossman and Helpman's view that those policies which voters are informed

about or where there are competing lobbies, are policies that will not be captured by one particular lobby. Privatization and corporate governance policies create rents for managers, and at the same time voters are less informed about them (than they are about, say, pricing policies). These rents may take the form of an inefficient use of the *free cash flow*. Politicians may want to share these rents to maximize their own interests, which may not coincide with those of uninformed voters. This reflects the *interplay between agency problems in politics and agency problems in the firm*, which is consistent with the predictions in Trillas (2000).

#### 4.3. *Managerial turnover and political objectives in privatized Telefonica*

The replacement of Villalonga<sup>28</sup> is a clear example of the presence of political constraints in the company's control. Villalonga eventually resigned on 26 July 2000. His forced replacement is similar to a typical management change forced by a block-holder, although in this case the block-holder is de facto the government through the threat to use its golden share.

Several aspects of the strategy of Telefonica were controversial from the point of view of public opinion and the political arena. Two of these aspects were the stock options plans and the entry into the media industry. The stock options granted to the top executives of the company attracted political and media attention and were criticized as an instance of inequality of opportunities in the new economy. The Spanish Socialist Party used them as an argument to pledge in 2000 a windfall tax on the privatized firms similar to the one implemented by the Labour Party in the UK in 1997 (however, the Spanish Socialist Party lost the election). The entry of the company in the media industry also put Telefonica's management in the spotlight, since some commentators claimed that it reflected collusion with the political powers. De Angelo et al. (1996) show the important consequences that this "politics of finance" may have in mobilizing constituencies that eventually may trigger political action against the company's shareholders.

Villalonga had been appointed by the Spanish government when the state was still the largest shareholder in the company in 1996. For a long time, the Chairman had been understood to be the government's man in the company, and the hard core of shareholders did nothing to undermine his powerful position. However, since late 1999, the high profile of Villalonga, the controversial stock options plan and his unrelenting deal-making, were starting to be politically costly for his political principals. The government first let it know its disagreement with the stock option plan of Villalonga and his team, which had caused heavy political upheaval in the run-up to the March 2000 general election.<sup>29</sup> Then, in May 2000 the government forced changes in the

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<sup>28</sup>A few days before the Chairman's resignation, the financial press argued that the campaign to remove Juan Villalonga, Telefonica's chairman, was unsettling investors and could harm the company. A coup by hard-core members BBVA and La Caixa would signal that Telefonica had other masters to serve. As reported in the FT Lex Column in July 18, 2000: "Looking beyond personalities, the basic problem is that Telefonica has its roots as a Spanish company. Spain's government and national banks are unwilling to surrender their influence over what is increasingly a genuine multinational. But surrender they must if Spain's new breed of globally ambitious companies is to compete successfully on the world stage."

<sup>29</sup>The proximity of the German general election in 2002 was also suggested to be a reason for the forced resignation of DT's chief executive, Ron Sommer (see *The Economist*, 19/07/2002).

alliance with BBVA, which had also caused controversy in the run-up to the election, and which was seen by some as an attempt of Villalonga to protect his personal role in the company. Subsequently, the government blocked the merger with KPN on the grounds that this would place the Dutch government as the main shareholder of Telefonica. Finally, the government encouraged an inquiry by the Spanish stock exchange regulator to probe whether Villalonga could be charged with illegal insider trading for a minor stock options operation prior to the deal with WorldCom-MCI two years ago (the probe found no evidence of irregular dealing). There were rumors revealed by *The Wall Street Journal* that ministers were furious because officials of Telefonica were having conversations about some strategic deal with the (opposed to the government) media group *PRISA*. Villalonga was eventually replaced in a board meeting by Cesar Alierta, himself a member of the board of Telefonica and previously Chairman (also appointed by the government prior to privatization) of the tobacco firm Altadis (see FT, 27 July 2000).

