

Analyst Following of Privatized Firms around the World: The Role of Institutions and Ownership Structure

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Abstract

We examine the determinants of the decision (and the extent) of analyst following of privatized firms. Contrary to traditional private firms, privatized firms harbor particular uncertainties related to the government's commitment towards privatization. The first-stage estimation shows that the analysts' decision to initiate coverage of newly privatized firms is mainly influenced by the quality of the institutional environment (i.e. a lower political risk, a better judicial efficiency, a better information disclosure, and effective extra-legal institutions). The second stage results indicate that the extent of analysts' coverage is more important when there is control relinquishment by the government, more participation by foreign investors and employees, and for those larger firms, in non-strategic sectors. Finally, analysts' coverage is negatively related to postprivatization ownership concentration and underpricing. This latter result runs against the existing evidence that underpricing "buys" coverage.

Key words: Analyst following, Privatization, Institutional environment, Policy risk
JEL classification: F21, G38, L33.

Analyst Following of Privatized Firms around the World: The Role of Institutions and Ownership Structure

A growing literature suggests that research coverage has become an essential element of the security issuance process in recent years. Bushman, Piotroski and Smith (2005) argue (p.207) that "*The availability of information is a key determinant of the efficiency of resources allocations decisions in economies and their securities markets*". An important role in the firms' information environment is played by financial analysts. Their function is described by Lang, Lins and Miller (2004, page 3) as follows: "*In the process of deciding which firms to follow and providing earnings forecasts, price targets and buy/sell recommendations, analysts gather information from a wide array of sources both internal and external to the firm to assess its economic viability and investment potential. As a consequence, they provide potentially important scrutiny over management's actions*". In summary, the role of financial analysts consists essentially in reducing (1) agency problems (i.e., make sure that managers do not engage in expropriating activities that can harm shareholders) and (2) information problems (i.e., where investors are not able to distinguish between good and bad investments).

The study of the decision of financial analysts to follow newly privatized firms (NPFs) provides us with an interesting research question that involves two contrasting predictions with respect to the demand for analysts' services, and their potential role as information providers: *on the one hand*, the standard argument that financial analysts alleviate asymmetrical information between issuers and investors does not seem as straightforward for NPFs. Indeed, unlike private firms, NPFs are generally large, well known firms, with a long operating history, in highly regulated industries (Dewenter and Malatesta, 1997). Thus, asymmetric information between the issuer (i.e., the government) and investors should be lower in this instance, which suggests that analysts are not likely to be covering privatized firms.

On the other hand, NPFs are generally exposed to particular uncertainties imbedded with the reform (switch of ownership from public to private), and that are related to (1) the governments' commitment towards the privatization process, and (2) the ability of new owners to make an effective transition. According to Perotti (1995) and Perotti and Guney (1993), NPFs face a policy

risk that arises from postprivatization policies that may be undertaken by the government (e.g., deregulation) and that could affect former state-owned enterprises (SOEs). Policy risk is higher when privatization is not credible. Furthermore, as documented by Boubakri, Cosset and Guedhami (2005), the divested government stake is mostly absorbed by foreign investors and local institutions, followed by individuals: The new owners, particularly foreign, that can be considered as sophisticated investors, will require more transparency and a high level of disclosure about the future prospects of firms. For both of these reasons, privatization creates a demand for financial analysts' services who will be more likely, in this case, to cover privatized firms.

To the best of our knowledge, the issue related to analysts activities surrounding privatized firms has not been explored previously, although several reasons can be advanced to stress the importance of understanding the information environment (i.e., information intermediation and dissemination) of these firms: For instance, financial analysts can help to alleviate the information asymmetry because foreign, institutional and individual investors require that the information that is disclosed by NPFs is scrutinized to be credible. In addition, since privatization is generally a gradual process, the government is likely to sell shares (and come back to the market) more often than any individual firm: thus, analysts' coverage of privatized firms might help the government to send a credible signal to the market.

One main goal of this paper is to address this issue, and to document analyst following of NPFs in a large sample of developed and developing countries. Specifically, we examine whether privatization characteristics (e.g., government control relinquishment, underpricing, postprivatization ownership structure), and country-level institutional variables (legal and extra-legal) can help explain the analysts' decision to follow NPFs, and the extent (i.e., the number of analysts) of their coverage. This study contributes to the literature on several grounds: *First*, it fills a gap in the privatization literature by focusing on the role of financial analysts as informational intermediaries between privatized firms and investors on the market. *Second*, by considering the combined role of institutional environments, ownership structure, and the characteristics of the privatization process, we extend previous studies that examined the determinants of the information environment of public firms (O'Brien and Bushman, 1990; Lang, Lins and Miller, 2003, 2004), and focused mainly on firm characteristics. Our analysis should enhance our understanding of the role of financial analysts in international capital markets. *Finally*, the literature generally looks at the extent of

coverage, or the initiation of coverage by analysts, separately. Privatization, because of the dramatic shift in ownership that it involves, provides us with an opportune setting and a natural laboratory to examine both aspects in a unified framework, since we can test both the initiation of analyst coverage, as well as its extent there-after, simultaneously.

To assess the issues addressed in this paper, we use a multinational sample of 302 privatized firms that operate in as many as 43 countries, institutionally and geographically diverse, over the period 1980 to 2002. We adopt Greene (1994, 1997) two-step, limited maximum likelihood estimation method: In the first stage, we examine which factors determine the probability that analysts follow a privatized firm. In the second stage, we focus on the extent of analyst coverage (given that the dependent variable is not missing).

Our first stage estimation shows that analysts' initiation of coverage is influenced by the quality of the institutional environment: Analysts are more likely to follow privatized firms that operate in countries with better institutions: lower political risk, higher judicial efficiency and a higher transparency. We also show that extra-legal institutions such as market competition laws and press diffusion affect positively the decision of analysts to follow privatized firms. In addition, analyst following is more likely for larger privatized firms.

Our second stage results indicate that the extent of analyst coverage is related to postprivatization ownership structure: In particular, it is more important when there is a relinquishment of control by the government, more participation by foreign investors and employees, and for those firms in non-strategic sectors. Similar to the initiation of coverage, the quality of the institutional environment influence the extent of coverage. In addition, analysts are more interested in recently privatized firms as opposed to those privatized earlier during the process.

Furthermore, the extent of coverage is negatively related to (postprivatization) ownership concentration. Finally, we find that the extent of analyst coverage is negatively related to underpricing. This result is new to the literature as more underpriced privatized issues are not likely to be more covered, unlike previous evidence on privately owned firms that suggests the opposite (Rajan and Servaes, 1997; Denis and Cliff, 2004). Thus, in the case of privatization, underpricing does not buy financial analysts coverage and does not seem to be perceived as a signal of firm quality.

The remainder of the paper is organized as follows. In section 1, we review the literature, and develop our testable hypothesis. Section 2 describes the data and sample selection. Section 3 presents the empirical results. Section 4 presents robustness checks while Section 5 concludes.

