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## Privatization and the Market for Corporate Control

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## **Privatization and the Market for Corporate Control**

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## **Privatization and the Market for Corporate Control**

### *Abstract*

We study the wealth effects of the mergers of privatized firms. Our sample entails 39 privatized firms that subsequently become targets of a takeover and 52 privatized firms that become bidders in mergers. Our results indicate that target firms experience a 12 percent increase in equity value at the announcement of a merger. The bidding firms experience a positive but insignificant change in equity value at merger announcement. The results indicate that mergers result in net wealth creation for privatized firms and are consistent with property rights/agency cost theory. The results also offer global, non-U.S. evidence that mergers create wealth.

## **Privatization and the Market for Corporate Control**

### **1. Introduction**

A burgeoning body of work has studied the effects of the privatization of former state-owned enterprises. As surveyed by Megginson & Netter (2001), the empirical evidence generally concludes that privatization improves firm performance. As recognized by ongoing research (e.g., Bortolotti, D'Souza, Fantini & Megginson (2001)), however, the sources of the gains from privatization are less clear. In this paper, we analyze whether the market for corporate control is one source of the post-privatization improvements in productivity.

To conduct our analysis, we construct a sample of firms that are involved in merger activity following privatization. We study firms that either become targets or bidders following privatization. Using conventional event study techniques from financial economics, we estimate the wealth effects at the announcement of the mergers for the sample firms. Under the maintained hypothesis of a semi-strong efficient market, these announcement effects provide an estimate of the post-merger changes in productivity. Hence, our research design enables us to determine the extent to which the market for corporate control is a relevant factor for privatized entities.

An important feature of our analysis is that we rely on stock price information rather than the accounting data used in most studies of privatization performance. Stock prices arguably provide cleaner measures of performance, in that they are less subject to manipulation either by governments or the firms themselves. Additionally, as argued by

Fama (1991, 1998), the event study procedure that we employ is more scientifically robust than longer run analysis of equity performance.

The underlying theoretical model for our analysis comes from the literature on property rights and agency costs. The central statement in this literature comes from Alchian (1977) who argues that behavior under government and private ownership differs not because of different objectives but instead due to differing cost-reward systems. Following this line of thought, Alchian (1977) and Jensen & Meckling (1979) argue that a distinguishing feature between government and private ownership is that the interests in the private sector are transferable between investors. As a specific application, Manne (1965) and Alchian & Demsetz (1972) note that this transfer of ownership facilitates the market for corporate control where existing corporate officers are monitored by the explicit and implicit competition of other management teams. A central prediction of the property rights/agency cost theory is that the monitoring and restructuring facilitated by the market for corporate control improves firm productivity and contributes to shareholder wealth maximization. We test this prediction by analyzing whether the corporate control transactions of privatized firms are wealth enhancing.

Both the underlying theory and our empirical analysis premise the existence of liquid financial markets that are backed by well-defined property rights. Hence, our research provides a specific application of the growing Law and Finance literature which studies the importance of investor protection rules for securities trading. (See, for example, Shleifer & Vishny (1997), La Porta, Lopez-de-Silanes, Shleifer & Vishny (1997, 1998) and La Porta, Lopez-de-Silanes & Shleifer (1999).) Our research also extends prior work that finds that ownership, capital markets and product markets

contribute to the determinants of post-privatization performance. (See, for example, Barberis, Boycko, Shleifer & Vishny (1996), Frydman, Gray, Hessel & Rapaczynski (1999), and Megginson, Nash & van Radenborgh (1994).)

In addition to contributing to the literature on privatization, our paper also adds new evidence to research on mergers and acquisitions. The bulk of the empirical evidence on mergers comes from the United States. (See, e.g., the widely cited survey by Jensen & Ruback (1983).) Even the evidence on international merger activity focuses either on U.S. bidders or targets. (See Chapter 17 in Weston, Chung & Siu (2000).) Because our research exclusively studies non-U.S. bidders and targets, our analysis provides novel estimates of the costs and benefits of global merger and acquisition activity.

The setting for our analysis also provides a distinct test of theories on the wealth effects of merger activity. One collection of theories (e.g., Bradley, Desai & Kim (1988)) posits that mergers occur for efficiency reasons. By contrast, another set of theories (e.g., Jensen (1986), Roll (1986) and Shleifer & Vishny (1989)) argues that mergers can be inefficient because they reflect attempts at entrenchment or hubris by bidders' management. Since the bidders in our data are former government-owned entities, one might expect them to be more prone to inefficient mergers. Indeed, there is some anecdotal evidence consistent with this line of thought. (See, e.g., "BT: Time to Split," *Economist* March 24, 2001; and "Investors Start Calling for Changes at British Telecom," *New York Times* April 13, 2001.) We test the different merger theories by systematically estimating the gains to bidders and targets in our sample of mergers.

