QUIET LEVIATHANS: SOVEREIGN WEALTH FUND INVESTMENT, PASSIVITY, AND THE VALUE OF THE FIRM

Bernardo Bortolotti
Executive Director, Fondazione Eni Enrico Mattei (FEEM)
Professor of Economics, Università di Torino

Veljko Fotak
Doctoral Candidate, University of Oklahoma
Research Associate, Fondazione Eni Enrico Mattei (FEEM)

William L. Megginson
Professor and Rainbolt Chair in Finance, University of Oklahoma
Visiting Professor, Université Paris Dauphine

William F. Miracky
Senior Partner, Monitor Group

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Abstract

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Please address correspondence to:

William L. Megginson
Price College of Business
307 West Brooks, 205A Adams Hall
The University of Oklahoma
Noman, OK 73019-4005
Tel: (405) 325-2058; Fax: (405) 325-7688
e-mail: *wmegginson@ou.edu*

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Abstract

Using a sample of 802 investments by 18 Sovereign Wealth Funds (SWFs) through November 2009, we examine whether SWFs impact value as investors in listed companies. While SWF investment announcements yield small but significantly positive stock returns, target firms experience much larger, significantly negative abnormal returns over the three years after investment. Despite buying large stakes through direct equity purchases, SWFs play little visible role in target firm corporate governance and rarely take seats on target firm boards. These and other results offer most support for the Constrained Foreign State Investor Hypothesis, predicting that foreign governments will be passive shareholders.

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Recent shifts in the global distribution of production and wealth have prompted the rise of a major new class of investment funds owned and operated by national governments, but guided in their investment policies at least partly by commercial principles. This study examines investments by sovereign wealth funds (SWFs) in publicly listed stocks and, in particular, the impact of those investments on long-term firm performance.

SWFs are a new and extremely important category of state-owned investor that has attracted significant attention from policy-makers, academics, and investors alike since they were assigned this vivid moniker by Andrew Rozanov five years ago [Rozanov (2005)]. Several characteristics of SWF investing and organization make those funds especially interesting to financial economists, beginning with the facts that they are quite large, with assets under management conservatively estimated at over $2 trillion in 2010, and are expected to grow to $7 trillion or more by 2015 [Jen and Andreopoulos (2008) and Kern (2009)]. SWFs thus currently play a significant, though far from dominant, role in global finance and corporate governance, and this role will likely increase dramatically in the future. Furthermore, as state-owned entities, SWFs are organized and managed much differently than are large private-sector investment funds and might possibly have different, social rather than purely economic objectives, which could cause them to have a very different impact on their investment targets. Finally, these fully government-owned investment funds make large, risky, cross-border investments in politically sensitive industries--such as banking, telecommunications, and energy--and in politically sensitive investment categories such as commercial real estate and listed-firm equity.

Existing empirical research on SWFs offers conflicting evidence about whether and how SWFs create value by investing in publicly traded companies. All of the studies that examine such SWF investments using event study techniques [Dewenter, Han, and Malatesta (2010), Kotter and Lel (2010), Knill, Lee, and Mauck (2009) and Karolyi and Liao (2009)] find significantly positive announcement period returns of between 0.88% and 2.25%, suggesting that the market welcomes SWF as investors. However, the studies that examine long-term excess returns [Dewenter, et al (2010), Kotter and Lel (2010), Knill, Lee and Mauck(2009), and Bernstein, Lerner, and Schoar (2009)] generally document significantly negative median returns over six-month or one-year holding periods after SWF investment announcements, and insignificantly negative median excess returns over longer holding periods.[1] Unlike our study, however, none of these studies examine the direct financing role of SWFs, none employ multiple long-run return estimations and testing methodologies to check for the robustness of their

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[1] Only Fernandes (2009) claims to document dramatic improvements in target firm profitability and valuation after SWF investments.

findings, and none provide and test a theoretical framework to interpret the negative long-run returns for target firms after SWF investments.

We use event-study methodology to examine the long-term stock return performance of SWF investment targets, then perform cross-sectional analysis on these abnormal returns to test five competing hypotheses explaining the impact of SWF investment on the performance of fund targets. We first hypothesize a possible positive impact due to monitoring: since SWFs are large, long-term institutional investors, they might create value by providing corporate governance for target firms, as SWFs' listed-firm stock purchases typically are large enough to make the funds significant blockholders after investment. Several types of blockholders, especially hedge funds [Brav, Jiang, Partnoy and Thomas (2008), Klein and Zur (2009), Ferreira and Matos (2008), Ferreira, Massa and Matos (2008) and Cronqvist and Fahlenbrach (2009)], have been empirically linked to significant improvements in target firm performance, but Chen, Harford, and Li (2007) show that not all blockholders directly impact corporate governance.

We also hypothesize a possible positive impact due to reduced financial constrains. A large literature [see Stein (2003) and Campello, Graham and Harvey (2010)] documents that financial constraints can prevent companies from making positive-NPV investments, so if SWFs make direct equity infusions into target firms they might help targets overcome these funding constraints and create real economic value. On the other hand, there is also a widespread fear that SWFs will not act as strictly commercially-minded investors, seeking only the highest possible financial return, but will instead be forced to invest strategically by home-country governments seeking political influence or access to foreign technology. Accordingly, a negative impact of SWFs on firm performance could result from the imposition of political goals, diverting resources from shareholder value maximization. A large body of empirical research, summarized in Megginson and Netter (2001) and Estrin, Hanousek, Kočenda, and Svejnar (2009), suggests that governments are usually bad operating *managers* and that firm performance improves with privatization, while another stream of literature has looked at 'mixed ownership' firms [Boardman and Vining (1989) and Shirley and Walsh (2000)], generally finding that mixed ownership also has a negative impact on firm value. However, there has been little investigation of whether states can be value-creating *investors*. We formulate a Political Interference Hypothesis, predicting a negative impact on the long-term performance of target firms due to the imposition of political goals not consistent with shareholder value maximization.

Alternatively, as foreign, state-owned investment funds, any posture that SWFs take other than being purely passive investors might generate political pressure or a regulatory backlash from recipient-country governments. Even when SWFs do take majority stakes--which Miracky, Dyer, Fisher, Goldner, Lagarde, and Piedrahita (2008) show occurs almost exclusively when SWFs invest in domestic

companies--the funds rarely seem to challenge incumbent managers, as documented by Mehropouya, Huang and Barnett (2009). Woitdke (2002) documents similar behavior by public-sector pension funds in the United States. Even more, SWFs very rarely divest, thus not exercising the type of governance through threat of exit discussed by Parrino, Sias, and Starks (2003) and Admati and Pfleiderer (2009). Thus, a negative impact on firm value could result if SWFs take a completely passive corporate governance stance, thereby helping to entrench managers and increase agency costs, as predicted by our Constrained Foreign State Investor Hypothesis. Finally, we also hypothesize that any abnormal performance observed could simply be due to the stock-picking abilities (or lack of) of the investing SWF and test what we deem the Stock-Picking Hypothesis.