1. Prior Literature and Research Hypotheses

The financial literature, so far, has shown that analyst coverage depends primarily on firm level characteristics (Bhushan, 1989; Lang and Lundholm, 1996; Rajan and Servaes, 1997). Recent cross-country studies add to this evidence and suggest that ownership structure and the institutional environment may be equally important determinants of the extent of analyst following (Lang, Lins and Miller, 2003, 2004; Haw, Hu, Hwang and Wu, 2004). Interestingly, Lang, Lins and Miller (2004) point out that their tests focus only on firms that have *existing* analyst coverage, and therefore cannot directly address the valuation implications of the initiation of analyst coverage. Our analysis of privatized firms allows us to contribute to the existing literature by studying the coverage initiation decision. We build upon the multinational recent accounting research by Haw, Hu, Hwang and Wu (2004) and Lang, Lins and Miller (2004) who focus on the extent of analyst following of private firms, and add to their evidence by considering a particular owner - i.e. the State- and by studying the determinants of analyst following initiation in this context. Privatization, being a worldwide phenomenon, allows us to use a multinational sample of firms from developing and developed countries, in order to test whether and how cross-country differences in the institutional environment affect coverage initiation and extent.

The following sections will deepen further our understanding of the determinants of analysts' decisions to initiate coverage, and of the extent of such coverage, and will allow us to derive our testable hypotheses on the link between analyst following, the institutional environment, and postprivatization ownership structure.

1.1. Analyst Following, the Institutional Environment and Privatization

In this paper, the institutional environment involves the country-specific legal and extra-legal institutions. A well functioning legal system is one of the most effective mechanisms to limit the incentive and ability of insiders to expropriate (Shleifer and Vishny, 1997). Other previous studies

also suggest that well-functioning legal systems reduce insiders' informational advantage (Brockman and Chung, 2003). To the extent that minority shareholders are well protected by legal institutions, the scrutiny implied by analysts will be less valuable.

Overall, the existing literature suggests that the institutional environment may influence the analyst's decision through two channels:

(1) The institutional environment has an impact on the disclosure practices of firms. Lang and Lundholm (1996) provide evidence that firms with more informative disclosure policies benefit from more coverage. In an international context, Bushman, Piotroski and Smith (2004, 2005) find a positive correlation between analyst following, disclosure and investor protection. In the same vein, Lang, Lins and Miller (2003) show that foreign firms that cross list in the U.S have a greater analyst following, consistent with the fact that cross-listing involves more information availability and more disclosure requirements, which reduces the cost of following the firms.

(2) Additionally, the legal environment affects the private information production. For instance, firms from countries with weaker legal institutions are less likely to invest in more informative disclosure practices. In this context, information production is more costly and the ability of investors to benefit from investing in these conditions is unclear. Since analysts derive benefits from investors' interest in the stock market, it follows that analysts may not be interested to follow firms located in countries where institutions are weak.

These arguments can be applied to the privatization context as follows: privatization leads to a switch towards private ownership. As firms become listed on the stock market after privatization share issues, they must comply with more exhaustive and transparent disclosure practices. Hence, NPFs from countries with a stronger investor protection and an effective legal system that enhances firm disclosure are more likely to attract analysts. In the same vein, as argued previously, in weaker investor protection environments, information production is costly, thus NPFs originating from such environments are less likely to attract analysts. Hence our first hypothesis:

H1: Analyst following of NPFs is positively related to the effectiveness of the legal environment

Relatively, there are few studies that focus on the potential relation between analyst following and extra-legal institutions such as newspaper circulation and product market competition. The only

study that we are aware of is by Haw, Hu, Hwang and Wu (2004) who document a positive relation between cash flow-control divergence and analyst following, that is significantly less pronounced in countries with effective legal and extra-legal institutions.

We focus our attention on two extra-legal factors that are recognized by the literature, and conjecture that there may be a relation between extra-legal institutions and analyst following in the context of privatization, as argued below:

(a) Product market competition. The product market competition may affect the analyst following of privatized firms because in competitive markets, the prices are more verifiable and objective, which provides analysts with a credible benchmark that allows a comparison between private and privatized firms. Moreover, as argued by Dyck and Zingales (2004), competition is a natural constraint to the extraction of private benefits.

(b) Public opinion pressure (newspaper circulation and diffusion of the press). Analysts' services and information production is likely to be less costly in environments where newspaper circulation and intensity of information dissemination are high. This provides analysts with an additional incentive to follow NPFs.

We can thus state our next hypothesis:

H2: Analyst following of newly privatized firms is positively related to extra-legal institutions

1.2. Analyst Following and Post-privatization Ownership Structure

Analysts generally focus on larger firms that are likely to be widely held, in order to stimulate the interest of a large number of investors. Recent studies indeed bring to light the role of ownership structure as a determinant of analyst following, which relates directly to the privatization context. There are two competing views about the relation between corporate ownership structure and analyst following, the agency theory argument and the value added argument:

(1) *According to the agency theory argument*, there should be a higher demand for analyst's services for firms where ownership structure is concentrated. Jensen and Meckling (1976) suggest that financial analysts play a monitoring role and their monitoring activity is a positive function of the level of potential agency costs in a firm. According to ownership structure studies (e.g., Fan and Wong, 2002), the informativeness of accounting earnings is negatively associated to concentrated ownership. Furthermore, Haw, Hu, Hwang and Wu (2004) show that the cash-flow/control divergence is positively related to earnings' management. Thus, along this line of findings, minority shareholders will require more private information gathering from financial analysts, because they don't believe in the quality of reported earnings.

In the context of privatization, Boubakri, Cosset and Guedhami (2005) document a high level of private ownership concentration after privatization, and show that the decrease in government control is mostly absorbed by local institutions, followed by foreign investors and individuals. These new owners, particularly institutional and foreign, can be considered as sophisticated investors, and are thus more likely to require a high level of information disclosure. In other words, institutions and foreign investors' willingness to pay for information' research provides analysts with an incentive to cover privatized firms. As a result, we expect analysts to be more likely to follow privatized firms with a concentrated private ownership.

(2) *According to the value added argument*, analysts are less likely to follow firms with a more concentrated ownership. Chang, Khanna and Palepu (2000) address the relation between ownership concentration and analyst following at the country level. The authors find a negative, although insignificant, relation between analyst following and the ownership concentration of the 20 largest firms in the country. In the same vein, Lang, Lins and Miller (2004) find evidence that analysts are less interested by firms in which concentrated ownership creates potential agency problems. The authors find a negative relation between the number of analysts and the level of family/management control. They argue that analysts are less likely to provide additional scrutiny for firms where insiders can expropriate investors because their benefits from following those firms are lower than the cost of doing so (i.e., less informative public disclosure and low quality information increase this cost). As summarized by Ball, Kothari and Robin (2000), under concentrated ownership, information is more likely to be communicated through private channels, hence the role of analysts is reduced in this case.

This discussion suggests that the demand for analysts' services is low in the context of privatization, since the new private owners (mainly institutional and foreign) have less incentives to expropriate minority shareholders, and sufficient incentives to monitor managers.

In light of these two conflicting arguments, the direction of the association between analyst following of privatized firms, and ownership concentration is not obvious. Therefore, we test the following non directional hypothesis:

H3: The extent of analyst following of privatized firms is unrelated to postprivatization ownership structure (concentration).

