

# **Firm Values and Sovereign Wealth Fund Investments<sup>\*</sup>**

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## **Abstract**

We analyze the impact of Sovereign Wealth Fund (SWF) investments on firm values and provide evidence consistent with the tradeoff between the monitoring and lobbying benefits versus tunneling and expropriation costs of SWFs as block holders. The data show significant positive (negative) returns to announcements of SWF investments (divestments). The returns are non-monotonic, first rising (falling) and then falling (rising) with the share sought (sold) for investments (divestments). Moreover, we find that SWFs are often active investors. Slightly more than half of the target firms experience one or more events indicative of SWF monitoring activity or influence.

Key words: sovereign wealth funds, block holders, firm value  
JEL Codes: G28, G34, G38

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## **Firm Values and Sovereign Wealth Fund Investments**

Sovereign wealth funds (SWFs) manage investment portfolios on behalf of governments that own the portfolios. In this paper we examine empirically the effects of SWF investments on the values of the companies in which they invest. We present evidence on several hypotheses regarding these effects by analyzing stock price reactions to announcements of SWF share acquisitions and divestments.

SWFs are not new phenomena. Texas founded its Permanent University Fund in 1876 to invest the proceeds of royalties and leases on state lands for the benefit of the University of Texas and Texas A&M University. In 1956 the British Administration of the Gilbert Islands created the Kiribati Revenue Equalization Reserve Fund to manage receipts of tax levies on the export of depletable phosphate (guano) deposits. More recently, the People's Republic of China formed the China Investment Corporation on September 28, 2007 with initial capital of \$200 billion.

SWFs in Norway, Russia, Saudi Arabia, Kuwait, Abu Dhabi, Qatar, Alaska and elsewhere derive their investment capital from petroleum revenues. In recent years these revenues have increased significantly as high oil prices have coincided with strong global demand for oil and the total assets of the oil-related SWFs have also increased. Other countries, such as China and Singapore, have amassed substantial foreign currency reserves by running persistent current account trade surpluses unrelated to oil exports. Some of this capital has been deployed in SWFs. It is estimated that SWFs' investments totaled approximately \$2.5 trillion as of year-end 2006.<sup>1</sup> Morgan Stanley projects that this amount could swell to \$12 trillion by 2015.<sup>2</sup> These are large sums. Estimates of total private hedge fund capital are, in comparison, around \$1.6 trillion.

SWFs often take large positions in the companies in which they invest.<sup>3</sup> The role of large shareholdings by private institutions and individuals in corporate governance

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<sup>1</sup> "Sovereign Wealth Funds: The World's Most Expensive Club," *The Economist*, May 24, 2007.

<sup>2</sup> "Currencies: How Big Could Sovereign Wealth Funds Be By 2015?" Morgan Stanley Research Global, May 3, 2007.

<sup>3</sup> Norway's SWF, which never holds a substantial fraction of stock in any company, is a notable exception.

has been studied extensively. If large investors possess superior information then their transactions will affect firm values through signaling. In addition, existing theories imply that there are two other effects of large shareholders on firm value and that these effects vary with the level of ownership. Shleifer and Vishny (1986) argue that large shareholders have incentives to monitor firm activities and can provide a partial solution to the free-rider problem discussed by Grossman and Hart (1980). Large shareholders can enhance firm values by facilitating beneficial takeovers or otherwise causing firms to adopt value-added improvements. As Shleifer and Vishny (1997) note, however, a dominant large shareholder might seek also to extract private benefits of control thus expropriating wealth from minority holders.<sup>4</sup> Hence, the impact of large shareholders on firm values should reflect a tradeoff between gains from their monitoring activities and losses from their tunneling activities.<sup>5</sup> This tradeoff suggests that the effects of large share acquisitions on firm values may be a nonlinear function of transaction size, with values increasing due to expected monitoring gains for transaction sizes below some critical level, but declining thereafter as expected tunneling losses grow large. Moreover, the same considerations suggest that large share divestments would have the opposite effects of acquisitions, with firm value declining initially, reaching a minimum and then increasing in transaction size.

SWFs provide an especially intriguing opportunity to examine the impact of a special class of large shareholders on firm values. Because they are government-controlled entities, SWF incentives and activities may differ from those of private investors. The growing size of SWFs concerns policy makers who fear that these large pools of capital could be used by their controlling governments strategically to further political objectives. There is some basis for these fears. For example, in a recent transaction China's State Administration of Foreign Exchange (SAFE) agreed to

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<sup>4</sup> See also Barclay and Holderness (1989, 1991), Demsetz (1983), Demsetz and Lehn (1985), Fama and Jensen (1983), and Stulz (1988) on the potential costs associated with significant shareholdings by managers or other blockholders.

<sup>5</sup> See Johnson, La Porta, Lopez-de-Silanes, and Shleifer (2000) for a succinct discussion of tunneling.

purchase \$300 million in bonds from Costa Rica on the condition that Costa Rica switch diplomatic recognition from Taiwan to the People's Republic.<sup>6</sup>

Moreover, governments may utilize their SWFs to pursue a variety of nonfinancial social objectives. Companies in which SWFs take large stakes may be influenced to choose employment levels, production technologies, and product mixes that are calculated to achieve social policy objectives rather than purely financial returns. Even if SWFs are entirely passive investors their investment selections may reflect broader and more complex, nonfinancial, objectives than those of private investors. Hence, large SWF investments may convey valuation signals that differ from those of large private investments and monitoring by SWFs may not produce financial benefits that, in theory, flow from the monitoring activities of large private investors.

On the other hand, it is implausible that governments are indifferent to the financial returns on their SWF investments and SWFs may have advantages over private investors in generating returns. If information flows freely between agencies of a government, then SWF managers would know about changes in government actions or regulations that affect firm values before their private sector investment management counterparts. This would enable SWFs to buy before good news and to sell before bad news is available to private investors. As a consequence, the signaling effects of SWF transactions might be amplified relative to those of large private transactions.

It is also possible that SWFs influence government policies or regulations in ways that benefit, ex post, the companies in which they invest. SWF managers might act effectively as lobbyists on behalf of the firms they hold in their portfolios. For example, if a SWF takes a large stake in a firm the fund's managers might use their status as government insiders to affect government procurement contracts in ways that increase the firm's value. Hence, SWFs may have more instruments available to them for adding

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<sup>6</sup> See Batson, Andrew, 2008, "China used reserves to sway Costa Rica," Wall Street Journal, September 13 & 14, p. B3. Technically, SAFE is not a SWF. It is an exchange stabilization fund. However, the example establishes that China is willing to use its investment funds to achieve nonfinancial objectives.

value to firms than do private investors. These would tend to reinforce the gains, if there are any, from their monitoring activities.<sup>7</sup>

The ability of SWFs to influence government actions might also have pernicious effects from the viewpoint of small shareholders. Tunneling by controlling parties is, to varying degrees, constrained by laws and these laws are, of course, enforced by government courts. If SWFs can influence law enforcement they may be less constrained than large private shareholders by laws limiting tunneling. Consequently, expected losses arising from dominant shareholder tunneling may be greater for SWFs than for private investors.

In sum, the signaling effects of large SWF transactions, and the monitoring gains and tunneling costs of their resulting ownership positions may differ from those associated with large private investors. Despite the recent notoriety of SWFs in the popular press there is little systematic evidence available on how their activities affect firm values. Four concurrent papers also consider the impact of sovereign wealth fund investments on firm values.<sup>8</sup> Chhaochharia and Laeven (2008), Bortolotti, Fotak, Megginson, and Miracky (2009), Knill, Lee, and Mauck (2009), and Kotter and Lel (2009) examine stock price reactions to announcements of SWF investments.<sup>9</sup> All four find significantly positive announcement effects, ranging from about one-half of one percent to two percent.

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<sup>7</sup> In January 1999 Malaysia's SWF purchased a 10 percent stake in Megasteel, a startup producer of hot-rolled flat steel products. A majority of Megasteel's stock was controlled by the Lion Corporation. On April 29, 1999 the Malaysian Government imposed a 25 percent tariff on imports of hot-rolled flat steel products. This sequence of events exemplifies how a SWF might use inside knowledge of, or influence on, government actions to pick high-performing investments. Lion Corporation's stock return over one year following the announcement on January 12, 1999 of the SWF investment in Megasteel was 145 percent. (See Wong, Ruth, 1999, *Business Times* (Singapore), January 13, p. 14 and Lock, S. N., 1999, *New Straits Times* (Malaysia), July 26, p. 28.)

<sup>8</sup> Another strand of literature examines the portfolio composition of sovereign wealth fund holdings. See, for example, Fernandes (2009), Balding (2008), and Bernstein, Lerner and Schoar (2009). While these papers have relatively large sample sizes (e.g., 21,000 in Fernandes (2009)), they do not have investment announcement dates and thus cannot examine stock price reactions to SWF investment announcements.

<sup>9</sup> Each paper has a slightly different focus. Bortolotti et al. (2009) document the portfolio composition of SWFs by size, country, and industry and also examine the short and long run returns for a subset of publically traded targets. Chhaochharia and Laeven (2008) primarily investigate cultural biases in the portfolio composition of SWFs. Knill et al. (2008) compare total and idiosyncratic risk before and after SWF investments. Kotter and Lel (2009) study the relation between returns to SWF investments and the financial difficulties of the target firms.

In this paper we study share sales as well as purchases and we analyze the cross-sectional determinants of the abnormal returns. In our sample, acquisition announcements coincide with statistically significant positive abnormal returns averaging 1.5%. Divestment announcements generate significantly negative average abnormal returns equal to -1.4%. These results suggest that SWF acquisitions convey positive information about, or are expected to have generally benign effects on, the firms in which they invest. Conversely, divestments convey negative information about the firms or are expected to result in a withdrawal of valuable monitoring (or lobbying) services by the SWFs. Moreover, in cross-sectional regressions we find that the stock price announcement effects are significantly related to transaction size. The relationship is nonlinear. For purchases, abnormal returns first increase in transaction size, reach a maximum, and then decrease. For sales, the pattern is reversed. Abnormal returns first decrease, reach a minimum, and then increase. Taken together, these results tend to support the monitoring versus tunneling tradeoff theory discussed above.

Our results bear on the debate regarding the relationship between firm performance and ownership structure in general. Morck, Shleifer, and Vishny (1988) analyze a cross-section of US firms and report that Tobin's Q first increases, then decreases, with increasing share ownership by the board of directors. They argue that this reflects the operation of two conflicting effects of managerial ownership, the incentive alignment effect and the entrenchment effect, as in Stulz (1988). Himmelberg, Hubbard, and Palia (1999) note, however, that managerial ownership stake and firm performance are determined endogenously in equilibrium. They contend that the observed correlation between ownership and performance arises from unobserved heterogeneity in contracting environments across firms and is spurious. This debate is difficult to resolve because managerial ownership stakes vary little over time. Our results address this issue with another type of large shareholder. It is plausible that SWFs are powerful enough to affect firm decision-making and we find a nonlinear relationship between ownership *changes* and firm values in an event study context. This relationship is consistent with the presence of the incentive alignment and entrenchment effects discussed by Morck et al. (1988).

In our cross-sectional analysis of announcement period abnormal returns we examine the hypothesis that SWFs may learn before other investors about government actions affecting firm values or may be able to influence such actions. This idea is most plausible in cases where the target firm is located in the same country as the SWF investor or is in a heavily regulated industry. We find some evidence that stock price reactions to SWF acquisitions are larger when the target firm is a utility, airline, or financial firm, but the stock price reactions to divestments are also (algebraically) larger for these firms. Stock price reactions when a SWF buys or sells shares of firms in its home country differ insignificantly from those for foreign targets.

We also analyze target firm stock returns over long periods following announcements of SWF transactions. We find little basis for rejecting the hypothesis that target firms' stocks accrue normal returns following announcements of SWF purchase transactions. We cannot reject the hypothesis that target firms' stocks accrue normal returns for approximately one year following announcements of SWF purchase transactions. Over three and five year horizons, we get mixed evidence of significant positive returns.<sup>10</sup> The finding of zero long run returns is consistent with Kotter and Lel (2009), but inconsistent with Bortolotti et al. (2009) who find significant negative mean compounded matched firm returns for the one year horizon. No other papers consider the five year horizon. Target firm abnormal stock returns following SWF divestment announcements differ insignificantly from zero, as well, and are close to zero, on average.

In addition to our analysis of stock returns, we examine directly the hypothesis that SWFs actively monitor firms in which they invest or seek to influence firm decisions and related regulatory events. Based on an extensive search of the public press, we document instances where target firms experience one or more events indicative of SWF monitoring or influence. These events include the assumption of directorships by SWF representatives, senior management turnover at the target firm, target firm business deals

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<sup>10</sup> To be more precise, we measure stock returns over periods from 2 to 250, 750, and 1250 trading days following the transaction announcements. As there are 252 trading days in most years, these periods are approximately one, three, and five calendar years long, respectively, and we often refer to them as such in the text. Bortolotti et al. (2009) measure returns over 240 and 480 trading day periods following transaction announcement. They refer to these as one and two year periods.

with firms related to the wealth fund, and favorable or unfavorable government regulatory decisions affecting the target firm. We find that slightly more than half of the SWF purchase announcements in our sample are followed by at least one of these events. In addition, we show that this post-investment activity is significantly related to the target's long run returns. In contrast, Kotter and Lel (2009) examine post-investment influence by comparing post-investment accounting performance and CEO turnover in a set of SWF targets with a control group. They find no significant differences between the target and control samples and conclude that shareholder activism is not common among SWFs. We, on the other hand, conclude that SWFs often adopt an active role in their target firms.

The rest of the paper is organized as follows. Section I describes our empirical design and sample data. Section II explains our statistical experiments and presents our results. Section III concludes.

## **I. Empirical Design and Sample Data**

We analyze stock price reactions to announcements of purchases and sales by SWFs of the shares of privately owned companies. We identified purchase transactions through the Securities Data Corp (SDC) data base. Our search for SWF purchases of stock in US and Non-US target firms, over all available years, yielded 996 transactions. We searched under the SDC-created flag for sovereign wealth fund involvement, the SWF name, and the names of subsidiaries of the wealth funds. For example, Temasek, a Singapore SWF, makes some investments directly and others through its subsidiaries, such as Aranda Investments.<sup>11</sup>

Target stock price data from Datastream are available for 375 of the SWF purchases. For these transactions, we searched both the Lexis and Factiva news source

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<sup>11</sup> These subsidiaries include wholly and majority owned operating firms and investment vehicles. In approximately two-thirds of our transactions, the SWF is listed as either the “acquirer” or the “acquirer immediate parent” by SDC. In all other cases, SDC lists the SWF or the government as “acquirer ultimate parent.” Seventy of the 116 Temasek investments are made by operating subsidiaries, such as SingTel, while 46 are made directly by Temasek or one of its investment vehicles, such as Aranda Investments.



data bases to confirm the announcement dates and to garner additional transaction details. Approximately 15% of the announcement dates reported in the SDC data base are incorrect. This may explain why some of our results differ from those of other researchers who rely on SDC alone to determine transaction announcement dates.

