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By **Shai Bernstein**, **Josh Lerner** and
Antoinette Schoar, Harvard University,
and Massachusetts Institute of
Technology. Lerner and
Schoar are affiliates of the National
Bureau of Economic Research

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Summary

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Address for correspondence:

Josh Lerner
Jacob H. Schiff Professor of Investment Banking
Harvard Business School
Rock Center
MA 02163 Boston
USA
E-mail: jlerner@hbs.edu

The Investment Strategies of Sovereign Wealth Funds

Shai Bernstein, Josh Lerner, and Antoinette Schoar*

This paper examines the direct private equity investment strategies across sovereign wealth funds and their relationship to the funds' organizational structures. SWFs seem to engage in a form of trend chasing, since they are more likely to invest at home when domestic equity prices are higher, and invest abroad when foreign prices are higher. Funds see the industry P/E ratios of their home investments drop in the year after the investment, while they have a positive change in the year after their investments abroad. SWFs where politicians are involved have a much greater likelihood of investing at home than those where external managers are involved. At the same time, SWFs with external managers tend to invest in lower P/E industries, which see an increase in the P/E ratios in the year after the investment. By way of contrast, funds with politicians involved invest in higher P/E industries, which have a negative valuation change in the year after the investment.

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1. Introduction

The role of sovereign wealth funds (SWFs) in the global financial system has been increasingly recognized in recent years. The resources controlled by these funds—estimated to be \$3.5 trillion in 2008 (Fernandez and Eschweiler [2008])—have grown sharply over the past decade. Projections, while inherently tentative due to the uncertainties about the future path of economic growth and commodity prices, suggest that they will be increasingly important actors in the years to come.

Despite this significant and growing role, financial economists have devoted remarkably little attention to these funds. While the investment behavior of financial institutions with less capital under management, such as hedge and private equity funds, have been scrutinized in hundreds of articles, only a handful of pieces have sought to understand sovereign funds. The lack of scrutiny must be largely attributed to the deliberately low profile adopted by many SWFs, which makes systematic analysis challenging.

In this paper, we analyze whether there exist differences in investment strategies and performance across sovereign wealth funds, focusing on their direct private equity investments. Since it is generally believed that the private equity market is characterized by greater information asymmetries than public markets, differences among institutions should be most pronounced here. Moreover, it is one of the few dimensions of these funds' investments that we can obtain systematic information on. We analyze how SWFs vary in their investment styles and performance across various geographies and governance structures.

After merging three publicly available investment databases, Dealogic's M&A Analytics, Security Data Company's (SDC) Platinum M&A, and Bureau van Dijk's Zephyr, we identify 2662 investments between 1984 and 2007 by 29 SWFs, including acquisitions, venture capital and private equity investments, and structured minority purchases in public entities. We examine the propensity of funds to invest domestically, the equity price levels at the time of their investments, the changes in equity prices after their investments, and the size of the acquired stakes.¹

We find several interesting patterns in the data:

- SWFs are more likely to invest at home when domestic equity prices are higher, and more likely to invest abroad when foreign prices are higher.
- On average, funds invest at significantly lower price-earnings (P/E) ratios when investing at home and higher P/E levels outside. This result is mainly driven by Asian and Mid-Eastern funds, while the opposite holds for Western funds.
- Asian groups and, to a somewhat lesser extent, Middle Eastern SWFs, see the industry P/E ratios of their home investments drop in the year after the investment, while they see a positive change in the year after their investments abroad.
- SWFs where politicians are involved in governance have a much greater likelihood of investing at home, while those relying upon external managers display a lower likelihood.

¹ Because many of the target firms in the sample are private, we examine the weighted average of the price-earnings ratio of firms in the same industry, country, and year.

- Once we control for the differing propensity to invest domestically, SWFs with external managers tend to invest in lower P/E industries, while those with politicians involved in the governance process invest in higher P/E industries.
- Investments by SWFs with the involvement of external managers tend to be associated a more positive change in industry P/E in the year after the deal, while for funds where politicians are involved, the trend goes the other way round.

Taken as a whole, two competing interpretations can be offered for these results. It may be that funds investing more heavily in their domestic markets, particularly those with the active involvement of political leaders, are more sensitive to the social needs of the nation. As a result, they might be willing to accept investments which have high social returns but low private ones. Since the social returns are not easily observable to us, it would appear that these funds are investing in industries with lower performance. The alternative interpretation would suggest that greater investment at home is a symptom of poor investment decisions, since the funds are prone to home bias or else to have decisions distorted by political or agency considerations.

It is difficult, however, to reconcile the first view with some of the results. In particular, it is hard to understand why economic development needs would compel firms to invest domestically when equity prices are relatively higher, which presumably should be a time when capital constraints are less limiting. Similar, it is hard to explain why social welfare concerns would lead politician-influenced funds would led to invest in the highest P/E industries, especially in light of the negative returns that subsequently characterize these sectors. While

these results are only suggestive given the preliminary nature of the data, they raise a number of important questions about the investment strategies and management structures of SWFs.

The plan of this paper is as follows. In the second section, we review relevant theoretical perspectives and the earlier studies on SWFs. Our data sources and construction are described in Section 3. Section 4 presents the analysis. The final section concludes the paper.

2. Theoretical Perspectives and Earlier Work

Numerous accounts by both objective observers and practitioners suggest that there is substantial variation in the investment criteria and sophistication of institutional investors. In particular, practitioner accounts suggest (e.g., Swensen [2009]), institutions often rely on overly rigid decision criteria or lack a sufficient understanding of key asset classes. Observers attribute these failures to underlying factors such as inappropriate incentives—for example, the limited compensation and autonomy that investment officers enjoy, which leads to frequent turnover, and a predilection to select “safe” investments even if the expected returns are modest—and conflicting objectives, particularly the pressures by fund overseers to invest in projects sponsored by local entrepreneurs, even if the expected investment returns (and in some cases, social benefits) are modest.

Recent papers by Gompers and Metrick [2001] and Lerner, et al. [2007] have highlighted the enormous heterogeneity in investment strategies and ultimately returns across different types of institutional investors. However, the evidence on SWFs is limited thus far due to many data restrictions. In addition, SWFs are unique institutions: while these funds manage very large pools

of capital, their objective functions are often quite complex and do not only focus on financial returns alone. On the one hand, sovereign funds face political pressures to further short-term and local goals, as suggested in Shleifer and Vishny [1994]: e.g., to invest in local companies, rather than saving for the long term. On the other hand, as nations become wealthier, their ability to invest in government institutions grows. Moreover, citizens and businesses are likely to demand better governmental services. As a result, nations with more wealth per citizen should have better governance of their SWFs and a greater ability to use SWFs to further long term investment goals, rather than being captured by government institutions.

A more focused body of work has looked at the rationales for and against state-owned banks. These arguments concerning the involvement of the government in the financial sector can also be relevant for the role of SWFs in an economy. Three alternative theories have attracted wide currency:

- The *development perspective* suggests that governments collect savings and direct them toward strategic long term projects, overcoming market failures and generating aggregate demand and foster growth. Hence state owned banks, unlike private banks, maximize broader social objectives rather than just profits (Atkinson and Stiglitz [1980]; Stiglitz [1993]).
- The *political perspective* argues that politicians are self-interested individuals who pursue their own goals, and hence state-owned banks enable governments to finance the inefficient but politically desired projects, such as maximizing employment or financing favored enterprises (Shleifer and Vishny [1994]).

- The *agency perspective* argues, like the *development perspective*, that state owned banks are created to maximize social welfare, but can generate corruption and misallocation (Banerjee [1997]; Hart, et al. [1997]). The agency costs within government bureaucracies can result in weak managerial incentives (Tirole [1994]). Under this view, state-owned banks channel resources to socially profitable activities, but public managers exert less effort (for instance, by diverting resources to advance personal ends or by taking steps to facilitate obtaining future private sector jobs) than would their private counterparts.

Finally, a more recent literature looks specifically at sovereign wealth funds. Fotak, et al. [2008] considers the financial impact of SWF investments in listed companies around the world. They collect data from Securities Data Company (SDC), direct disclosures of SWFs, and financial press. Their final sample contains of 75 investments in public firms by 16 SWFs in the years 1989 to 2008. While they find an average abnormal return of +1% for targets on the day in which the SWF investments are announced, over two years after the transaction, the abnormal buy-and-hold returns average -41%. They find that this effect is not related to the size of equity stake purchased by the SWF, and also does not differ across the various SWFs. They interpret the results as indicative of the additional agency costs that the SWF impose on the companies and cause with a deterioration of performance.

Le Borgne and Medas [2008] consider specifically SWFs in the Pacific island countries, which are typically used to dampen the volatility of public revenues. While systematic data are not available, the authors briefly describe the spending rules used by the governments, and the funds' governance structures. They suggest that the poor performance of these funds in achieving

their goals is related to the weakness of public financial management systems and the lack of spending controls. In some cases, the rigid operational rules of the funds hindered their ability to alleviate revenue volatility. In other instances, the SWFs focused on achieving ambitious financial returns, which led in some cases to risky investment profiles, mismanagement, and substantial losses in assets.

3. Data Sources and Construction

To analyze the direct investment strategies of SWFs, we combine three sets of data: information on the SWFs themselves, the direct investments that the funds made, and the investment climate around the time of the transaction. The data for all the three components are been drawn from publicly available sources.

SWF sample construction: We start with a preliminary sample of SWFs by combining the profiles of the funds published by JPMorgan (Fernandez and Eschweiler [2008]) and Preqin (Friedman [2008]). In the cases where the two databases use different names for the same SWF, we employ the fund address and related information to eliminate duplicates. We add five funds to the sample that were not included in these two compilations but are frequently described as SWFs in at least one of the investment datasets noted below. This initial search yields a population of 69 institutions, including some SWFs that have been announced but are not yet active.

We then merge this initial sample of funds with the available data on direct investments and characteristics of SWFs. We are careful to extract investment data for both the SWFs and

their “subsidiaries,” which we define as entities in which SWF has at least a 50% ownership stake. The two SWF directories and the investment datasets noted below did not always explicitly note the links between SWFs and their subsidiaries. To extract transactions involving SWF subsidiaries, we supplement our list of SWF subsidiaries by employing ownership data in the *Directory of Corporate Affiliations* and Bureau van Dijk’s Orbis.