The privatization process characteristics may also have an impact on the decision of analysts to follow a firm. For instance, control relinquishment by the government in newly privatized firms might influence the extent of analyst coverage. Since the uncertainty about privatization policy plans and government political objectives is more important when government residual ownership is higher, analysts are more likely to be interested in privatized firms where the government actually relinquished control. Therefore, the following hypothesis is predicted:

H4: Analyst following of privatized firms is positively associated to the extent of government control relinquishment.

1.3. Analyst Following and Underpricing of Privatization Issues

Several studies document that underpricing may contribute to increase the extent of analysts' interest for public firms. Chemmanur (1993) for instance argues (page 286) that “*insiders of high value firms are motivated to maximize outsider information production so that this information will be reflected in the secondary market price of their firm's equity, increasing its expected value. However, since information production is costly, only a lower IPO share price will induce more outsiders to produce information*”. Rajan and Servaes (1997) provide evidence supporting this argument and finds that the average number of analysts making forecasts about IPO firms is positively related to the degree of underpricing. The authors explain

that this result is consistent with the fact that firms underprice in order to attract analysts' interest, who will then keep the firm stock high to this end.

In a related research, Cliff and Denis (2004) provide evidence that IPO underpricing is positively related to analyst coverage by the lead underwriter which is consistent with the hypothesis that firms compensate investment banks for high-quality analyst coverage by using underpricing. Specifically, they empirically examine the hypothesis that issuing firms pay for analyst coverage by underpricing the offering. Thus, issuers purchase analyst coverage by giving up a greater underpricing at the time of the IPO.

The privatization process is different from the traditional process adopted by private firms preparing IPOs: Private IPO firms are generally perceived as being riskier than the average established state-owned firms. However, the uncertainty about political objectives is an important risk factor for privatized firms. That is why, according to Perotti (1995), governments heavily underprice share issues privatization (SIPs) as a strategy to signal their commitment to market economy reforms, and to build investors' confidence. Underpricing of SIPs has also been widely documented.¹ If underpricing SIPs is a credible signal in the sense of Perotti (1995), investors do not need analyst scrutiny to alleviate the uncertainty related to privatization. Thus, we conjecture that:

H5: Analyst following is negatively related to underpricing of privatized firms.

In sum, the above discussion suggests that, at most, the decision to follow a privatized firm and the extent of analyst following thereafter will likely be determined by (1) the quality of the institutional environment (i.e., legal and extra-legal institutions) and (2) by postprivatization ownership structure and other privatization characteristics (e.g., underpricing). To examine this issue, we use an exhaustive approach that takes into account potential selection bias, and controls for these determinants of private information production in the context of privatization. The following section describes our data, variables and sample.

¹ For instance, by comparing initial offer prices in privatizations to initial returns of public offerings of private companies, Dewenter and Malatesta (1997) find that the underpricing of privatized firms in the United Kingdom is significantly higher than that of private firms, whereas in Canada and Malaysia, the opposite relation is true. Lam, Tan and Wee (2007) also find that SIPs have a mean underpricing of 16.3%. They contend that this level of underpricing is aimed at convincing investors that the government will not appropriate firm value by changing regulations that alter shareholders' income rights. This supports the earlier results in Perotti and Guney (1993) who document a larger underpricing for SIPs compared to private IPOs.

2. Sample, Data and Descriptive Statistics

To examine the determinants of analyst following of privatized firms, we use a sample of 302 privatized firms from 43 countries and cover the period of 1980 through 2002. The initial sample of privatizations comes from Boubakri, Cosset and Guedhami (2005). We supplement these data with data from Omran (2005) for Egyptian firms² and we update this sample by hand collecting information from company prospectus and annual reports. Analyst forecast data is from I/B/E/S. Table 1 presents a description of the sample.

As described in Table 1, the sample is diversified across different geographical regions as classified by the *World Bank*. For example, 21.5% of the sample firms are from North Africa and the Middle East, 29.5% come from Europe and central Asia, 22% are from Latin America and the Caribbean, and 10% are from Sub-Saharan Africa. Finally, firms from East and South Asia and the Pacific represent about 17% of the sample. In addition, from Table 1, we note that about 76.5% of privatized firms come from civil law countries, and 23.5% come from common law countries. Table 1 also shows that our sample is diversified across industries, with about 24% in financial sectors, 10% in utilities, 12.5% in the energy sector, 12.5% in industrials 8.5% in telecommunication, and 6% in transportation. Furthermore, as reported by Table 1, privatizations are clustered during the nineties.

More than half of the privatized firms in our sample (50.66%) are covered in the I/B/E/S database at some point after privatization (within three years after privatization). From the privatized firms covered by IBES, about 81% are covered within the first year after privatization, and 19% within the second and third year.

< Insert Table 1 about here >

² The Egyptian firms represent more than 50% of the total firms coming from North Africa and the Middle East region. In order to assess whether this sample composition has an impact on our results, we re-run our basic specifications excluding the Egyptian firms. Our results remain qualitatively the same.

Table 2 shows that a firm is followed by an average of 8 analysts, ranging from a minimum of one analyst to a maximum of 46 analysts. Dividing the sub-sample of 153 firms that are followed by financial analysts across civil and common law origin countries, we note that for firms from common law countries, the mean analyst following is lower compared to firms from civil law countries (6 vs. 8 respectively). This result suggests that analysts are more likely to follow firms from civil law countries compared to those from common law countries. This is consistent with evidence in Lang, Lins and Miller (2004) who find that the median firm in their sample is followed by 6 analysts and that English legal origin countries have a lower number of analysts per firm than civil law countries (5 compared to 7 respectively). Similarly, Chang, Khanna and Palepu (2000) also find that the number of analysts per firm is lower in common law countries.

< Insert Table 2 about here >

2.1. Variables

Table 3 provides the definitions and data sources of the variables used in the analysis to explore the determinants of analyst interest in a privatized firm. We categorize our variables under three broad headings:

- (1) *The institutional environment* variables, including legal institutional factors (i.e., legal tradition, efficiency of the judicial system, ratings on disclosure standards, political risk), and extra-legal institutions (i.e., product market competition, newspaper diffusion).
- (2) *Privatization characteristics and post privatization ownership* variables, including control relinquishment by the government, the participation of foreign investors and employees in the privatization process, the timing of privatization, underpricing, and the post privatization ownership concentration as well as the residual state of the government.
- (3) *Firm and country-specific control* variables suggested by previous studies, including firm size, firm profitability, the industry classification, and real GDP growth.

< Insert Table 3 about here >

A- The Institutional Environment Variables

To explore the relation between analyst following and the institutional environment, we consider legal and extra-legal aspects:

(1) To measure cross-country variation in the extent of legal protection and law enforcement, we use the following aspects of the legal and judicial regime that have been widely used in the literature: (legal tradition (*LEGAL*), efficiency of the judicial system (*EFFICIENCY*), ratings on accounting standards (*DISCLOSURE*), an assessment of corruption within the political system (*CORRUPTION*), and political risk rating (*POLRISK*)).

LEGAL is a dummy variable that is equal to one for common law countries. Chang, Khanna and Palepu (2000) find that public firms in common law countries tend to have less analyst coverage compared to those in civil law countries supporting the argument that the lower protection of minority shareholders in these countries triggers more demand for analyst services. We expect the initiation of coverage to be related to the legal origin that captures the extent of investor protection in the country.