To ensure a clean sample of SWF investments for our event study analysis, we applied several screens to the sample transactions. First, we eliminated transactions involving transfers between related subsidiaries of a given SWF because these transactions do not suggest a change in control of the parent SWF. Second, we deleted cases where a SWF purchased an asset outright from a target firm and therefore did not acquire a continuing equity interest in the target or its subsidiaries after the transaction closed. The acquisition by a SWF of a single hotel property from a real estate holding company exemplifies this type of transaction. Third, we excluded transactions where the SWF was one of several buyers, called an “Investor Group” by SDC, because shareholder reactions to the announcement would convey information about all of the investors, not just the SWF.<sup>12</sup> Fourth, we treated some simultaneous transactions as single events. For example, if a SWF acquired partial stakes in two different subsidiaries of the same target firm on the same day, we treated this as a single purchase event. These adjustments eliminated 148 purchase transactions and we are left with 227 distinct purchase events occurring between January 1987 and April 2008, which we refer to as the full sample. Most of the results that we report for announcement period returns are derived from a subset of the full sample that excludes transactions that had simultaneous announcements regarding earnings, other changes in capital structure, and mergers or acquisitions. This final screen eliminates 25 of our 227 purchase events from our short run announcement event study. We refer to the remaining 202 events as the clean sample.

To identify our sample of SWF share sales we searched the Lexis database on the fund names and the key words “sold or sell or divest.” This search yielded 96 transactions. We obtained announcement dates and additional information about these

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<sup>12</sup> We also excluded investments by CalPERS (California Public Employees Retirement System). SDC flags these transactions as having a SWF buyer. However, CalPERS’ sources of funds, uses of funds, and governance (almost half of the trustees are publically elected) differ from the other wealth funds included in our sample. The Sovereign Wealth Fund Institute does not classify CalPERS as a SWF.

transactions from Lexis and Factiva. We dropped transactions where the share divestiture was caused by a third party acquisition of the entire firm. In these cases the divestiture was initiated by the third party outside acquirer, not the SWF. As there were only two transactions with confounding announcements, we drop these and conduct all analyses on the clean announcement set. Target firm stock price data is available for 47 of the remaining, clean sales transactions, which occurred between 1996 and 2008.

Table I provides a list of the SWFs included in our sample with information on their location, inception date, primary source of funds, and size. The Abu Dhabi Investment Authority, estimated to have \$875 billion under management, is by far the largest SWF. The two Singapore funds, Temasek Holdings and the Government of Singapore Investment Corporation come next, with \$464 billion in combined funds. The United Arab Emirates and Singapore governments account for almost 60% of the money invested by the SWFs in our sample, controlling a total of \$1,349 billion. Most of the other countries' funds are much smaller. Nigeria's Excess Crude Account, for example, has only \$11 billion. Of course, this is still very large in comparison to the portfolios of most private investors.

Tables II and III report the numbers of transactions in our sample broken down by SWF, target firm country, and target firm industry. Table II presents this information for share purchase transactions and Table III presents it for share sales.

Table II shows that the Singapore SWFs are the most heavily represented in our acquisition sample. Temasek and the Government of Singapore Investment Corporation (GIC) together account for 158 (70%) of the 227 share purchase transactions. The United Arab Emirates funds together made 36 (16%) acquisitions and Malaysia's SWF made 23 (10%). Thus, just five funds owned by three countries made 96% of the public company share acquisitions in our sample. One-hundred-seventy-five (77%) of the investments were in Asian firms and 116 (51%) of the target firms were in the finance, real estate, or manufacturing industries.

Our divestment sample is dominated by the Norway and Singapore funds. Table III shows that these funds made 22 (47%) and 21 (45%) of the transactions, respectively.

The other divestments were made by the Brunei, Kuwait, Malaysia and UAE funds, with a single transaction apiece. In our sample, all of the Norway fund's share sales were the result of its decision in 2005 not to invest in firms that produce weapons, harm the environment, or are deemed to commit serious human rights or labor abuses. Divested firms include Boeing, Freeport McMoRan, and Wal-Mart. In all of these cases, the fund held less than 0.5% of the firm, sold the shares on the open market, and announced the sale two to three months after it occurred. Because these Norway divestments have a fairly unique profile, we report results for the full sample and for two subsamples, Norway and Non-Norway divestments.

In our analysis of stock transactions by SWFs we estimate abnormal returns to the shares sought or sold around the times that news of the transactions becomes publicly available. We also try to shed additional light on the monitoring, tunneling, and influence hypotheses discussed in the introduction by investigating the cross-sectional determinants of these abnormal returns. For the clean samples of transaction announcements that have no concurrent, confounding announcements, we regress the abnormal returns over the three day period centered on the announcement date on variables suggested by the hypotheses and on control variables as well.

Table IV provides summary statistics for the explanatory variables used in the cross-sectional regressions. This table reports the mean, median, and standard deviation for each of the variables used in our subsequent analyses for the clean investment and divestment samples, and for the subsamples. As we mentioned above, we distinguish between Norwegian fund divestments and other divestments. We also distinguish between direct and subsidiary purchase transactions. In a direct transaction the SWF trades stock in a publically listed, privately owned firm and we can observe the market price of that firm's stock directly. In a subsidiary transaction the SWF trades shares in a subsidiary of a publically listed firm. The subsidiary's shares are not themselves publically traded so we cannot observe their market price. Any effects of SWF fund ownership on the value of the parent firm are indirect and, therefore, are likely to be weaker for subsidiary transactions than for direct transactions. Approximately 72% of

the share acquisition events in our sample involve direct transactions. All of the divestments are direct transactions.

Share Sought is the fraction of the target firm's shares that the SWF announces it intends to acquire. For the subsidiary subsample, this equals the share of the subsidiary firm's equity. Share Sold is the fraction of the target's equity that is sold in the divestment. For the clean samples, the average Share Sought is 27.5%, and the average Share Sold is 3.8%. The maximums are 100% for Share Sought and 42.0% for Share Sold.

Full Control is a binary variable set equal to one when the SWF announces its intention to take full, 100% control of the target firm, and zero otherwise. All of these transactions are in the direct subsample, representing almost 11% of those 145 transactions. If the fund purchases 100% of an unlisted subsidiary firm, the transaction is not included in our sample because it does not create an ongoing ownership interest in relation to the listed parent firm.

In the investment sample, Initial is a binary variable set equal to one if the transaction is the first purchase of shares in the specific target firm (or any of its subsidiaries) by the SWF, and zero otherwise. Almost one-third of our direct subsample transactions are initial purchases, while 17.5% of the subsidiary transactions are initial purchases. In the divestment sample, Exit is set equal to one if the SWF sold all of its equity holdings in the transaction. All of the Norway transactions, and 20% of the non-Norway transactions, are classified as exits.

Premium is set equal to one if the buyer pays more than the public market price for the shares traded in the block transaction, and zero otherwise. In the investment sample, all of these premium purchases are direct transactions, representing almost 18% of the direct share acquisitions and 13% of the clean acquisition sample. In the divestment sample, all of the premium transactions are in the non-Norway subsample, which constitutes 24% of that group. The payment of premiums suggests that these transactions transfer partial control rights as well as cash flow rights. Premium transactions are intriguing cases for this reason.

Regulated and Home Country also are binary variables. Regulated is set equal to one for transactions where the target firm is in one of three heavily regulated industries: financial firms, utilities, or airlines. Thirty-two percent of the direct subsample and 25% of the subsidiary subsample investment targets are in regulated industries. None of the Norway divestment firms are in regulated industries, while 24% of the non-Norway firms are. Home Country is set equal to one if the target is headquartered in the wealth fund's home country. This is the case for about 21% of the investment sample (19% for direct targets, 26% for subsidiary targets), and 52% of the non-Norway divestment firms. All of the Norway divestment firms are headquartered outside Norway. If SWFs have privileged access to information about government actions, or can influence such actions, we are most likely to observe the consequences in cases involving regulated firms and those located in the SWF's home country.

Real Estate, Finance, and Manufacturing are set equal to one if the target firm operates in the real estate, financial, or manufacturing industries, respectively. The biggest concentrations here are financial firms in the direct investments subsample (almost 25%) and manufacturing in the Norway divestments subsample (79%).

Truman is a composite index of the four components of Truman's (2008) scoreboard of best practices for SWFs. The four components are structure, governance, accountability and transparency, and behavior. The score for each component equals the percentage of "yes" answers to a sub-set of 33 total specific questions. For example, the structure component asks if the fund's objective is clearly communicated, and if the fund is separate from the country's international reserves. The governance component asks if decisions on specific investments are made by the managers, and if the fund has publicly available guidelines for corporate responsibility that it follows. The transparency component asks if regular reports on investments by the fund include information on the categories of investments, and if the investment strategy limits investments based on credit ratings. Finally, the behavior component asks if the fund has limits on the size of its stakes, and if it has a policy on the use of leverage or derivatives. In many cases, Truman assigns fractional scores on specific individual questions. As a case in point, the Abu Dhabi Investment Authority receives a score of 0.5 for communicating its fund objective. Clearly, the index reflects the subjective judgments of its creator.

For all components, higher values of the Truman index are generally consistent with more transparent, return driven, investment policies. The Grand Total index equals the percentage of "yes" answers to all of the 33 questions. In our sample, the scores for the Grand Total index range from 92 for Norway (which received a raw score of 30.5 of a possible 33) to 18 for Brunei. Scores for the four separate components are highly positively correlated.

## II. Empirical Analysis

### A. Announcement Period Returns

We measure time in trading days relative to the day on which news of the SWF transaction first appears in the press. Hence, event day 0 is the press date. The announcement period abnormal returns are estimated over the three-day windows  $[-1, +1]$  for each transaction. We do this by regressing target firm stock returns on the returns to two market portfolio indices from the Datastream data base and three event-day dummy variables. One of the market variables measures the return to the local domestic stock market in the country where the target firm is domiciled. The other market variable measures the return to the global stock market.<sup>13</sup> The regressions are estimated using daily returns over the period  $[-250, +1]$ , excluding the period immediately before the event  $[-6, -2]$  to prevent possible pre-announcement news leakage from affecting the estimates. The three event-day dummy variables are denoted  $D_{i-1}$ ,  $D_{i0}$ , and  $D_{i+1}$ , respectively, for the  $i$ 'th firm. Each takes the value of one for the indicated trading day in event time relative to the press date, day -1, 0, or +1, and zero for all other days.

The return model is given by:

$$R_{it} = \alpha_i + \beta_{iL} R_{Lt} + \beta_{iG} R_{Gt} + \gamma_{i-1} D_{i-1} + \gamma_{i0} D_{i0} + \gamma_{i+1} D_{i+1} + \varepsilon_{it} \quad (1)$$

where  $R_{it}$ ,  $R_{Lt}$ , and  $R_{Gt}$  are the  $i$ 'th target firm's stock return, and the local and global market index returns on day  $t$ , respectively. The regression disturbance term is denoted

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<sup>13</sup>We include the global market index return because most of the transactions are cross border. This factor is significant at the 10 percent level for 44 of the 202 investment regressions and 17 of the 47 divestment regressions.

by  $\varepsilon_{it}$ , which we assume is normally distributed with mean 0. The regression coefficients  $\gamma_{i-1}$ ,  $\gamma_{i0}$ , and  $\gamma_{i+1}$  are estimates of the  $i$ 'th target firm's abnormal stock returns on event days -1, 0, and +1.<sup>14</sup> Our overall estimate of the announcement period abnormal return for each firm is the sum of these three event-day dummy variable coefficients, the cumulative abnormal return (CAR) over the three-day event window. Figures 1 and 2 show histograms of the CARs for our samples of SWF investments and divestments, respectively.

We assess the statistical significance of the CARs in three different ways. In one approach we conduct a standard cross-sectional t-test. The test statistic is the ratio of the average CAR to the estimated cross-sectional standard deviation of the average. If the CARs are independently normally distributed and homoskedastic, then this statistic has the t-distribution under the hypothesis that the mean CAR is zero. It is, however, quite likely that the CARs are heteroskedastic. For this reason, we also conduct tests based on standardized CARs, which we denote SCARs. For these tests we divide each CAR by its estimated standard error, which is the standard error of the sum of the three event dummy variable coefficients in equation (1). This estimate is readily obtained from the regression output. If the CARs are normally distributed with zero mean, the standardized CARs are asymptotically standard normal random variables. If the CARs are independent, then the sum of the SCARs is asymptotically distributed normally with mean zero and variance  $N$ , where  $N$  is the sample size. Hence,

$$Z = \left( \frac{1}{N^{1/2}} \right) \sum SCAR_i \quad (2)$$

is asymptotically standard normal under the null hypothesis that the CARs are drawn independently from zero mean normal distributions.<sup>15</sup>

If SWF transactions cluster in calendar time then the estimated CARs may be correlated in violation of the independence assumption required above. To address this potential problem we also perform tests using a calendar time event study method

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<sup>14</sup>These estimates are arithmetically identical to return prediction errors from the two-factor market model fitted over the interval  $[-250, -7]$ . See Malatesta (1986).

<sup>15</sup> The use of the Z-statistic in stock market event studies was introduced by Patell (1976). It is sometimes referred to as Patell's Z-score for this reason.

inspired by Jaffe (1974) and Mandelker (1974). We construct a time series of estimated abnormal returns on an equally-weighted portfolio of target firms. For any given calendar day the portfolio consists of stocks in all firms for which that day is event day - 1, 0, or +1 relative to a SWF transaction. Calendar days on which the portfolio contains no firms are ignored. The estimated abnormal returns are derived from the market model regressions (1). The test statistic is the time series average abnormal portfolio return divided by the time series estimate of its standard deviation, which correctly accounts for the cross-sectional correlation of firm-specific abnormal return estimates. If the abnormal portfolio returns are normally distributed with zero mean, serially uncorrelated, and homoskedastic, this statistic has the t-distribution.