## 5. Conclusion

The last steps of Telefonica's privatization were designed to promote and disperse ownership and give managers a high level of discretion in running the company. By this means the government essentially created an agency problem inside the firm. There were no strong shareholders to constrain the managers, nor was the threat of a takeover a credible one, since the government kept a golden share. There is no overall evidence of capture of politicians and regulators by managers in the interest of shareholders, although evidence suggests the existence of collusion between politicians and managers. The authors interpret the political interference with the firm's control (a well-documented phenomenon both in this study and in the cross-country literature on privatization (see Megginson et al., 2002); e.g. influence in appointments, golden shares) as the most visible part of such collusion. Liberalization and multi-level regulation will likely make any type of collusion or capture more difficult in the future.

Collusion is possible due to the endogenous managerial rents that result from agency problems in the firm (and may take the form of an inefficient use of the free cash flow through wasteful but politically valuable acquisitions). Managers can deviate from decisions that are optimal for shareholders and politicians may deviate from the policies that are optimal for voters (since they can share the managerial rents, e.g. through politically valuable acquisitions). Due to these reasons, there may be interaction between managerial and political agency problems, i.e. between the inability of shareholders to fully control managers and the inability of voters to fully control politicians.

Two sets of evidence reinforce the hypothesis that managers did collude with politicians. First, shareholders reacted positively to news of mergers and alliances that would have significantly altered the control structure of the company, and the most important of these mergers, the one with KPN, was vetoed by the government. Second, the manager appointed by the government before the final privatization tranche, stayed in his position for 3 years after full privatization. The government was eventually able to force his resignation when there was disagreement between

manager and government (something that can be interpreted as the result of the collapse in the collusive equilibrium), even though the ownership was fully private.

The privatization of Telefonica took into account both political and economic ends, which is consistent with recent empirical research on privatization around the world. Political mechanisms of control were in place after privatization, in particular the golden share. Some deals that would have been positive for shareholders were not completed, and some of the deals that were completed had a negative effect on shareholder value. The operation of the different potential managerial disciplining devices in Telefonica was not optimal. No strategic private block-holder exercised true authority in the company in the period under study. The government's golden share made takeovers impossible and takeover threats ineffective. The Board of Directors was dominated by a management whose ultimate authority depended on the government, as was shown with the replacement of Villalonga by Alierta. However, the fact that Telefonica was listed in several stock markets was a relevant constraint on management behavior. Liberalization will make any kind of capture or collusion more difficult in the future, due to the existence of a more competitive lobbying process. Multi-level regulation has a similar effect, by making it more costly for firms to influence policy makers.

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### Appendix A. Statistical treatment of data

Three-day returns (which is the most common event window for similar studies<sup>30</sup>) are computed as:

$$\text{Return} = \frac{\text{Price}(t) - \text{Price}(t - 2)}{\text{Price}(t - 2)}$$

$t$ -statistics used are computed using the standard deviation of the residuals in the estimation period. Precisely, the test statistic for the 3-day abnormal returns is given by

<sup>30</sup>For a recent example, see Besanko, D'Souza, and Thiagarajan (2001).

$t = AR_3/SD_3$ , where  $AR_3$  is the 3-day prediction error as an estimator of the abnormal returns and

$$SD_3 = [3VAR(AR_t)]^{1/2},$$

where  $VAR(AR_t)$  is the variance of the time series of daily abnormal returns.

When aggregation for more days is performed, the formula for the  $t$ -statistic just changes in that instead of 3 the appropriate number of days is introduced. The estimation window for which the parameters of the index model have been computed goes between 31/12/94 and 31/12/95.

The empirical counterpart of the market return used is the S&P 100 index, reflecting the fact that Telefonica has increasingly become a global operator and it is quoted in the New York stock exchange.<sup>31</sup>

## Appendix B

Cumulative abnormal returns are given in Table 4 and event list is given in Table 5.