Using a sample of 802 investments in publicly traded companies made by 18 of the largest and most internationally active SWFs between May 1985 and November 2009, we first describe SWF investment patterns and then test what impact those investments have on the performance of target firms. We document that SWFs tend to invest in large, levered, profitable growth firms, usually headquartered in a foreign country, and that have experienced significantly positive abnormal stock returns in the year before the investment is made. These investments usually take the form of direct purchases of newly-issued shares, and thus are financing events for target firms. We find that most of the funds investing internationally generally purchase sizeable but minority ownership stakes in target companies, but at least one fund, Norway's Government Pension Fund-Global, makes much smaller investments via open-market share purchases. With the exception of investments by Norway's SWF, the stakes typically purchased are large enough to make SWFs influential blockholders in the investee companies, should they wish to participate in target firm governance, but we show that most SWFs do not demand or receive seats on a target firm's board after investment or actively participate in governance in any public way other than voting their shares. This mirrors the survey findings presented in Mehropouya, Huang and Barnett (2009), who also show that SWFs rarely initiate shareholder petitions and when funds do vote they almost always support management.

The stock prices of companies receiving SWF equity investments increase significantly though modestly (about 1.25%) upon this announcement, but excess returns on investee firm shares are significantly negative over six-month and one-, two-, and three-year holding periods after the investment. These long-term losses are far larger than the positive announcement period returns. Cross-sectional analysis of these abnormal returns finds that the performance of SWF investment targets is worse for more passive funds, for foreign targets, and for targets headquartered in OECD countries, but is negatively related to the size of the stake acquired and to the size of the target firm. Of the five hypotheses we develop to explain SWF behavior and impact, the results of our cross-sectional analysis offer most support for the Constrained Foreign State Investor Hypothesis.

5

This manuscript is structured as follows. Section 1 develops the five hypotheses predicting how SWFs will invest and what impact their investments will have on target firms. Section 2 describes the database of listed company targets we create for this study, and describes the investment patterns exhibited by SWFs and analyzes the types of listed firms in which SWFs choose to invest. Section 3 examines the long-term evidence of SWFs' investment performance, using both event-study techniques and tests measuring accounting performance. In Section 4, we discuss further evidence of the passive role of SWFs. Finally, we summarize our conclusions in Section 5.

1.   Development of Hypotheses

Although SWFs can impact target firm value in many ways, our hypotheses assume that two channels of influence are most important. First, a SWF can have a direct, financial impact on target firm funding if oit purchases newly issued stock from the firm itself and if it provides access to future financing through follow-up investments or through connections to other state-owned financial institutions. Second, SWFs can impact target firm values after an investment is made by choosing whether to take an active or passive role in firm governance.

In the sections below, we develop five hypotheses describing SWF investment objectives and impact, and after each one we specify the testable empirical predictions based on the stock price returns we expect and the cross-sectional relationship between those returns and characteristics of the investing fund, the target firm, and the transaction. The predicted abnormal returns and cross-sectional relationships for each of the five hypotheses are summarized in Table1.

**** Insert Table 1 about here ****

1.1.   The Active Monitoring Hypothesis

As noted above and described in more detail in Section 2, SWFs invest large sums and often become significant blockholders in target companies, so there is reason to believe this will increase value. Shleifer and Vishny (1986) hypothesize that large shareholders (blockholders) have the proper incentives to monitor portfolio firm managers and the capability to intervene decisively to punish or replace poorly performing executives. Empirical research [Brav, Jiang, Partnoy and Thomas (2008), Klein and Zur (2009), Ferreira and Matos (2008), Ferreira, Massa and Matos (2008) and Cronqvist and Fahlenbrach (2009)] shows that at least one class of large institutional investors, hedge funds, are often successful at improving governance of the firms in which they invest. By purchasing large stakes in target firms, SWFs should have the power and incentive to monitor target firm managers and discipline under-performers [Edmans (2009); Cai, Garner, and Walkling (2009)].

6

The Active Monitoring Hypothesis predicts that: (1) SWF investments in listed companies will generate positive excess stock returns for target companies; (2) excess returns will be lower for funds with a passive stance (for example, funds buying small, non-controlling stakes); (3) excess returns will be lower for SWF investments in target firms headquartered in OECD countries than in developing countries, because OECD-based companies are likely to need monitoring relatively less because of existing laws offering better protection from managerial opportunism; (4) excess returns will be positively related to the stake size the SWF acquires in a target firm, as a larger stake facilitates monitoring; (5) excess returns will be higher for domestic than for foreign investments, since a fund is more likely to be able to exert influence over a company headquartered in its home country than abroad; (6) excess returns will be lower for highly levered firms, as prior literature shows that high leverage imposes discipline on managers, thus reducing the marginal productivity of additional monitoring; similarly, (7) excess returns will be higher for firms with high liquidity, as easy access to funds is more likely to lead to agency costs; and (8) excess returns will be higher if the SWF acquires seats on the board of directors, as that allows for more effective monitoring.

1.2. The Reduced Financial Constraint Hypothesis

A large literature documents that many companies suffer from financial constraints that prevent them from accepting all available positive-NPV investments. As examples, Lamont, Polk and Saá-Requejo (2001) find that financially constrained firms are subject to common shocks and, in a sample of manufacturing firms, they document lower stock returns over 1968-1997 for financially constrained firms; Stein (2003) documents that the sensitivity of investment to cash flow is higher for a priori constrained firms; and Campello, Graham and Harvey (2010) document that the inability to borrow externally causes many firms to not pursue attractive investment opportunities during the credit crisis of 2008. SWFs may create value by making direct equity capital infusions into such financially constrained firms, thus allowing these companies to fund more economically valuable investments. By their nature, such financing deals tend to be both arms-length and episodic, not necessarily involving any ongoing fund involvement in target firms.[2]

The Reduced Financial Constraint Hypothesis predicts that: (1) SWF investments in listed companies will generate positive excess stock returns for target companies; (2) excess returns will be lower for SWF investments in target firms headquartered in OECD countries than in developing countries, since capital markets are more developed in the OECD and thus there is less need for (and payoff to) direct equity financing; (3) excess returns will be positively related to the size of the capital

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[2] Another possible impact of SWF investment might be to signal state backing for the companies in which they invest, and thus signal commitment to back the firm if it meets distress.

injection, if any; (4) excess returns will be lower for larger firms, as those are more likely to have alternative financing available; (5) excess returns will be higher for firms that have higher leverage, as those firms often face more difficulty obtaining additional financing; (6) excess returns will be lower for more liquid firms, as those firms are less likely to be financially constrained.

1.3.   The Political Interference Hypothesis

As noted in the introduction, SWFs are often accused of acting as stalking horses for the governments that own them, and of trying to impose non-value-maximizing objectives on target firms. These objectives could be purely political, as in forcing the firm to trade with a home-country state owned enterprise or refraining from doing business with or in a country hostile to the fund's government (i.e., Israel or Taiwan). Similarly, the objectives could be strategic, such as pushing investment targets to take actions that are suboptimal from a wealth maximization perspective but further the goals of the state--like favoring the development of specific sectors or reducing unemployment through targeted investment. Alternatively, SWFs could simply use their large stake to tunnel [Johnson, La Porta, Lopez-de-Silanes, and Shleifer (2000); Atanasov, Black, Ciccotello, and Gyoshev (2010); and Jiang, Lee, and Yue (2010)] wealth out of the target company, harming the firm's other shareholders.