The combination of a sample with a novel element (firms that have been isolated from the market for corporate control) and a broad international character also allows us

to shed new evidence on the underlying sources of merger activity. Research from the U.S. (e.g., Mitchell & Mulherin (1996) and Mulherin & Boone (2000)) finds that industry shocks such as deregulation and technological change are a significant source of merger activity. We extend this analysis to global patterns in mergers.

The remainder of the paper proceeds as follows. Section 2 describes our sample of privatized firms that subsequently become either bidders or targets in a merger. Section 3 reviews the event study methodology used in the paper and reports our results on the wealth effects of the sample mergers. Section 4 summarizes the results and offers concluding comments.

## **2. The Sample of Targets and Bidders**

### *2.A. Sample Creation*

Our sample firms entail privatized entities that later become either a target or a bidder in a merger. Because our analysis measures the wealth effects of merger announcements, we require that the announcement date of the merger be verifiable and that firms in the sample have available stock price information.

To construct our sample, we begin with privatized entities listed in the database from Privatisation International. We select those firms from that database that were privatized via a share offering. We then match the eligible firms with the international merger database provided by Securities Data Corporation. We focus on mergers in the 1990-1999 period. For the targets and bidders in this match, we then determine the firms with stock price information on Datastream and with an announcement date that is reported on Lexis-Nexis.

The sample of targets and the sample of bidders are both reported in Table 1. As reported in the table, our sample selection procedure obtains 39 target firms and 52 bidder firms. Note that the sample sizes are different because the target and bidder samples are created separately.

Table 2 reports the incidence of the sample mergers by year. For both the target sample and the bidder sample, the preponderance of the mergers occurs in the latter portion of the 1990s. This result stems, in part, from our sample construction. A firm cannot enter the sample until after it is privatized, and the median privatization date (for targets as an example) was 1993. The clustering of mergers in the latter part of the 1990s also reflects global merger trends. Mulherin and Boone (2000), for example, find that more than two-thirds of the mergers in their sample from the U.S. occur in the second half of the 1990s.

## *2.B. Sample Characterization*

Table 3 characterizes the sample by the industry of the 39 targets and the industry of the 52 bidders. For the target sample, 13 different industries are represented. One industry with noticeable representation is banking, which entails 10 (25.6 percent) of the target firms. The high representation of banking in the international merger sample from the 1990s parallels evidence from the United States. Mulherin & Boone (2000), for example, find that banking had one of the leading rates of merger activity in the U.S. during the 1990s, due to the deregulation of that industry.

The greatest industry representation for the target firms is the utility industry. Twelve of the 39 firms (30.8 percent) in the target sample are utilities. This clustering in



the utility industry reflects in large part the consolidation of that industry in the United Kingdom following the privatization of regional power companies in the early 1990s. (See, e.g., "Why Electricity Takeovers are Welcome," *Financial Times* August 3, 1995.)

As also reported in Table 3, the bidder sample spans 17 different industries. The industries with the greatest representation are banking, petroleum & natural gas, and utilities. No industry, however, represents more than 13.5 percent of the sample.

To further characterize the sample, Table 4 reports the country representation of the target and bidder samples. The target sample spans 16 different countries. The country with the greatest representation in the target sample is the United Kingdom, reflecting in part the noticeable number of utility firms that become targets in that country. As also reported in Table 4, there are 18 countries represented in the bidder sample, with no country comprising more than 15.4 percent of the sample.

### **3. The Wealth Effects of the Mergers of Privatized Firms**

#### *3.A. Methodology*

To estimate the wealth effects of the mergers of the sample firms, we use conventional event study methods from financial economics. We analyze the stock returns of the sample firms at merger announcement. Under the maintained hypothesis of a semi-strong efficient market, the announcement returns anticipate the expected productivity effects of the mergers of the sample firms.

Formally, the wealth effects are estimated from the cumulative abnormal returns around the announcement of the mergers, where the abnormal return for a given day is  $AR_i = R_i - R_m$ , where  $R_i$  is the return for firm  $i$  and  $R_m$  is the return for the S&P

Composite Index. The cumulative abnormal return (CAR) is the sum of the abnormal returns for a given firm over a given event period.