Table 4  
CAR by event type

	MA	MMA	MG	PR
N	51	18	9	18
CAR	0.07479	0.15988	0.037448	0.117745
$t$ -stat	0.765	2.75***	0.91	2.03**

List of event types: MA (Managerial Actions on Acquisitions), MMA (Managerial Actions on Mergers and Alliances), MG (Managerial Actions on Corporate Governance), PR (Policy by the Spanish Regulator).

\*\*\* Significant at 1% level.

\*\* Significant at 5% level.

<sup>31</sup>Using an index of European telecom stocks is not advisable since many European incumbent operators, as it is the case of Deutsche Telekom and France Telecom, were not yet listed in the stock markets at the beginning of the period under study. Using the Spanish Ibex-35 would have raised a different problem: the analysis would have been distorted because of the heavy weight of Telefonica in this index, about 15 percent and even larger in some years.

Table 5  
Full list of events

Date	Event description	Event type	3-day AR	t-stat
June 7, 1996	The Spanish government appoints Juan Vilallonga as Chairman of Telefonica	PG		
June 8, 1996	The government announces plans for telecommunications policy: Retevision as second operator, creation of regulatory agency and conditions for Telefonica's participation in cable	PG		
June 12, 1996	The government announces that government deregulation may be slowed down	PG	0.0723	2.155
October 25, 1996	The European Commission presses Spain to speed liberalization of its telecommunications sector up	PO	0.0441	1.86
November 8, 1996	The government announces a 10-year golden share in Telefonica	PG	0.0076	0.321
November 29, 1996	Telefonica arrives at an agreement with other corporations, both public and private, to develop a new digital TV platform	MA	0.0022	0.094
December 9, 1996	The government announces preparations for the public offering of its remaining stake in Telefonica	PG	0.0273	1.154
December 18, 1996	Telefonica obtains a 35 percent stake in Companhia Riograndense de Telecomunicaçoes (CRT) of Brazil	MA	0.0048	0.203
January 15, 1997	Telefonica announces that, coinciding with total privatization, it will reduce to 18 the number of directors and introduce corporate governance reforms "including recommendations from the most prestigious reports"	MG	0.0063	0.267
January 29, 1997	The board appoints nine "independent" directors by co-optation	MG	-0.0115	-0.485
March 15, 1997	Officials indicated the day before that the interconnection fee could be between Pta 2 and Pta 2.5, considerably less than the Pta 6.5 – Pta 9 Telefonica hoped to earn from rival companies	PG	-0.0496	-2.094
March 24, 1997	The Spanish government fixes a low telephone interconnection fee in order to allow Retevision, its planned second telecoms operator, to aggressively compete in the domestic market against the national operator, Telefonica	PG	0.0222	0.936
April 18, 1997	Telefonica announces a strategic alliance with BT and reconsiders its participation in the European Alliance Unisource	MMA	0.0374	1.578
May 2, 1997	The Spanish government resolves a dispute with the European Commission by agreeing to take measures to put Airtel Movil, its second mobile telephone operator, on an equal footing with Telefonica, the incumbent operator	PO	0.0045	0.189
June 19, 1997	A negotiated settlement to compensate Airtel, Spain's second mobile phone operator, has finished one of the Spanish government's longest deregulatory battles with the European Commission	PO	0.0327	1.379
June 27, 1997	The European Union rules that the Spanish government's decisions on Digital TV violate the Treaty of Rome	PO	-0.0255	-1.077
July 24, 1997	Telefonica announces that it is negotiating the acquisition of participation in Antena 3	MA	-0.0255	-1.078
July 29, 1997	Telefonica acquires 25 percent Antena 3 TV	MA	0.0197	0.831
August 8, 1997	Telefonica announces that it will take control of Antena 3 TV and through it 40 percent in the company that has the	MA	0.0134	0.563

Table 5 (continued)