SWF Characteristics: The fund profiles in the JPMorgan and Preqin databases contain information on the size and operations of the funds. If there was a discrepancy between the two databases, we reconfirm the accuracy of the information through web searches and newspaper articles. The key variables collected are:

- *Assets under Management*—JPMorgan and Preqin profiles contain estimates of fund sizes. In case of discrepancy, JPMorgan’s estimate of assets under management was given preference. Preqin’s estimate of assets under management was used only when no JPMorgan estimate existed.
- *The Presence of Politicians in the Managing Bodies*—The JPMorgan report emphasizes governance structures of funds. We form a dummy variable that indicates if a fund’s JPMorgan profile contains evidence of presence of politicians in the governance of the fund. For example, Khazanah Nasional’s JPMorgan profile indicates that the fund’s board of directors “has an eight-member Board comprising representatives from the public and private sectors. Abdullah Ahmad Badawi, the Right Honorable Prime Minister of Malaysia, is the Chairman of the Board of Directors.” Similarly, the Alaska Permanent Reserve Fund’s profile indicates that the fund’s Board of Trustees “is comprised of four public members, the Commissioner of Revenue and one additional cabinet member of the

governor's choosing.” In other cases, the volume indicates that the governance of the fund is in the hands of a board consisting of investment professionals and/or outside business leaders.

- *Reliance on External Managers/Advisors*—We create a dummy variable that is one if either of our sources contain evidence that the institution relies on external management or advisors. For example, the JPMorgan profile indicates that the Hong Kong Exchange Fund “employs external fund managers to manage about one third of the Fund’s assets, including all of its equity portfolios and other specialized assets.”

These measures, it must be acknowledged, have important limitations. First, these are reported as of 2008: we do not have a time series on the governance of or advisor usage by the funds. Second, these measures are extremely crude characterizations of the SWFs’ organizational structures.

Investment Data: Information regarding SWF target investments is identified in Dealogic’s M&A Analytics, SDC’s Platinum M&A, and Bureau van Dijk’s Zephyr. All three of these databases compile information on direct investments by institutional and corporate investors. Transactions included in the database encompass outright acquisitions, venture capital and private equity investments, and structured minority purchases in public entities (frequently called PIPEs, or private investments in public entities). The databases do not include investments into hedge, mutual or private equity funds, or open market purchases of minority stakes in publicly-traded firms.

For each of the three datasets, we run multiple acquirer name keyword searches individually for every fund in the sample. We also search for investments carried out by their subsidiaries. Finally, text fields of acquirer descriptions are searched for phrases such as “SWF,” “sovereign fund,” or “sovereign wealth fund.” These additional transactions are examined, and if there is a match in the SWF’s identity (e.g., if there is a slight misspelling of the SWF’s name) and location, the entries are added to the database. The variables we obtain about each deal are the announcement date, transaction size, share of the equity acquired, and the country and industry of the target. In the case of discrepancies across the databases, we use press accounts and web searches to resolve the differences. Some of the databases include proposed deals that were not consummated. If the transactions are described in the databases as “withdrawn” or “rejected,” we drop them from the analysis.

After merging the three databases, we are left with 2662 transactions between January 1984 and December 2007 by 29 SWFs. We confirm that the bulk of the funds that are not included are either very new (indeed, some had not yet commenced operations by the end of 2007) or very small. Of the 29 institutions with transactions in our sample, 24 are profiled in either the JPMorgan or Preqin volumes, or in both publications. There exist 23 JPMorgan and 16 Preqin profiles for the funds in our sample.

In the bulk of the analyses below, we also exclude 36 transactions where the targets were in Central America, South America, or Africa. This decision reflects our desire to focus on investments in the major markets—i.e., Asian, Middle Eastern and Western countries (North America, Europe and Australia)—where the vast majority of the investments are concentrated.

Environment Data: We also characterize the pricing and subsequent returns in the industry and the nation of the transaction. Ideally, we would have liked to analyze deal pricing using the actual target firm's P/E ratio. However, since most SWF's investments are in private firms, these data are not available.

Instead, we use:

- *Industry P/E ratios* - To obtain a measure of deal valuations, we use the weighted average of the P/E ratios of firms in the target company's industry and company headquarters nation. To calculate the P/E ratios for the target countries, we use the P/E ratios of public companies in the same industry and country from the Datastream database, dropping companies with negative P/E ratios. The main challenge was to get P/E ratios for Middle Eastern targets, particularly in the Persian Gulf region. In 73 cases, we could not compute a P/E ratio using the Datastream information. Weighted average P/E ratios were formed for each target investment at the country-industry-year level (using market values of the firms as weights). We used industry classifications based on the Standard Industrial Classification scheme² (for the distributions of investments by industries, see Table 1, Panel E). The distribution of P/E values was winsorized at the 5% and 95% level in order to reduce the impact of extreme observations. We also construct an approximate performance measure for each deal: the change in the weighted mean industry-country P/E ratio in the year following the transaction.

² We use a broader definition than the 2-digit SIC level since under this classification the number of companies per industry is very small in some target countries.

- *Home P/E and versus Outside P/E* - To measure the P/E levels in the home nation versus outside the nation, we construct *Home P/E* and *Outside P/E* variables using the MSCI database (downloaded from Datastream). These ratios are weighted by market capitalization and measured at the country-year level. We complete missing country-level P/E ratios using the Zawya database and Datastream's P/E indexes for emerging markets. For investments made abroad, the variables *Home P/E* and *Outside P/E* correspond to the P/E level of the home country of the SWF and the target country, respectively. If investments are made at home, the *Outside P/E* variable equals the weighted average (by the total amount invested by SWFs over the sample period) P/E ratios of all countries in which investments were made by SWFs, excluding the home country.

4. Analysis

Table 1 presents the descriptive statistics of the 2662 transactions made by the 29 sovereign wealth funds in our sample. Panel A of Table 1 sorts the funds into three regions: Asia, Middle East,³ and Western groups. The Western group includes funds from North America, Australia, and Europe. Our sample consists of seven funds in the Asian group, 15 funds in the Middle Eastern group, and seven funds in the Western group. The number of transactions of Asian funds (2046 observations) is substantially larger than the Middle Eastern group (532 observations) and the 84 observations of the Western group.

One possible explanation for these differences in sample size is that we have only partial coverage of the deals. However, we believe that this can only explain part of the differences.

³ We add the single investment by the Venezuelan SWF to the totals for the Middle East, given the petroleum-driven nature of that economy.

More important, we believe, are the differences in fund sizes and the willingness to engage in direct investments. For example, the average Asian and Middle Eastern funds have \$132B and \$124B under management, respectively, and are substantially larger than the average Western fund (\$40B).

While the sample consists of transactions between the years 1984 and 2007, more than 97% of the transactions are after 1991. While both the Asian and Middle Eastern funds' investments go back to the mid 1980s, the Western funds' investments are more recent, beginning around 2003. Panels C and D show that the vast majority of direct investments of Asian funds are in Asia itself (75.7%), but only 37.4% of the investments are made in the actual home nation of the fund. Outside of the region, the Asian funds tend to invest in Europe and North America. In contrast, Middle Eastern funds invest mostly outside of their region (only 16.5% of investments are at the same region and only 9% of investments are made in the home country). Most of the investments of the Middle Eastern funds are made in Europe, North America, and Australia (61.7%). Finally, all of the investments of the Western funds in the sample are made in the Western region, with 94% of the investments in the home country. However, we should highlight that the actual number of direct investments undertaken by Western funds is significantly smaller than Asian and Mid-East ones.

We find that the average transaction size is \$351 million, but there is substantial heterogeneity between the funds. Middle Eastern funds, on average, have the largest deals, with an average of \$604 million, while Western funds have the smallest average deal size with only \$97 million per transaction. Similarly, the average acquisition stake of sovereign wealth funds is

substantial (56.59%). Parallel to above, the average stake of Middle Eastern funds is much larger (62.2%) than in the Western funds (25.7%), with Asia in between the two.

Panel F shows that the average P/E level in the industry-country-year of the target of a SWF transaction is 25.6. The Asian funds invest in industries with the highest P/E levels of 26.2, while the Western funds' investments have the lowest industry P/Es. If we measure the performance of investments with the change in industry-country P/Es in the year after the investment, Western funds fare best, with an average change of +1.2 following investments, while the Middle Eastern and Asian have average shifts in P/Es of -1.21 and -1.17, respectively. For the approximately 20% of the transactions where an equity security was publicly traded, we also examine the market-adjusted returns in the six months after the transaction (see the detailed description below). Here, the pattern appears to go the other way, with the poorest performance by the Western SWFs' investments.

The last panel of Table 1 reports variables that capture the governance structure of the funds. Recall that for each fund, we develop indicator variables for whether politicians are involved in the board and for whether the fund relies on external managers. About 24% of the funds have politicians involved in the fund and 28% of the funds rely on outside managers. We see that both funds with politicians and external managers tend to make larger investments. Interestingly, when politicians are involved, funds invest more in the home country (44% of the deals in the sample), relative to funds without politicians involved (only 31% of the transactions). Funds with external managers involved invest less in the home country (8% relative to 36% for funds that do not rely on external managers).

We now analyze whether the characteristics of the SWFs are associated with differences in their investment strategies. The main dimensions of SWFs that we investigate are:

1. the geographic region of the funds, that is, differences across SWFs in the Asian, Middle Eastern, and Western groups, and
2. the governance structure of funds, i.e., whether the SWF relies on external managers for investment advice and whether politicians are involved in the fund.

We will analyze investment strategies of SWFs based on their propensity to invest at home, the industry-country P/E levels at the time of the investments, the subsequent changes in the P/E ratios, and the size of the acquisition stakes of their investments.

The unit of observation in our analysis is at the transaction level (that is, for a specific SWF and target), with standard errors clustered at the level of the nation in which the fund is based. In many regressions, we control for the year that the investment is made and the sovereign wealth fund making the investment. In most specifications, we use weighted regressions, with each observation weighted by the transaction size (transaction sizes are all expressed in 2000 U.S. dollars). Since we only have sizes for 67% of our transactions, we impute missing weights by constructing the fitted values from a regression of deal sizes on fixed effects for the investment year, target industry, target region, and fund. After adding imputed observations, we winsorize the deal size variable at the 5% and 95% level, in order to reduce the impact of extreme observations.⁴

⁴ We report unweighted regressions in the Appendix.