In estimating CARs, an important choice is the length of the event period. Because mergers evolve over time from possibilities to definite proposals, the stock market often partially anticipates the event well before a formal announcement. For example, at the April 2001 announcement by E.ON of a bid for Powergen, the price of Powergen rose 8 percent, and the price reflected a 26 percent premium over the price prior to the initial rumors of the merger in January 2001. (See "German Utility Close to a Deal for Powergen," *New York Times* April 9, 2001, and "Germany's E.ON to Buy Powergen for \$7.4 Billion," *Wall Street Journal* April 10, 2001.) While the longer period captures more of the pre-announcement run-up, the longer term stock returns are often problematic in determining statistical significance. Additionally, the longer the event window, the less likely that stock price data are available from our data source.

For statistical and sample size reasons, we choose to report data for relatively narrow windows around the announcement date of the sample mergers. Estimates are provided for the mean CARs in the 5-day  $[-2,+2]$  period and the 11-day  $[-5,+5]$  period around the merger announcement, where Day 0 is the date of the merger announcement as determined from Lexis-Nexis.

### *3.B. Results*

The estimates of the wealth effects of the sample mergers are reported in Table 5. The results indicate that the mergers improve the wealth of the target shareholders. For both the 5-day and 11-day event windows, the shares of the target firms appreciate by

roughly 12 percent. The CARs are statistically significant in that they are more than 5 standard errors from zero. The reported gains to target shareholders are comparable to evidence from the United States from the same 1990-1999 period. Mulherin & Boone (2000), for example, find that target firms in the U.S. experience a 20 percent increase in equity value around the time of a merger announcement.

Table 5 also reports the stock returns for bidders at merger announcement. For both event windows, the bidder CARs are positive but not statistically different from zero. These results are also consistent with data from the U.S. See, for example, Mulherin & Boone (2000).

As a whole, the results indicate that mergers create wealth for privatized firms. Target firms experience a positive change in equity value, while bidding firms do not change in value. The net positive change in value is consistent with the view that privatization leads to productivity improvements.

To assess the robustness of the results, Table 6 reexamines the gains to bidders and targets as a function of country affiliation. Mergers are classified as Intra-Country if the target and bidder come from the same country and are classified as Cross-Border if the target and bidder are from different countries. As reported in Table 6, the results do not vary substantially from the evidence for the full sample. The CARs for Intra-Country and Cross-Border targets (reported for the 5-day event window) are both positive and significantly different from zero. The CARs for the bidders in the two sub-samples both remain positive but insignificant. The results indicate that, on average, both within-country and across-country mergers create wealth.

#### **4. Summary and Concluding Comments**

In this paper we study the interaction between privatization and the market for corporate control. We find that the merger of privatized entities entails net wealth creation. The sample of privatized targets experiences a significant appreciation in equity value, while the bidder firms have a positive but insignificant change in equity value. The net increase in value is consistent with future improvements in productivity for the privatized firms that become involved in mergers. These results are consistent with theories in the property rights/agency cost tradition.

Beyond the specific area of privatization, our results are consistent with theories that associate mergers with improvements in efficiency. Because the firms in our sample were formerly government owned, one might expect the firms to be more subject to management entrenchment or hubris. However, the results indicate that the bidding firms in the sample do not suffer losses in value at the announcement of the mergers. These results are consistent with a competitive market for corporate control.

Our results suggest several avenues for future research. One interesting query is the determinants of the likelihood that a privatized firm becomes a target or a bidder. Is the likelihood of becoming a target affected by the post-privatization performance of a particular firm or is takeover likelihood driven instead by broader industry and economic factors such as deregulation or technological change? More generally, are privatization and mergers both directly endogenous to fundamental changes in factors such as the depth of natural monopoly?