Date	Event description	Event type	3-day AR	<i>t</i> -stat
August 15, 1997	rights of the pay-per-view-football-games The European Commission warns Telefonica against pressing ahead with controversial television plans until they become fair on competition grounds	PO	−0.0132	−0.557
September 24, 1997	Telefonica reaches a strategic agreement with the Recoletos/Pearson Group. Telefonica will acquire 20 percent Recoletos Compañía Editorial	MA	0.0582	2.456
March 9, 1998	Telefonica reaches a strategic agreement with WorldCom/MCI	MMA	0.051	2.151
March 16, 1998	In a meeting with institutional investors, the company announces a growth strategy focused on increasing share value, instead of distributing dividends. It also announces that it may float TISA in the stock market and that the hard core will stay in place	MA	−0.0077	−0.325
June 19, 1998	A consortium participated in by Telefonica acquires the Brazilian company CRT in exchange for US\$ 1,018 million	MA	−0.0288	−1.214
June 24, 1998	An extraordinary shareholders' meeting approves defensive measures against takeovers and proxy fights	MG	0.0426	1.797
July 23, 1998	Telefonica wins the contest for 51 percent voting shares of Compañía Intel from El Salvador	MA	−0.0254	−1.073
July 30, 1998	In an auction taking place in the stock exchange market of Rio de Janeiro, a consortium lead by Telefonica obtains the operating companies Telesp, Telerj and Tele Sudeste Celular	MA	−0.0125	−0.528
September 8, 1998	Telefonica buys one hundred radio stations in Spain	MA	−0.0142	−0.599
October 29, 1998	CMT gives green light to the latest interconnection tariff proposal, which is 20 percent cheaper than previous proposals and between 30 and 50 percent cheaper than the original offer by Telefonica	PR	−0.0155	−0.654
November 15, 1998	CMT criticizes Telefonica's resistance to liberalization	PR	−0.0145	−0.611
November 26, 1998	The CMT fixes a 3-month period (up to end-February 1999) to reach a consensus among agents (operators, manufacturers, associations of users) and Telefonica, about the best formula to make it possible to maintain telephone numbers	PR	0.0212	0.895
February 3, 1999	The Spanish restrictive practices court fines Telfonica Pta 580 million for abuse of dominant position, setting "predatory" prices and discriminating against a competitor, British Telecom (BT)	PO	−0.006	−0.254
February 12, 1999	Renato Guerreiro, the chairman of the Brazilian National Telecommunications Agency (Anatel), announces that the telephone operators Telerj, Telefonica (former Telesp), Telpe, Teleamapa, Teleacre, Telepara and CRT will be fined a total of up to R\$ 51.6 million for delaying the installation of 271,000 previously paid fixed lines	PO	0.0254	1.072
March 29, 1999	Brazil's justice minister says he will impose a maximum R\$ 2.9m (US\$ 1.8m) fine on each of the privatized telephone companies serving Sao Paulo and Rio de Janeiro for providing inadequate services	PO	−0.0438	−1.849
April 17, 1999	The Spanish government tries to slow inflation down by announcing a sweeping package of measures including	PG	−0.0188	−0.794

Table 5 (continued)