Table V presents the results of our tests on the impact of SWF investments and divestments on firm values. For SWF investments we report announcement returns for the full sample and for the clean subset of transactions that have no concurrent confounding announcements in the [-1, +1] window regarding earnings, other changes in capital structure, and mergers or acquisitions. For example, on the same day that Merrill Lynch announced a \$5 billion investment by Temasek (12/24/07), they also announced the sale of most of their commercial finance business. As a result, shareholder reactions on that date are tainted by the other news and do not give us a clean measure of the reaction to the Temasek investment. For the clean investment sample we distinguish between direct and subsidiary investments. For divestments we report results in detail only for the clean sample. We distinguish between share sales by Norway's SWF and other divestments.

The results in table V show that SWF investments are associated with positive abnormal stock returns for the target firms and that divestments are associated with negative abnormal returns. The average three-day investment CARs are 1.5% for the full sample, and 1.7% for the clean announcement subsample. The average divestment three-day abnormal return is -1.4%. If we include the two transactions with concurrent confounding announcements the average divestment announcement return increases slightly to -1.3%. The test statistics on the full and clean announcement sample abnormal returns are highly statistically significant. Our estimates of the announcement period CAR for the investment sample exceed those of Chhaochharia and Laeven (2008)



and Bortolotti, et al. (2009). The former study reports an average CAR of 0.97% for a  $[-2, +2]$  window and the latter study reports an average CAR of 0.93% for a  $[-1, +1]$  window. In Kotter and Lel (2009), however, the estimated average is 2.25% for a  $[-1, +1]$  window.

As we anticipated, the impact of direct investments on firm values is greater than the impact of subsidiary investments. The average announcement period abnormal return of 2.2% for the direct investments is approximately 5 times that for the subsidiary investments. The former estimate is significant at the one percent level. The latter is statistically insignificant. For the divestments we see a similar difference between the Norway and non-Norway subsamples. The non-Norway divestments are associated with a statistically significant decline in firm values of about 2.4% which is, in absolute value, about 10 times the size of the average abnormal announcement return for the Norway divestments. None of our test statistics reject the hypothesis that the mean abnormal return for the Norway divestments is zero.

Our results are consistent with the view that SWF investments have positive net effects on firm values, on average. The striking symmetry of the results for purchases versus sales reinforces this conclusion. These effects may arise from signaling, the provision of monitoring services, or the ability of SWFs to influence government actions in ways that favor the firms in which they invest.

#### *B. Cross-sectional Regressions of Announcement Period Abnormal Returns*

We conduct cross sectional regression analysis to further examine our hypotheses. Table VI reports the results for regressions on the investment sample and Table VII reports results for regressions on the divestment sample. The tables present ordinary least squares regression coefficient estimates. Marginal significance levels (p-values) based on White (1980) heteroskedasticity-consistent standard errors are shown in parentheses beneath the coefficient estimates. Bold face indicates significance at the 10% level, or less, for two-tailed tests. The dependent variable is the  $[-1, +1]$  CAR. We begin with the most parsimonious specification, examining the impact of changes in SWF ownership share on the CAR, and then sequentially adding variables that allow us to test our other hypotheses.

Table VI reports results for the clean announcement investment sample as well as for the two subsamples, direct target investments and subsidiary target investments. We expect the relation between the explanatory variables and CAR to be strongest for the direct investment subsample since these transactions reflect a direct change in the ownership structure of the firms whose stock prices we are analyzing. In Table VII, we report results for the full divestment sample and the two subsamples, Norway and non-Norway transactions.

Specification (1) includes only Share Sought and Share Sought squared (Table VI), or Share Sold and Share Sold squared (Table VII). If SWF investments have similar effects to those of private block holder investments, we would expect to find a positive coefficient on the Share Sought variable and a negative coefficient on the squared term for the investment sample. For divestments we would expect just the opposite results, a negative coefficient on Share Sold and a positive coefficient on Share Sold squared.

In the second specification, we add other terms that reflect changes in control. For the investment sample, we add the dummy variables Full Control, Premium, and Initial. With a 100% investment there are no minority shareholders to expropriate, so the potential negative effects of block holder ownership do not exist. Therefore, the Full Control variable should have a positive sign. Barclay and Holderness (1989, 1991) argue that block premiums measure the value of private benefits of control. Hence, when the buyer pays a premium over the public market price it may signal his intention and capacity to extract such benefits in the future. We expect these benefits to be reflected in a negative regression coefficient. Finally, the first investment made by a SWF in a target firm should be a larger surprise than are subsequent investments in the firm and thus associated with a larger stock price movement.

For the divestment sample, in the second specification, we add the dummy variables Premium and Exit. If premiums indicate that buyers expect to extract private control benefits at the expense of minority holders then premiums should be associated with negative abnormal returns and, therefore, with a negative regression coefficient. We include Exit because the signaling and control effects of a complete exit may differ from those of a partial reduction in a SWF investment position.

The third specification includes variables that examine the role that influence and specialized knowledge have on abnormal returns. These are Regulated, Home Country, and Truman. If SWFs can influence government actions in their home countries, then we expect to find a positive coefficient estimate on Regulated in the investment sample and a negative coefficient in the divestment sample. Likewise, if the wealth funds have access to inside information about government actions affecting firms in their home countries, their purchases and sales would signal information about target firms' future prospects. In this case, we would expect a positive coefficient estimate on Home Country in the investment sample and a negative coefficient in the divestment sample.

There are several plausible hypotheses about the Truman index and the effects of SWF transactions on firm values. Suppose that high values of the index correspond to well-managed funds that seek financial returns. Such funds would tend to be more effective monitors and lobbyists, and to possess more valuable information than funds with lower index values. Hence, the effects on firm values of transactions by high-index funds would be more pronounced than the effects of transactions by low-index funds. In this case, we would expect to observe a positive regression coefficient on the index for investments and a negative coefficient for divestments. On the other hand, suppose that index scores largely measure fund transparency. Transparency may inhibit a fund from exploiting its knowledge about government actions affecting firm values or from seeking to influence these actions. Transparency may also lay bare elements of the fund's investment strategy and processes that reveal its likely transactions before they occur. Moreover, a fund may choose to be transparent because it has no relevant influence or unique insights into firm values and, therefore, has nothing to gain from reticence about its activities. In this case, transactions by high-index funds may affect firm values to a lesser degree than transactions by low-index funds.

The fourth regression model in tables VI and VII includes additional control variables for target firm industry (Real Estate in the investment sample) and SWF (Singapore and Norway in the divestment sample). The interaction of the Truman index with the binary variable Regulated is also included. Suppose transparency prevents a SWF from exploiting inside information about government actions or influencing these

actions. This would affect returns most for those investments where such knowledge and influence would otherwise be most important, investments in regulated industries.

For every one of the investment sample regressions reported in table VI the estimated coefficient of Share Sought is positive and the estimated coefficient of Share Sought squared is negative. The results for the divestment sample reported in table VII are just the mirror image. The coefficients of Share Sold and Share Sold squared are negative and positive, respectively. Not all of the estimates are statistically significant, but many are significant and the estimated coefficients are fairly stable across the various specifications. This evidence tends to support the hypothesis that the effect of a SWF investment on firm value is a non-linear function of transaction size, reflecting the tradeoff of gains from signaling, monitoring, or lobbying by SWF investors against losses to minority holders from SWF tunneling.

Figures 3 and 4 show the regression relationships between announcement period abnormal returns and transaction size. Predicted abnormal returns from specification 3 in tables VI and VII are plotted against Share Sought and Share Sold in the figures. In figure 3, all of the independent variables except Share Sought and Full Control are set equal to their sample average values. Full Control is set equal to one if the SWF announces its intention to take full 100% ownership of the target, and set to zero otherwise. In figure 4, all of the independent variables, except Share Sold, are set equal to their sample average values.

The figures clearly reveal the non-monotonic nature of the relationship between transaction size and changes in firm value. For investments, abnormal returns first increase, then reach a local maximum for acquisitions of about 40 to 45% of the target's stock, then decrease up to the point of discontinuity at 100%. For share sales, abnormal returns decrease and reach a local minimum for divestments of a bit less than 20% of the target's shares, then increase. The local maximum at 40 to 45% for share sought is similar to the results in McConnell and Servaes (1990). They estimate a nonlinear inverted U-shaped relation between Tobin's Q and insider ownership for US firms in 1976 and 1986. Their estimates indicate that Q is maximized with insider ownership between 40 and 50%. We note that our results are for increments to ownership, not

levels, and are therefore not precisely comparable to those of McConnell and Servaes (1990).

For the clean investments sample and the direct targets subsample, the evidence indicates that initial investments have greater stock price impact than subsequent ones, as expected. For the clean divestments sample and the non-Norway subsample of divestments, we find that complete exits are also associated with higher abnormal returns, which is a puzzling result.

Some of the evidence is consistent with the hypothesis that premiums reflect payment for private control benefits. In the divestment sample regressions the coefficients on Premium are all negative and all but one estimate is statistically significant. The coefficients on Premium in the investment sample regressions are all positive, however, with one significant at the 10% level.

The results bearing on the inside government information and influence hypotheses are also mixed. For the clean investments sample and the direct targets subsample the estimated coefficient of Regulated in model 4 is positive, as predicted, and significant. Contrary to the hypotheses, though, this coefficient is also positive and significant in model 4 for the clean divestments and the non-Norway divestments samples. The coefficients on Home Country are insignificant in all of the regressions.

The role of the Truman index is similarly murky. The direct effect on investment announcement period abnormal returns appears to be positive. This suggests that the index is positively related to the quality of fund management. The evidence is not especially compelling, however, and the coefficients on Truman in the divestment regressions are all insignificant. In the investment regressions, the coefficient on the product of Truman and Regulated is significantly negative for the clean and direct targets samples. This supports the notion that transparency prevents funds from exploiting their special information and influence as government entities. The coefficient, however, is also negative and significant for the divestment sample regressions. Moreover, it is significantly positive for the subsidiary targets investments subsample. It is hard to draw any firm conclusions from these results about how fund attributes measured by the Truman index condition the effect of SWF transactions on firm values.

In robustness tests we examined models with additional industry and year fixed effects, Truman sub-indices, and additional interaction terms of the Truman index with the other variables. These additional variables were generally insignificant and their presence in the regressions did not materially affect the estimates of the other coefficients of interest. For example, dummy variables for GIC, Temasek, or the Temasek operating subsidiaries are never significantly different from zero. In addition, we found no evidence that the effects of SWF transactions on firm values varied systematically over time. While individual year dummy variables suggest CARs were significantly lower in some years (1980's (2 transactions), 1992 (2), 1995 (2), 1976 (6), 1998 (9), and 2001 (16), representing only 18% of the sample), dummy variables set equal to one for various sub-periods yield no significant differences.

We also repeated our analysis using cumulative market-adjusted returns (CMARs) instead of market model CARs to measure announcement period stock price reactions. To calculate the CMARs we subtracted the local market index returns from the target firms' stock returns. Our results using the CMARs are similar to those reported above for the market model CARs. The average  $[-1, +1]$  CMAR for the clean announcement investment (direct investment) sample is 1.9% (2.4%), compared to the 1.7% (2.2%) average market model CAR reported in Table V. When we use market-adjusted returns in the cross-sectional regressions of investment announcement period returns reported in table VI, we find that the estimated coefficients on the share sought and share sought squared terms all have the predicted signs. In all but the simplest specification (model 1), for the clean and direct targets samples, the coefficients differ significantly from zero at the 10 percent level or less. The announcement return and cross-sectional regression results for the divestment samples when we use market-adjusted returns are also similar to those reported above for the market model abnormal returns.

Finally, we repeated the tests including the full sample of investment firms, without removing the 25 firms that had concurrent announcements in the  $[-1, +1]$  announcement window. For the full sample, the only significant coefficient estimates are in specification 4, where Regulated and Truman are significantly positive, and the interaction term for these two variables is significantly negative (consistent with the clean

announcement subsample results reported in table VI). The Share Sought variables, however, are never significant. This finding may explain why Bortolotti et al. (2009), who do not appear to control for concurrent announcements, find insignificant coefficients for their share bought and share bought squared variables in regressions of SWF investment announcement returns.

### *C. Long-run Post-Transaction Returns to Target Firms*

We examine the long-run post-transaction stock returns of firms whose shares are acquired or divested by SWFs. This is an indirect way to assess the financial consequences of SWF investment decisions and fund portfolio performance. The method leaves much to be desired. We would prefer to analyze SWF portfolio returns directly. These data, unfortunately, are not available to us.

We rely on market-adjusted returns rather than market model abnormal returns to make inferences about long run performance. This is because a substantial portion of the wealth fund targets in our investment sample have large positive pre-event stock returns. Figure 5 provides a histogram of the CMARs over the [-250,-2] period. The average value is 13.1%.<sup>16</sup> Almost 14% of the target firms have CMARs above 50% in the year prior to the SWF investment.<sup>17</sup> Positive pre-investment returns are consistent with evidence of “returns chasing” by SWFs reported by Bernstein et al. (2009).

In addition to cumulative market-adjusted returns we also calculate buy-and-hold market-adjusted returns (BHAR). We calculate these over periods from 2 to 250, 750, and 1250 trading days following the transaction announcement date.

The market-adjusted return ( $MAR_{it}$ ) for target firm  $i$  on event day  $t$  is defined as the difference between the firm’s raw stock return on day  $t$  ( $R_{it}$ ) and the local market index return on  $t$  ( $R_{Lt}$ ),

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<sup>16</sup> Bortolotti et al. (2009) report a mean compounded market-adjusted abnormal return for the period [-240, -1] of 8.07%.

<sup>17</sup> Analysis of these returns reveals no strong patterns. There is weak evidence that the pre-investment returns are lower for real estate targets and higher for targets in the 2001 - 2004 period. Otherwise, the returns are not significantly related to the SWF (Temasek, GIC, Truman index), other industries (finance, manufacturing, regulated), other years or sub-periods, or transaction characteristics (home country, full control, initial, premium).

$$MAR_{it} = R_{it} - R_{Lt} \quad (3)$$

For the local market index returns, we use the Datastream Global Indices for the National Markets. These are value-weighted indices.

The cumulative market-adjusted return for target firm  $i$  from day 1 through day  $m$  is the sum of the market-adjusted returns over this period,

$$CMAR_{i,m} = \sum_{t=1}^m MAR_{it} \quad (4)$$

The buy-and-hold market-adjusted return for target firm  $i$  from day 1 through day  $m$  is the firm's compounded raw stock returns over this period minus the compounded local market index returns,

$$BHAR_{i,m} = \left[ \prod_{t=1}^m (1 + R_{it}) - 1 \right] - \left[ \prod_{t=1}^m (1 + R_{Lt}) - 1 \right] \quad (5)$$

Figures 6 and 7 show histograms of the one year CMARs for the investment and divestment samples, respectively. We omit histograms for the longer post-announcement periods and of the BHARs for brevity.