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**Table 1. Target Sample and Bidder Sample.** This table reports the number of firms in the target sample and the bidder sample. The two samples are formed from firms that are privatized and subsequently become targets or bidders in a merger in the 1990-1999 period. The sample firms are determined by combining privatized firms from Privatisation International and merged firms from Securities Data Corp. Firms entering the samples also had stock price data available from Datastream and an announcement date that could be confirmed on Lexis-Nexis.

|                        | Targets | Bidders |
|------------------------|---------|---------|
| Number of Observations | 39      | 52      |

**Table 2. Target Sample and Bidder Sample by Year.** This table reports the annual occurrence of the firms in the target sample and the bidder sample. The two samples are formed from firms that are privatized and subsequently become targets or bidders in a merger in the 1990-1999 period. The sample firms are determined by combining privatized firms from Privatisation International and merged firms from Securities Data Corp. Firms entering the samples also had stock price data available from Datastream and an announcement date that could be confirmed on Lexis-Nexis.

| Year               | <u>Targets</u> |         | <u>Bidders</u> |         |
|--------------------|----------------|---------|----------------|---------|
|                    | Number         | Percent | Number         | Percent |
| 1990               | 1              | 3%      | 4              | 8%      |
| 1991               | 0              | 0%      | 1              | 2%      |
| 1992               | 1              | 3%      | 0              | 0%      |
| 1993               | 0              | 0%      | 1              | 2%      |
| 1994               | 2              | 5%      | 2              | 4%      |
| 1995               | 9              | 23%     | 8              | 15%     |
| 1996               | 5              | 13%     | 9              | 17%     |
| 1997               | 1              | 3%      | 6              | 12%     |
| 1998               | 8              | 21%     | 13             | 25%     |
| 1999               | 12             | 31%     | 8              | 15%     |
| Total Observations | 39             | 100%    | 52             | 100%    |



**Table 3. Industry Representation of the Target Sample and the Bidder Sample.** This table reports the industry representation of the firms in the target sample and the bidder sample. The two samples are formed from firms that are privatized and subsequently become targets or bidders in a merger in the 1990-1999 period. The sample firms are determined by combining privatized firms from Privatisation International and merged firms from Securities Data Corp. Firms entering the samples also had stock price data available from Datastream and an announcement date that could be confirmed on Lexis-Nexis.

| Industry                | <u>Targets</u> |         | <u>Bidders</u> |         |
|-------------------------|----------------|---------|----------------|---------|
|                         | Number         | Percent | Number         | Percent |
| Agriculture             | --             | --      | 2              | 3.8%    |
| Alcoholic Beverages     | 1              | 2.6%    | --             | --      |
| Automobiles             | 1              | 2.6%    | 2              | 3.8%    |
| Banking                 | 10             | 25.6%   | 7              | 13.5%   |
| Business Supplies       | --             | --      | 2              | 3.8%    |
| Chemicals               | 1              | 2.6%    | 7              | 13.5%   |
| Defense                 | 1              | 2.6%    | --             | --      |
| Electronic Equipment    | 2              | 5.1%    | 2              | 3.8%    |
| Entertainment           | --             | --      | 1              | 1.9%    |
| Insurance               | 3              | 7.7%    | --             | --      |
| Machinery               | --             | --      | 1              | 1.9%    |
| Nonmetallic Mining      | --             | --      | 1              | 1.9%    |
| Petroleum & Natural Gas | 2              | 5.1%    | 7              | 13.5%   |
| Pharmaceutical          | 1              | 2.6%    | --             | --      |
| Precious Metals         | --             | --      | 4              | 7.7%    |
| Retail                  | 2              | 5.1%    | 1              | 1.9%    |
| Telecommunications      | 2              | 5.1%    | 2              | 3.8%    |
| Tobacco                 | 1              | 2.6%    | 2              | 3.8%    |
| Trading                 | --             | --      | 1              | 1.9%    |
| Transportation          | --             | --      | 3              | 5.8%    |
| Utilities               | 12             | 30.8%   | 7              | 13.5%   |
| Total Observations      | 39             | 100%    | 52             | 100%    |

**Table 4. Country Representation of the Target Sample and the Bidder Sample.** This table reports the country representation of the firms in the target sample and the bidder sample. The two samples are formed from firms that are privatized and subsequently become targets or bidders in a merger in the 1990-1999 period. The sample firms are determined by combining privatized firms from Privatisation International and merged firms from Securities Data Corp. Firms entering the samples also had stock price data available from Datastream and an announcement date that could be confirmed on Lexis-Nexis.