EFFICIENCY proxies for the efficiency of the judicial and legal system, and captures the extent to which the environment is investor-friendly and favourable to conduct business. We thus expect it to be positively related to analysts' activities.

Previous research also shows that analyst following tends to be positively related to the degree of information disclosure by a company, probably because better disclosure leads to a decrease in the cost of collecting information about companies (Lang and Lundholm, 1996). We expect that analyst activity is equally influenced by the quality of disclosure standards at the country-level, and *we conjecture that there is a positive relation between high-quality accounting standards (DISCLOSURE) and analyst following.*

Furthermore, we should observe less demand for private information because an environment that is characterized by high political risk discourages local and foreign investors (Boubakri, Cosset, Guedhami and Omran, 2004). Therefore, *we expect a negative relation between political risk and analyst following of NPFs.* Note that our political risk variable *POLRISK* is drawn from ICRG and is constructed as follows: Higher values of the index imply less political risk. Therefore, we expect the coefficient of *POLRISK* to be positive.

(2) Following a growing body of evidence that indicates that extra-legal institutions can be effective in protecting shareholders, and in addressing private benefits of control (Dyck and

Zingales, 2004; Haw, Hu, Hwang and Wu, 2004), we use two extra-legal indicators identified by prior studies: Product market competition (*COMPETITION*), and newspaper diffusion (*NEWSPAPER*). We expect a positive relation between analyst following and market competition, and between analyst following and newspaper diffusion.

B- Privatization Process Characteristics and Post privatization Ownership Variables

To control for the characteristics of the privatization process, we consider the following variables: We include a variable of the residual government ownership (*STATE*). As an alternative, we also use an indicator variable that takes the value 1 if the government relinquished control in the firm (*CONTROL*). Control is relinquished if the state divests more than 50% of its share in the firm. Private investors are more likely to be attracted to privatized firms where the government relinquishes control (with less residual state ownership). Therefore, we postulate that the analyst's advantage to follow a firm is greater when the government relinquishes control (keeps a lower residual share).

To examine the impact of ownership structure on analyst coverage, we include the percentage of shares held by the three largest private investors, *CONC1*³. As discussed in section 1.2, the direction of the association between analyst following and ownership concentration is not obvious, and becomes fundamentally an empirical issue. We additionally control for the identity of owners: first, we include a dummy variable that indicates whether foreign investors are involved in the ownership of the firm (*FOR*). Since foreign investors are likely to experience greater information asymmetry than domestic investors, they have a greater demand for analysts' research. Hence, we expect that the involvement of foreign investors in the ownership of privatized firms will draw more analysts.

Second, in several privatization issues, the government allows participation by employees. This acts as a positive signal of government commitment. Therefore, employee participation (*EMPL*) should signal that the government is ready to bear the residual risk associated to privatization, and should lead to less demand for analyst following. However, as employees are not

³ Alternatively, we use the Herfindahl index, as a proxy for ownership concentration, *CONC2*. We only report and discuss our results with *CONC1* as the inferences remain the same if we use *CONC2*

informed investors, this may induce more demand for analysts' services. Thus, we do not have a one-directional expectation, and we leave it to be resolved with empirics.

As discussed earlier, we need to control for the underpricing (*UNDERPRICING*) of share issued privatizations on the following ground: If underpricing is a credible signal in the sense of Perotti (1995), investors do not need analyst scrutiny to alleviate the uncertainty and potential policy reversals associated with government commitment to the privatization policy. Thus, we conjecture that *analyst following should be negatively related to underpricing*.

We finally consider the timing of privatization, which we measure with a binary variable that takes the value of one if the firm has been privatized recently in the privatization process (*RECENTP*), compared to earlier ones in the country. Lam, Tan and Wee (2007) argue that recent privatization should exhibit less policy risk, because as privatization is progressing, the government has the opportunity to signal his type as a committed government that it will not reverse its policies. In this case, *we expect analyst following to be higher for recent privatizations*.

C- Firm and Home Country Control Variables

Bhushan (1989) finds that the number of analysts following private firms is increasing in firm size. Indeed, since larger firms are more likely to have more analysts covering them and more forthcoming disclosure policies, we conjecture that this is also the case for privatized firms which are typically old, large and well known. Firm size has been found to be related to analyst following in several studies (e.g. Rajan and Servaes, 1997). It usually captures a host of factors, including the potential for greater fees from trading and corporate finance activities (and hence greater potential analyst revenues as larger firms are more visible and more prestigious). Size is also often included as a partial control for the extent of firm disclosure through channels other than annual reports (Hope 2002, p13). Therefore, firm size, which is measured by the log of sales at the time of privatization, is included in all specifications (*LOGSALES*). We include other control variables suggested in the literature, such as profitability. Following Lang and Lundholm (1996), we control for profitability by using the return on sales ratio (*ROS*).

The capital market conditions are also important for the analyst following decisions. Uncertainty about the value of the offers of privatized firms is greater in primitive markets than in developed ones (Dewenter and Malatesta, 1997). In primitive capital markets, there are few public firms comparable to privatized firms, and the disclosure requirements are less important. Thus, in primitive capital markets, the production and the dissemination of information are more difficult, which could lessen analyst's incentives to follow a firm. To capture the level of capital market development, and overall domestic economic factors, we control for economic growth by using (*GDPG*), and expect it to be positively related to analyst following.

3. Empirical Results

To explore the determinants of analysts' interest in privatized firms, we conduct an analysis in two parts. In the first part, we perform a univariate analysis by comparing two sub-samples based on whether firms are covered by analysts or not. In the second part, we perform a multivariate analysis.

3.1. Univariate Analysis

We partition our sample based on whether the privatized firm is covered or not by analysts, which means we use all newly privatized firms (302), both covered and uncovered. Then, we examine if there is a difference in the privatized firms' characteristics and the home country institutional attributes between the two sub-samples. This first step of the analysis allows us to identify the incentives that lead analysts to initiate coverage of newly privatized firms.

Panel A of Table 4 reports the univariate tests for institutional variables and document some interesting associations: For instance, privatized firms are more likely to be covered in common law countries, which contrasts with evidence in Chang, Khanna and Palepu (2000) for public firms. Analyst following is also positively and significantly related to the quality of disclosure standards (*DISCLOSURE*), suggesting that analysts are more likely to follow privatized firms in countries with higher disclosure ratings. The efficiency index is not significantly different across both sub samples, though. Higher values of *POLRISK* (i.e., less political risky environments) are also significantly associated to analyst coverage.

The extra-legal institutions variables, that are proxied by market competition (*COMPETITION*), and diffusion of the press (*NEWSPAPER*) are significantly and positively associated with analyst coverage, suggesting that countries with more effective extra-legal institutions are more attractive to analysts. This result is consistent with the argument that in competitive markets, the prices are more verifiable and objective, which helps analysts to find comparable firms to those that are privatized. Additionally, the level of diffusion of the press is positively related to analyst following.

Panel B of Table 4 provides univariate correlations between analyst following and firms' characteristics. The number of analysts making forecasts is positively and significantly related to firm size. No significant differences are reported for profitability (*ROS*).