Propensity to invest at home

In order to analyze how funds vary in their allocation of investments between the home nation and outside, we estimate a weighted probit model where the dependent variable is a home investment dummy. This dummy variable is one if the target investment is made within the home nation of the SWF and zero otherwise.

In Table 2, column (1), we regress the home dummy on indicator variables for the geographic location of the SWF (Asian, Middle Eastern, and Western), controlling for the home country's gross domestic product (expressed using the logarithm of GDP, again in 2000 U.S. dollars) and GDP growth in the calendar year prior to the year of the investment. The Western group is omitted from the set of geographic dummies. We find that Asian and Middle Eastern funds are significantly less likely to invest at home (by 31.4% and 37.4%, respectively) relative to Western funds. This result continues to hold when controlling for year fixed effects in column (2). This result might not be too surprising, since SWFs in Asia and the Middle East are very large relative to the size of the local economies, which is different from the situation for Western SWFs. So one could conjecture that Asian and Middle Eastern funds are almost mechanically forced to invest outside their home nations.

To get a better understanding of the decision to invest in the home nation or invest outside, we look at how the allocation of capital by SWFs responds to the pricing levels at home and abroad. As noted above, in case of an outside investment, the *Outside P/E* level is the P/E ratio in the target country in the year of the investment. In cases of a home investment, *Outside P/E* is equal to the average (weighted by total transaction amounts) P/E ratio in the year of

investment of all other countries in which investments were made by SWFs during the entire period analyzed.

The results in column (3) show that the *Home P/E* level significantly affects the likelihood of investing at home, but in a manner that may be puzzling. SWFs are more likely to invest at home when prices there are relatively higher. The magnitude of this effect is substantial: an increase of one standard deviation of *Home P/E* increases the likelihood of investing at home by 6.69%. Similarly, higher P/E levels in the other countries are correlated with a lower propensity to invest at home. An increase in one standard deviation of *Outside P/E* decreases the likelihood of investing at home by 3.11%. If we add year fixed effects in column (4), the coefficient on *Home P/E* is still positive, but much smaller and insignificant. The coefficient on the *Outside P/E* becomes significant at 1% level and the magnitude is larger. Finally, the results hold even when we add group dummies in columns (5) and (6). We verify that the results hold with equally weighted regressions in the appendix.

The cross-sectional results suggest that SWFs invest less at home if their local equity markets have relatively low P/E levels. One possible explanation for this pattern is that SWFs shun low-valued local markets because these financial markets are not as well developed. But this hypothesis has difficulty explaining away the fact that the propensity to invest at abroad increases as the pricing level in foreign markets rises. Rather, it appears more consistent with a second explanation: the SWFs tend to “trend chase,” that is, to gravitate to markets where equity values are already high.

The determinants of industry P/E levels, performance, and acquisition stake

In a second step, we examine whether there are significant differences in investment strategies across funds. More specifically, we analyze whether funds vary in their propensity to time industry valuation cycles (measured as industry-nation P/E levels at the time of investment and the change in P/Es in the year after the investment).

Industry P/E levels – In Table 3, we focus on the industry-nation P/E in the sector and year of the transaction as the dependent variable. In column (1), we estimate a weighted ordinary least squares (OLS) regression of the mean P/E ratio on the dummy denoting whether the investment is in the home country. Standard errors are again clustered at the level of the country of the SWF. We find a large negative and statistically significant coefficient on the home investment dummy (-5.97), with a standard error of 2.6. While Table 2 showed that home investments by SWFs are more likely when domestic P/E ratios are *relatively* higher, domestic markets are still cheaper. In column (2), we see that this result is unchanged if we add dummies for the different regions in which the SWF is based (Asia and Middle East, with the West again serving as the reference group). The coefficients on the indicators for Asian and Middle Eastern groups are not significant and close to zero.

In column (3), we add interaction terms between the home investment dummies and the group indicators. These interactions allow us to explore whether the negative home investment effects varies across the groups of SWFs. We see that the home investment dummy now turns positive and significant. This implies that SWFs in the Western group choose industries with higher P/E ratios when investing at home, while both Asian and Middle Eastern funds choose

investments with substantially lower P/E ratios at home (the coefficients on the interaction terms are -6.8 and -8.5, respectively). We also see that the direct effect of Asia and ME is now positive, which suggests that these funds are investing in targets with higher industry P/E ratios when going abroad. These results are also significant when we substitute fund fixed effects for group dummies in column (4).

Finally, in columns (5) and (6) we add dummy variables for the region of the target investments, in order to control for overall valuation levels in each region. We see in column (5) that the coefficient on the interaction between home investment and Asian group does not change when we include the target controls, suggesting that Asian funds investing at home do so at a lower industry P/Es than other sovereign funds who invest in Asia. This distinction is less significant for the Middle Eastern funds: the coefficient on the interaction between home investment and Mid-East groups drops by almost 80% once we add the target controls. In column (6), we repeat the same regression but add year fixed effects. The results are unchanged from column (5). These results are even more significant in the equally weighted regressions.

Overall these results suggest that funds from different regions (Asian, Middle Eastern, and Western) do not vary significantly in the average P/E levels of the sectors in which they invest. However, there is a sharp distinction when looking at domestic versus outside deals. On average, funds invest at significantly lower P/E levels when investing at home and higher P/E levels outside. But this result is mainly driven by Asian and Middle Eastern funds, while the opposite holds for Western funds.

By themselves, these results could be consistent with two separate and diametrically opposed interpretations. First, SWFs might have lower P/E ratios in their home investments since they have better information about these markets and thus are able to invest at more favorable valuations. This interpretation fundamentally relies on the belief that it is possible to time market cycles. A second, alternative explanation relies on the assertion that P/E levels are true reflections of the investment opportunities of firms. Under that assumption, lower P/E levels at home would mean that SWFs are willing to invest in firms with lower investment opportunities in their home country.

To shed some light on these two competing interpretations, we now look at the performance of equities in the industry and country in the year after the deal. If the first interpretation is true, we should see Asian and Mid-East SWFs outperform at home, while the opposite would hold under the second explanation.

Performance – Table 4 is structured to be parallel to Table 3, but now with the change in mean P/E ratio of firms in that country and industry in the year following the investment as the dependent variable. In column (1), we regress the change in the industry-country P/E ratio in the year after the investment on a dummy for home investments. We find that the home investment dummy is negative but insignificant. When adding indicator variables for Asian and Middle Eastern groups in column (2), we see that the coefficient on the home investment does not change. The coefficient on Mid-East groups is negative and significant, which suggests that overall these groups do not seem to be able to time industry trends.

In column (3), we now add interaction terms between group and home investments. Interestingly, the coefficient on the interaction terms for both Asian and Middle Eastern groups are negative and economically important, but only significant for the case of Asia. However, the direct group effects for the Mid-East and Asia are now positive and significant. Similarly, the coefficient on the home investment variable, which captures the change in industry P/E of the Western groups' home investments, is significantly positive. In column (4), we again substitute group dummies with fund fixed effects and see that the signs of the interaction terms remain unchanged but the significance is higher: domestic investments by both Asian and Middle Eastern groups underperform their other transactions. In columns (5) and (6), we add dummies for the target region and the main results are unchanged. The results described here also hold in unweighted regressions, although some of the interaction terms are less significant.

The results in Table 4 suggest that Asian groups and, to a somewhat reduced extent, Middle Eastern SWFs see the industry P/E ratios of their home investments drop in the year after the investment, while they experience a positive change one year out for their investments abroad. In contrast, Western groups see a more positive change in industry P/E one year out in their home investments relative to the ones abroad. These results suggest that while Asian and Middle Eastern SWFs invest in lower P/E industries at home, they do not seem to have a differential ability to time these industry trends, since the *ex post* change in the P/E ratios in the year after the investment is negative. This finding might suggest that the lower P/E investments at home for Asian and Middle Eastern groups is a reflection of generally lower prospects for local firms, rather than informational advantages at home.

We also undertake a robustness check of the performance regressions, by examining the returns of the subset of firms that were publicly traded at the time of the SWF investment. We search the Datastream database for all target companies that were publicly traded, and extract their monthly returns. We determine the benchmark returns for the stock exchanges in which the target companies were traded and extract those returns as well. We compute cumulative abnormal returns relative to the benchmark in the six months after the transaction, which leads to a considerably larger coverage than one-year returns (many of the 2007 investments did not have one year of performance data due to reporting delays).

We estimate in Tables 5 and A-5 weighted and unweighted ordinary least squares regressions similar to those in Table 4 and A-4, but now with the difference between the return of the target in the six months after the transaction and the return of the corresponding benchmark over the same period as the dependent variable. We use 538 observations in these estimations. We find once again that in the basic regressions that the home investment dummy has a significantly negative coefficient. When we add interactions between the home dummy and the group location, we find the home dummy becomes significantly positive. The interactions between the dummy variables for Asian and Middle Eastern groups and home investments are again negative. The interaction with the Asian groups is significant across all the specifications that we estimate. The significance of the interaction with the Mid-East groups falls, however, when we add controls for the location of the target. While the sample of publicly traded transactions is considerably smaller, the similarity to the results in Table 4 is reassuring.

Acquisition stake – Finally in Table 6, we explore how the size of the acquisition stakes varies between groups. We use equally weighted regressions here, since weighting based on deal sizes will bias our results. Again, the set-up of the table is parallel to the specifications in Tables 3 and 4. Column (1) shows that there is no significant difference in the size of acquisition stakes between home or outside investments. However, columns (2) and (3) show that Asian and Middle Eastern funds tend to acquire significantly bigger stakes in their target companies than Western funds. We see that Asian funds acquire approximately 30% larger stakes in their targets companies relative to Western funds, and Middle Eastern funds acquire 37% larger stakes.

In column (4) we add target region dummies. Interestingly, funds acquire significantly smaller stakes in Asian countries relative to Western countries (23% smaller stakes in target companies). This is also true with respect to Middle Eastern target investments, although with a smaller magnitude. This effect also holds in column (5), when we substitute group dummies with fund fixed effects, although the Mid-East target variable is no longer significant. Finally, it is interesting to note that, when controlling for target regions, the home investment dummy turns positive and significant at the 1% level.