Table VIII summarizes the long-run cumulative and buy-and-hold market-adjusted returns for the investment sample. For the full sample, and for the direct targets and subsidiary targets subsamples, the mean and median adjusted returns are negative over the one year period following acquisition announcement dates, significant with only the Wilcoxon rank sum test for the BHARs. Bortolotti et al. (2009) also report negative post-announcement returns to firms for up to two years after SWFs buy their shares. We find, however, that over three and five year periods following the acquisition announcement dates, the mean CMARs are positive for all of the samples and in the five year time frame the estimates are significant. The mean BHARs are positive, but none are significant. Positive returns at longer horizons are consistent with the two and three year horizon SWF target returns reported in Kotter and Lel (2009) as well as the findings



of Fernandes (2009) that firms with higher ownership by SWFs also have higher firm valuations and better operating performance.<sup>18</sup>

The five year returns are inflated by one transaction that has a CMAR of 5.6 and a BHAR of 619.1.<sup>19</sup> Without this observation, the average five year CMAR for the full sample drops to 0.383 and the average BHAR drops to 0.330. The average CMARs remain significantly different from zero.

Figure 8 plots the cumulative average market-adjusted returns for the investment sample firms over the interval  $[-250, +250]$ . As the graph clearly shows, target firm share prices tend to increase substantially during the period before announcements of SWF purchases. If market model parameters are estimated using returns realized during the year before purchases, the large pre-event returns result in positively biased estimates of the alphas. This induces a corresponding negative bias in market model abnormal return estimates for post-event periods. Cumulated over long time intervals, this bias can be large. In our investment sample, the average market model daily return alpha estimated over days  $[-250, -7]$  is 0.0005. For short announcement period intervals this magnitude is inconsequential. Over the course of a year, however, it cumulates to approximately 12.5%. Though it is not reported in table VIII, the average full investment sample cumulative market model abnormal return for the  $[+2, +250]$  day period is -17.3%, reflecting the bias introduced by the relatively large alphas. As shown in figure 8 and table VIII, the average cumulative market-adjusted return over this same interval is negative, but much closer to zero.

Table IX reports the long run returns for portfolios of SWF investments. We construct portfolios in calendar time, including target firm returns over three different time horizons. All of the portfolio returns differ insignificantly from zero. These results persist when we exclude Unitech from the sample. Overall, the results provide little basis

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<sup>18</sup> Kotter and Lel's (2009) mean two year BHAR of 6.2% is insignificantly different from zero, but the mean three year BHAR of 31.0% differs from zero at the five percent level. See Kotter and Lel (2009, Table 11).

<sup>19</sup> This transaction was an investment in Unitech, an Indian real estate development firm made by SembCorp Industries, a Temasek controlled entity, in March, 2002. Most of the run up in Unitech's share price occurred from March, 2005 through March, 2007 after the Indian government decided to allow foreign investors to participate in real estate projects. Therefore, the presence of this observation measurably affects only the five year post-transaction returns.

for rejecting the hypothesis that the shares of firms that attract SWF investments earn normal returns, on average, over long periods after news of the transactions becomes publically available.

Table X reports the long-run returns for the divestment sample. Results are given for the one year post-announcement interval only. None of the mean or median CMARs or BHARs is significant and they are all small in economic terms. Moreover, though we do not report the tests in the table, we fail to reject the hypothesis that the mean abnormal returns for a portfolio of divested firms, calculated in calendar time, equal zero. We do not report the results for the longer post-announcement intervals because the sample sizes are quite small and the results are also insignificant. Hence, we fail to reject the hypothesis that shares of firms divested by SWFs earn normal returns afterwards.

Taken together, the results in tables VIII, IX, and X suggest that SWFs on average, possess normal security selection ability (or make selections to achieve non-financial objectives) and that the market reacts efficiently to the initial transaction announcements. Even if the average SWF displays normal selection ability it is still possible that some funds could possess superior skill. The Truman index is, putatively, a standard for measuring fund organizational quality. Perhaps funds with high index scores possess superior skill. We investigate this possibility by regressing the long-run market-adjusted returns on the Truman index and its components. We also include a dummy variable for Temasek's transactions because Temasek is widely considered to be an exemplar among SWFs.

Table XI presents the long-run return regression results for the investments sample. For the sake of brevity we show only the results for the full sample. We omit the results for the direct targets because they are similar to the full sample, and for the subsidiary targets subsample because those regressions are insignificant. We omit also the results for regressions of the BHARs on the explanatory variables because they are similar to those reported for the CMAR regressions.

Most of the regressions in table XI are insignificant. There are three regressions where the F-test rejects the hypothesis that all of the regression slope parameters are simultaneously equal to zero. These are the regressions of the one year and five year

CMARs on the Truman dummy variable and the five year CMARs on the Temasek dummy. The coefficient of the Truman variable is positive and significant with a p-value of 0.075 (0.002) for the one (five) year specification. The full sample three and five year horizon specifications provide weak evidence that the Structure and Transparency components may be driving the Truman results. The five year specification provides evidence that the Temasek investments outperform others over the long term. These results suggest that the Truman index may be correlated with fund management skill and that Temasek's reputation may be justified.<sup>20</sup> Regressions for long run abnormal returns following SWF divestments are not reported since the coefficient estimates for Truman, Temasek and Norway are all insignificant and, therefore, uninformative.

#### *D. Evidence of post-investment influence*

The cross-sectional regression results reported in tables VI and VII support the hypothesis that target firm announcement period abnormal returns are non-monotonically related to SWF ownership stakes. This result is consistent with the theory that the effects of SWF investors on firm values reflect a tradeoff between gains arising from their monitoring or lobbying services and losses due to tunneling. The evidence is, however, indirect. There is very little direct evidence available bearing on these activities by SWFs. Kotter and Lel (2009) find that CEO turnover rates and accounting performance differ insignificantly between SWFs target firms and a control group. They conclude from this that SWFs are passive investors, but the basis for this conclusion is unclear. Their evidence seems to be consistent with the notion that SWFs are no more or less active than other investors.

To examine the extent of SWF activism, we searched the Lexis/Nexis data set with the search string “target name and sovereign wealth fund name” for five years following each announcement of a SWF investment. We dropped cases where the fund acquired 100% of the target's shares and where the announced transaction was never

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<sup>20</sup> If we exclude the Unitech transaction in the five year return regression the coefficient on the Temasek dummy variable drops to 0.347 with a p-value of .104. Thus, the evidence regarding differential post-transaction performance of Temasek investments is rather fragile.

completed.<sup>21</sup> We also excluded subsequent investments by the same wealth fund in the same target that occurred within five years of the fund's first investment in that target during our sample period. This leaves us with a sample of 184 purchase announcement events involving 172 distinct firms. Among the 12 duplicate firms, 10 have two different SWF investors, while two have two investments by the same wealth fund, separated by more than five years.

For each announcement we searched Lexis/Nexis for instances where, subsequent to acquiring shares, a SWF may have actively influenced target firm-related decisions or events. We group the instances of possible influence into three broad categories: monitoring, network transactions, and government actions. The types of events included in these categories, with examples of each, are listed in table XII.

The monitoring category includes events that are commonly associated with block holders. Board representation counts all cases where the wealth fund was explicitly allocated one or more board seats, or where a target firm board member was employed by the wealth fund. Senior management turnover records cases where the CEO, COO, CFO, directors, or board members resigned or were replaced. Other monitoring records miscellaneous cases where press reports strongly suggest the wealth fund affected normal business operations. Personnel training, product pricing, and setting dividend policy exemplify the types of activities included under other monitoring detailed in table XII.

Network transactions are those where the target firm had some business-related contact with the SWF's network of investments. This type transaction may provide opportunities for SWFs to extract private control benefits from target firms. Related business transactions include cases where the target firm enters into a major business agreement (i.e., large enough to be reported in the press) with another firm that is partially or wholly owned by the same wealth fund. An example of this type of activity is Ferrari's decision, five months after Abu Dhabi's fund, Mubadala, purchased five percent of its shares, to develop jointly a Ferrari-based theme park in Abu Dhabi with another Mubadala-related company. We also record cases where the wealth fund took an equity

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<sup>21</sup> Nine of the announced transactions in the full investment sample were never completed. These cases are excluded here and from all of the analysis of post-announcement period returns.

interest in another firm that is wholly or partially owned by the target firm or purchased substantial assets from the target. In addition, we note instances where target firms purchased an equity interest in another firm that is partially owned by the same wealth fund. One of the examples in table XII is when Temasek sold some of its holdings in Merrill Lynch to a Korean Bank in which Temasek held a 10% equity interest.

Government actions capture instances where government authorities made decisions that either had a positive or negative effect on the target firm. We consider favorable and unfavorable decisions made by both the SWF's home government and the target firm's local government. Examples in table XII include awarding government contracts, adopting favorable tariffs, and blocking, or limiting the size of, SWF investments.

For each of the above categories, table XIII reports the percentages of transactions that experience wealth fund influence events over one, three, and five year horizons following a purchase announcement. The one exception is for board representation where we report the fraction of cases where the acquiring wealth fund was represented on the target firm board at any time up to five years after the purchase transaction. We have 184 purchase announcements with a one year horizon, 140 with a three year horizon, and 88 with a five year horizon. The numbers are cumulative. So the figures for the five year horizon, for example, represent the fractions of 88 transactions that experienced the various types of influence events over the five year post-transaction period.

Table XIII reports shares for the whole sample as well as two sets of subsamples. Almost 50% of the 184 purchase announcements are for Temasek investments (89 transactions). To determine if the results are driven by Temasek investments, we divide the sample into Temasek and non-Temasek related targets. Also, the SWF's inclination and freedom to monitor or expropriate its target firms could differ depending on whether or not the target is located in or outside the wealth fund's home country. To examine whether SWF influence varies by target location, we divide the sample into those transactions where Home Country = 1 (39 or 21.2% of the sample), and where Home Country = 0. For both breakdowns, we conduct a chi-square test to see if the frequency of activity differs between the two subsets.

The top row of table XIII indicates that acquiring SWFs obtained board representation in their target firms following at least 15% of the purchase announcements in our sample. This share stays relatively constant across the Temasek versus non-Temasek subsets, but is significantly higher in the Home Country subsample where SWFs placed representatives on target boards in 28.2% of the cases. This fraction actually exceeds the board representation frequency of private venture capitalists reported by Kotha and Talmor (2004). Kotha and Talmor (2004) show that following 617 venture capital deals for UK private firms from 1999 through 2002, 143 new directors related to the investing venture capital firms were added to the boards. While it is not clear from their numbers if the 143 were all in different firms, the results suggest that at most 23% of the deals were followed by board representation.

The incidence of senior management turnover is 9% in the first year rising to 14% and 11% over the three and five year horizons, respectively. This level of turnover is similar to that reported by DeFond and Hung (2004) who find that the average annual frequency of CEO turnover across firms in 34 countries from 1997 to 2001 is 15%. Also, Strivens et al. (2008) find CEO turnover in 15% of the FTSE All Share firms annually over 1999 – 2001. There is no evidence that turnover in our sample is more frequent in either the Temasek or Home Country subsamples.

Other monitoring events are relatively infrequent, occurring after only about 5% of the purchase announcements. They are, however, more frequent among the Home Country targets, 12 – 22% compared to 2 – 4% for the cross border investments. Overall, target firms experience at least one event indicative of SWF monitoring activities following 27.2% of the purchase announcements, and these activities are significantly more frequent in targets located in the SWF home country.

Panel B of table XIII shows that one-third of the sample (35.3%) has at least one network transaction. The most common are related business transactions, which occur in 7% to 47% of the cases, depending on the subsample and time frame. All three types of network transactions are more frequent among the Temasek targets than among the non-Temasek targets. Over the five year time frame, related business transactions are more frequent among the Home Country targets than for the cross border group.

Panel C of table XIII indicates that either favorable or unfavorable government decisions affecting target firms occur following 15% of the purchase announcements. Favorable decisions are more frequent, with unfavorable decisions occurring in only 1% of the cases during the first year, but rising to 7% over five years. The favorable decisions are concentrated among the Home Country targets with significant differences for one and three year time horizons. The unfavorable decisions are more frequent among cross border targets, but the difference is not statistically significant. There is weak evidence at the one year horizon that the incidence of unfavorable government decisions is higher for the non-Temasek investments.

Overall, 52% of our purchase announcements are followed by at least one event indicative of SWF monitoring or influence affecting the target firm. The incidence of these events is substantial for both Temasek and other SWF targets, and whether or not the target is located in the SWF home country. We find that Temasek more frequently engages in network transactions than do other SWFs. As a group, SWFs more frequently engage in monitoring actions affecting their home country targets than their cross border investments.

We further explore SWF post-investment activity by examining the relation between the influence activities and target firm long run abnormal returns. Table XIV reports the results of OLS regressions with the cumulative market-adjusted returns for one, three, or five years as the dependent variable. Explanatory variables include a dummy for Temasek investments, and dummies set equal to one for firms that experienced influence events for monitoring, networking, or government decisions. Given the results in Table XIII that the frequency of SWF influence significantly varies between home country and cross border investments, we include Home Country cross product terms for all explanatory variables.<sup>22</sup>

The regression of one year returns reported in table XIV indicates that networking activities are associated with significantly higher returns in cross border investments, but not in home investments. In this regression we cannot reject the hypothesis that the sum

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<sup>22</sup> Bernstein et al. (2009) document significant performance differences for SWF home versus cross border investments.

of the two Networking coefficient estimates equals zero. In the five year return regression, Temasek investments are associated with higher returns than are investments made by other SWFs. We cannot reject the hypothesis that the sum of the two Temasek coefficients equals zero, which implies that only Temasek's cross border investments outperform. Also in this regression, monitoring activities are associated with significantly lower returns, but only for cross border investments. Our interpretation of the negative monitoring coefficient is that poor performance prompts SWF intervention in cross border investment cases. At the one, three, and five year horizons favorable government decisions are associated with significantly higher returns, while at the five year horizon negative government decisions are associated with significantly lower returns.

We conclude that SWFs often are active investors and that their activity is associated with differential long run abnormal returns. In many cases, they appear to monitor management, to influence firm decisions, to engage in network transactions, and perhaps also to influence or anticipate government decisions that affect target firms.

### **III. Conclusions**

There is a paucity of publically available information about SWFs. Their rapid growth in recent years has prompted concern among policy makers and considerable interest among economists. Yet, despite their notoriety, there has been very little academic research on SWFs. In this study we attempt to shed some light on the effects of SWF investment activities.