Panel C of Table 4 reports the results on postprivatization ownership variables. The postprivatization ownership concentration that is proxied by *CONC1* is negatively associated with analyst interest, implying that analyst coverage is more likely for privatized firms with more postprivatization ownership concentration. There is no significant difference between followed and non followed firms with respect to residual state ownership (*STATE*).

< Insert Table 4 about here >

Table 5 presents additional results of a few more partitions based on privatization characteristics, such as industry affiliation, control versus revenue divestitures, foreign participation, employees' participation, underpricing, and the timing of privatization. The results show that control relinquishment by the government in privatized firms is not related to more coverage after privatization. With respect to industry, there appears to be no significant difference between strategic and non- strategic sectors in terms of analyst following. However, the number of analysts making forecasts is associated with more foreign participation and more employees' participation. In addition, we find no significant difference between highly underpriced issues and lower underpriced issues. Finally, the mean (median) number of analysts is significantly higher in those firms that were privatized more recently (11.22) (6) compared to 4.6(2) for earlier privatizations. This result suggests

that the demand for analysts' services is higher in recent privatizations that often involve more firms, with a larger size.

< Insert Table 5 about here >

These relations, although informative, are only univariate, and do not control for potential other determinants of analyst initiation of coverage and extent of coverage there after. In the following section, we run a multivariate analysis that tackles this issue.

3.2. Multivariate Analysis

In this section, we investigate the determinants of analyst interest in a privatized firm and the extent of analyst following.

Our data may suffer from selection bias, because IBES collects forecasts information from financial analysts who agree to give information in return for a free use of the IBES data base. Thus, the process through which IBES contacts analysts is not random. In particular, firms that are not included in the IBES database are not necessarily “not followed” by analysts. These firms may be followed by analysts who are not considered by IBES, for example firms trading in small brokerage houses. Rajan and Servaes (1997) argue that “*there are two reasons why firms may not be followed: either analysts do not deem the firm worthy of following, or IBES does not get forecast from the analyst most likely to follow firms*”. Following Rajan and Servaes (1997), we include industry variables, and firm size to control for selection bias.

In addition, analysts are more likely to consider the legal environment of the country the firm is originating from. For instance, wherever the environment is less protective and transparency is less enforced, the cost of gathering information on any firm in the country will be costly. Analysts in this case are more likely to select the countries within which to initiate following activities. For this reason, we control for this possible selection by including measures of the quality of the institutional environment.

The number of analysts being a count variable, we need to correct for a potential selection bias for those privatized firms for which we have no data on analyst following. To consider the

count nature of the data, we use Greene (1994, 1997) two-step, limited maximum likelihood estimation method. This method is similar to the Heckman's two step procedure. First, we run a probit model as a first stage (as specified in equation 1), and we analyze the decision of analysts to follow the firm. So, we explain why the dependent variable is not missing. Then, in the second stage (as described in equation 2), which we refer to as the analyst coverage equation, we estimate a negative binomial model⁴ adapted to count data, which includes the correction factor for potential selection bias(Mills) as predicted from the first stage.

$$(1) \text{ ANALYST} = \beta_0 + \beta_1 \text{INST} + \beta_2 \text{Country} + \beta_3 \text{Firm} + \varepsilon_1$$

ANALYST is a dummy variable that equals one if the firm is covered over the three year window after privatization, and zero otherwise. We also control for various firm and home country factors that are likely to affect analyst following, as also described in Table 3. ε_1 is the normally distributed error term.

$$(2) \text{ ANALYST FOLLOWING} = a_0 + a_1 \text{PRIVAT} + a_2 \text{INST} + a_3 \text{Firm} + a_4 \text{Mills} + \varepsilon_2$$

In the second stage, the dependent variable is the number of analysts making earnings forecasts that appear in *I/B/E/S* within one to three years after privatization, since we are interested in the behavior of analysts shortly after privatization. *PRIVAT* includes variables related to the privatization process such as control, foreign, employee, underpricing, ownership concentration. Mills is the inverse of the Mills' ratio derived from equation 1, and ε_2 is the term of error. *FIRM* includes firm-level controls (i.e., size, performance, industry).

Table 6 reports the estimates of the coefficients that are associated to the variables that affect the decision of analysts to initiate coverage, using Greene (1994, 1997) two-step, limited maximum likelihood estimation method. It is important to control for various firm and country factors that are likely to affect analysts' incentives to gather information. For this reason, we estimate several specifications. Additionally, due to the high correlation between some explanatory variables,

⁴ Count data are often significantly overdispersed relative to poisson distribution. The likelihood ratio test and poisson statistics are used to reject the poisson model in favor of the negative binomial model.

we do not include them simultaneously (for example, postprivatization ownership concentration and *CONTROL*, or *STATE*).

The results reported in Table 6 show that the coefficients related to the institutional environment (*POLRISK*, *EFFICIENCY*, *CORRUPTION*, *DISCLOSURE*, *COMPETITION* and *NEWSPAPER*) are positive and significant (all at the 1% level except for *EFFICIENCY* which is significant at the 10% level) across their respective model specifications. Thus, analysts' willingness to follow privatized firms is positively influenced by the quality of the institutional environment. More specifically, analysts are more interested in privatized firms that operate in countries with a lower political risk, more judicial efficiency, more information disclosure, and better extra-legal institutions. These results are somehow consistent with evidence in Healy, Hutton and Palepu (1999) that analysts are less likely to be attracted by firms in countries with poor disclosure standards.

The coefficients associated to extra-legal factors (*COMPETITION* and *NEWSPAPER*), are significantly positive, indicating that extra-legal institutions play a critical role in the analyst following activities of privatized firms. This is consistent with the existing evidence that extra-legal institutions perform an equally important role as legal institutions in restraining private benefits of control (Dyck and Zingales, 2004).

The coefficient on Real GDP growth (*GDPG*) is always positive and occasionally significant. As for our firm control variables, analyst following appear to be positively related to firm size (*LOGSALES*), which is similar to prior evidence related to public firms (Lang and Lundholm, 1996; Lang, Lins and Miller, 2004). The coefficient on *STRATEGIC* is insignificant.

Overall, these results indicate that the quality of the institutional environment and the extent of investor protection positively affect the likelihood that analysts initiate coverage of privatized firms.

< Insert Table 6 about here >

Table 7 reports the results of the second-stage equation. The legal and extra-legal variables all load positive and significant, as in the first stage, except for *LEGAL*. This suggests that the quality

of the institutional environment is a determinant of both the decision to initiate following, and the extent of following there-after. The coefficient on *CONTROL* is positive and significant, indicating that once analysts decide to initiate coverage, they are more likely to cover privatized firms whose control has been relinquished by the government. This result suggests that the policy uncertainties surrounding privatizations plans play a crucial role in the analysts' decisions to follow privatized firms, and contrasts with evidence in Lang, Lins and Miller (2004) that government control is unrelated to analyst coverage of public firms.