The Political Interference Hypothesis predicts that: (1) SWF investments in listed companies will generate negative excess stock returns for target companies; (2) excess returns will be lower for funds with a high level of governmental involvement, as government involvement is likely to lead to the imposition of political, rather than commercial, goals; (3) excess returns will be higher for Norway's SWF, as it is explicitly managed at arm's length from the government; (4) excess returns will be lower for SWF investments in target firms headquartered in OECD countries than in developing countries, since OECD-based companies have better legal protection against minority-shareholder expropriation; (5) excess returns will be lower for strategic targets, as those are more likely to have been acquired for political, rather than strictly commercial, purposes; (6) excess returns will be negatively related to the stake size the SWF acquires in a target firm, as a larger stake allows for greater influence; (7) excess returns will be lower for domestic than for foreign investments, since a fund will be more likely to successfully impose its own political goals on domestic firms; (8) excess returns will be higher for investments in larger firms, as the additional visibility mitigates the fund's ability to impose political goals; (9) excess returns will be higher for firms with higher leverage, as the presence of debt imposes constraints on the political goals of the SWF; (10) excess returns will be lower for more liquid firms, as the available resources facilitate the imposition of political goals; and (11) excess returns should be lower when a fund in fact acquires a board seat, as that facilitates the imposition of non-commercial objectives.

8

1.4.   *The Constrained Foreign State Investor Hypothesis*

We conjecture that foreign investors, especially high profile ones such as state-owned sovereign wealth funds, will refrain from taking an active corporate governance role in target companies in order not to generate political opposition or a regulatory backlash. There is scant empirical evidence that even privately-owned blockholders are particularly effective monitors, and no evidence whatsoever suggesting publicly-owned blockholders create value. Even institutional investors such as CalPERS [English, Smythe, and McNeill (2004)] with an avowed goal of improving corporate governance in portfolio companies have achieved only marginal and often fleeting success, and Greenwood and Schoar (2009) show that the perceived ability of hedge funds to create investment value is mostly due to their ability to pick likely takeover targets, or to put target firms "in play". In addition, the monitoring role of foreign investors will be further reduced by their reluctance to divest, as the selling of a large block of shares could also trigger political reactions and resentment amongst local management, regulators and market participants. Accordingly, we expect SWFs to act like 'Quiet Leviathans' and to be unlikely even to exercise the type of governance through threat of exit discussed by Parrino, Sias, and Starks (2003) and Admati and Pfleiderer (2009), or to withhold their votes as a sign of displeasure with current managers [Del Guercio, Seery, and Woitdke (2008), Edmans (2009)], for fear of upsetting target firm governments and public opinion.

The testable predictions of the Constrained Foreign State Investor Hypothesis are as follows. (1) SWF investments in listed companies will generate negative excess stock returns for target companies; (2) excess returns should be lower for funds known to adopt a passive governance stance; (3) excess returns will be higher for Norway's investment targets, as Norway is unlikely to be constrained by foreign opposition; (4) excess returns will be lower for SWF investments in target firms headquartered in OECD countries than in developing countries, since investing in OECD-based companies will generate greater hostility from host governments; (5) excess returns will be negatively related to the stake size the SWF acquires in a target firm, as a larger stake creates a larger monitoring gap; (6) excess returns will be higher for domestic than for foreign investments, since a fund will have greater freedom to intervene in domestic targets; (7) excess returns will be lower for larger firms, as those are more visible and investment in those is more likely to attract scrutiny and opposition and (8) excess returns will be lower for targets in which the SWF has acquired seats on the board of directors, as that creates a larger monitoring gap.

1.5.   *The Stock-Picking Hypothesis*

It is also possible that SWFs investment targets exhibit abnormal performance simply due to selective stock-picking, rather than to the influence of the SWFs on investment targets. Accordingly, we formulate a Stock-Picking Hypothesis. The key testable prediction of the Stock-Picking Hypothesis is that

excess returns will be positively related to SWF age, as the stock-picking ability of the SWF improves as it develops expertise.

1.6.   *Caveats and limitations*

We should acknowledge several important caveats and limitations to our theoretical developments. First, while we presented each hypothesis as unique and mutually exclusive, this need not be the case in practice. Different funds can have differing objectives, or the same fund can pursue differing goals at different times. Nonetheless, we feel confident that our research will allow us to observe which of the hypothesized effects predominates, on average.

Additionally, our lists of SWF behavioral models and of paths through which SWF investment might influence target firm value are necessarily incomplete. Also, since we examine only SWF investments in publicly traded stocks, which represent a fraction of most funds' portfolios, we must acknowledge that the conclusions we draw about SWF behavior are based on a subset of funds' investments. Accordingly, while our sample allows us to draw conclusions about the impact of SWF investments on publicly traded companies, it should not be interpreted as evidence of the performance of the SWF investment portfolios.

2.   **Data and Descriptive Analysis**

2.1.   *The Sample*

There is no consensus on exactly what constitutes a sovereign wealth fund. While SWFs are a heterogeneous group, most evolved from funds set up by governments whose revenue streams were dependent on the value of one underlying commodity and thus wished to diversify investments with the goal of stabilizing revenues. Accordingly, most SWFs have been established in countries that are rich in natural resources, with oil-related SWFs being the most common and most important. These include the funds sponsored by Arab Gulf countries, the ex-Soviet republics, Brunei and Norway. The other important group of SWFs includes those that have been financed out of accumulated foreign currency reserves resulting from persistent and large net exports, especially the funds based in Singapore, Korea, China, and other East-Asian exporters. Because definitions vary and because few funds have disclosed key organizational details, heterogeneous funds are often grouped into the SWF category, even though there are significant differences between funds with respect to organizational structure (separately-incorporated holding companies versus pure state ministries), investment objectives (preservation of wealth versus wealth diversification and growth), compensation policies and status of fund managers (incentivized professionals versus fixed-wage bureaucrats), and degree of financial transparency (Norway's Government Pension Fund-Global versus almost all others).