We find that the announcement of SWF stock transactions coincides with significant changes in target firm values. The average announcement date abnormal stock return is significantly positive for firms whose shares are purchased. This result indicates that SWF share acquisitions convey positive information about, or are expected to have benign effects on, the firms in which they invest. Conversely, the average announcement date abnormal return is significantly negative for firms whose shares are sold. This result suggests that SWF share divestments convey negative information about the firms or are expected to result in the withdrawal of valuable monitoring or lobbying



services by the funds. We also find that stock price reactions to news about SWF transactions are a non-monotonic function of transaction size. For purchases, abnormal returns initially increase with the fraction of the firm purchased by the SWF, reach a maximum, and then decline. For sales, abnormal returns first decrease with the fraction of the firm purchased by the SWF, reach a minimum, and then increase. In addition, we find that a substantial fraction of SWF purchase transactions are followed by events indicative of SWF monitoring, influence, lobbying, or possible tunneling affecting the target firm.

These results are consistent with the theories of Shleifer and Vishny (1986, 1997), and others, regarding the effects of large shareholdings on firm values. The results tend to support the hypothesis that firm value changes associated with SWF transactions reflect a tradeoff between gains from the monitoring or lobbying activities of the funds and losses from their extraction of private control benefits at the expense of minority shareholders. Moreover, by examining the relationship between ownership changes and firm values, our event study results address, at least in part, the endogeneity critique of Himmelberg et al. (1999).

The idea that SWFs might have superior information about, or the ability to influence, government actions that affect target firm values seems most likely for target firms in the same country as the SWF and firms in heavily regulated industries. Favorable government decisions are common when SWFs acquire shares of firms headquartered in their home countries. Announcement period abnormal stock returns, however, do not appear to be systematically related to these attributes. Similarly, there is little in the way of convincing evidence that SWF organizational quality, as measured by the Truman index, is related to announcement period abnormal returns.

Finally, we attempt to assess the investment performance of SWFs by examining the returns on the stocks they buy and sell over long periods after the transaction announcements. There is some evidence that SWF Truman score is positively related to post-acquisition stock performance. Also, we find that the Temasek fund has performed better than its rivals. However, we cannot with confidence reject the hypothesis that, in

general, stocks bought and sold by SWFs earn normal returns afterwards, consistent with market efficiency.

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**Table I**  
**Sovereign Wealth Funds in Our Sample**

<b>Country</b>	<b>Sovereign Wealth Fund</b>	<b>Date established</b>	<b>Funding source</b>	<b>Approximate Funding Level (\$Billion)</b>
Australia	Future Fund	2004	Non-commodity, Budget Surplus	58.5
Brunei	BIA Brunei Investment Agency	1983	Oil	30.0
China	CIC China Investment Corporation	2007	Forex Reserves	200.0
Hong Kong	Hong Kong monetary authority investment portfolio	1993	Non-commodity	173.0
Korea	Korea Investment Corporation	2005	Non-commodity	27.0
Kuwait	KIA Kuwait Investment Authority	1953	Oil	264.4
Libya	Libyan Arab foreign investment company	2006	Oil	50.0
Malaysia	KN Khazanah Nasional	1993	Non-commodity	25.7
New Zealand	New Zealand superannuation fund	2003	non-commodity	13.8
Nigeria	Excess crude account	2004	Oil	11.0
Norway	Norway Government Pension Fund	1990	Oil	396.5
Papua New Guinea	Mineral Resources Development Company	1975	Oil and Minerals	NA
Qatar	QIA Qatar Investment Authority	2003	Oil	60.0
Singapore	GIC Government of Singapore Investment Corporation	1981	Non-commodity	330.0
Singapore	Temasek Holdings	1974	Non-commodity	134.0
South Korea	KIC Korea Investment Corporation	2005	Non-commodity, Forex Reserves	30.0
UAE-Abu Dhabi	Mubadala Development Company	2002	Oil	10.0
UAE-Abu Dhabi	ADIA Abu Dhabi Investment Authority	1976	Oil	875.0
UAE-Dubai	Investment Corporation of Dubai	2006	Oil	NA
<b>Total</b>				<b>2688.9</b>

Date established and funding level are from Sovereign Wealth Fund Institute website. <http://www.swfinstitute.org> , and fund websites.

**Table II**  
**Sovereign Wealth Fund Share Acquisitions**

The sample includes firms identified from the SDC data base and the Lexis and Factiva news sources that were reported to be targets of a sovereign wealth fund investment over the period January 1987 – April 2008. The table reports the distribution of target firms across target countries and industries.

Wealth Fund	Total	Target Firm Countries				Target Firm Industries			
		N&S Amer	Europe	Asia	ME & Africa	Finance	Real estate	Manufacturing	Other
Brunei	1			1		1			
China	3			3		1	2		
Hong Kong	1		1			1			
Korea	1	1				1			
Libya	1		1					1	
Malaysia	23			23		9	2	3	9
Papua New Guinea	1	1							1
Qatar	2		2			2			
SP - Temasek	116	6	7	103		19	4	11	82
SP - GIC	42	7	3	32		6	23	7	6
UAE - Dubai	24	3	8	11	2	7	7	2	8
UAE - Abu Dhabi	12	2	7	2	1	3	1	3	5
<b>Total</b>	<b>227</b>	<b>20</b>	<b>29</b>	<b>175</b>	<b>3</b>	<b>50</b>	<b>39</b>	<b>27</b>	<b>111</b>

**Table III**  
**Sovereign Wealth Fund Share Divestments**

The sample includes firms identified from the Lexis and Factiva news sources that were reported to have had a sovereign wealth fund divest holdings over the period January 1996 – December 2008, and did not have a concurrent confounding announcement in the [-1, +1] event window.

<b>Wealth Fund</b>	<b>Total</b>	<b>Divestment Firm Countries</b>				<b>Divestment Firm Industries</b>			
		<b>N&amp;S Amer</b>	<b>Europe</b>	<b>Asia</b>	<b>ME&amp; Africa</b>	<b>Finance</b>	<b>Real estate</b>	<b>Manufacturing</b>	<b>Other</b>
Brunei	1			1					1
Kuwait	1		1						1
Malaysia	1			1					1
Norway	22	12	7	2	1			17	5
Singapore	21			21		4	4	2	11
UAE	1		1						1
<b>Total</b>	<b>47</b>	<b>12</b>	<b>9</b>	<b>25</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>19</b>	<b>20</b>



**Table IV**  
**Summary Statistics for Explanatory Variables**

The investment sample includes firms identified from the SDC data base and the Lexis and Factiva news sources that were reported to be targets of a sovereign wealth fund investment over the period January 1987 – April 2008. The divestment sample includes firms identified from the Lexis and Factiva news sources that were reported to have had a sovereign wealth fund divest holdings over the period January 1996 – December 2008. These samples exclude cases where a concurrent confounding announcement occurred during the [-1, +1] event window. The table reports the mean, median and standard deviation for explanatory variables. Share Sought equals the percent of equity in the target firm that the SWF announces it intends to acquire. Full Control is set equal to one if the SWF announces it intends to take full, 100 percent ownership of the target and zero otherwise. Initial is set equal to one if this transaction is the first purchase of shares in the target and zero otherwise. Exit is set equal to one if the SWF sold all of its equity holdings in the transaction and zero otherwise. Premium is set equal to one if the buyer pays more than the public market price for the shares traded in the block transaction and zero otherwise. Regulated is set equal to one for transactions where the target firm is in the financial, utility, or airline industries and zero otherwise. Home Country is set equal to one if the target is in the wealth fund's home country and zero otherwise. Truman is a composite index of the four components of Truman's (2008) scoreboard of best practices for SWF's. Real Estate and Manufacturing are dummy variables set equal to one for target firms in the real estate and manufacturing industries, respectively.

	<b>Investment Sample</b>			<b>Divestment Sample</b>		
	<b>Clean (202)</b>	<b>Direct (145)</b>	<b>Subsidiary (57)</b>	<b>Clean (44)</b>	<b>Non-Norway (25)</b>	<b>Norway (19)</b>
<b>Share Sought</b>						
- Mean	0.275	0.250	0.333	---	---	---
- Median	0.200	0.116	0.300	---	---	---
- Std. Deviation	0.266	0.290	0.189	---	---	---
<b>Share Sold</b>						
- Mean	---	---	---	0.038	0.066	0.002
- Median	---	---	---	0.006	0.033	0.001
- Std. Deviation	---	---	---	0.076	0.092	0.001
<b>Full Control</b>						
- Mean	0.079	0.110	0.000	---	---	---
- Median	0.000	0.000	0.000	---	---	---
- Std. Deviation	0.271	0.314	0.000	---	---	---
<b>Initial</b>						
- Mean	0.282	0.324	0.175	---	---	---
- Median	0.000	0.000	0.000	---	---	---
- Std. Deviation	0.451	0.470	0.384	---	---	---
<b>Exit</b>						
- Mean	---	---	---	0.545	0.200	1.000
- Median	---	---	---	1.000	0.000	1.000
- Std. Deviation	---	---	---	0.504	0.408	0.000
<b>Premium</b>						
- Mean	0.129	0.179	0.000	0.136	0.240	0.000
- Median	0.000	0.000	0.000	0.000	0.000	0.000
- Std. Deviation	0.336	0.385	0.000	0.347	0.436	0.000
<b>Regulated</b>						
- Mean	0.302	0.324	0.246	0.136	0.240	0.000
- Median	0.000	0.000	0.000	0.000	0.000	0.000
- Std. Deviation	0.460	0.470	0.434	0.347	0.436	0.000
<b>Home Country</b>						
- Mean	0.213	0.193	0.263	0.295	0.520	0.000
- Median	0.000	0.000	0.000	0.000	1.000	0.000
- Std. Deviation	0.410	0.396	0.444	0.462	0.510	0.000

**Table IV Continued:**

	<b>Investment Sample</b>			<b>Divestment Sample</b>		
	<b>Clean (202)</b>	<b>Direct (145)</b>	<b>Subsidiary (57)</b>	<b>Clean (44)</b>	<b>Non-Norway (25)</b>	<b>Norway (19)</b>
<b>Truman</b>						
- Mean	37.285	36.280	39.807	63.682	42.160	92.000
- Median	45.000	45.000	45.000	45.000	45.000	92.000
- Std. Deviation	12.167	12.982	9.471	25.841	8.890	0.000
<b>Real Estate</b>						
- Mean	0.173	0.124	0.298	0.114	0.200	0.000
- Median	0.000	0.000	0.000	0.000	0.000	0.000
- Std. Deviation	0.379	0.331	0.462	0.321	0.408	0.000
<b>Finance</b>						
- Mean	0.188	0.248	0.035	0.091	0.160	0.000
- Median	0.000	0.000	0.000	0.000	0.000	0.000
- Std. Deviation	0.392	0.434	0.186	0.291	0.374	0.000
<b>Manufacturing</b>						
- Mean	0.129	0.152	0.070	0.386	0.080	0.790
- Median	0.000	0.000	0.000	0.000	0.000	0.000
- Std. Deviation	0.336	0.360	0.258	0.492	0.277	0.419

**Table V**  
**Announcement Period Abnormal Returns**

The investment sample includes firms identified from the SDC data base and the Lexis and Factiva news sources that were reported to be targets of a sovereign wealth fund investment over the period January 1987 – April 2008. The divestment sample includes firms identified from the Lexis and Factiva news sources that were reported to have had a sovereign wealth fund divest holdings over the period January 1996 – December 2008. The clean samples exclude cases where a concurrent confounding announcement occurred during the [-1, +1] event window. The table reports cumulative abnormal stock returns for the event window [-1, +1] from a market model estimated using daily returns over the period [-250, +1], excluding days [-6, -2]. The market model includes returns on both local and world market indices taken from Datastream. Calendar time daily returns are for an equally-weighted portfolio containing stocks of sovereign wealth fund target firms (investment or divestment) on days -1, 0, and +1 relative to transaction press dates. Superscripts a, b, and c denote statistical significance at the 10, 5, and 1 percent levels, respectively, for two-tailed tests.

	<b>CAR [-1, +1]</b>	<b>Calendar Time Portfolio Abnormal Daily Returns</b>	<b>CAR [-1, +1]</b>	<b>Calendar Time Portfolio Abnormal Daily Returns</b>	<b>CAR [-1, +1]</b>	<b>Calendar Time Portfolio Abnormal Daily Returns</b>
<b>Investment Sample</b>	<b>Full Sample</b>					
Observations	227	594				
Average	0.0152	0.0049				
Std. Deviation	0.0806	0.0459				
T-statistic	2.84 <sup>c</sup>	2.59 <sup>c</sup>				
Z-statistic	7.07 <sup>c</sup>					
<b>Investment Sample</b>	<b>Clean Sample</b>		<b>Direct Investment</b>		<b>Subsidiary Investment</b>	
Observations	202	536	145	387	57	165
Average	0.0172	0.0049	0.0221	0.0067	0.0045	0.0006
Std. Deviation	0.0763	0.0446	0.0837	0.0504	0.0517	0.0252
T-statistic	3.20 <sup>c</sup>	2.54 <sup>b</sup>	3.19 <sup>c</sup>	2.61 <sup>c</sup>	0.66	0.32
Z-statistic	7.15 <sup>c</sup>		7.57 <sup>c</sup>		1.39	
<b>Divestment Sample</b>	<b>Clean Sample</b>		<b>Norway Divestments</b>		<b>Non-Norway Divestments</b>	
Observations	47	90	22	21	25	69
Average	-0.0137	-0.0050	-0.0022	0.0028	-0.0238	-0.0074
Std. Deviation	0.0369	0.0321	0.0291	0.0250	0.0405	0.0338
T-statistic	-2.54 <sup>b</sup>	-1.49	-0.36	0.52	-2.93 <sup>c</sup>	-1.82 <sup>a</sup>
Z-statistic	-3.77 <sup>c</sup>		-0.74		-4.47 <sup>c</sup>	

**Table VI**  
**Investment Sample Regressions for Announcement Period Abnormal Returns**

The sample includes firms identified from the SDC data base and the Lexis and Factiva news sources that were reported to be targets of a sovereign wealth fund investment over the period January 1987 – April 2008, and did not have a concurrent confounding announcement in the [-1, +1] event window. The table reports OLS regressions with cumulative abnormal stock returns for the event window [-1, +1] from a market model estimated using daily returns over the period [-250, +1], excluding days [-6, -2] as the dependent variable. The market model includes returns on both local and world market indices taken from Datastream. Share Sought equals the fraction of equity in the target firm that the SWF announces it intends to acquire. Full Control is set equal to one if the SWF announces its intention to take 100 percent ownership of the target and zero otherwise. Premium is set equal to one if the buyer pays more than the public market price for the shares traded in the block transaction and zero otherwise. Initial is set equal to one if this transaction is the first purchase of shares in the target and zero otherwise. Regulated is set equal to one for transactions where the target firm is in the financial, utility, or airline industries and zero otherwise. Home Country is set equal to one if the target is in the wealth fund's home country and zero otherwise. Truman is a composite index of the four components of Truman's (2008) scoreboard of best practices for SWFs. Real Estate is a dummy variable set equal to one for target firms in the real estate industry. P-values based on White-heteroskedasticity consistent standard errors are reported below the coefficient estimates. Coefficients significant at the 10 percent level or less are in bold type.