Table 7 also shows that the extent of coverage (i.e., number of analysts) of privatized firms increases when there is more participation by foreign investors (*FOR*) in model (5), and employees (*EMP*) in model (6), suggesting that (1) higher inflows of foreign capital draw more attention from analysts, and (2) more participation of employees imply that they agree with the privatization process and hence will not oppose the necessary restructuring. The coefficient of *CONC1* is systematically negative and significant (at the 1% level mostly). This is consistent with our discussion of the value added argument where postprivatization ownership (being concentrated among foreign and institutional investors) will substitute to analyst monitoring, as foreign and institutional investors have incentives to closely monitor managers.

Among additional variables, we control for whether the firm is cross listed (*ADR*). Lang, Lins and Miller (2003) suggest that cross listed firms enjoy greater analyst coverage. We use a dummy variable to identify those privatized firms that put in place an ADR or GDR program at the time of privatization (data comes from Thompson Financial Securities Data Corporations). Table 7 shows that the extent of analyst following is positively but insignificantly related to cross-listing. *RECENTP*, another variable of interest, seems to matter to financial analysts coverage of privatized firm, as the coefficient is consistently positive and significant in most specifications.

The coefficient related to *STRATEGIC* is negative and significant, indicating that privatized firms in non-strategic sectors attract more analysts than those in strategic sectors. This evidence is consistent with the argument that non-strategic sectors are less regulated and less exposed to the risk of policy reversal, thus the demand from potential investors in these sectors is high, offering a higher potential for analysts.

Across all specifications, analyst coverage is negatively related to private ownership concentration suggesting that the cost of gathering information is higher when ownership is more concentrated. This result is consistent with the findings of Lang, Lins and Miller (2004) for public firms. The authors document an inverse correlation between concentration of control by family/management group and the extent of analyst coverage. Profitability (*ROS*) is positively related to analyst following although generally insignificantly.

Dewenter and Malatesta (1997) show that privatizations are, in general, more underpriced than privately-owned issuing firms (IPOs). We thus include, in specifications (2) and (3), the level of underpricing as an explanatory variable.⁵ The coefficient on *UNDERPRICING* is negative and significant, which runs against the evidence about IPOs in Rajan and Servaes (1997), who document that more underpriced private IPOs attract more analysts. This result can however be rationalized on the grounds that governments' objectives from underpricing SIPs are different from those pursued by private issuers in IPOs. More precisely, as discussed previously, governments underprice shares to build political support rather than to signal that the firm is of a higher quality type (Perotti, 1995; Biais and Perotti, 2002; Jones, Megginson, Nash and Netter, 1999; Lam, Tan and Wee, 2007).

< Insert Table 7 about here >

4. Robustness Checks

In this section, we run several sensitivity checks to assess the robustness of our findings. The results are reported in model (7) of Tables 6 and 7.

4.1. Insider Trading Laws

The existing literature suggests that insider trading limits the private information acquisition by outsiders. Bushman, Piotroski and Smith (2005) focus on the impact of law enforcement, and document that the average number of analysts covering firms within a country increases after the initial enforcement of insider trading laws. Following Bushman, Piotroski and Smith (2005) and Bhattacharya and Daouk (2002), we measure the enforcement of insider trading laws with an

⁵ We were able to compute the underpricing of 97 firms. We mainly collected information from the firms' prospectuses, and complemented it with information from Dewenter and Malatesta (1997), and the continuously updated annex of privatization transactions on Megginson's website.

indicator variable as follows: *IT ENFORCEMENT* is equal to one if the country enforced its first insider trading laws in calendar year t (privatization year), and zero otherwise. Consistent with the evidence in Bushman, Piotroski and Smith (2005), we find in Table 7 that the decision of analysts to follow privatized firms is positively and significantly related to the initial enforcement of insider trading laws.

4.2. Political Connections

Faccio (2006) shows that political connections constitute a pervasive phenomenon around the world. Faccio, Chaney and Parsley (2007) also provide evidence that politically connected firms exhibit a lower quality of earnings. In the context of privatization, Boubakri, Cosset and Saffar (2007) provide a worldwide description of political connections in newly privatized firms, a crucial aspect of postprivatization corporate governance. In the spirit of privatization, governments are expected to reduce their interference in the firms' policies, in order to allow for improvements change in incentives, in management monitoring and performance. Following Boubakri, Cosset and Saffar (2007), we determine the presence of political connections in newly privatized firms by examining the composition of their respective board of directors and supervisory boards (when they exist), and we trace the political background of these directors. We then construct a dummy variable that is equal to one if the CEO is connected to political power, and zero other wise, and we re-run our basic specifications. The results reported in column 7 of table Table 7 show no significant impact of political connections on analyst following.

4.3. Political Orientation

Finally, we control for the political orientation of the government, which can be seen as a proxy for policy risk since left oriented governments are more likely to intervene in the economy, and affect the postprivatization valuation of the firm. We find that analyst following is positively and significantly related to the right-oriented governments (proxied by a dummy *Right* that is equal to one if right oriented and left otherwise). This confirms that, under left-oriented governments, firm valuation and future forecasts are more difficult than under right-wing governments: the negative sign associated to left governments (i.e., positive effect of right governments on analyst following) suggests that analysts extraction of information is more costly under left-wing governments.

5. Conclusion

Over the last twenty five years, privatization has become an important economic phenomenon worldwide. A large body of empirical studies emerged to determine the financial and operating performance of firms after privatization, but little has been done to assess the valuation of these firms. While many studies investigate the determinants of privatization on stock market development for instance, little is known on how these firms are perceived by investors, or financial analysts. To the extent that financial analysts play a significant role in capital markets as information providers to investors, the study of the initiation of their coverage of privatized firms is timely and called for. To examine this issue, we conduct an analysis to determine what factors affect the decision of financial analysts to follow privatized firms, and what determines the extent of analyst following across firms in the particular context of privatization.

We document several interesting findings. First, we show that the quality of the institutional environment plays an important role in the analysts' decision to follow a privatized firm. Analysts are more likely to initiate coverage of privatized firms that operate in countries with a lower political risk, more efficient judicial systems, a better information disclosure, and more developed stock markets. This result suggest that analysts are attracted by privatized firms located in environments that favor foreign investors as documented in Boubakri, Cosset, Guedhami and Omran (2004). Hence, this finding supports the fact that the behavior of analysts provides insight into the activities and beliefs of investors. We also find that extra-legal institutions such as market competition and press diffusion affect positively the decision of analysts to follow privatized firms. In addition, analysts are more likely to follow larger privatized firms.

Second, our results from the second-stage estimation indicate that the extent of analyst following is more important when the government is less involved in privatized firms, when there is more participation by foreign investors, and employees and for those firms in non-strategic sectors. This finding, new to the literature, suggests that although privatized firms are well known, the risk related to uncertainties about government commitment is an important factor that determines the extent of analyst following.

Furthermore, the extent of analysts' coverage is negatively related to ownership concentration, and in recently privatized firms (which are often larger) compared to those privatized

earlier in the process. In contrast to evidence on private issuers during IPOs, we document that analyst following is negatively related to underpricing.

Our evidence has several policy implications for governments that implement privatization. Analyst activities can contribute to stock market development and resource allocation, and privatization can help to achieve this goal. Indeed, implementing privatization through public share offerings in the stock market, and insuring that investors and analysts alike perceive a positive signal of government commitment towards market-oriented policies, can help to make analysts more active, and hence alleviate informational asymmetries surrounding the privatization reform.