| Country            | <u>Targets</u> |         | <u>Bidders</u> |         |
|--------------------|----------------|---------|----------------|---------|
|                    | Number         | Percent | Number         | Percent |
| Argentina          | 1              | 2.6%    | 2              | 3.8%    |
| Australia          | 2              | 5.1%    | --             | --      |
| Austria            | --             | --      | 1              | 1.9%    |
| Canada             | 2              | 5.1%    | 4              | 7.7%    |
| Denmark            | 1              | 2.6%    | --             | --      |
| France             | 3              | 7.7%    | 8              | 15.4%   |
| Germany            | 1              | 2.6%    | 1              | 1.9%    |
| Ghana              | --             | --      | 4              | 7.7%    |
| Ireland            | 1              | 2.6%    | 2              | 3.8%    |
| Italy              | 4              | 10.3%   | 2              | 3.8%    |
| Japan              | --             | --      | 1              | 1.9%    |
| Netherlands        | 1              | 2.6%    | 1              | 1.9%    |
| New Zealand        | --             | --      | 1              | 1.9%    |
| Norway             | 1              | 2.6%    | 2              | 3.8%    |
| Peru               | 1              | 2.6%    | --             | --      |
| Poland             | 3              | 7.7%    | 2              | 3.8%    |
| Portugal           | 3              | 7.7%    | --             | --      |
| Russia             | --             | --      | 1              | 1.9%    |
| Singapore          | --             | --      | 1              | 1.9%    |
| South Korea        | 1              | 2.6%    | --             | --      |
| Spain              | --             | --      | 8              | 15.4%   |
| Sweden             | 3              | 7.7%    | 3              | 5.8%    |
| United Kingdom     | 11             | 28.2%   | 8              | 15.4%   |
| Total Observations | 39             | 100%    | 52             | 100%    |

**Table 5. Wealth Effects at the Announcement of Mergers.** This table reports the wealth effects at the announcement of the mergers of the firms in the target sample and the bidder sample. The wealth effects are estimated from the cumulative abnormal returns around the announcement of the mergers, where the abnormal return for a given day is  $AR_i = R_i - R_m$ , where  $R_i$  is the return for firm  $i$  and  $R_m$  is the return for the S&P Composite Index. The cumulative abnormal return (CAR) is the sum of the abnormal returns for a given firm over a given event period. Estimates are provided for the mean CARs in the 5-day  $[-2,+2]$  period and the 11-day  $[-5,+5]$  period around the merger announcement, where Day 0 is the date of the merger announcement as determined from Lexis-Nexis. Each cell below reports the mean and median CARs as well as the t-statistic of the test of the null that the mean CAR is equal to zero.

| Announcement Period    | Targets | Bidders |
|------------------------|---------|---------|
| 5-day CARs $[-2,+2]$   |         |         |
| Mean                   | 11.58%  | 1.36%   |
| Median                 | 9.80%   | 0.03%   |
| t-statistic            | 6.30    | 1.31    |
| 11-day CARs $[-5,+5]$  |         |         |
| Mean                   | 11.71%  | 0.47%   |
| Median                 | 9.33%   | 1.45%   |
| t-statistic            | 5.47    | 0.39    |
| Number of Observations | 39      | 52      |

**Table 6. Wealth Effects at the Announcement of Mergers Based on Country of Target and Bidder.** This table reports the wealth effects at the announcement of the mergers of the firms in the target sample and the bidder sample based on the country affiliation of the target and the bidder. Mergers are classified as Intra-Country if the target and bidder come from the same country and are classified as Cross-Border if the target and bidder are from different countries. The wealth effects are estimated from the cumulative abnormal returns around the announcement of the mergers, where the abnormal return for a given day is  $AR_i = R_i - R_m$ , where  $R_i$  is the return for firm  $i$  and  $R_m$  is the return for the S&P Composite Index. The cumulative abnormal return (CAR) is the sum of the abnormal returns for a given firm over a given event period. Estimates are provided for the mean CARs in the 5-day  $[-2,+2]$  period around the merger announcement, where Day 0 is the date of the merger announcement as determined from Lexis-Nexis. Each cell below reports the mean and median CARs as well as the number of observations for the particular subsample.

| Country Affiliation          | Targets | Bidders |
|------------------------------|---------|---------|
| Intra-Country                |         |         |
| 5-day CARs $[-2,+2]$         |         |         |
| Mean                         | 10.85%  | 1.01%   |
| Median                       | 8.81%   | -0.67%  |
| No. of Obs.                  | 26      | 23      |
| Cross-Border                 |         |         |
| 5-day CARs $[-2,+2]$         |         |         |
| Mean                         | 16.68%  | 1.64%   |
| Median                       | 18.49%  | 0.24%   |
| No. of Obs.                  | 13      | 29      |
| Total Number of Observations | 39      | 52      |