Most definitions of "sovereign wealth fund" suggest these are state-owned investment funds (not operating companies) that make long-term domestic and international investments in search of commercial returns.[3] Some definitions are broader than this, as in Truman (2008), who defines a sovereign wealth fund as "a separate pool of government-owned or government-controlled financial assets that includes some international assets." On the other hand, Balding (2008) shows that a more expansive definition encompassing government-run pension funds, development banks, and other investment vehicles would yield a truly impressive total value of "sovereign wealth."[4]

In this study, we employ the selection criteria presented in Monitor-FEEM (2009), which defines a SWF as: (1) an investment fund rather than an operating company; (2) that is wholly owned by a sovereign government, but organized separately from the central bank or finance ministry to protect it from excessive political influence; (3) that makes international and domestic investments in a variety of risky assets; (4) that is charged with seeking a commercial return; and (5) which is a wealth fund rather than a pension fund—meaning that the fund is not financed with contributions from pensioners and does not have a stream of liabilities committed to individual citizens. While this sounds clear-cut, ambiguities remain. Several funds headquartered in the United Arab Emirates are defined as SWFs, even though these are organized at the emirati rather than federal level, on the grounds that the emirates are the true decision-making administrative units.[5] We also include Norway's Government Pension Fund-Global, as the Norwegian government itself considers this a SWF and because it is financed through oil revenues rather than through contributions by pensioners. These criteria yield a sample of 33 sovereign wealth funds from 23 countries; while we identify and list 33 entities that meet our definition of 'sovereign wealth funds', we find usable public equity investments for only 18 of those 33 funds. Table 2 presents our list of sovereign wealth funds, along with estimates of their size in early 2010, their inception dates, the principal source of their funding, and their disclosed investment allocations regarding asset classes and geographic regions. This table is based on a more comprehensive description of SWF organization, investment strategy, and mission presented in Barbary (2010). Table 2 shows total assets for all SWFs of

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[3] In addition, most definitions exclude funds directly managed by central banks or finance ministries, as these often have very different priorities, such as currency stabilization, funding of specific development projects, or the development of specific economic sectors.

[4] In ongoing research [Bortolotti, Fotak, Holland, and Megginson (2010)] we have identified over 12,100 investments, worth over $1.67 trillion, just in listed-firm stocks by state-owned investment companies, stabilization funds, commercial and development banks, pension funds, and state-owned enterprises. Add to this amount state purchases of government and corporate bonds, plus SWF holdings and foreign exchange reserves of roughly $8 trillion, and the total value of state-owned financial assets may already exceed $15 trillion.

[5] The sub-national UAE funds included are the Abu Dhabi Investment Authority (the world's second-largest SWF), the Investment Corporation of Dubai (and its subsidiary Istithmar World), Mubadala Development Company, DIFC Investments (Company) LLC, the International Petroleum Investment Corporation (IPIC), and Ras Al Khaimah Investment Authority.

$2.217 trillion, with oil and gas-financed SWFs managing total assets of $1.467 trillion and non-oil SWFs managing assets worth $750 billion. Mehropouya, Huang and Barnett (2009) presents a similar total asset value of $2.6 trillion held by SWFs in September 2009.[6]

**** Insert Table 2 about here****

We draw our sample of SWF investments in two ways. First, we collect a preliminary sample of 1,347 sovereign wealth fund investments in listed firms made by any of the SWFs other than Norway's Government Pension Fund-Global (GPFG) from the Monitor-FEEM SWF Transaction Database. This database is organized by the Monitor Group and the Fondazione Eni Enrico Mattei (FEEM), and covers domestic and international investments made by funds between May 1985 and November 2009. This sample includes investments in listed equity, unlisted equity, commercial real estate, private equity funds and joint ventures in which one of the SWFs listed in Table 2 (or one of its subsidiaries) is an investor. These observations were created using multiple public sources. Information from five financial databases (Thomson One Banker, Bloomberg, the SDC Global New Issues database, the Zephyr M&A database, and Zawya.com) was integrated with data from fund websites and from various news sources.[7] From this, we selected a sample of 399 investments in firms with publicly-traded stock made by SWFs other than Norway's GPFG.

We must employ an entirely different methodology to collect a second sample of investments, those made by Norway's GPFG. Since this fund, which is described and analyzed in Caner and Grennes (2009) and Ang, Goetzmann, and Schaefer (2009), almost always accumulates small stakes in listed companies through open market share purchases, its investments are rarely documented in the press and are almost never recorded as direct share acquisitions by SDC or Zephyr, which is why none of the other SWF empirical studies have material numbers of observations for GPFG. The Norwegian fund does,

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[6] The Sovereign Wealth Fund Institute, which uses a more inclusive definition of SWFs and tracks 50 funds, gives their total size as $3.809 trillion as of December 2009 (http://www.swfinstitute.org/funds.php). On the other hand, Greene (2009) cites studies showing that SWF assets under management shrank to around $3.0 by late 2008 and that SWFs have not more than $1.0 trillion invested in global equities. Mehropouya, Huang and Barnett (2009) also estimates that SWFs have less than $1 trillion invested in international stocks. It has also been reported that some of the earlier estimates of current SWF size were overstated. For example, a *Wall Street Journal* article from May 20, 2009 [Davis (2009)] reports that while earlier estimates of ADIA's size put their assets under management at $875 billion, current ones put the figure at $282 billion. While part of the decline is due to lower oil prices and investment losses, most of the discrepancy is simply the result of the very limited public fact base on ADIA's portfolio. To the surprise of many, ADIA actually published a 36-page 2009 Review of fund operations on March 15, 2010, and this report disclosed much information about investment strategy and allocations (across asset classes and geographic regions). The report did not, however, disclose the most important unknown data item, total assets under management.

[7] The sources include the Lexis-Nexis database and the archives of *Financial Times*, *New York Times*, *Wall Street Journal*, *GulfNews*, the Associated Press and Reuters. Detailed information about the Monitor-FEEM SWF Transaction Database is provided in Monitor Group-Fondazione Eni Enrico Mattei (2009), available at www.monitor.com and www.feem.it. This database is updated continuously and the managing parties publish annual reports on SWF investments.

however, post annual listing of all its equity holdings around the world, and investments in U.S.-listed stocks made by Norges Bank Investment Management (NBIM), the asset management arm of the GPFG, are publicly disclosed on a quarterly basis beginning in the fourth quarter of 2006. Using this, we generate a list of new NBIM investments in U.S.-listed companies by tracking the annual investment lists and determining when NBIM makes an initial investment, which we define as an investment that did not appear in the previous year's listing. We then follow MBIM's holdings after the initial investment and record increases in their holdings as follow-on investments. We take the filing date—the day when NBIM files a Form 13F-HR with the U.S. SEC detailing its shareholdings in a listed firm—as the announcement date for performing event studies, since this is the date that the stock ownership information is first disclosed. As an 'actual date' or 'completion date' we use the last day of the quarter during which the transaction takes place. We find 160 initial and 243 follow-on investments by NBIM from December 31, 2006 through September 30, 2009. Given our reliance on Form 13F-HR as a data source, we have this data only for U.S. listed firm investments by Norway's GPFG (acting through NBIM). Combining the 403 Norwegian fund's investments with the 399 obtained from the Monitor-FEEM Database yields our final sample of 802 SWF investments in listed companies, collectively worth $181.6 billion.

2.2.   *Descriptive Analysis*

Panel A of Table 3 details SWF investments by year from May 1985 through November 2009. Very few investments were made in any single year prior to 2001, and 2003 was the first year the total value of investments exceeded $1 billion. From that point onward, however, the number and total value of SWF investments surged—reaching a peak of 340 investments worth $61.3 billion during 2008. Although the number of investments drops sharply during the first eleven months of 2009, to 50 deals, the total value only drops by about half, to $29.3 billion. Clearly, SWFs invested a lot during the crisis, either because that was when political opposition to their investment was lowest, or because that was when financing was most needed to overcome binding financial constraints.