Governance structure and the propensity to invest at home

We now turn to analyzing whether the variations in governance structures across funds—that is, whether politicians or/and external managers are involved in investment decisions—are associated with differences in the investment behavior of SWFs.

In Table 7, we look at the correlation between the likelihood of allocating capital at home or abroad and the involvement of politicians and external managers. As in Table 2, we estimate a weighted probit model and regress a home investment dummy on the same covariates, but add dummies for politicians' involvement and reliance on external managers. Column (1) shows a stark difference between SWFs where politicians and external managers are involved in investment choices and those where they are not. Funds where politicians are involved show a 36% higher likelihood of investing at home. In contrast, funds where external managers are involved have a significantly lower propensity to invest at home (a decrease of 26%). These results are very robust to adding the usual covariates we included before, as can be seen in columns (2) through (8). Note that the results reported in Table 2 remained unchanged after the addition of dummy variables for the involvement of politicians and external managers. These results are also unchanged when we estimate non-weighted regressions.

Governance and industry P/E levels, performance, and acquisition stake

Industry P/E levels. In Table 8, we investigate whether there are significant differences in the industry-country P/E levels of investments where politicians and/or external managers are involved in the fund. In column (1), we regress P/E levels on dummies for politicians and external managers. We find that coefficient on the politician dummy is positive, and negative for the external managers one. But the results are insignificant. The same results hold when we add group dummies in column (2).

However, when we add a control for home investments in column (3), the estimated effects for external managers and politicians become significant at the 1% level. These effects

are also economically meaningful: funds where politicians are involved make investments whose P/E levels are 4.5 higher; while funds with external managers have on average a P/E level 5.0 lower. In column (4), we see that these results also hold when controlling for the region in which the target is located. The inclusion of the home dummy is important because, as we saw in Table 7, funds with politicians involved tend to favor home investments (which have lower P/Es). Once we control for the investment mixture, we see that funds involving external managers tend to invest in lower P/E sectors, while politician-influenced ones favor higher P/E ones.⁵

Performance. To disentangle the possible differences between the investment strategies of funds involving politicians and external managers, we also look in Table 8 at the change in P/E ratios one year out. Column (5) shows that the estimated coefficient for external managers is positive and significant (2.6). Meanwhile, the relationship between subsequent changes in industry P/E and involvement of politicians in the fund is the opposite: the estimated coefficient on the politicians variable is -3.9, with a standard error of 0.6. These results are robust to the inclusion of group dummies, home investment dummies, and target region dummies, as demonstrated in columns (6) through (8). In the unweighted regressions, the results for politicians are unchanged, but the coefficients on the external managers variable are not significant. Overall, the results suggest that investments by external manager-influenced funds are associated a more positive change in industry P/E in the year after the deal, while in funds where politicians are involved, the trend goes the other way.

⁵However, one should note that these results are not robust to the estimation of unweighted regressions, which suggest that these findings are driven by larger acquisitions.

It is ultimately difficult to know whether these discrepancies in performance are a result of differences in the sophistication of the politician- versus external manager-influenced funds, or whether funds where politicians are involved face more pressures to direct capital to investments where the social returns are likely to be higher (but the private ones lower). It is somewhat challenging, however, to reconcile the second hypothesis with the results in Table 2. If politicians are directing funds to make investments in troubled local companies, we would anticipate that these investments would accelerate at the times when they were performing the worst: that is, when the P/E of local firms in the same sector was particularly low. Instead, the opposite pattern appears.

Acquisition stakes. In Table 9, the dependent variable is the acquisition stake. As in Table 6, we estimate an unweighted OLS regression. As is clear from column (1), the involvement of external managers (again, recall this is recorded at the fund level as of 2008) leads to smaller acquisitions. The coefficient on the external managers' dummy is -0.13, and is significant at the 1% level. The impact of politicians on the size of acquisition stake is much weaker. While it is still significant in column (1), its magnitude is substantially lower (-0.03). Moreover, the coefficient on the politician variable is not significant in the subsequent specifications. The impact of external managers on the acquisition stake remains economically and statistically significant when we include group dummies, a home investment dummy, and target region controls.

5. Conclusions

This paper documents a number of interesting differences in the investment strategies across sovereign wealth funds and their relationship to the funds' organizational structures. We analyze the direct private equity investments of SWFs, since we believe that due to the lower degree of efficiency in these markets, differences in strategies will be more pronounced here. Moreover, it is one of the few dimensions of SWF investments on which we can obtain information.

Overall we find several patterns when comparing investments at home and abroad. SWFs seem to engage in a form of trend chasing, since they are more likely to invest at home when domestic equity prices are higher, and invest abroad when foreign prices are higher. Funds see the industry P/E ratios of their home investments drop in the year after the investment, while they have a positive change in the year after their investments abroad.

SWFs where politicians are involved have a much greater likelihood of investing at home than those where external managers are involved. At the same time, SWFs with external managers tend to invest in lower P/E industries, which see an increase in the P/E ratios in the year after the investment. By way of contrast, funds with politicians involved invest in higher P/E industries, which have a negative valuation change in the year after the investment.

Taken as a whole, our results lend support to the idea that high levels of home investments by SWFs, particularly those with the active involvement of political leaders, are associated with trend chasing and worse performance. This could be an outcome of less sophisticated decision structures within these funds or outright distortions in the investment

process due to political or agency problems. This interpretation is also supported by our finding that politician-influenced funds invest in the highest P/E industries.

While these results are only suggestive, given the preliminary nature of the data, they raise a number of important questions about the investment decisions and management structure of SWFs. A logical extension of this analysis would be to investigate the strategies of SWFs across a wider set of asset classes. Such an analysis, however, would be challenging given the opacity of many of these funds. More generally, we believe that much interesting work remains to be done in understanding the underlying investment objectives of SWFs, their investment strategies, and organizational differences, as well as the constraints they face due to internal and external pressures. For example, many reports suggest that SWFs are often employed to further the geopolitical and strategic economic interests of their governments. A recent example is the emphasis of Singaporean SWFs on investing into India and China, which has been interpreted as forging strategic ties with the city-state's larger and more powerful neighbors. In other cases, political considerations have led to the abandonment of prescient investment strategies, as when the Norway's Government Pension Fund caused an uproar in 2006 by shorting the shares of Icelandic banks. Thus, SWFs present an ideal object of investigation to understand the interaction between finance and political economy.

References

- Atkinson, Anthony B., and Joseph E. Stiglitz, 1980, *Lectures on Public Economics*, London, McGraw Hill.
- Banerjee, Abhijit V., 1997. A theory of misgovernance. *Quarterly Journal of Economics*, 112, 1289–1332.
- Fernandez, David G. and Bernhard Eschweiler, 2008, *Sovereign Wealth Funds: A Bottom-Up Primer*, New York, JPMorgan Research. 2008.
- Fotak, Veljko, Bernardo Bortolotti, and William L. Megginson, 2008, The financial impact of sovereign wealth fund investments in listed companies, Unpublished working paper, University of Oklahoma and Università di Torino.
- Friedman, Tim, 2008, *Prequin Sovereign Wealth Fund Review*, London, Prequin Limited.
- Gompers, Paul A., and Andrew Metrick, 2001, Institutional investors and equity prices, *Quarterly Journal of Economics*, 116, 229-259.
- Hart, Oliver, Andrei Shleifer, and Robert Vishny, 1997, The proper scope of government: Theory and an application to prisons, *Quarterly Journal of Economics*, 112, 1127–1162.
- Le Borgne, Eric and Paulo A. Medas, 2008, Sovereign wealth funds in the Pacific Island countries: Macro-fiscal linkages, Working paper no. 07/297, International Monetary Fund.
- Lerner, Josh, Antoinette Schoar, and Wan Wongsunwai, 2007, Smart institutions, foolish choices? The limited partner performance puzzle, *Journal of Finance*, 62, 731-764.
- Shleifer, Andrei, and Robert Vishny, 1994, Politicians and firms, *Quarterly Journal of Economics*, 109, 995–1025.
- Swensen, David, 2009, *Pioneering Portfolio Management: An Unconventional Approach to Institutional Investment*, 2nd edition, New York, Simon and Schuster.
- Stiglitz, Joseph E., 1993. The role of the state in financial markets, in *Proceedings of the World Bank Annual Conference on Economic Development*, Washington, International Bank for Reconstruction and Development/World Bank, pp. 19–56.
- Tirole, Jean, 1994, The internal organization of governments, *Oxford Economic Papers*, 46, 1–29.

Appendix: Discussion of Supplemental Analyses

We also undertake a variety of supplemental tests to explore the robustness of the results. In Table A-1, we conduct simple weighted mean tests. As noted earlier, SWFs commonly invest in private entities. Therefore we use industry price-earnings ratios in target countries to measure performance. For each target company, we calculate the weighted P/E ratio of firms in the same industry and country in the year in which the transaction was made. Performance is measured by the change in the weighted mean of the P/E ratio in the year following the transaction. We eliminated the small number of transactions in target countries in Central America, South America, and Africa.

First, we compare groups' investments across different regions. Panel A.1 demonstrates that there is significant heterogeneity between the groups in terms of the mean industry-country P/E ratios. The Asian funds' weighted average of P/E ratio level is the highest at 25, relative to 23.48 for Middle Eastern funds and 19.96 for Western funds. Note that the differences between the reported averages in Table A-1 with the summary statistics in Table 1 are a result of weighting transactions by deal sizes. Asian funds invest in higher P/E level industries. Moreover, Asian funds, similar to Middle Eastern funds, invest in sectors with substantially lower P/E ratios in the Middle Eastern region and higher P/E ratios in Western targets.

When calculating performance as weighted averages, we see in panel A.2 that funds in general face sharp drops in the year following investments. This is especially true for investments in Middle East targets (the one-year change in industry P/E in the Middle East

region is -4.1). We see that the Asian funds perform better than the Middle Eastern group, although the differences are not significantly better in a specific region. There are no significant differences between the performance of Asian and Western funds. However, in the non-weighted mean tests (not reported here), the Western funds outperform the Asian funds. This suggests that the Western funds are especially successful at selecting small investments.