**Table VI**

	Clean Sample				Direct targets subsample				Subsidiary targets subsample			
	1	2	3	4	1	2	3	4	1	2	3	4
Constant	0.007 (.452)	-0.009 (.429)	0.007 (.713)	<b>-0.029</b> <b>(.064)</b>	0.000 (.981)	-0.014 (.321)	0.009 (.698)	<b>-0.042</b> <b>(.026)</b>	-0.003 (.847)	0.001 (.943)	-0.005 (.852)	0.011 (.642)
Share Sought	0.073 (.332)	0.117 (.113)	<b>0.134</b> <b>(.086)</b>	<b>0.147</b> <b>(.082)</b>	0.187 (.132)	0.174 (.107)	<b>0.197</b> <b>(.086)</b>	0.189 (.108)	0.057 (.515)	0.047 (.592)	0.042 (.606)	0.091 (.349)
Share Sought <sup>2</sup>	-0.065 (.424)	-0.141 (.122)	<b>-0.159</b> <b>(.097)</b>	<b>-0.175</b> <b>(.077)</b>	-0.170 (.159)	-0.186 (.101)	<b>-0.205</b> <b>(.091)</b>	-0.201 (.102)	-0.080 (.365)	-0.071 (.426)	-0.069 (.420)	-0.118 (.246)
Full control	---	0.026 (.593)	0.031 (.525)	0.033 (.487)	---	0.018 (.746)	0.020 (.714)	0.022 (.689)	---	---	---	---
Premium	---	<b>0.047</b> <b>(.086)</b>	0.044 (.104)	0.041 (.110)	---	0.042 (.115)	0.038 (.140)	0.038 (.137)	---	---	---	---
Initial	---	<b>0.024</b> <b>(.074)</b>	<b>0.028</b> <b>(.045)</b>	<b>0.025</b> <b>(.066)</b>	---	<b>0.030</b> <b>(.062)</b>	<b>0.036</b> <b>(.032)</b>	<b>0.034</b> <b>(.039)</b>	---	-0.010 (.482)	-0.006 (.629)	0.002 (.869)
Regulated	---	---	-0.007 (.576)	<b>0.088</b> <b>(.008)</b>	---	---	-0.008 (.592)	<b>0.113</b> <b>(.001)</b>	---	---	-0.010 (.528)	<b>-0.142</b> <b>(.000)</b>
Home Country	---	---	-0.008 (.567)	-0.011 (.443)	---	---	-0.006 (.790)	-0.008 (.723)	---	---	-0.005 (.709)	-0.008 (.651)
Truman	---	---	-0.000 (.337)	<b>0.001</b> <b>(.096)</b>	---	---	-0.001 (.203)	<b>0.001</b> <b>(.078)</b>	---	---	0.000 (.696)	-0.000 (.669)
Real Estate	---	---	---	-0.019 (.192)	---	---	---	-0.016 (.401)	---	---	---	-0.011 (.616)
Truman*Regulated	---	---	---	<b>-0.003</b> <b>(.001)</b>	---	---	---	<b>-0.004</b> <b>(.000)</b>	---	---	---	<b>0.003</b> <b>(.000)</b>
Observations	197	197	195	195	140	140	138	138	57	57	57	57
Adjusted R <sup>2</sup>	-0.003	0.054	0.047	0.097	0.016	0.062	0.054	0.127	-0.031	-0.045	-0.099	-0.092
F-statistic	0.518	<b>3.224</b>	<b>2.199</b>	<b>3.083</b>	2.119	<b>2.848</b>	<b>1.979</b>	<b>3.000</b>	0.151	0.193	0.157	0.047

**Table VII**  
**Divestment Sample Regressions for Announcement Period Abnormal Returns**

The sample includes firms identified from the Lexis and Factiva news sources that were reported to have had a sovereign wealth fund divest holdings over the period January 1996 – December 2008 and did not have a concurrent confounding announcement in the [-1, +1] event window. The table reports OLS regressions with cumulative abnormal stock returns for the event window [-1, +1] from a market model estimated using daily returns over the period [-250, +1], excluding days [-6, -2] as the dependent variable. The market model includes returns on both local and world market indices taken from Datastream. Share Sold equals the fraction of equity divested in the target firm. Exit is set equal to one if the post acquisition ownership of the SWF equals zero and zero otherwise. Premium is set equal to one if the buyer pays more than the public market price for the shares traded in the block transaction and zero otherwise. Regulated is set equal to one for transactions where the target firm is in the financial, utility, or airline industries and zero otherwise. Home Country is set equal to one if the target is in the wealth fund's home country and zero otherwise. Truman is a composite index of the four components of Truman's (2008) scoreboard of best practices for SWF's. Singapore SWF and Norway SWF are dummy variables set equal to one for divestments by Singapore (Temasek or GSIC) or Norway wealth funds, respectively. P-values based on White-heteroskedasticity consistent standard errors are reported below the coefficient estimates. Coefficients significant at the 10 percent level or less are in bold type.

**Table VII**

	Clean Sample				Non-Norway subsample				Norway Subsample
	1	2	3	4	1	2	3	4	1
Constant	-0.002 (.753)	-0.009 (.563)	0.013 (.779)	-0.051 (.197)	-0.006 (.722)	-0.005 (.762)	-0.022 (.725)	-0.050 (.270)	-0.052 (.157)
Share Sold	<b>-0.641</b> <b>(.000)</b>	-0.412 (.114)	<b>-0.514</b> <b>(.075)</b>	<b>-0.541</b> <b>(.091)</b>	<b>-0.580</b> <b>(.058)</b>	-0.472 (.116)	-0.433 (.210)	-0.560 (.127)	48.188 (.168)
Share Sold <sup>2</sup>	<b>1.765</b> <b>(.000)</b>	<b>1.175</b> <b>(.064)</b>	<b>1.406</b> <b>(.037)</b>	<b>1.453</b> <b>(.056)</b>	<b>1.633</b> <b>(.018)</b>	<b>1.251</b> <b>(.071)</b>	1.150 (.161)	<b>1.500</b> <b>(.087)</b>	-7785.877 (.228)
Exit		0.010 (.513)	0.019 (.352)	<b>0.037</b> <b>(.051)</b>		0.021 (.187)	<b>0.034</b> <b>(.094)</b>	<b>0.037</b> <b>(.094)</b>	
Premium		<b>-0.024</b> <b>(.067)</b>	<b>-0.032</b> <b>(.058)</b>	<b>-0.039</b> <b>(.064)</b>		<b>-0.030</b> <b>(.038)</b>	<b>-0.033</b> <b>(.088)</b>	-0.039 (.110)	
Regulated			-0.012 (.683)	<b>0.103</b> <b>(.006)</b>			-0.018 (.604)	<b>0.104</b> <b>(.018)</b>	
Home Country			0.000 (.983)	-0.007 (.803)			-0.006 (.803)	-0.007 (.838)	
Truman			0.000 (.566)	0.001 (.154)			0.001 (.699)	0.001 (.217)	
Truman*Regulated				<b>-0.003</b> <b>(.050)</b>				<b>-0.003</b> <b>(.088)</b>	
Singapore SWF				-0.005 (.877)				-0.006 (.884)	
Norway SWF				-0.117 (.111)					
Observations	44	44	44	44	25	25	25	25	19
Adjusted R <sup>2</sup>	0.175	0.180	0.127	0.140	0.131	0.131	0.013	0.029	0.140
F-Statistic	<b>5.572</b>	<b>3.363</b>	<b>1.891</b>	1.698	<b>2.808</b>	1.907	1.045	1.079	2.469

**Table VIII**  
**Long Run Post-Transaction Returns for the Investment Sample**

The sample includes firms identified from the SDC data base and the Lexis and Factiva news sources that received a sovereign wealth fund investment over the period January 1987 – April 2008. The table reports cumulative market-adjusted stock returns and market-adjusted buy and hold returns for one, three and five year periods. The t-statistic is for a test of whether or not the mean equals zero. Wilcoxon is a test statistic for a Wilcoxon signed rank test for whether the median equals zero. Both statistics are in bold type when their significance levels are 10 percent, or less, for two-tailed tests.

<b>Full Sample</b>						
	<b>One Year</b>		<b>Three Years</b>		<b>Five Years</b>	
	<b>CMAR</b>	<b>BHAR</b>	<b>CMAR</b>	<b>BHAR</b>	<b>CMAR</b>	<b>BHAR</b>
Mean	-0.034	-0.006	0.106	0.181	0.454	8.691
Median	-0.045	-0.094	0.073	-0.173	0.312	-0.193
Std. Deviation	0.416	0.522	0.719	1.607	1.130	71.955
T-statistic	-1.100	-0.164	<b>1.660</b>	1.271	<b>3.455</b>	1.039
Wilcoxon	1.415	<b>2.437</b>	1.548	0.920	<b>3.270</b>	0.016
Observations	178	178	127	127	74	74
<b>Direct Targets</b>						
	<b>One Year</b>		<b>Three Years</b>		<b>Five Years</b>	
	<b>CMAR</b>	<b>BHAR</b>	<b>CMAR</b>	<b>BHAR</b>	<b>CMAR</b>	<b>BHAR</b>
Mean	-0.028	0.003	0.101	0.100	0.437	12.342
Median	-0.045	-0.091	0.087	-0.153	0.199	-0.259
Std. Deviation	0.435	0.552	0.713	1.322	1.186	86.681
T-statistic	-0.726	0.059	1.308	0.703	<b>2.631</b>	1.017
Wilcoxon	0.893	<b>1.769</b>	1.197	1.120	<b>2.404</b>	0.567
Observations	124	124	86	86	51	51
<b>Subsidiary Targets</b>						
	<b>One Year</b>		<b>Three Years</b>		<b>Five Years</b>	
	<b>CMAR</b>	<b>BHAR</b>	<b>CMAR</b>	<b>BHAR</b>	<b>CMAR</b>	<b>BHAR</b>
Mean	-0.048	-0.028	0.117	0.351	0.492	0.597
Median	-0.055	-0.134	0.072	-0.185	0.546	-0.118
Std. Deviation	0.374	0.451	0.741	2.092	1.021	2.029
T-statistic	-0.944	-0.455	1.013	1.074	<b>2.311</b>	1.410
Wilcoxon	1.266	<b>1.756</b>	0.972	0.026	<b>2.205</b>	0.624
Observations	54	54	41	41	23	23



**Table IX****Long Run Market-Adjusted Returns in Calendar time for Portfolios of SWF Investments**

The sample includes firms identified from the SDC data base and the Lexis and Factiva news sources that received a sovereign wealth fund investment over the period January 1987 – April 2008. The table reports the average daily return for equal weighted portfolios of SWF targets. The portfolio returns calculated in calendar time are market-adjusted returns for an equally weighted portfolio of firms that received SWF investments within the preceding one, three, or five years. These portfolio returns are averaged over calendar time, excluding dates when the portfolios contain no target firms. The t-statistic is for a test of whether or not the average daily portfolio return equals zero. The t-statistics are in bold type when their significance levels are 10 percent, or less, for two-tailed tests.

	<b>Portfolio Returns Calculated in Calendar Time</b>
<b>1 Year (Days [2, 250])</b>	
Portfolio days	4813
Average daily return	-0.0002
Std. Deviation	0.0122
T-statistic	-1.15
<b>3 Years (Days [2, 750])</b>	
Portfolio days	5399
Average daily return	0.0000
Std. Deviation	0.0097
T-statistic	0.21
<b>5 Years (Days [2, 1250])</b>	
Portfolio days	5399
Average daily return	0.0001
Std. Deviation	0.0088
T-statistic	0.71

**Table X****One year Long Run Post-Transaction Returns for the Divestment Sample**

The sample includes firms identified from the Lexis and Factiva news sources that had a wealth fund divest holdings over the period January 1996 – December 2008. The table reports cumulative market-adjusted stock returns and market-adjusted buy and hold returns for one, three and five year periods. The t-statistic is a test statistic for whether the mean equals zero. The Wilcoxon statistic is a test statistic for a Wilcoxon signed rank test for whether the Median equals zero. Both statistics are in bold type when their significance levels are 10 percent, or less, for two-tailed tests.

	<b>Full Sample</b>	
	<b>CMAR</b>	<b>BHAR</b>
Mean	0.018	0.029
Median	0.032	0.025
Std. Deviation	0.291	0.324
T-statistic	0.379	0.529
Wilcoxon	0.511	0.432
Observations	36	36
	<b>Non-Norway</b>	
	<b>CMAR</b>	<b>BHAR</b>
Mean	0.023	0.054
Median	0.049	0.033
Std. Deviation	0.332	0.358
T-statistic	0.296	0.634
Wilcoxon	0.566	0.653
Observations	18	18
	<b>Norway</b>	
	<b>CMAR</b>	<b>BHAR</b>
Mean	0.014	0.004
Median	0.019	0.012
Std. Deviation	0.252	0.293
T-statistic	0.228	0.051
Wilcoxon	0.000	0.087
Observations	18	18

**Table XI**  
**OLS Regressions for the Long Run Post-Transaction Returns for the Investment Sample**

The sample includes firms identified from the SDC data base and the Lexis and Factiva news sources that had a sovereign wealth fund investment over the period January 1987 – April 2008. The table reports OLS regressions with cumulative market-adjusted stock returns for one, three, and five year periods as the dependent variable. Truman is a composite index of the four components of Truman's (2008) scoreboard of best practices for SWFs. Temasek is set equal to one for investments made by Temasek and zero otherwise. Behavior, Governance, Structure, and Transparency are the four sub-indices defined in Truman (2008). P-values based on White-heteroskedasticity consistent standard errors are reported below the coefficient estimates. Coefficients significant at the 10 percent level, or less, for two-tailed tests are in bold type.