*** Insert Table 3 about here****

Panel B of Table 3 describes the number and total value of investments made by individual SWFs. All the deals by the main fund and its subsidiaries are included in the main fund's totals. While Norway's GPFG makes by far the largest number of investments in listed stocks, these are on average quite small ($12 million) and the total value is a modest $4.76 billion. Because of our reliance on Forms 13F, all of Norway's observations in our database involve investments in U.S. listed stocks after the third quarter of 2006, and four-fifths of these deals are made in the stocks of companies headquartered in the United States. The second most active SWF investor, Temasek Holdings, makes only one-third as many investments as Norway's GPFG (132 versus 403), but the total value of these deals is nine times as large,

$42.4 billion, the largest of any SWF. Singapore's Government Investment Corporation is the third most active stake acquirer both in number and value (79 investments, worth $22.6 billion), while the China Investment Corporation ranks a mere seventh in terms of the number of investments (18), but second in overall value ($38.9 billion). Other active investors include Khazanah Nasional Berhad (32 transactions, worth $3.2 billion), Qatar Investment Authority (31 deals, worth $15.3 billion), Kuwait Investment Authority (19 investments, worth $13.2 billion), and Abu Dhabi Investment Authority (18 transactions, worth $8.5 billion).

Panel C of Table 3, which details the industrial distribution of SWF investments, shows that the SWFs we examine favor investing in companies in the financial industry over all others. The 137 investments in banking (78) and financial service (59) firms account for only one-sixth (16.6%) of all deals by number, but their combined value ($118.6 billion) represents almost two-thirds (65.3%) of the value of all acquisitions. This preference for financial investments is, however, a fairly recent phenomenon; sovereign funds allocated less than one-fifth of their investment funds to financial firms as recently as 2006, and allocated even smaller fractions to financial companies in previous years. Other industries attracting significant SWF investment are real estate development and services and REITs (7.9% of deals, 4.0% of value), oil and gas producers (4.1% of deals, 3.8% of value), chemicals (3.0% of deals, 3.2% of value) and general industrials (1.2% of deals, 3.2% of value).

Panel D of Table 3 presents the geographic distribution of SWF investments (by target country). The United States is easily the most popular target nation for SWFs, both in terms of number and total value invested, with 53.1% of the number (426 of 802) and 32.1% of the total value ($58.3 billion of $181.6 billion) of SWF investments being channeled to U.S.-headquartered companies. This includes investments by Norway's GPFG, for which we have data only for U.S. listed investments, but the United States remains the most popular SWF target even after excluding the 320 investments worth $4.0 billion made by GPFG in U.S. headquartered firms. China is the second most popular target country in terms of both number and value, though most of the 43 deals worth $32.0 billion are domestic investments by the China Investment Corporation--including the $20 billion, December 2007 purchase of an equity stake in China Development Bank, which is the largest single investment in our database [Dickie (2008)]. Singapore ranks third in number (39) but only sixth in value ($10.9 billion), whereas the United Kingdom ranks third in value ($20.9 billion) but only sixth in number (28). The majority of all deals (560, or 69.8%) and value ($120.2 billion, or 66.2%) of SWF investments are targeted at OECD-headquartered companies, and foreign (cross-border) investments represent 90.2% of the number and 77.8% of the value of all SWF deals.

Finally, we examine how SWFs acquire the stakes they purchase in listed companies. We find that a majority of the investments that all SWFs (except Norway's) make in publicly traded companies are

14

privately-negotiated, primary share offerings rather than open market share purchases. All of Norway's investments are open market purchases of small stakes in listed firms, but that fund is unique in this respect. Excluding Norway, we identify the method of investment for 129 transactions, and 91 of these (70.5%) are direct purchases—and thus represent capital infusions for target firms—while only 38 (29.5%) are open market share purchases. In terms of purchase size, capital infusions are even more dominant, accounting for 88.2% of the $92.1 billion worth of deals for which we can identify purchase method. To our knowledge, this method of acquiring equity stakes sets SWFs (and private equity investors, who have a fundamentally different investment objective) apart from other institutional investors; pension funds, hedge funds, mutual funds and other types of internationally active institutional investors generally acquire stock through open-market purchases rather than by direct sales.

2.3.   Target Selection

We begin our empirical analyses by examining the types of firms that SWFs select for investment. To gain insights about how SWFs select targets, we first employ long-run return estimations to see if target firms generate significantly positive or negative excess returns during the year before SWF investment, which presumably encompasses the period when the funds make their stock selections. We then present descriptive statistics for these firms prior to SWF investments and compare their characteristics to industry median values. In particular, we test whether firms targeted for investment exhibit stock return performance that differs significantly from local market indices and from matched firms over various holding periods of up to one year before the investment is announced.

Target firm and index returns come from Datastream, and we compute abnormal returns using all the long-run return estimation procedures and benchmarks described in section 3.2. However, we only report results versus the local index here in the interest of space and because all of the results obtained using other indices and matching methodologies are qualitatively similar. The first section of Table 4 presents buy-and-hold abnormal returns for all target firms computed versus a local market index over one-year, six-month, three-months, one-month, one-week and one-day holding periods prior to the day that the SWF investment is announced (Day 0). The second part of Table 4 presents results excluding firms that were targeted by Norway's GPFG.

**** Insert Table 4 about here ****

The mean abnormal return over a one-year holding period is 17.09% for all target firms and 20.99% for non-Norway targets, and both are significant at the 1% level. The six-month, three-month and one-month mean abnormal returns are all positive and statistically significant at either the 5% or 1% level in both samples. Median abnormal returns, on the other side, are much closer to zero, with signs switching between positive and negative depending on the holding period selected. The nonparametric

15

tests for significance are, with one exception, not statistically significant. These results demonstrate that SWFs purchase the stocks of firms that have performed well--extremely well, based on average excess returns--during the year prior to the funds' investments. This perhaps suggests a tendency for funds to act as momentum investors, while the striking difference between very high mean returns and quite modest median abnormal returns might reveal a skewness preference in their stock selections.

To gain another perspective on whether SWFs invest in troubled or prosperous target firms, we compute mean and median values of the pre-event sample's accounting metrics of interest and compare these to industry mean and median values for the same country. The accounting metrics we use in this section, and other variables employed later in our empirical tests, are defined in Table 5.