We then consider the investment selection and performance of funds at home versus abroad. As we see in panel B.1, the three groups differ significantly in terms of the choice to invest at home. While 94% of the Western funds' investments are in their home country, only 9% of the investments of Middle Eastern funds are in the home country. The Asian funds' investments are somewhere in the middle, with 37% of investments made at home. Despite these differences, the P/E levels of industries selected for investment at home by Middle Eastern and Western funds are not significantly different. However, the Asian funds seem to invest at home at significantly higher P/E ratios relative to the other groups. When investing abroad, the Asian funds invest at the highest P/E ratio (25.9, on average) relative to 23.9 of the Middle Eastern funds. These are significantly different. Interestingly, there are substantial differences between the P/E levels funds choose to invest at abroad versus at home. Both Asian funds and Middle Eastern funds invest in industries with significantly higher P/E ratios when investing abroad, while Western funds invest in substantially lower P/E sectors abroad.

In terms of performance of investments at home versus abroad, in panel B.2 it is evident that Western funds significantly outperform the Asian and Middle Eastern funds when we consider performance at home. There are no significant differences between the Asian and

Middle Eastern investments at home. The difference is substantial when we explore investments abroad. The Asian funds significantly outperform both the Middle Eastern and Western funds when investing abroad. Finally, Asian and Middle Eastern funds perform better abroad relative to their performance at home, while the Western funds perform substantially better at home.

In panel C, we consider the impact of politicians' involvement in the fund or a reliance on external managers. Interestingly, it seems that the main impact of external managers or politicians in terms of investment selection is on the choice of whether to invest at home. The involvement of politicians increases the likelihood of investing at home: 44% of transactions are made at home (relative to 31% for funds without politician involvement). However, when external managers are involved, only 8% of transactions are made at home (relative to an average of 36% to funds without external manager involvement). Finally, neither the involvement of politicians nor that of external managers seems to have a substantial impact on the selection of industries' P/E levels. However, funds with politicians involved perform worse than other funds.

Tables A-2 through A-5, A-7, and A-8 repeat the regressions reported in the text, but now using unweighted data. (Because Tables 6 and 9 use unweighted data, variants of these tables are not presented.) The results are largely the same. When there are significant deviations between the unweighted and weighted data, we note these in the body of the paper.

Table 1 - Descriptive Statistics

Panel A: Groups

	Number of Funds	Number of transactions	Managed by external managers (%)	Managed by politicians (%)	2008 reported size (B\$)
Asia group	7	2046	42.85	57	132.7
Middle East group	15	532	13.33	13.33	124.76
Western group	7	84	42.85	14	40.874

Panel B: Transactions by Year and Group

	1984-1990	1991-1992	1993-1994	1995-1996	1997-1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	All Years
Asia group	41	39	85	123	151	143	168	117	114	138	168	197	229	332	2045
Middle East group	26	21	18	22	24	17	25	9	17	17	15	46	73	203	533
Western group	1	0	1	2	3	1	0	2	4	9	15	14	17	15	84
Overall	67	60	104	147	179	161	193	128	135	164	198	257	319	550	2662

Panel C: Transactions by Target Region and Group

	Asia	Middle East	Europe	North America	Central America	South America	Africa	Australia	All Regions
Asia group	1505	32	159	194	6	4	4	141	2045
Middle East group	95	87	224	78	2	8	12	27	533
Western group	0	0	4	2	0	0	0	78	84
Overall	1600	119	387	274	8	12	16	246	2662

Panel D: number of transactions by Home/Region Investments

	All Transactions	Home Investments (%)	Region, not home (%)	Same Region (%)	Western Target (%)	US Target (%)
Asia group	2045	37.4	35.8	75.7	24.1	8.6
Middle East group	533	9.0	7.5	16.5	61.7	12.9
Western group	84	94.0	0.0	94.0	100.0	2.4
Overall	2662	33.5	29.3	62.8	34.1	9.3

Panel E: Transactions by Industry and Group

	Agriculture, Forestry, And Fishing	Mining	Construction	Manufacturing	Transportation, Communications, Utilities	Wholesale Trade	Retail Trade	Finance, Insurance, and Real Estate	Services	Public Administration	All Industries
Asia group	7	38	62	320	445	35	30	671	417	8	2033
Middle East group	0	8	16	69	141	5	10	179	102	0	530
Western group	1	5	2	24	16	3	1	21	10	0	83
Overall	8	51	80	413	602	43	41	871	529	8	2646

Panel F: Transactions

	Overall			Asia Group			Middle East Group			Western Group		
	N	Mean	Std. Dev	N	Mean	Std. Dev	N	Mean	Std. Dev	N	Mean	Std. Dev
Acquisition Stake (%)	1998	56.59	39.01	1542	56.15	38.47	405	62.19	39.78	51	25.66	33.96
Deal Size (\$MM)	1752	351.39	1846.92	1397	305.65	1928.67	304	604.31	1574.89	51	96.66	239.82
Home Investment (0/1)	2662	0.34	0.47	2045	0.37	0.48	533	0.09	0.29	84	0.94	0.24
Region (not home) Investment (0/1)	2662	0.29	0.46	2045	0.36	0.48	533	0.08	0.26	84	0.00	0.00
Target Industry P/E Ratio	2642	25.60	13.48	2034	26.22	13.77	524	23.94	12.93	84	21.03	6.20
Target Industry P/E Ratio -1 year change	2632	-1.17	11.19	2026	-1.21	11.44	522	-1.38	10.78	84	1.17	6.31
Target market-adjusted 6 months return	543	0.06	0.49	388	0.07	0.50	111	0.06	0.49	44	-0.01	0.52

Panel G: Politicians and External managers

	Politicians Involved			No politicians Involved			External managers reliance			No external managers reliance		
	N	Mean	Std. Dev	N	Mean	Std. Dev	N	Mean	Std. Dev	N	Mean	Std. Dev
Acquisition Stake (%)	366	49.16	39.19	1625	58.35	38.79	203	42.19	40.28	1788	58.31	38.54
Deal Size (\$MM)	378	705.71	3554.14	1367	250.20	912.45	219	735.92	2567.93	1526	293.33	1715.10
Home Investment (0/1)	508	0.44	0.50	2146	0.31	0.46	275	0.08	0.27	2379	0.36	0.48
Region (not home) Investment (0/1)	508	0.31	0.46	2146	0.29	0.45	275	0.43	0.50	2379	0.28	0.45
Target Industry P/E Ratio	506	25.29	13.07	2128	25.70	13.59	272	26.00	13.87	2362	25.57	13.44
Target Industry P/E Ratio -1 year change	502	-2.62	11.17	2122	-0.82	11.18	269	-2.00	12.19	2355	-1.07	11.08

Table 2

The sample consists of 2662 investments by 29 Sovereign Wealth funds. It excludes transactions which were withdrawn or rejected. The dependent variable is a dummy denoting whether the investment target was based in the same nation as the SWF. The variables *Orig log(GDP)* and *Orig GDP growth* represent the logarithm of the GDP in the year of the investment and the growth of the GDP in the calendar year prior to the investment in the SWF's home country. *Group ASIA* and *Group ME* are dummy variables equal to 1 when a fund is based in Asia or the Middle East. The *Home P/E* variable is the country-level P/E ratio of home country. The *Outside P/E* variable is equal to the target country P/E ratio if investment is not in the SWF's home nation. If investment is at home, *Outside P/E* is equal to the average (weighted by the total transaction sizes of the SWF deals in the sample) P/E ratios of all other countries in which investments were made by SWFs. The estimation method is a weighted probit model, using as weights winsorized transaction sizes (converted to 2000 U.S. dollars). The displayed coefficients are marginal effects. Robust standard errors, allowing for data clustering by the countries in which the SWFs are based, are shown in parenthesis. When year dummies are added, the sample only includes transactions from 1991 onward.

Dependent Variable : Home Dummy						
	(1)	(2)	(3)	(4)	(5)	(6)
Orig log(GDP)	0.058*	0.092***	0.095***	0.125***	0.060**	0.098***
	(0.030)	(0.031)	(0.025)	(0.028)	(0.028)	(0.033)
Orig GDP growth	-0.004	-0.004	-0.015**	-0.030**	-0.007**	-0.012
	(0.004)	(0.012)	(0.007)	(0.014)	(0.004)	(0.017)
Group ASIA	-0.314***	-0.329***			-0.307***	-0.272**
	(0.063)	(0.099)			(0.068)	(0.118)
Group ME	-0.374***	-0.333***			-0.333***	-0.291***
	(0.069)	(0.064)			(0.072)	(0.078)
Home P/E			0.009***	0.006	0.006**	0.001
			(0.002)	(0.004)	(0.003)	(0.004)
Outside P/E			-0.006**	-0.008***	-0.005*	-0.007**
			(0.003)	(0.003)	(0.003)	(0.003)
year dummies	No	Yes	No	Yes	No	Yes
Pseudo R-Squared	0.091	0.131	0.07	0.124	0.097	0.135
N	2626	2558	2557	2515	2557	2515

* p<0.10, ** p<0.05, ***p<0.01

Table 3

The sample consists of 2662 investments by 29 Sovereign Wealth funds. It excludes transactions which were withdrawn or rejected. The dependent variable is the weighted (by firm value) average of the P/E ratios of publicly traded firms in the industry, country and year of the transaction. *Home Investment* is a dummy variable which equals one if the target is based in the same country as the SWF. *Group ASIA* and *Group ME* are dummy variables equal to 1 when a fund is based in Asia or the Middle East. *Target Asia* and *Target ME* are dummy variables indicating that the location of target companies is in Asia or Middle East. The estimation method is a weighted ordinary least squares model, using as weights winsorized transaction sizes (converted to 2000 U.S. dollars). Robust standard errors, allowing for data clustering by the countries in which the SWFs are based, are shown in parenthesis. When year dummies are added, the sample only includes transactions from 1991 onward.