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Table 1: Basic Summary Statistics of Privatizations in Our Sample

This table presents some descriptive statistics for the sample of 302 privatized firms from 43 countries.

We report the distribution of privatized firms by legal origin, industry, year, region, and income and analyst coverage.

Distribution of Privatization					
By year			By legal origin		
Year	Number	Percentage		Number	Percentage
1980	1	0.33	Civil law	231	76.49
1981	1	0.33	Common law	71	23.51
1984	1	0.33	Total	302	100
1985	4	1.32	By industry		
1986	5	1.66	Energy	38	12.58
1987	3	0.99	Financials	72	23.84
1988	4	1.32	Industrials	38	12.58
1989	27	8.94	Materials	37	12.25
1990	20	6.62	Telecommunication	26	8.61
1991	36	11.92	Transport	18	5.96
1992	32	10.6	Utility	31	10.26
1993	14	4.64	Others	42	13.91
1994	21	6.95	Total	302	100
1995	24	7.95	By region*⁶		
1996	38	12.58	North Africa and the Middle East	65	21.52
1997	33	10.93	East and south Asia and the Pacific	51	16.89
1998	12	3.97	Europe and central Asia	89	29.47
1999	10	3.64	Latin America and the Caribbean	67	22.19
2000	9	2.98	Sub-Saharan Africa	30	9.98
2001	4	1.32	Total	302	100
2002	2	0.66	By income*		
Total	302	100	Low income	44	14.57
			Lower-middle income	118	39.07
			Upper middle income	57	18.87
			High income	83	27.48
			Total	302	100
			By analyst coverage		
			followed	153	50.66
			Not followed	149	49.33
			Total	302	100
			By analyst coverage over time		
			Followed within one year	124	81
			Followed within two and three year	29	19
			Total	153	100

* World Bank classification

Table 2: Summary Statistics on Analyst Coverage of Privatized Firms

This table presents the descriptive statistics on analyst coverage of 153 newly privatized firms for the period 1980-2002. The number of analysts is reported for the entire sample, and for sub-samples based on legal origin (i.e., common law and civil law). For sample, we show the number of observations, the average number of analysts, standard deviation, minimum, median, and maximum.

	N	Mean	S. Dev.	Min	Median	Max
Panel A. All newly privatized firms with coverage						
Analyst Coverage	153	7.825	9.219	1	3	46
Panel B. Coverage of newly privatized firms from civil law countries						
Analyst Coverage	116	8.319	10.288	1	3	46
Panel C. Coverage of newly privatized firms from common law countries						
Analyst Coverage	37	6.270	4.181	1	6	15

Table 3: Description of Variables and Sources

This table describes the variables used to test the determinants of analyst following initiation and of the extent of analyst coverage of privatized firms over the period 1980-2002.

Variable	Definition	Source
Legal Institutions		
<i>LEGAL</i>	Identifies the legal tradition of the country in which the firm is domiciled. Equals one if the legal tradition is common law and zero if the legal tradition is civil law.	La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998)
<i>EFFICIENCY</i>	Assessment of the efficiency and integrity of the legal environment as it affects business, particularly for foreign firms.	La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998)
<i>RIGHT</i>	Equals to one if right oriented government, and 0 otherwise.	Database on political institutions
<i>IT ENFORCEMENT</i>	Equal to one if the country enforced its first insider trading laws in calendar year t (privatization year), and zero otherwise.	Bhattacharya and Daouk (2002)
<i>DISCLOSURE</i>	The ratings for disclosure standards based on inclusion or omission of 90 items in the annual reports.	La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998)
<i>CORRUPTION</i>	Corruption: an assessment of corruption within the political system	International Country Risk Guide (ICRG)
<i>POLRISK</i>	An assessment of the country's political risk. Higher scores of the index imply lower political risk.	International Country Risk Guide (ICRG)
Extra-Legal Institutions		
<i>COMPETITION</i>	Response to survey question "competition laws prevent unfair competition in your country". It measure the effectiveness of product market competition.	Dyck and Zingales (2004)
<i>NEWSPAPER</i>	Circulation of daily newspapers divided by population.	Dyck and Zingales (2004)
Privatization Characteristics and Post Privatization Ownership Structure		
<i>CONTROL</i>	A dummy variable equals to unity if the privatization implies a relinquishment of control by the government (sale of 50% and more), and zero otherwise.	Company prospectus and annual reports
<i>FOR</i>	A dummy variable equals to unity if foreign investors are involved for the first time in the ownership structure. and zero otherwise.	Company prospectus and annual reports

<i>RECENTP</i>	A dummy variable for the timing of privatization equals to unity if recent privatization in the country and zero otherwise.	Boubakri, Cosset and Guedhami (2005)
<i>EMP</i>	A dummy variable equals to unity if employees involved in the ownership structure and zero otherwise.	Company prospectus and annual reports
<i>UNDERPRICING</i>	Underpricing is computed as: (First aftermarket price-offer price)/ offer price	Meggison (2001) Appendix and Datastream
<i>CONC1, CONC2</i>	The percentage of share held by the three largest private investors, Herfindahl index.	Boubakri, Cosset and Guedhami (2005)
<i>POLITICAL CONNECTION</i>	Dummy variable that is equals to one if the CEO or the BOD are connected to political power, and zero other wise.	Boubakri, Cosset and Saffar(2007)
<i>STATE</i>	The percentage of share held by the government	Boubakri, Cosset and Guedhami (2005)

Country and Firm Characteristics

<i>GDPG</i>	Real GDP growth one year before privatization	World development indicators
<i>ROS</i>	Three-year pre-privatization average return on sales.	Company prospectus and annual reports
<i>STRATEGIC</i>	A dummy variable equal to unity if the firm belongs to strategic industry (energy, utilities, telecommunications, financials, transportations) and zero otherwise.	World Bank group's privatization transaction Database
<i>ADR</i>	Dummy variable that equals to one for those privatized firms that put in place an ADR or GDR program at the time of privatization.	Thompson Financial Securities Data Corporations
<i>LOGSALES</i>	The logarithm of the total sales at the time of privatization in (\$)	Company prospectus and annual reports

Table 4: Institutional Environment, Firm Characteristics and Ownership Structure

This table provides a comparison of institutional factors, firm characteristics and ownership structure for privatized firms with analyst coverage and those without. Panel A presents institutional variables, Panel B includes firm characteristics and Panel C includes ownership structure variables. A description of variables is provided in table 3. *, **, *** significant at the 10 percent, 5 percent, and 1 percent level, respectively. The last column reports the p-value of the wilcoxon rank sum test.