**** Insert Table 5 about here ****

All variables and metrics are computed as of December 31 of the year prior to the SWF investment and mean, median, and industry-referential results are presented in Table 6. The median book value of equity of sample firms, $890 million, exceeds the industry median in 87% of the cases, and median market cap is about $2.3 billion, which is greater than industry median 90% of the time. Total assets are a median $2.8 billion, which exceeds the industry median in 88% of all cases, and target firms have somewhat higher leverage, with median debt to assets at 62%, greater than the industry median in 56% of all cases. Target firms in our sample also have higher valuations, with a median market-to-book ratio of 2.26, greater than industry medians in 66% of the cases, and are more profitable, with median return on assets of 6.1%, which exceed industry medians 70% of the time. Median return on equity of targets is 15.23%, higher than industry medians 65% of the time. Median cash to total assets is 29.81%, greater than industry medians in 48.12% of the cases and median Quick Ratio is 1.03, greater than industry medians 47.95% of the time. All of these values are statistically significantly different from industry medians at the 1% level based on nonparametric Wilcoxon Signed Rank tests (with the exception of the quick ratio results, significant at 5%). Overall, this analysis indicates that SWFs invest in large, highly levered, growing and profitable firms--likely, the most visible and high-profile growth firms.

**** Insert Table 6 about here ****

3.   **Performance of Companies Targeted for SWF Investments**

3.1.   *Announcement Period Event Study Results*

While the focus of our analysis is on the long-term impact of SWFs on investment targets, this section briefly analyzes the market's reaction to announcement of SWF investments. We do so mainly to compare our sample to those analyzed in other empirical studies. We report short-term event study results in Table 7, where we present market adjusted excess returns obtained by using a local price index as a benchmark. As reported in Panel A, the mean excess return is 1.25% over the three-day event window

spanning days -1 to +1, where day 0 is the day the SWF investment is announced. While the median excess return is smaller (+0.17%), the number of positive abnormal returns exceeds the number of negative ones (368 to 320), so both parametric and nonparametric test statistics are highly significant.

**** Insert Table 7 about here ****

We further investigate short-term market reactions to SWF investments by excluding transactions by Norway's GPFG. We do this for two reasons, as we want to both make sure that our results are not driven by one fund, which alone constitutes over half of our sample, and since we believe the Norwegian fund has governance characteristics that are likely to lead to a different market impact. In particular, GPFG has a higher level of transparency than any other fund, and has a reputation as a responsible and sophisticated investor. The fund also makes large numbers of very small investments. Panel B reports results obtained when excluding GPFG observations. The mean cumulative abnormal return is much larger, ranging from 2.14% on day 0 to 2.91% over the three-day event window. In Panel C, we report results related to short-term market reaction to announcements of acquisitions solely by GPFG. Comparing Panel A and Panel B suggests that announcements of investments by GPFG elicit almost no market response. Mean cumulative abnormal return estimates range from 0.02% to 0.32%, while medians range from -2% to +2%, and only one of the twelve test statistics presented is statistically significant.

In unreported results, we verify that our results are qualitatively similar when using a market model with a local market index benchmark or when employing matched-firm adjusted returns (as we describe in section 3.2). We also obtain similar results when employing either of two global market index benchmarks, the Datastream and the MSCI total return world indices. Overall, our results clearly indicate that the market reaction to SWF investment announcement is positive.

Our results are in line with results documented in other, contemporaneous, studies. Dewenter, Han and Malatesta (2010), in a sample of 227 SWF investments, document significantly positive abnormal returns of 1.5%, while Kotter and Lel (2010) find, in a sample of 417 investments made by SWFs into 326 separate publicly traded companies, that SWF investments are associated with significantly positive announcement period abnormal returns averaging 2.2%. Knill, Lee and Mauck (2009) collect a sample of 232 SWF investment announcements and document a significantly positive announcement-period abnormal return of 1.43%. Karolyi and Liao (2009) find, for a sample of 181 SWF investments, positive and significant announcement period returns of 0.88%. Clearly, while the exact magnitude of the abnormal return differs across studies, all agree on a positive market reaction to investment announcements. Our results are of comparable magnitude to these other studies.

3.2.   Long-Term Event Study Results

We report long-term event study results in Tables 8 and 9. In each case, we focus on four different event windows, respectively spanning six months, one year, two years, and three years after SWF investment. For robustness, we employ several different benchmarks in the event studies. In unreported results, we use two alternative global market indices: the MSCI World and the Datastream-supplied total return indices; we do not report results employing those benchmarks as they are very similar to those obtained by making use of local market indices, which we consider more informative. The first set of reported results is computed using Datastream value-weighted local total return indices as proxies for market performance, while the second set employs matched-firm methodologies, as advocated by Lyon, Barber and Tsai (1999). First, we match on country, exchange, size and book-to-market[8] then, in an alternative approach, we match on country, exchange, industry and pre-event performance.[9]

For each benchmark, we compute buy-and-hold abnormal returns. For robustness, we also present monthly cumulative abnormal returns, although we note that the latter might be negatively biased. Finally, we also compute calendar-time portfolio abnormal returns as in Jaffe (1974) and Mandelker (1974), to address possible correlations in CARs due to transactions being clustered in time. In all cases, we present results of two non-parametric tests for the significance of the abnormal return, the Generalized Sign (GS) test and the Wilcoxon Sign Rank (WSR) test. When testing buy-and-hold abnormal return, we compute a bootstrapped, skewness-adjusted t-statistic as suggested by Lyon, Barber and Tsai (1999) to correct for the skewness of long-horizon buy-and-hold abnormal returns. When testing cumulative abnormal returns, we employ the crude-dependence adjusted (CDA) t-statistic proposed by Brown and Warner (1985). When testing calendar-time portfolio abnormal returns, we compute a calendar-time t-statistic.

In Panels A-C of Table 8 we present buy-and-hold abnormal returns using local market adjusted or matched firm abnormal returns; we repeat the analysis with the same benchmarks excluding Norway's investments in Panels D-F of Table 8. Cumulative abnormal returns with the same sets of benchmarks are presented in Panels A-D of Table 9 and cumulative abnormal returns excluding Norway are again presented in Table 9, Panels E-H. Results in Table 8, Panel A, indicate that market adjusted buy-and-hold mean abnormal returns are insignificantly negative over all four holding periods examined (the six-month, one-year, two-year and three-year windows) and range from -1.32% at one year to -4.61% over three

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[8] We take the unusual step of matching on both country of incorporation and primary listing exchange as we find that a portion of target firms in our sample are listed on foreign exchanges and have share prices quoted in foreign currency. We obtain headquarters' location and listing exchanges for each firm/security from Datastream. We use Worldscope to obtain measures of firm size (aggregate market capitalization, WC08001), and market-to-book ratio (WC09704).

[9] As a proxy for industry we use the FTSE level-3 industry classification from Datastream. As a proxy for performance we obtain the raw stock market return computed as the change in the Datastream Total Return Index over the calendar year preceding the SWF investment.

years. Medians are substantially more negative, ranging from -3.13% at six months to -12.75% at three years and the first three holding periods are significantly negative at the 1% level according to the WSR test statistic, while the three-year holding period result is significantly negative at the 5% level**.**

**** Insert Table 8 about here ****

Results in Panel B are obtained by employing a size and book-to-market matching methodology and a buy-and-hold abnormal return estimation procedure. Mean abnormal returns are all negative and become steadily more so with holding period length, from -1.86% over six months to -21.88% over three years. The bootstrapped, skewness-adjusted t-test indicates statistical significance at the 10% level for the one-year holding period and at the 5% level for the three-year holding period. Median abnormal returns are also consistently negative but exhibit a narrower spread between least and most negative, ranging from -2.75% over one year to -16.73% over three years. The two-year and three-year median excess returns are significantly negative at the 5% level based on the GS test at the 1% and 5% level, respectively, based on the WSR test.