Dependent Variable : Industry P/E Levels						
	(1)	(2)	(3)	(4)	(5)	(6)
Home Investment	-5.975** (2.595)	-5.064* (2.592)	1.851*** (0.556)	1.965*** (0.381)	2.048*** (0.535)	2.260*** (0.391)
Group ASIA		0.301 (2.093)	5.618*** (0.590)		5.814*** (0.738)	
Group ME		-0.713 (1.886)	4.750*** (0.429)		5.439*** (0.472)	
Home X Group Asia			-6.813* (3.382)	-8.383** (3.247)	-7.435** (3.393)	-8.937** (3.313)
Home X Group ME			-8.553*** (0.732)	-7.325** (2.986)	-1.866* (1.013)	-0.487 (3.669)
Target ME					-7.478*** (1.143)	-7.779*** (1.276)
Target Asia					0.474 (0.348)	0.163 (0.209)
Constant	25.217*** (0.475)	24.907*** (1.890)	19.621*** (0.448)	25.157*** (0.363)	19.646*** (0.445)	25.678*** (0.375)
year dummies	Yes	Yes	Yes	Yes	Yes	Yes
fund dummies	Yes	No	No	Yes	No	Yes
R-squared	0.176	0.135	0.137	0.178	0.151	0.192
N	2541	2541	2541	2541	2541	2541

* p<0.10, ** p<0.05, ***p<0.01

Table 4

The sample consists of 2662 investments by 29 Sovereign Wealth funds. It excludes transactions which were withdrawn or rejected. The dependent variable is the change in the weighted (by firm value) average of the P/E ratios of publicly traded firms in the industry and country of the transaction in the year after the deal. *Home Investment* is a dummy variable which equals one if the target is based in the same country as the SWF. *Group ASIA* and *Group ME* are dummy variables equal to 1 when a fund is based in Asia or the Middle East. *Target Asia* and *Target ME* are dummy variables indicating that the location of target companies is in Asia or Middle East. The estimation method is a weighted ordinary least squares model, using as weights winsorized transaction sizes (converted to 2000 U.S. dollars). Robust standard errors, allowing for data clustering by the countries in which the SWFs are based, are shown in parenthesis. When year dummies are added, the sample only includes transactions from 1991 onward.

Dependent Variable : Industry P/E Change						
	(1)	(2)	(3)	(4)	(5)	(6)
Home Investment	-1.925 (1.438)	-2.542 (1.613)	2.393*** (0.471)	2.964*** (0.238)	2.457*** (0.477)	3.039*** (0.228)
Group ASIA		-1.729 (1.287)	2.224*** (0.163)		1.955*** (0.295)	
Group ME		-2.730** (1.182)	0.882** (0.317)		0.927** (0.354)	
Home X Group Asia			-5.543** (2.173)	-5.175** (1.862)	-6.027** (2.201)	-5.683** (1.954)
Home X Group ME			-2.794 (1.888)	-4.432*** (0.219)	-1.606 (1.817)	-3.587*** (0.521)
Target ME					-1.279** (0.478)	-0.890* (0.418)
Target Asia					0.735* (0.417)	0.87 (0.624)
Constant	-4.490*** (0.247)	-2.549** (1.168)	-6.348*** (0.181)	-4.528*** (0.239)	-6.322*** (0.178)	-4.740*** (0.295)
year dummies	Yes	Yes	Yes	Yes	Yes	Yes
fund dummies	Yes	No	No	Yes	No	Yes
R-squared	0.138	0.113	0.115	0.139	0.117	0.14
N	2532	2532	2532	2532	2532	2532

* p<0.10, ** p<0.05, ***p<0.01

Table 5

The sample consists of 538 publicly traded investments. It excludes transactions which were withdrawn or rejected. The dependent variable is the difference between the return of the target in the six months after the transaction and the return of the corresponding benchmark over the same period. *Group ASIA* and *Group ME* are dummy variables equal to 1 when a fund is based in Asia or the Middle East. *Target Asia* and *Target ME* are dummy variables indicating that the location of target companies is in Asia or Middle East. The estimation method is a weighted ordinary least squares model, using as weights winsorized transaction sizes (converted to 2000 U.S. dollars). Robust standard errors, allowing for data clustering by the countries in which the SWFs are based, are shown in parenthesis. When year dummies are added, the sample only includes transactions from 1991 onward.

Dependent Variable : Market-Adjusted Returns (6 months after transaction)				
	(1)	(2)	(3)	(4)
Home Investment	-0.119*** (0.037)	-0.082* (0.038)	0.584*** (0.115)	0.590*** (0.117)
Group ASIA		0.037 (0.055)	0.703*** (0.111)	0.677*** (0.110)
Group ME		-0.078 (0.066)	0.580*** (0.114)	0.563*** (0.111)
Home X Group Asia			-0.680*** (0.136)	-0.703*** (0.140)
Home X Group ME			-0.363** (0.149)	-0.567 (0.320)
Target ME				0.224 (0.190)
Target Asia				0.04 (0.025)
Constant	-0.036 (0.042)	-0.051 (0.081)	-0.712*** (0.123)	-0.704*** (0.125)
year dummies	Yes	Yes	Yes	Yes
fund dummies	Yes	No	No	No
R-squared	0.181	0.067	0.069	0.073
N	538	538	538	538

* p<0.10, ** p<0.05, ***p<0.01

Table 6

The sample consists of 2662 investments by 29 Sovereign Wealth funds. It excludes transactions which were withdrawn or rejected. The dependent variable is the share of the target company acquired by the SWF in the transaction. *Home Investment* is a dummy variable which equals one if the target is based in the same country as the SWF. *Group ASIA* and *Group ME* are dummy variables equal to 1 when a fund is based in Asia or the Middle East. *Target Asia* and *Target ME* are dummy variables indicating that the location of target companies is in Asia or Middle East. The estimation method is an ordinary least squares model. Robust standard errors, allowing for data clustering by the countries in which the SWFs are based, are shown in parenthesis. When year dummies are added, the sample only includes transactions from 1991 onward.

Dependent Variable : Acquisition Stake					
	(1)	(2)	(3)	(4)	(5)
Home Investment	-0.012 (0.020)		-0.009 (0.008)	0.075*** (0.011)	0.071*** (0.010)
Group ASIA		0.309*** (0.021)	0.304*** (0.021)	0.530*** (0.026)	
Group ME		0.370*** (0.042)	0.362*** (0.041)	0.494*** (0.035)	
Target ME				-0.098** (0.039)	-0.038 (0.042)
Target Asia				-0.226*** (0.013)	-0.237*** (0.010)
Constant	0.553*** (0.044)	0.210*** (0.054)	0.217*** (0.052)	0.136*** (0.043)	0.677*** (0.048)
year dummies	Yes	Yes	Yes	Yes	Yes
fund dummies	Yes	No	No	No	Yes
R-squared	0.085	0.04	0.04	0.084	0.134
N	1923	1923	1923	1923	1923

* p<0.10, ** p<0.05, *** p<0.01

Table 7

The sample consists of 2662 investments by 29 Sovereign Wealth funds. It excludes transactions which were withdrawn or rejected. The dependent variable is a dummy denoting whether the investment target was based in the same nation as the SWF. The variables *Orig log(GDP)* and *Orig GDP growth* represent the logarithm of the GDP in the year of the investment and the growth of the GDP in the calendar year prior to the investment in the SWF's home country. The *Politicians* variable is a dummy equals to 1 if politicians are involved in the management of the fund. The *External Managers* variable is a dummy equals to 1 if external managers are involved in the management of the fund. *Group ASIA* and *Group ME* are dummy variables equal to 1 when a fund is based in Asia or the Middle East. The *Home P/E* variable is the country-level P/E ratio of home country. The *Outside P/E* variable is equal to the target country P/E ratio if investment is not in the SWF's home nation. If investment is at home, *Outside P/E* is equal to the average (weighted by the total transaction sizes of the SWF deals in the sample) P/E ratios of all other countries in which investments were made by SWFs. The estimation method is a weighted probit model, using as weights winsorized transaction sizes (converted to 2000 U.S. dollars). The displayed coefficients are marginal effects. Robust standard errors, allowing for data clustering by the countries in which the SWFs are based, are shown in parenthesis. When year dummies are added, the sample only includes transactions from 1991 onward.

Dependent variable: Home Dummy								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Orig log(GDP)	0.046 (0.048)	0.069* (0.042)	0.037 (0.044)	0.065* (0.036)	-0.018 (0.032)	-0.001 (0.030)	-0.021 (0.029)	0.003 (0.032)
Orig GDP growth	-0.009* (0.005)	-0.020* (0.011)	-0.016* (0.008)	-0.033*** (0.010)	-0.002 (0.003)	0 (0.006)	-0.006** (0.003)	-0.002 (0.008)
Politicians	0.360** (0.176)	0.329** (0.163)	0.357** (0.165)	0.323** (0.150)	0.408*** (0.129)	0.415*** (0.134)	0.427*** (0.117)	0.422*** (0.127)
External managers	-0.263*** (0.066)	-0.247*** (0.048)	-0.264*** (0.045)	-0.249*** (0.037)	-0.267*** (0.033)	-0.261*** (0.030)	-0.274*** (0.026)	-0.265*** (0.027)
Group ASIA					-0.542*** (0.117)	-0.588*** (0.124)	-0.547*** (0.118)	-0.566*** (0.127)
Group ME					-0.444*** (0.061)	-0.427*** (0.065)	-0.406*** (0.058)	-0.416*** (0.068)
Home P/E			0.007*** (0.002)	0.004 (0.003)			0.005* (0.003)	-0.002 (0.002)
Outside P/E			-0.007** (0.003)	-0.009*** (0.003)			-0.006* (0.003)	-0.008** (0.003)
year dummies	No	Yes	No	Yes	No	Yes	No	Yes
Pseudo R-squared	0.128	0.173	0.153	0.192	0.183	0.21	0.192	0.22
N	2618	2550	2549	2507	2618	2550	2549	2507

* p<0.10, ** p<0.05, ***p<0.01

Table 8

The sample consists of 2662 investments by 29 Sovereign Wealth funds. It excludes transactions which were withdrawn or rejected. The dependent variables are the weighted (by firm value) average of the P/E ratios of publicly traded firms in the industry, country and year of the transaction and the change in the weighted (by firm value) average of the P/E ratios of publicly traded firms in the industry and country of the transaction in the year after the deal. The *External Managers* variable is a dummy equals to 1 if external managers are involved in the management of the fund. The *Politicians* variable is a dummy equals to 1 if politicians are involved in the management of the fund. *Group ASIA* and *Group ME* are dummy variables equal to 1 when a fund is based in Asia or the Middle East. *Home Investment* is a dummy variable which equals one if the target is based in the same country as the SWF. *Target Asia* and *Target ME* are dummy variables indicating that the location of target companies is in Asia or Middle East. The estimation method is a weighted ordinary least squares model, using as weights winsorized transaction sizes (converted to 2000 U.S. dollars). Robust standard errors, allowing for data clustering by the countries in which the SWFs are based, are shown in parenthesis. When year dummies are added, the sample only includes transactions from 1991 onward.