	<b>One Year</b>			<b>Three Years</b>			<b>Five Years</b>		
Constant	<b>-0.265</b> (.062)	-0.031 (.524)	<b>-0.356</b> (.095)	-0.035 (.838)	0.073 (.423)	<b>-0.482</b> (.078)	<b>-0.445</b> (.054)	<b>0.193</b> (.068)	0.302 (.597)
Truman	<b>0.006</b> (.075)			0.004 (.409)			<b>0.022</b> (.002)		
Temasek		-0.006 (.929)	-0.049 (.815)		0.058 (.648)	0.085 (.747)		<b>0.471</b> (.055)	-0.362 (.403)
Behavior			0.005 (.724)			-0.017 (.311)			0.018 (.405)
Structure			0.003 (.749)			<b>0.024</b> (.056)			-0.031 (.226)
Governance			0.005 (.652)			-0.013 (.246)			0.003 (.774)
Transparency			-0.000 (.973)			-0.000 (.995)			<b>0.035</b> (.001)
Observations	176	176	176	125	127	125	73	73	73
Adjusted R <sup>2</sup>	.019	-.006	.019	-.006	-.006	-.022	.028	.030	.008
F-statistic	<b>4.363</b>	0.008	1.662	0.262	0.201	0.471	<b>3.095</b>	<b>3.277</b>	1.109

**Table XII**  
**Examples of SWF Influence**

The table reports examples of SWF influence on target firms for 5 years following the SWF investment. The sample includes SWF investments identified in the SDC data base occurring over the period 1987 - 2008. Examples of influence are from the Major World Publications sources in Lexis/Nexis. Search terms were “target name and sovereign wealth fund name.”

<b>Types of Influence</b>	<b>Examples</b>
<b>A. Monitoring</b>	
<b>Board Representation</b>	<ul style="list-style-type: none"> <li>- Following its 2005 purchase of 20% interest in Bank Islam Malaysia, Dubai Investment Group was given 3 seats on the board.</li> <li>- Eight months after Istithmar purchased a 10% stake in Kerzner in 2004, a press report notes that a Mr. Kazin is on the board of both Kerzner and Istithmar.</li> </ul>
<b>Senior Management Turnover</b>	<ul style="list-style-type: none"> <li>- Seven months after Istithmar became Mirvac Group's largest shareholder (12/07), the CEO resigned. The article noted the move was approved by Istithmar.</li> <li>- Within one year of Temasek firm SP Technologies gaining over 80% of STATS ChipPac shares in a mid 2007 tender offer, the CFO, COO, VP of Human Resources and 5 directors resigned.</li> <li>- One month after Govt. of Singapore Investment Corporation acquired a 4.4% stake in National Foods of Australia (6/96), the firm announced an overhaul of its business structure, including new heads for its 4 main business units.</li> </ul>
<b>Other Monitoring</b>	<ul style="list-style-type: none"> <li>- Personnel from COSCO Shipyard underwent training at SembMarine, a subsidiary of SembCorp, a Temasek-linked firm (SembCorp bought 5% of COSCO in 12/02).</li> <li>- After Temasek-linked PSA's purchase of 20% of rival Hutchison Whampoa's HIT port facilities in Hong Kong (6/05), several press articles note "stabilized" port facility prices and the direction of overflow traffic from Hutchison's terminals to PSA's.</li> <li>- After Khazanah purchased UEM and eventually took them private (7/01), they planned the IPO of UEM's subsidiary, PLUS, Malaysia's biggest toll highway operator. Prior to the IPO, Khazanah announced that PLUS would "maximize" dividend payments. Post-IPO, Khazanah retained approximately 70% ownership in PLUS.</li> </ul>

**Table XII (Continued)**

<b>Types of Influence</b>	<b>Examples</b>
<b>B. Network Transactions</b>	
<b>Related Business Transactions</b>	<ul style="list-style-type: none"> <li>- Five months after Mubadala purchased a 5% interest in Ferrari (7-05), Ferrari announced an exclusive agreement with another Mubadala-related firm to jointly develop a Ferrari-based theme park in Abu Dhabi.</li> <li>- Following Istithmar's 13% equity investment in the Bahama property developer Kerzner (7/04), the two firms jointly developed several properties, including joining a consortium of firms to develop a resort in Monaco in 2005.</li> <li>- A year after Khazanah took a 13% equity interest in India's Apollo Hospitals (8-05), an Apollo subsidiary and another Khazanah-linked firm (Faber Group of UEM) formed a joint venture to offer hospital information management systems in India. This was viewed as a great opportunity for Faber to break into India.</li> <li>- Just 4 months after Temasek became a majority shareholder of Danamon Bank in Indonesia (5-03), Danamon and DBS Bank (a Singapore-based Temasek-linked bank) struck a deal to allow their customers to use each other's automated teller machines (ATMs) at discounted rates.</li> </ul>
<b>SWF Invests in Target-Related Firm</b>	<ul style="list-style-type: none"> <li>- Thirteen months after buying 40% equity in China Vanke subsidiary Chengdu Vanke (11/04), Government of Singapore Investment Corporation purchased a 51% stake in Shenyang Vanke.</li> <li>- Eight months after Istithmar acquired a 25% stake in Raimon Lands, a Thai property developer (12/06), Raimon announced 4 new major projects with 43% of the funding coming from Istithmar and banks.</li> <li>- About 2 years after Temasek acquired a 20% take in Natseel (5-98), it purchased a 10% stake in NatSteel Electronics (33% owned by NatSteel).</li> </ul>
<b>Target Invests in SWF-Related Firm</b>	<ul style="list-style-type: none"> <li>- In 4/04, Temasek acquired a 6.4% interest in Hana Bank (Korea) worth about \$280m to raise its total holdings to 10%. In 2008, Hana paid \$50m to purchase 1 million shares in Merrill Lynch from Temasek (\$50 per share). Temasek acquired 91.7 million Merrill shares (9.5% stake) in 12-07, paying \$48 per share, a 13.6% discount to the trading price (total of \$4.4 billion). Merrill's closing price just prior to the Hana announcement was \$51.64.</li> <li>- In 11/00, Temasek-linked SembCorp purchased 20% in Kuehne+Nagel. In 3-01, Kuehne+Nagel purchased a 5% interest in SembCorp Logistics.</li> <li>- In 3/99, Temasek-linked SIA Engineering purchased a 10% stake in Hong Kong Aero Engineering (HAECO). In 5/01, SIA Engineering sold Haeco 4% of its 9% stake in TAECO.</li> </ul>

**Table XII (Continued)**

<b>Types of Influence</b>	<b>Examples</b>
<b>C. Government Actions</b>	
<b>Government Favorable Decisions</b>	<ul style="list-style-type: none"> <li>- Six months after China Investment Corp acquired 4.9% of Bank of East Asia's equity (11/07), the bank won approval from the People's Bank of China to become the first foreign bank to issue debit cards in mainland China.</li> <li>- Shortly after Temasek purchased a 5% interest in Singapore firm Hyflux (12/02), the firm was awarded a sizeable government contract for a desalination project.</li> <li>- About 6 months after Khazanah acquired a 10% share in Megasteel, the Malaysian government announced a 25% tariff on all imports of hot-rolled steel coils, the same products produced locally by only Megasteel.</li> </ul>
<b>Government Unfavorable Decisions</b>	<ul style="list-style-type: none"> <li>- By the mid-2000's, Temasek-linked SingTel controlled 35% of Telkomsel and Singapore Telemedia controlled 45% of Indosat, Indonesia's two major telecom providers. In late 2007, Indonesia's Business Competition Supervisory Commission, or KPPU, found Temasek Holdings, ST Telemedia and SingTel guilty of price fixing and fined each \$4 million. The Temasek firms were ordered to sell their stakes in one of the two telecom firms.</li> <li>- In 2001 the Government of Singapore Investment Corporation originally proposed purchasing 40% of Malaysian property developer Seremban Two, but after government objections scaled the investment back to 30%.</li> <li>- In 2006, Bank Indonesia announced a "single presence" policy for banks, limiting controlling owners to presence in a single bank. This lead to a reshuffling of Indonesian bank assets held by Khazanah and Temasek.</li> </ul>

**Table XIII**  
**Incidence of SWF Monitoring and Influence Activities**

The table reports the fractions of SWF purchase transactions followed by events indicative of SWF monitoring, influence, lobbying, or possible tunneling affecting the target firm during the one, three and five year periods following the SWF investment. These events are identified in the Major World Publications source in Lexis/Nexis. Board Representation includes all cases where the wealth fund was explicitly allocated one or more board seats, or where a target board member was employed by the wealth fund. Senior Management Turnover records cases where the CEO, COO, CFO, directors, or board members resigned or were replaced. Other Monitoring records miscellaneous cases where press reports strongly suggest the wealth fund affected normal business operations. Related Business Transactions documents transactions where the target firm signed a major business deal (i.e., large enough to be reported in the press) with another firm that is partially or wholly owned by the same wealth fund. SWF Invests in Target-Related Firm counts the share of firms where the wealth fund took an equity interest in another firm that is wholly or partially owned by the target firm. Target Invests in SWF-Related Firm counts the share of target firms who took an equity interest in a firm that is partially owned by the same wealth fund. Government Favorable and Unfavorable Decisions capture instances when government authorities, in the SWF or target country, made decisions that had a positive or negative influence on the target firm. Chi-Square test statistic is a test of independence between the two sets of transactions (Temasek related versus non-Temasek, or HomeCtry = 1 equity versus = 0) and exercising or not exercising the particular influence activity.

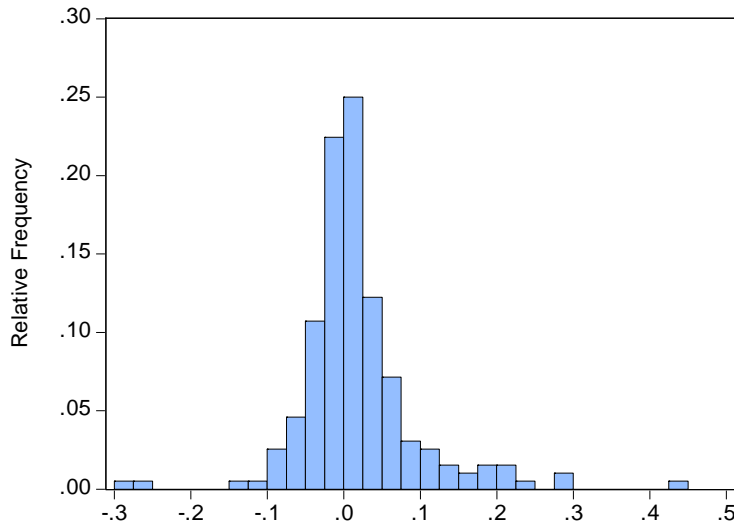
	<b>Time Frame</b>	<b>Total %</b>	<b>Temasek %</b>	<b>Non- Temasek %</b>	<b>Chi-Sq Test</b>	<b>Home Ctry=1 %</b>	<b>Home Ctry=0 %</b>	<b>Chi-Sq Test</b>
<b><u>Panel A: Monitoring</u></b>								
Board								
Representation	---	15.8	15.7	15.8	0.000	28.2	12.5	<b>5.772**</b>
Senior	1 Yr	9.2	7.9	10.5	0.388	12.8	8.3	0.757
Management	3 Yrs	14.3	15.0	13.3	0.078	20.0	12.4	1.244
Turnover	5 Yrs	11.4	10.2	12.8	0.148	17.4	9.2	1.123
Other	1 Yr	4.9	6.7	3.2	1.268	12.8	2.8	<b>6.689***</b>
Monitoring	3 Yrs	6.4	8.8	3.3	1.672	14.3	3.8	<b>4.789**</b>
	5 Yrs	8.0	8.2	7.7	0.007	21.7	3.1	<b>8.081***</b>
All Monitoring Events		27.2	28.1	26.3	0.073	43.6	22.8	<b>6.739***</b>
<b><u>Panel B: Network Transactions</u></b>								
Related	1 Yr	19.6	23.6	15.8	1.779	20.5	19.3	0.028
Business	3 Yrs	25.0	33.8	13.3	<b>7.622***</b>	31.4	22.9	1.209
Transactions	5 Yrs	29.6	46.9	7.7	<b>16.069***</b>	43.5	24.6	<b>2.904*</b>
SWF Invests in	1 Yr	10.9	11.2	10.5	0.024	7.7	11.7	0.516
Target-Related	3 Yrs	18.6	22.5	13.3	1.905	17.1	19.1	0.063
Firm	5 Yrs	21.6	30.6	10.3	<b>5.315**</b>	26.1	20.0	0.372
Target Invests in	1 Yr	3.8	6.7	1.1	<b>4.064**</b>	7.7	2.8	2.044
SWF-Related	3 Yrs	6.4	11.3	0.0	<b>7.214***</b>	11.4	4.8	1.939
Firm	5 Yrs	14.8	24.5	2.6	<b>8.292***</b>	21.7	12.3	1.200
All Network Transactions		35.3	43.8	27.4	<b>5.444**</b>	38.5	34.5	0.213
<b><u>Panel C: Government Actions</u></b>								
Government	1 Yr	8.2	7.9	8.4	0.019	20.5	4.8	<b>10.098***</b>
Favorable	3 Yrs	13.6	15.0	11.7	0.324	22.9	10.5	<b>3.430*</b>
Decisions	5 Yrs	14.8	16.3	12.8	0.212	13.0	15.4	0.074
Government	1 Yr	1.6	0.0	3.2	<b>2.857*</b>	2.6	1.4	0.267
Unfavorable	3 Yrs	5.0	3.8	6.7	0.614	5.7	4.8	0.050
Decisions	5 Yrs	7.8	8.2	7.7	0.007	4.4	9.2	0.553
All Government Actions		15.8	16.9	14.7	0.155	25.6	13.1	<b>3.639*</b>
All Events		51.6	58.4	45.3	<b>3.188*</b>	66.7	47.6	<b>4.480**</b>

**Table XIV**  
**OLS Regressions of Long Run Returns and SWF Influence Activities**

The sample includes firms identified from the SDC data base and the Lexis and Factiva news sources that had a sovereign wealth fund investment over the period 1987 - 2008. The table reports OLS regressions with cumulative market-adjusted stock returns for one, three, and five year periods as the dependent variable. Temasek is set equal to one for investments made by Temasek and zero otherwise. Home Country is set equal to one for targets located in the sovereign wealth fund's home country and zero otherwise. Monitoring is set equal to one if a Lexis search revealed any indication of sovereign wealth fund membership on the board, senior management turnover, or other monitoring activities and zero otherwise. Government Favorable (Unfavorable) Decision is set equal to one if the target or sovereign wealth fund home governments made a regulatory decision favorable (unfavorable) to the target and zero otherwise. Networking is set equal to one if the target had any business dealings with firms related to the wealth fund reported in Lexis, the wealth fund invested in other firms related to the target, or the target invested in other firms related to the wealth fund and zero otherwise. P-values based on White-heteroskedasticity consistent standard errors are reported below the coefficient estimates. Coefficients significant at the 10 percent level, or less, for two-tailed tests are in bold type.