Results in Panel C are obtained by employing industry and performance matches; mean abnormal returns become increasingly negative over the four holding periods, increasing from -3.74% for six months to -12.13% over three years, and bootstrapped, skewness adjusted t-statistics indicate significance at the six-months (5% level) and one-year (1% level) horizons. Median abnormal returns are all negative, with the WSR test statistics being statistically significant at the 10% level for the one-year and two-year holding periods. Results obtained excluding Norway are presented in Panels D-F of Table 8. For the sake of brevity, we will not extensively discuss those results, as they are qualitatively similar. Means are somewhat smaller, but medians are generally more negative, and overall patterns are similar.

These consistently negative, and generally significant, long-run abnormal returns after SWF investments are very hard to reconcile with the positive announcement period abnormal returns. On the other hand, the long-run negative returns far exceed the positive short-run returns, so we conclude that the overall market impact of SWFs as investors is quite negative.

Long term event study results using monthly cumulative abnormal returns, presented in Table 9, appear to differ substantially according to which benchmark is employed. Local market index adjusted returns, in Panel A, display negative mean abnormal returns over the six-months, but positive excess returns over the one-year, two-year and three-year holding periods while the CDA t-statistics are all statistically insignificant. The median abnormal return is negative at the six-month horizon and positive over the other horizons, with the GS test statistics significant at the 1% level of two-years and at the 10% level over three-years and the WSR test statistic significant at the two-year horizon at the 1% level. Calendar-time abnormal returns are negative at all horizons and statistically significant at the 10% level at the one-year horizon.

We also compute market-model abnormal returns and present these in Panel B. These abnormal returns, which adjust for the risk level of the target security, are consistently negative and strongly statistically significant, with means ranging from -7.99% over six-months to -56.39% over three years. Medians show a similar pattern of negative abnormal returns, ranging from -3.97% over six-months to -40.35% over three-years. Calendar time abnormal returns range from -11.05% over six-months to -59.62% over three-years. The extreme magnitude of the results, significantly greater than those obtained by using market-adjusted or even matched firm abnormal returns, does give us pause. We report the results, but note that, especially at long horizons, market model returns might be unreliable.[10]

Results in Panel C are obtained using a size and book-to-market matching methodology. All mean, median and calendar-time abnormal returns are negative. The CDA t-statistics are all insignificant, the calendar time t-statistics are significant at the 10% level at the one- and two-year horizons, the GS test statistics are significant at the 5% level at the six-month, one-year and two-year horizons, while the WSR test statistics are significant at the 5% level over one- and two-year holding periods.

Results in Panel D are obtained by employing industry and performance matches. All mean, median and calendar-time abnormal returns are negative, with the exception of the calendar-time abnormal return over the three-year holding period. The CDA t-statistics are all statistically insignificant, while the calendar time t-statistic is significant at the 10% level over the six-month holding period and at the 5% level over the one-year and two-year holding periods. The GS test statistic is statistically significant at the 5% level over the six-month, one-year and two-year holding periods while the WSR test statistic is statistically significant at the 5% level over the one-year and two-year holding periods.

The same methodology is applied to results excluding Norway in Panels E-H of Table 8. Once more, for the sake of brevity, we do not discuss those results in detail, as they are very similar to those obtained when including Norwegian investments in our sample. We note, however, that most of the coefficient estimates are of slightly greater magnitude, but levels of significance are mostly unaffected due to the smaller sample sizes.

Though the magnitude of the underperformance varies across models and benchmarks, evidence of the log-run underperformance itself is fairly consistent, at least up to the two-year post-investment horizon. While we recognize that the abnormal returns computed by using the market model differ greatly from those estimated using the matched-firm approach, both sets of results indicate some degree of underperformance. As previously noted, we put more faith in the results obtained by using the matched-

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[10] Given the positive abnormal performance of SWF investment targets over the one-year prior to the investment announcement previously documented, it is likely that market model parameter estimates are inducing a negative bias in our estimation of abnormal returns.

firm approach, as do most recent papers employing long-run event study methods. We conclude that SWF investments underperform relative to local market indices and relative to matched firms, as predicted by the Political Interference and Constrained Foreign State Investor hypotheses.

3.3. *Comparison with existing long run event studies*

Our long-term findings are consistent with Knill, Lee and Mauck (2009), who find negative one-year abnormal returns equal to -6.3%. Kotter and Lel (2010) find negative and significant excess returns over the one-year holding period, negative but not statistically significant returns over holding periods up to three years and positive and statistically significant returns over the five-year holding period. We believe the difference between their results and ours to be driven both by their use of market adjustments and the use of a global market index. While we do not report, for brevity, our results against a global market index benchmark, we find that those, while negative, have a lower level of significance than results against local market indices; we find this result plausible, since a global market index will be a noisier proxy for market performance than a local market index. Second, as we report, market adjusted results offer a lower level of significance than abnormal returns computed by using estimation procedures that take into account firm-specific risk factors--market models or matched-firm methodologies. Even in our analysis, market adjusted abnormal returns present the lowest level of statistical significance. As discussed by Lyon, Barber and Tsai (1999), matched-firm approaches are better specified in long-term studies, especially when one of the matching criteria includes, as in one of our specifications, pre-event performance. In addition, Kotter and Lel (2010) use only one, nonparametric, test for statistical significance (the Wilcoxon Sign Rank Test), while we offer a wide range of test statistics, including the boostrapped, skewness-adjusted t-statistic that Lyon, Barber and Tsai (1999) advocate and the crude-dependency adjusted t-statistic by Brown and Warner (1985). Finally, our sample is larger at the one-year and two-year horizons: Kotter and Lel have 279, 203 and 172 observations at the one-year, two-year and three-year horizons, respectively, while we have, in the event studies against local market indices, 617, 366 and 165 observations.

Dewenter, Han and Malatesta (2010) find that post-investment average long-run excess returns are insignificant and close to zero for holding periods up to five years, but median long-run excess returns are significantly negative over one year and consistently negative over all holding periods. The authors use local market indices as benchmarks and abnormal returns are computed with a market adjustment. As in the previous discussion of the results by Kotter and Lel (2010), we note that market-adjusted returns have lower levels of significance, in our analysis, that market-model or matched-firm abnormal returns; we consider matched-firms abnormal returns to be suffering from the least misspecification problems. Second, a portion of the DHM dataset contains investments in subsidiaries of publicly traded firms. For

21

those transactions, DHM use the abnormal return on the stock price of the publicly traded parent, while we exclude such transactions from our sample. It is plausible that the stock price reaction of the parent is weaker, thus making it harder to obtain statistically significant results. Third, we offer a wider range of alternative event-study methodology, varying benchmarks, abnormal return estimation procedures and different test statistics. Finally, we have a larger sample: while they have 178 observations for the one-year window and 127 for the three-year window, whereas we have, respectively, 617 and 165.