Dependent Variable:	Industry P/E Levels				Industry P/E Change			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
External managers	-2.112 (1.733)	-2.102 (1.820)	-5.023*** (1.201)	-4.562*** (1.307)	2.590*** (0.341)	2.884*** (0.342)	2.160*** (0.599)	2.266*** (0.668)
Politicians	1.923 (1.811)	1.974 (1.940)	4.502*** (1.271)	4.153*** (1.300)	-3.977*** (0.549)	-4.788*** (0.252)	-4.168*** (0.404)	-4.207*** (0.423)
Group ASIA		2.391*** (0.746)	-1.639 (1.585)	-0.803 (1.849)		0.936*** (0.278)	-0.048 (0.745)	-0.423 (0.838)
Group ME		2.707*** (0.621)	-1.761 (1.739)	-0.214 (2.153)		-0.905* (0.437)	-2.000* (1.008)	-2.139* (1.092)
Home Investment			-6.526*** (2.076)	-5.607* (2.625)			-1.595 (1.209)	-1.749 (1.250)
Target Asia				-0.162 (0.284)				0.489 (0.419)
Target ME				-5.433*** (1.267)				-0.178 (0.916)
Constant	24.170*** (0.444)	21.661*** (0.645)	26.756*** (1.830)	26.148*** (2.126)	-4.671*** (0.929)	-4.583*** (0.367)	-3.335*** (0.954)	-3.194*** (0.962)
year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.105	0.106	0.141	0.152	0.121	0.127	0.13	0.131
N	2533	2533	2533	2533	2524	2524	2524	2494

* p<0.10, ** p<0.05, ***p<0.01

Table 9

The sample consists of 2662 investments by 29 Sovereign Wealth funds. It excludes transactions which were withdrawn or rejected. The dependent variable is the share of the target company acquired by the SWF in the transaction. The *External Managers* variable is a dummy equals to 1 if external managers are involved in the management of the fund. The *Politicians* variable is a dummy equals to 1 if politicians are involved in the management of the fund. *Group ASIA* and *Group ME* are dummy variables equal to 1 when a fund is based in Asia or the Middle East. *Home Investment* is a dummy variable which equals one if the target is based in the same country as the SWF. *Target Asia* and *Target ME* are dummy variables indicating that the location of target companies is in Asia or Middle East. The estimation method is an ordinary least squares model. Robust standard errors, allowing for data clustering by the countries in which the SWFs are based, are shown in parenthesis. When year dummies are added, the sample only includes transactions from 1991 onward.

Dependent Variable: Acquisition Stake				
	(1)	(2)	(3)	(4)
External managers	-0.134*** (0.023)	-0.141*** (0.036)	-0.154*** (0.035)	-0.172*** (0.040)
Politicians	-0.034* (0.017)	-0.028 (0.024)	-0.019 (0.024)	-0.014 (0.027)
Group ASIA		0.317*** (0.031)	0.299*** (0.032)	0.533*** (0.036)
Group ME		0.372*** (0.047)	0.348*** (0.045)	0.482*** (0.038)
Home Investment			-0.028* (0.014)	0.056*** (0.016)
Target Asia				-0.233*** (0.013)
Target ME				-0.083 (0.049)
Constant	0.563*** (0.035)	0.237*** (0.059)	0.262*** (0.057)	0.180*** (0.045)
year dummies	Yes	Yes	Yes	Yes
R-squared	0.035	0.055	0.056	0.103
N	1916	1916	1916	1916

* p<0.10, ** p<0.05, ***p<0.01

Appendix

Table A.1 – Weighted Mean Tests

Part A : Where do funds invest?

Panel A.1 – P/E Levels

	All Groups	Asia	ME	Western	Asia/ME (p-value)	Asia/Western (p-value)	ME/Western (p-value)
Overall (mean)	24.371	25.018	23.476	19.957	0.055	0.000	0.000
Asia Targets (mean)	24.598	24.404	27.021		0.353		
ME Targets (mean)	17.853	18.002	17.814		0.915		
Western Targets (mean)	25.027	26.441	24.204	19.957	0.044	0.000	0.000
Asia / ME (p-value)	0.000	0.000	0.002				
Asia/Western (p-value)	0.000	0.054	0.321				
ME / Western (p-value)	0.597	0.000	0.000				

Panel A.2 – Performance (P/E Change)

	All Groups	Asia	ME	Western	Asia/ME	Asia/Western	ME/Western
Overall (mean)	-1.410	-1.002	-2.272	-.216	0.084	0.432	0.053
Asia Targets (mean)	-1.247	-1.141	-2.569		0.559		
ME Targets (mean)	-4.089	-3.246	-4.317		0.620		
Western Targets (mean)	-1.200	-.644	-1.821	-.216	0.234	0.711	0.150
Asia / ME (p-value)	0.014	0.271	0.509				
Asia/Western (p-value)	0.949	0.597	0.761				
ME / Western (p-value)	0.009	0.184	0.063				

Part B: How do home and international investments differ?

Panel B.1 – P/E Levels

	All Groups	Asia	ME	Western	Asia/ME	Asia/Western	ME/Western
Home Investment (%)	33.5	37.4	9.0	94.0	0.000	0.000	0.000
Abroad (%)	66.5	62.6	91.0	6.0	0.000	0.000	0.000
Industry P/E at home	22.023	22.795	18.387	20.245	0.015	0.017	0.308
Industry P/E abroad	25.039	25.853	23.928	18.962	0.035	0.000	0.000
Home/Abroad (p-value)	0.000	0.002	0.002	0.236			

Panel B.2 – Performance (P/E Change)

	All Groups	Asia	ME	Western	Asia/ME	Asia/Western	ME/Western
Home Investment (%)	33.5	37.4	9.0	94.0	0.000	0.000	0.000
Abroad (%)	66.5	62.6	91.0	6.0	0.000	0.000	0.000
Industry P/E at home	-2.922	-3.210	-3.796	.869	0.701	0.000	0.004
Industry P/E abroad	-.981	-.171	-2.139	-3.969	0.017	0.096	0.426
Home/Abroad (p-value)	0.009	0.001	0.261	0.043			

Part C : How does organizational structure matter?

Panel C

	Politicians (mean)	No Politicians (mean)	External Managers (mean)	No External Managers (mean)	Politicians / No Politicians (p- value)	External/No External (p-value)
Home Investment (%)	0.442	0.309	0.080	0.364	0.000	0.000
Industry P/E level	24.760	24.359	23.306	24.642	0.686	0.250
P/E Change	-3.731	-.743	-2.295	-1.237	0.001	0.248

Table A-2

The sample consists of 2662 investments by 29 Sovereign Wealth funds. It excludes transactions which were withdrawn or rejected. The dependent variable is a dummy denoting whether the investment target was based in the same nation as the SWF. The variables *Orig log(GDP)* and *Orig GDP growth* represent the logarithm of the GDP in the year of the investment and the growth of the GDP in the calendar year prior to the investment in the SWF's home country. *Group ASIA* and *Group ME* are dummy variables equal to 1 when a fund is based in Asia or the Middle East. The *Home P/E* variable is the country-level P/E ratio of home country. The *Outside P/E* variable is equal to the target country P/E ratio if investment is not in the SWF's home nation. If investment is at home, *Outside P/E* is equal to the average (weighted by the total transaction sizes of the SWF deals in the sample) P/E ratios of all other countries in which investments were made by SWFs. The estimation method is a probit model. The displayed coefficients are marginal effects. Robust standard errors, allowing for data clustering by the countries in which the SWFs are based, are shown in parenthesis. When year dummies are added, the sample only includes transactions from 1991 onward.

Dependent Variable : Home Dummy						
	(1)	(2)	(3)	(4)	(5)	(6)
Orig log(GDP)	0.013 (0.048)	0.059 (0.047)	0.087 (0.060)	0.133** (0.057)	0.017 (0.041)	0.07 (0.053)
Orig GDP growth	-0.006 (0.005)	-0.01 (0.019)	-0.020* (0.012)	-0.062*** (0.016)	-0.011* (0.006)	-0.031 (0.022)
Group ASIA	-0.622*** (0.093)	-0.604*** (0.116)			-0.604*** (0.097)	-0.511*** (0.137)
Group ME	-0.530*** (0.052)	-0.509*** (0.058)			-0.495*** (0.055)	-0.459*** (0.060)
Home P/E			0.012*** (0.001)	0.014*** (0.002)	0.008*** (0.003)	0.004 (0.003)
Outside P/E			-0.017*** (0.003)	-0.017*** (0.002)	-0.016*** (0.002)	-0.017*** (0.002)
year dummies	No	Yes	No	Yes	No	Yes
Pseudo R-Squared	0.097	0.112	0.062	0.102	0.114	0.131
N	2626	2558	2557	2515	2557	2515

* p<0.10, ** p<0.05, ***p<0.01

Table A-3

The sample consists of 2662 investments by 29 Sovereign Wealth funds. It excludes transactions which were withdrawn or rejected. The dependent variable is the weighted (by firm value) average of the P/E ratios of publicly traded firms in the industry, country and year of the transaction. *Home Investment* is a dummy variable which equals one if the target is based in the same country as the SWF. *Group ASIA* and *Group ME* are dummy variables equal to 1 when a fund is based in Asia or the Middle East. *Target Asia* and *Target ME* are dummy variables indicating that the location of target companies is in Asia or Middle East. The estimation method is an ordinary least squares model. Robust standard errors, allowing for data clustering by the countries in which the SWFs are based, are shown in parenthesis. When year dummies are added, the sample only includes transactions from 1991 onward.