Date	Event description	Event type	3-day AR	<i>t</i> -stat
May 22, 1999	price cuts in electricity, gas and long-distance telephone calls The Spanish telecommunications sector watchdog (CMT) decides in favor of Telefonica with regard to the complaint against its alleged abuse of dominant position. The regulator will allow Telefonica to go on selling basic telephony services, satellite television, through Via Digital, and internet access, via TeleLine, saying that it does not infringe the moratorium imposed to Telefonica for supplying cable services	PR	0.0101	0.426
July 7, 1999	Anatel, the government's telecommunications regulator in Brazil, says it may impose R\$ 40 m (US\$ 22.6 m) fines to the three regional companies and one long-distance carrier that currently handle the bulk of country's telecoms	PO	-0.0099	-0.416
September 20, 1999	The Spanish government awards four licenses in the next few weeks to operate the new Universal Mobile Telecommunications System (UMTS) mobile phone technology	PG	0.0154	0.651
November 30, 1999	The Spanish telecommunications market commission (CMT) notices that Internet users who are customers of operators other than Telefonica SA have problems when trying to take advantage of discount vouchers marketed by Telefonica for Internet connection. Jose Maria Vazquez, chairman of CMT, announced the day before that the matter would be investigated	PR	0.0571	2.41
December 14, 1999	A Madrid court rules that Teleline, the Telefonica's internet service provider, must cancel two clauses in the contract that it makes clients sign, and must make changes in two other ones	PO	-0.0155	-0.654
January 13, 2000	Telefonica announces a takeover bid for 100 percent on four of its Latin-American subsidiaries	MA	0.0605	2.554
February 8, 2000	The Spanish telecommunications market commission (CMT) investigates several companies in the sector in order to determine whether they are guilty of lacking transparency and obstructing competition by means of launching offers restricted either to their customers or to groups of business and domestic customers. CMT is acting in response to complaints that several operators (Retevision, Telefonica, Euskaltel and Agrupacion de Operadores de Cable) have made against each other concerning the offers made to chambers of commerce and other groups of customers	PR	0.0593	2.501
February 11, 2000	Strategic agreement with BBVA bank	MMA	0.0339	1.43
March 11, 2000	Announcement of conditions in UTMS contest	PG	0.008	0.339
March 18, 2000	Telefonica announces a Euro 5.5 bn (Pounds 3.36 bn) agreed bid for Netherlands-centered Endemol Entertainment, Europe's leading independent TV production company	MA	-0.0224	-0.944
April 25, 2000	The Spanish government launches an inquiry into possible antitrust measures against Telefonica and BBVA bank group over an internet alliance agreed in February	PG	-0.0017	-0.071

Table 5 (continued)

Date	Event description	Event type	3-day AR	t-stat
May 2, 2000	Telefonica thought to be negotiating a tie-up with Dutch telecoms group KPN	MMA	0.1078	4.548
May 8, 2000	Royal KPN NV and Telefonica SA call off merger talks after plans to create Europe's fourth-largest phone company fail to receive sufficient support from the Spanish company's board	PG	-0.0699	-2.95
May 16, 2000	Spain's Terra Networks SA plans to buy one of America's biggest internet ventures, Lycos Inc. An official and one of the companies confirm rumors that the Spanish company was going to acquire Lycos	MA	-0.0355	-1.498
June 1, 2000	Board meeting of Telefonica, the first since its failed merger with the Dutch operator KPN, focuses on the acquisition of the US portal Lycos by Terra. The operation is approved by unanimity of all members	MA	0.0199	0.841
June 6, 2000	Telefonica reaches an agreement with German publishing group Bertelsmann to acquire its Mediaways internet services subsidiary	MA	-0.0494	-2.083
June 10, 2000	KPN, the Dutch telephone company, considers a merger with Spanish rival Telefonica. KPN's attitude change coincided with the solution to one of the major points of disagreement that hindered talks the previous month. The previous day, KPN reaches an agreement with the Dutch government about a quicker sale of the entire 43.25 percent government's stake in KPN	MMA	-0.0009	0.024
June 18, 2000	Six weeks after Telefonica and KPN acknowledge merger talks have failed, they are engaged again, but this time are trying to receive support from the suspicious governments which blocked previous attempt	MMA	-0.0693	-2.922
June 24, 2000	The Spanish government introduces a number of measures in order to liberalize the economy. Companies affected by the measures, such as energy companies, oil producers and telecommunications operators, see their share prices rise following the announcement	PG	0.0193	0.816
July 3, 2000	Telefonica announces that it has completed a 14 bn (US\$ 13.4 bn) equity financed buy-out of three Latin-American affiliates and expected to gain outright ownership of a fourth one this week	MA	0.1174	4.954
July 26, 2000	Vilallonga resigns as Chairman of Telefonica	PG	-0.0022	-0.093

List of event types: PG (Governmental Policy); PR (Policy by the Spanish Regulator); PO (Policy by Other Institutions); MA (Managerial Actions or Acquisitions); MMA (Managerial Actions on Mergers and Alliances); MG (Managerial Actions on Corporate Governance).

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