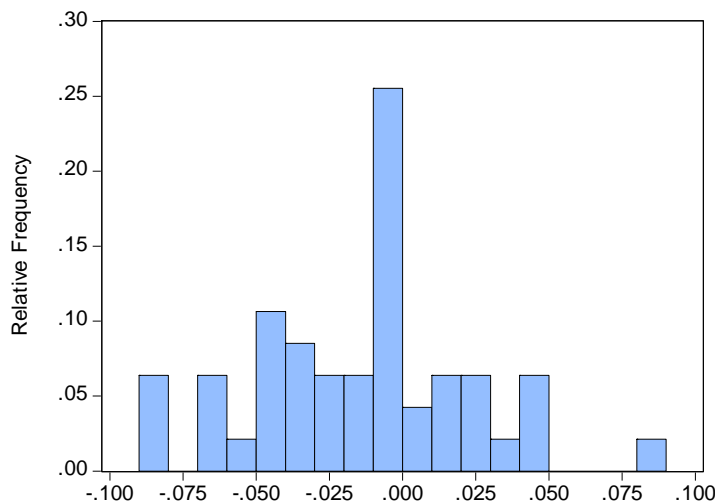
	<b>Y = CMAR long run returns over</b>		
	<b>One Year</b>	<b>Three Years</b>	<b>Five Years</b>
Constant	-0.059 (.285)	0.075 (.524)	0.175 (.435)
Home Country	-0.020 (.878)	-0.301 (.198)	-0.172 (.834)
Temasek	-0.071 (.345)	-0.082 (.646)	<b>0.971</b> <b>(.005)</b>
Temasek*Home Country	0.138 (.413)	0.258 (.365)	-0.713 (.385)
Monitoring	-0.024 (.794)	-0.034 (.854)	<b>-0.730</b> <b>(.094)</b>
Monitoring * Home Country	0.144 (.342)	0.187 (.503)	0.947 (.228)
Networking	<b>0.179</b> <b>(.037)</b>	0.200 (.355)	-0.116 (.752)
Networking*Home Country	<b>-0.296</b> <b>(.075)</b>	-0.016 (.956)	0.193 (.800)
Government Favorable Decision	<b>0.277</b> <b>(.036)</b>	<b>0.401</b> <b>(.015)</b>	<b>0.792</b> <b>(.073)</b>
Government Unfavorable Decision	-0.063 (.641)	-0.478 (.234)	<b>-1.085</b> <b>(.085)</b>
Observations	158	114	68
Adjusted R <sup>2</sup>	.015	-.023	.101
F-statistic	1.266	0.715	<b>1.839</b>





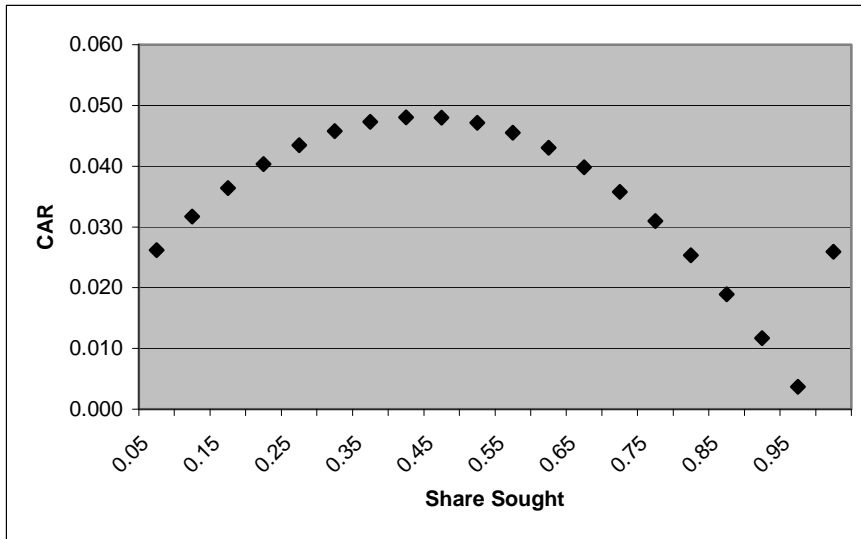
**Figure 1: Frequency Distribution of Announcement Period CARs – Clean Investment Sample**

The sample includes firms identified from the SDC data base and the Lexis and Factiva news sources that were reported to be targets of a sovereign wealth fund investment over the period January 1987 – April 2008, and did not have a concurrent confounding announcement in the  $[-1, +1]$  event window. The figure reports the relative frequency distribution for cumulative abnormal stock returns for the event window  $[-1, +1]$  from a market model estimated using daily returns over the period  $[-250, +1]$ , excluding days  $[-6, -2]$ . The market model includes returns on both local and world market indices taken from Datastream.



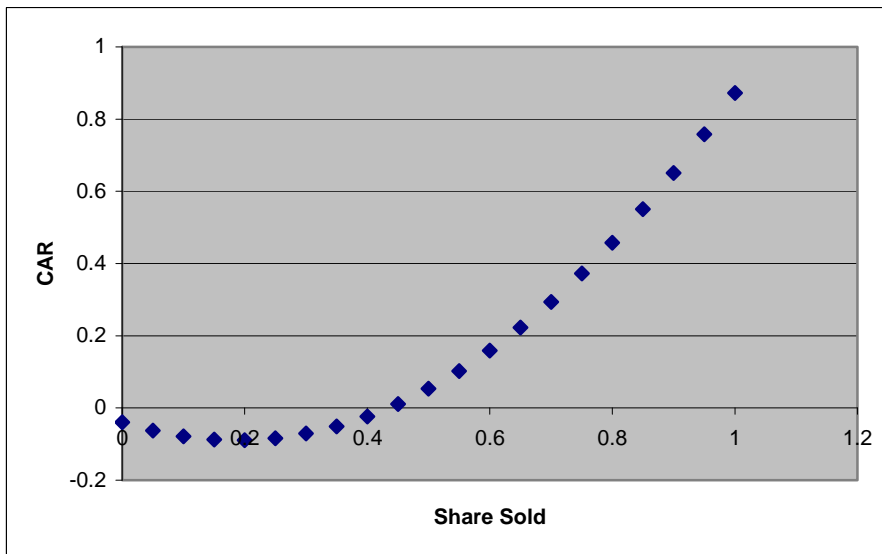
**Figure 2: Frequency Distribution of Announcement Period CARs – Clean Divestment Sample**

The sample includes firms identified from the Lexis and Factiva news sources that were reported to have had a sovereign wealth fund divest holdings over the period January 1996 – December 2008 and did not have a concurrent confounding announcement in the  $[-1, +1]$  event window. The figure reports the relative frequency distribution for the cumulative abnormal stock returns for the event window  $[-1, +1]$  from a market model estimated using daily returns over the period  $[-250, +1]$ , excluding days  $[-6, -2]$ . The market model includes returns on both local and world market indices taken from Datastream.



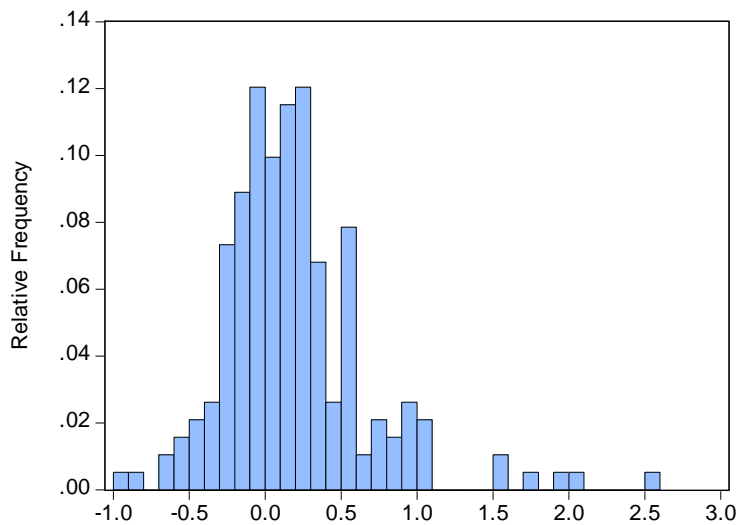
**Figure 3: Predicted CARs – Investment Sample**

The figure depicts predicted CARs for sovereign wealth fund investments, using coefficient estimates from Table VI, clean sample, specification (3). All regressors are set at their sample average levels, except Share Sought and Full Control. Full Control is set to 1.0 for Share Sought equal to 100 percent.



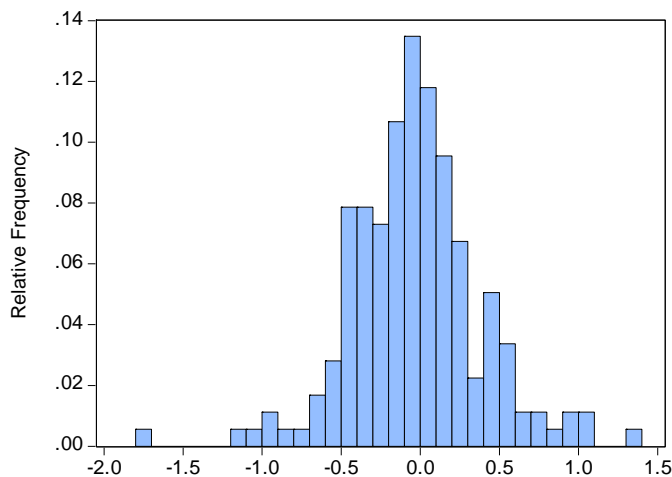
**Figure 4: Predicted CAR's – Divestment Sample**

Figure depicts predicted CARs for sovereign wealth fund divestments, using coefficient estimates from Table VII, clean sample, specification (4). All regressors are set at their sample average levels, except Share Sold.



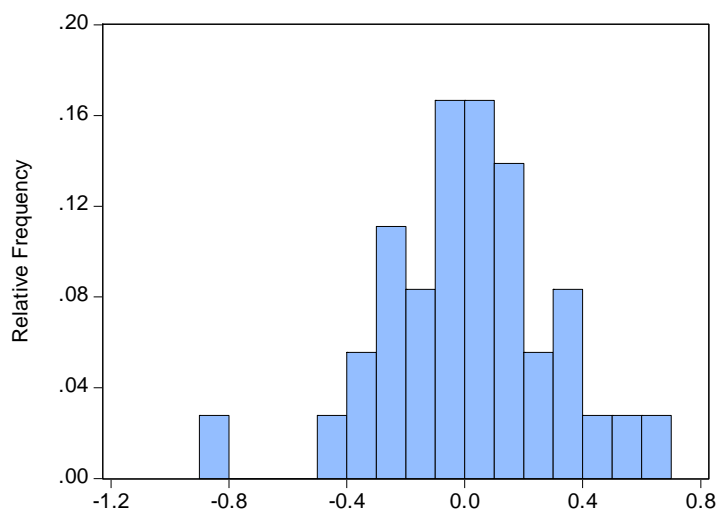
**Figure 5: Frequency Distribution of One Year Pre-event CMARs – Full Investment Sample**

The sample includes firms identified from the SDC data base and the Lexis and Factiva news sources that were reported to be targets of a sovereign wealth fund investment over the period January 1987 – April 2008. The figure reports a frequency distribution for target firms' local market-adjusted cumulative abnormal stock return for the event window [-250, -2].



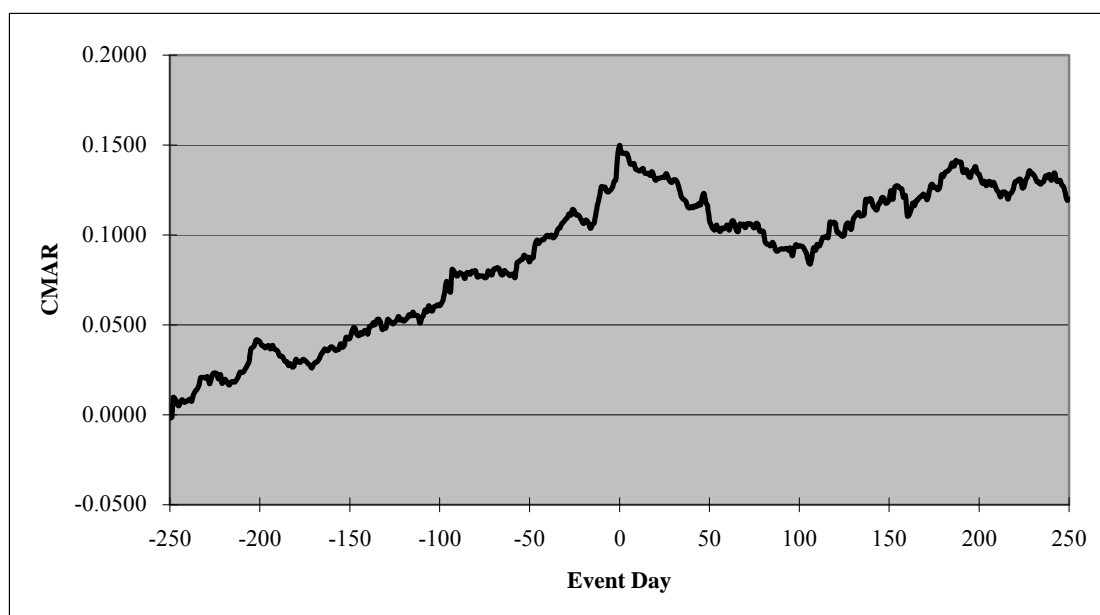
**Figure 6: Frequency Distribution of One Year Post-event CMARs – Full Investment Sample**

The sample includes firms identified from the SDC data base and the Lexis and Factiva news sources that were reported to be targets of a sovereign wealth fund investment over the period January 1987 – April 2008. The figure reports the frequency distribution for target firms' local market-adjusted cumulative abnormal stock return for the event window [+2, +250].



**Figure 7: Frequency Distribution of One Year Post-event CMARs – Clean Divestment Sample**

The sample includes firms identified from the Lexis and Factiva news sources that were reported to have had a sovereign wealth fund divest holdings over the period January 1996 – December 2008 and did not have a concurrent confounding announcement in the  $[-1, +1]$  event window. The figure reports a frequency distribution for the target firms' local market-adjusted cumulative abnormal stock return for the event window  $[+2, +250]$ .



**Figure 8: Average Cumulative Market-Adjusted Returns over the Event Window  $[-250, +250]$  – Full Investment Sample**

The sample includes firms identified from the SDC data base and Lexis and Factiva news sources that received a sovereign wealth fund investment over the period 1987- April 2008. The figure reports the average cumulative local market-adjusted stock return for the event window  $[-250, +250]$ .