Dependent Variable : Industry P/E Levels						
	(1)	(2)	(3)	(4)	(5)	(6)
Home Investment	-5.689*** (0.991)	-5.959*** (0.871)	1.655*** (0.313)	4.645 (3.478)	1.642*** (0.362)	4.745 (3.375)
Group ASIA		-0.784 (0.844)	6.438*** (0.608)		7.780*** (0.807)	
Group ME		-3.360*** (0.934)	3.628*** (0.600)		4.686*** (0.766)	
Home X Group Asia			-7.836*** (0.794)	-10.577** (3.582)	-7.232*** (0.899)	-10.065** (3.499)
Home X Group ME			-5.905** (2.237)	-8.785* (4.664)	0.232 (2.759)	-2.578 (4.909)
Target ME					-7.215*** (1.259)	-7.852*** (1.015)
Target Asia					-1.800*** (0.369)	-1.950*** (0.337)
Constant	26.289*** (0.714)	27.559*** (1.027)	20.418*** (0.769)	26.038*** (0.644)	20.527*** (0.853)	27.581*** (0.752)
year dummies	Yes	Yes	Yes	Yes	Yes	Yes
fund dummies	Yes	No	No	Yes	No	Yes
R-squared	0.14	0.131	0.132	0.141	0.141	0.15
N	2541	2541	2541	2541	2541	2541

* p<0.10, ** p<0.05, ***p<0.01

Table A-4

The sample consists of 2662 investments by 29 Sovereign Wealth funds. It excludes transactions which were withdrawn or rejected. The dependent variable is the change in the weighted (by firm value) average of the P/E ratios of publicly traded firms in the industry and country of the transaction in the year after the deal. *Home Investment* is a dummy variable which equals one if the target is based in the same country as the SWF. *Group ASIA* and *Group ME* are dummy variables equal to 1 when a fund is based in Asia or the Middle East. *Target Asia* and *Target ME* are dummy variables indicating that the location of target companies is in Asia or Middle East. The estimation method is an ordinary least squares model. Robust standard errors, allowing for data clustering by the countries in which the SWFs are based, are shown in parenthesis. When year dummies are added, the sample only includes transactions from 1991 onward.

Dependent Variable : Industry P/E Change						
	(1)	(2)	(3)	(4)	(5)	(6)
Home Investment	-1.372*** (0.407)	-1.194** (0.429)	1.634 (1.850)	2.068 (1.275)	1.651 (1.818)	2.056 (1.253)
Group ASIA		-2.586*** (0.384)	0.072 (1.890)		-0.465 (1.948)	
Group ME		-2.074*** (0.431)	0.602 (1.885)		0.402 (1.844)	
Home X Group Asia			-2.832 (1.821)	-3.425** (1.265)	-3.212* (1.774)	-3.796*** (1.213)
Home X Group ME			-3.119 (2.294)	-4.076** (1.408)	-2.965 (2.771)	-4.478** (1.809)
Target ME					0.046 (1.293)	0.714 (0.862)
Target Asia					0.871 (0.549)	0.981 (0.673)
Constant	-4.970*** (0.292)	-2.670*** (0.465)	-5.311** (1.894)	-5.045*** (0.298)	-5.331** (1.864)	-5.630*** (0.552)
year dummies	Yes	Yes	Yes	Yes	Yes	Yes
fund dummies	Yes	No	No	Yes	No	Yes
R-squared	0.095	0.082	0.082	0.095	0.083	0.096
N	2532	2532	2532	2532	2532	2532

* p<0.10, ** p<0.05, *** p<0.01

Table A-5

The sample consists of 538 publicly traded investments. It excludes transactions which were withdrawn or rejected. The dependent variable is the difference between the return of the target in the six months after the transaction and the return of the corresponding benchmark over the same period. *Home Investment* is a dummy variable which equals one if the target is based in the same country as the SWF. *Group ASIA* and *Group ME* are dummy variables equal to 1 when a fund is based in Asia or the Middle East. *Target Asia* and *Target ME* are dummy variables indicating that the location of target companies is in Asia or Middle East. Robust standard errors, allowing for data clustering by the countries in which the SWFs are based, are shown in parenthesis. When year dummies are added, the sample only includes transactions from 1991 onward.

Dependent Variable : Market-Adjusted Returns (6 months after transaction)				
	(1)	(2)	(3)	(4)
Home Investment	-0.095*** (0.025)	-0.062 (0.044)	0.544*** (0.047)	0.547*** (0.049)
Group ASIA		0.037 (0.054)	0.632*** (0.045)	0.606*** (0.040)
Group ME		0.025 (0.070)	0.610*** (0.043)	0.594*** (0.026)
Home X Group Asia			-0.621*** (0.092)	-0.634*** (0.106)
Home X Group ME			-0.264*** (0.073)	-0.385 (0.239)
Target ME				0.136 (0.198)
Target Asia				0.035 (0.065)
Constant	0.087** (0.037)	0.018 (0.077)	-0.572*** (0.032)	-0.570*** (0.029)
year dummies	Yes	Yes	Yes	Yes
fund dummies	Yes	No	No	No
R-squared	0.12	0.048	0.052	0.054
N	538	538	538	538

* p<0.10, ** p<0.05, ***p<0.01

Table A-7

The sample consists of 2662 investments by 29 Sovereign Wealth funds. It excludes transactions which were withdrawn or rejected. The dependent variable is a dummy denoting whether the investment target was based in the same nation as the SWF. The variables *Orig log(GDP)* and *Orig GDP growth* represent the logarithm of the GDP in the year of the investment and the growth of the GDP in the calendar year prior to the investment in the SWF's home country. The *Politicians* variable is a dummy equals to 1 if politicians are involved in the management of the fund. The *External Managers* variable is a dummy equals to 1 if external managers are involved in the management of the fund. *Group ASIA* and *Group ME* are dummy variables equal to 1 when a fund is based in Asia or the Middle East. The *Home P/E* variable is the country-level P/E ratio of home country. The *Outside P/E* variable is equal to the target country P/E ratio if investment is not in the SWF's home nation. If investment is at home, *Outside P/E* is equal to the average (weighted by the total transaction sizes of the SWF deals in the sample) P/E ratios of all other countries in which investments were made by SWFs. The estimation method is a probit model. The displayed coefficients are marginal effects. Robust standard errors, allowing for data clustering by the countries in which the SWFs are based, are shown in parenthesis. When year dummies are added, the sample only includes transactions from 1991 onward.

Dependent variable: Home Dummy								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Orig log(GDP)	0.047 (0.086)	0.087 (0.084)	0.042 (0.079)	0.078 (0.068)	-0.065 (0.043)	-0.040 (0.041)	-0.063* (0.036)	-0.03 (0.047)
Orig GDP growth	-0.012* (0.007)	-0.027 (0.018)	-0.018* (0.011)	-0.059*** (0.015)	-0.003 (0.002)	0.000 (0.008)	-0.007*** (0.002)	-0.016 (0.014)
Politicians	0.348** (0.158)	0.331** (0.164)	0.337** (0.156)	0.316** (0.148)	0.398*** (0.115)	0.397*** (0.126)	0.403*** (0.109)	0.390*** (0.120)
External managers	-0.364*** (0.083)	-0.355*** (0.076)	-0.364*** (0.066)	-0.354*** (0.057)	-0.370*** (0.045)	-0.371*** (0.046)	-0.377*** (0.038)	-0.373*** (0.039)
Group ASIA					-0.771*** (0.054)	-0.778*** (0.059)	-0.754*** (0.055)	-0.729*** (0.078)
Group ME					-0.564*** (0.027)	-0.556*** (0.034)	-0.528*** (0.027)	-0.516*** (0.042)
Home P/E			0.011*** (0.001)	0.014*** (0.003)			0.007** (0.003)	0.003 (0.003)
Outside P/E			-0.017*** (0.002)	-0.017*** (0.002)			-0.016*** (0.002)	-0.017*** (0.002)
year dummies	No	Yes	No	Yes	No	Yes	No	Yes
Pseudo R-squared	0.089	0.117	0.125	0.159	0.169	0.179	0.186	0.197
N	2618	2550	2549	2507	2618	2550	2549	2507

* p<0.10, ** p<0.05, ***p<0.01

Table A-8

The sample consists of 2662 investments by 29 Sovereign Wealth funds. It excludes transactions which were withdrawn or rejected. The dependent variables are the weighted (by firm value) average of the P/E ratios of publicly traded firms in the industry, country and year of the transaction and the change in the weighted (by firm value) average of the P/E ratios of publicly traded firms in the industry and country of the transaction in the year after the deal. The *External Managers* variable is a dummy equals to 1 if external managers are involved in the management of the fund. The *Politicians* variable is a dummy equals to 1 if politicians are involved in the management of the fund. *Group ASIA* and *Group ME* are dummy variables equal to 1 when a fund is based in Asia or the Middle East. *Home Investment* is a dummy variable which equals one if the target is based in the same country as the SWF. *Target Asia* and *Target ME* are dummy variables indicating that the location of target companies is in Asia or Middle East. The estimation method is an ordinary least squares model. Robust standard errors, allowing for data clustering by the countries in which the SWFs are based, are shown in parenthesis. When year dummies are added, the sample only includes transactions from 1991 onward.

Dependent Variable:	Industry P/E Levels			Industry P/E Change				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
External managers	2.131 (2.361)	2.418 (2.339)	-0.67 (1.253)	-0.59 (1.186)	1.146 (0.899)	1.052 (0.893)	0.555 (1.099)	0.661 (1.170)
Politicians	-0.986 (2.204)	-1.48 (2.129)	0.632 (1.300)	0.528 (1.278)	-2.179*** (0.716)	-2.009** (0.683)	-1.675* (0.825)	-1.701* (0.838)
Group ASIA		3.223*** (0.398)	-0.825 (0.598)	1.483* (0.757)		-1.328*** (0.250)	-1.970*** (0.449)	-2.786*** (0.760)
Group ME		1.956*** (0.282)	-3.241*** (0.766)	-1.113 (0.878)		-0.931*** (0.302)	-1.761*** (0.404)	-2.200*** (0.500)
Home Investment			-6.110*** (0.760)	-5.113*** (0.850)			-0.972** (0.417)	-1.258** (0.501)
Target Asia				-2.012*** (0.270)				0.827 (0.609)
Target ME				-4.823*** (1.426)				0.014 (0.821)
Constant	24.609*** (1.211)	21.989*** (0.714)	27.624*** (0.718)	26.790*** (0.860)	-4.929*** (0.374)	-3.802*** (0.397)	-2.905*** (0.361)	-2.641*** (0.334)
year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.093	0.096	0.132	0.138	0.082	0.082	0.084	0.084
N	2533	2533	2533	2533	2524	2524	2524	2524

* p<0.10, ** p<0.05, ***p<0.01

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