Variable	Covered			Not Covered			p-value of difference
	N	Mean	Median	N	Mean	Median	
Panel A. Institutional (Legal and Extra-Legal) and Macro Economic Variables							
<i>EFFICIENCY</i>	151	6.859	6.750	125	6.563	6.5	0.457
<i>LEGAL</i>	151	4.086	4	147	3.463	4	0.000***
<i>POLRISK</i>	151	67.625	68.5	147	58.864	62.080	0.000***
<i>DISCLOSURE</i>	132	59.890	61	93	40.279	36	0.000***
<i>COMPETITION</i>	134	5.106	5.070	96	4.805	4.605	0.000***
<i>NEWSPAPER</i>	134	1.597	1.100	96	0.888	0.400	0.000***
<i>CORRUPTION</i>	151	3.698	3.083	147	3.087	3	0.000***
Panel B. Firm Performance Characteristics							
<i>ROS</i>	131	0.175	0.093	128	0.148	0.106	0.565
<i>LOGSALES</i>	148	5.673	5.821	145	4.769	4.679	0.000***
Panel C. Firm Post privatization Ownership Structure							
<i>CONC1</i>	94	0.135	0.026	60	0.199	0.1	0.025**
<i>CONC2</i>	94	0.295	0.195	61	0.383	0.4	0.078*
<i>STATE</i>	120	0.380	0.384	128	0.403	0.39	0.80

Table 5: Privatization Characteristics

This table compares analyst following for the different sub-samples based on privatization characteristics. The first partition separates NPFs in strategic industries from those that are not. The second partition separates Control privatizations (where the government relinquished control) and Revenue privatizations (where a minority stake was sold). Foreign refers to NPFs where foreign owners are involved, and Employee refers to NPFs that involved a stake sold to employees. High (Low) underp refers to issues with above (under)-the-median underpricing, Recent Priv refers to recent privatization transactions in the country, which occurred after the median privatization date, while Early Priv refers to the firms privatized before the median privatization date in the country. *, ** and *** refer to significance at the 10 percent, 5 percent and 1 percent level, respectively.

Sub-Sample	Mean number of analysts	Median number of analysts	N	p-value of difference
	Privatization Characteristics			
<i>Strategic</i>	7.617	3.5	115	0.847
<i>Non Strategic</i>	8.942	3	35	
<i>Control</i>	9.890	5	56	0.70
<i>Revenue</i>	6.750	3.5	56	
<i>Foreign</i>	8.450	6	59	0.001***
<i>Non Foreign</i>	4.068	3	44	
<i>Employee</i>	10.830	7.5	54	0.022**
<i>Non Employee</i>	5.440	3	34	
<i>High Underp</i>	7.510	6	33	0.81
<i>Low Underp</i>	12.690	7	33	
<i>Recent Priv</i>	11.220	6	67	0.000***
<i>Early Priv</i>	4.600	2	69	

Table 6: Determinants of Analyst Coverage of Privatized firms: First-stage results for Initiation of coverage

This table presents the first stage model (using Heckman's (1979) two step procedure) of the determinants of analyst following, which is a probit model that determines when the dependent variable in the second stage is not missing. The dependent variable is a dummy that equals to 1 if the firm is followed during the three year after privatization, and 0 otherwise. P values are reported in parentheses. The definitions of the variables are described in Table 3. *, ** and *** refer to significance at the 10 percent, 5 percent and 1 percent level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>POLRISK</i>	0.066 (0.000)***						
<i>CORRUPTION</i>		0.572 (0.000)***					
<i>EFFICIENCY</i>			0.146 (0.036)**				
<i>DISCLOSURE</i>				0.038 (0.000)***			
<i>COMPETITION</i>					0.607 (0.072)*		
<i>NEWSPAPER</i>						0.379 (0.002)***	
<i>LEGAL</i>							0.206 (0.345)
<i>STRATEGIC</i>	-0.077 (0.781)	0.179 (0.514)	0.152 (0.587)	0.213 (0.443)	0.485 (0.051)**	0.241 (0.338)	0.457 (0.017)**
<i>LOGSALES</i>	0.570 (0.000)***	0.683 (0.000)***	0.783 (0.000)***	0.340 (0.012)**	0.391 (0.001)***	0.482 (0.000)***	0.541 (0.000)***
<i>GDPG</i>	0.1045 (0.021)**	0.104 (0.021)**	0.039 (0.386)	-0.001 (0.967)	0.004 (0.92)	0.005 (0.899)	-0.013 (0.628)
<i>INTERCEPT</i>	-8.53 (0.000)	-7.06 (0.000)***	-6.077 (0.000)***	-3.99 (0.000)***	-5.52 (0.001)***	-3.35 (0.000)***	-3.28 (0.000)***
<i>N(Total)</i>	187	182	162	160	160	156	249

Table 7: Determinants of Analyst Coverage of Privatized Firms: Second-stage results for extent of coverage

This table presents the second stage (using negative binomial model) procedure of the determinants of analyst following. The dependent variable is the number of analysts following the firms during the three year after privatization. P-values are reported in parentheses. The definitions of the variables are described in Table 3. *, ** and *** refer to significance at the 10 percent, 5 percent and 1 percent level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>POLRISK</i>	0.024 (0.096)*						
<i>EFFICIENCY</i>			0.32 (0.077)*				
<i>DISCLOSURE</i>				0.0735 (0.051)**			
<i>CORRUPTION</i>					0.141 (0.047)**		
<i>LEGAL</i>						0.154 (0.616)	
<i>ITENFORCEMENT</i>							1.07 (0.000)***
<i>RIGHT</i>							0.568 (0.000)***
<i>POLITICAL CONNECTION</i>							0.0136 (0.936)
<i>STRATEGIC</i>	-0.347 (0.100)*	-0.785 (0.007)***	-0.51 (0.051)**	-0.081 (0.841)	-0.92 (0.000)***	-0.437 (0.077)*	-1.094 (0.053)**
<i>LOGSALES</i>	0.350 (0.028)**	-0.044 (0.851)	1.21 (0.159)	0.746 (0.038)**	-0.175 (0.452)	0.1217 (0.504)	-0.097 (0.883)
<i>ROS</i>	0.615 (0.070)*	-0.471 (0.707)	0.105 (0.932)	-0.349 (0.331)	-0.103 (0.793)	-0.475 (0.350)	0.484 (0.101)
<i>ADR</i>	0.22 (0.383)	0.171 (0.650)	0.294 (0.438)	0.335 (0.286)	0.251 (0.600)	-0.03 (0.924)	0.486 (0.110)
<i>RECENTP</i>		0.506 (0.090)*	0.294 (0.491)	0.852 (0.000)***	0.867 (0.000)***	0.978 (0.000)***	0.428 (0.054)**
<i>CONTROL</i>	0.339 (0.070)*						
<i>CONC1</i>		-1.22 (0.001)***	-1.252 (0.010)***				-1.16 (0.008)***
<i>EMP</i>						0.459 (0.071)*	
<i>FOR</i>					0.510 (0.023)**		
<i>STATE</i>				-0.052 (0.872)			
<i>UNDERPRICING</i>		-0.126 (0.030)**	-0.109 (0.100)*				
<i>MILLS</i>	-0.092 (0.776)	-0.48 (0.100)	1.97 (0.171)	1.96 (0.215)	-1.72 (0.020)**	-0.901 (0.016)**	-0.74 (0.699)

<i>INTERCEPT</i>	-1.56 (0.437)	3.36 (0.021)**	-8.74 (0.249)	-8.20 (0.129)	3.534 (0.088)*	1.55 (0.231)	2.88 (0.601)
<i>LR b²</i>	68.40	76.52	46.79	126.44	106	86.21	122
<i>Prob > chi²</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Pseudo R²</i>	6%	5%	6%	9%	10%	9%	13%