3.4.   Long Term Cross-Sectional Analysis

We perform a series of cross-sectional regressions of six-month, one-year, two-year and three-year abnormal returns. For each regression, only observations with available data for all explanatory variables are used. The final number of observations employed in each regression specification ranges from 294 to 23, as detailed in Table 10.[11] We use the local market index-adjusted abnormal return as a response variable.[12] The set of explanatory variables includes: a measure of government involvement in SWF operations (*SWF Government Involvement*), computed as one minus the score given by Truman (2008) to the level of managerial independence from the government;[13] a measure of how passive the SWF is in its investments (*SWF Passive Stance*), obtained by adding the scores given by Truman (2008) on the presence of stake limits and on the ban on controlling stakes;[14] a binary variable set equal to one if the investing fund is Norway (*Norway*), as we conjecture that Norway's SWF differs significantly from its peers in terms of governance and transparency and could thus have a different impact on investment targets; a binary variable set equal to one if the target firm is headquartered in an OECD country (the variable is labeled *OECD*), as we observe that firms headquartered in OECD countries might have easier access to capital and better shareholder protection; a binary variable equal to one if the target is in the 'strategic' industrial groups Aerospace and Defense, Energy, Utilities, Resources, or Telecoms and IT (*Strategic Target*); a variable measuring the age, in years, of the investing SWF at the time of the

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[11] While we present, for completeness, the results of cross-sectional analysis of three-year abnormal returns, we note that the sample size is quite small.

[12] In unreported robustness tests, we find that, if we use matched-firm abnormal returns as response variables, we obtain very similar coefficient estimates, but with somewhat lower levels of statistical significance, possibly due to slightly smaller sample sizes. We present results based on a cross-sectional analysis of local index-adjusted abnormal returns as that allows us to use the largest sample.

[13] Truman (2008) offers, for each fund, a score on a scale of zero to one, reflecting the level of independence of management from governmental interference (with 1 indicating full managerial independence); as we wish to measure the level of governmental involvement, we build a variable equal to one minus the score offered by Truman (2008) on this dimension. Accordingly, higher values on our variable indicate higher government involvement.

[14] Truman (2008) scores funds on the presence of stake size limits (with 0 indicating no limits and 1 indicating strictly enforced limits) and on the avoidance of controlling stakes (with 0 indicating no avoidance and 1 indicating absolute avoidance). We add those two scores to obtain a proxy measure for how passive the fund tends to be in its investment strategy. Accordingly, higher levels of our proxy measure indicate a more passive stance.

investment (*SWF Age*) to test for the presence of learning effects in stock-picking; a variable equal to the proportion of the stake acquired in a capital infusion or zero in the case of a secondary-market transaction (*Capital Infusion*); a variable measuring the size of the stake owned after the investment (*Stake Owned*), to test whether market reaction depends on the proportion of the firm that is under SWF control; a binary variable equal to one if the SWF investment is in a foreign company (*Foreign Target*); the market capitalization of the target firm (*Market Value*), the leverage (*Leverage*) of the target firm, proxied by debt-to-asset ratio, and its liquidity (*Liquidity*), proxied by the firm's Quick Ratio, all three measured as of the end of the calendar year prior to the SWF investment; and a binary variable set equal to one if the SWF acquires one or more seats on the board of directors (*BoD*). Definitions of all variables are summarized in Table 5. Finally, we add a control variable measuring abnormal stock market returns over the one-year period preceding investment, to control for possible momentum or reversal effects. All our regressions are estimated with robust standard errors clustered by target firm, to mitigate potential econometric problems caused by multiple investments in the same target firms.

Results of the regressions are reported in Table 10. The level of government involvement is negatively related to long-term abnormal returns, but the result is statistically significant, at the 5% level, only over the two-year holding period; we interpret this as weak evidence of a detrimental impact of government involvement in SWFs on target firm performance. The level of passivity of the investing fund is negatively related to abnormal returns, with results statistically significant at the 1% level for the six-month and two-year holding period, at the 10% level for the one-year holding period, and at the 5% level for the three-year holding period. We interpret this as evidence of a passive SWF role leading to deteriorating target firm performance. The OECD binary variable has negative coefficients, statistically significant at the 1% level at the six-month horizon and at the 10% level for the three-year horizon, which indicates lower abnormal returns for SWF investments in OECD targets. The binary variable identifying strategic targets has positive but not statistically significant coefficients, while the variable measuring the age of a SWF has negative coefficients, statistically significant at the 5% level for the two-year holding period. The variable measuring the size of the capital infusion has coefficients of different signs, none statistically significant. The size of the stake owned is negatively related to firm performance at all horizons, and the result is statistically significant at the 5% level for the two-year horizon, which we consider weak evidence of a negative relation between stake size and firm performance. The dummy variable indicating foreign targets has a positive coefficient for the six-month holding period and negative coefficients for the other periods, significant at the 10% level at the one-year horizon and at the 1% level at the two-year horizon; overall, this suggests worse performance for foreign targets. Target size is negatively related to firm performance at all horizons, but the result is statistically significant, at the 5% level, only for the two-year holding period. The coefficients on the leverage and liquidity variables

23

change signs at different horizons and none of the relationships are statistically significant. Finally, seats on boards of directors are negatively related to firm performance, with the results being statistically significant at the 5% level for the two-year window and at the 10% level for the three-year window.

In an unreported robustness test, we exclude all observations the target of which is subject to additional SWF investments, keeping only the first of such transactions. We find our core results to be robust in this reduced sample, although some of the coefficients lose statistical significance, likely due to the smaller sample size.

**** Insert Table 10 about here ****

3.5.   Interpretation of findings

Taken together, the evidence of a positive market reaction followed by negative long-term performance is puzzling. A similar pattern is documented by Hertzel, et al. (2002) regarding private placements of equity; for their sample of 619 publicly traded firms announcing private equity placements over the years 1980 to 1996, the market reacts positively, but the subsequent (three-year) stock price performance is negative. As do Hertzel, et al. (2002), we note that our results indicate that investors are overoptimistic about the prospects of target firms, but ultimately fail to fully explain the puzzle.

Our long-term event study results clearly point to long-term underperformance, thus ruling out the two hypotheses which predict a positive impact of SWFs on investment targets as being dominant (the Active Monitoring Hypothesis and the Reduced Financial Constraints Hypothesis). Further, cross-sectional results are not consistent with the Stock-Picking Hypothesis, as the sign on the coefficient of the variable measuring the age of the SWF is negative, rather than positive as expected, which would be consistent with a learning effect. Also, characteristics of the SWF (the level of government involvement and how passive the fund is in its investments) and of the deal (size of the stake acquired, acquisition of seats on boards of directors) are significant in explaining the abnormal return, which is also not consistent with the Stock-Picking Hypothesis.

Similarly, the negative abnormal returns observed contradict the Active Monitoring Hypothesis. In addition, the negative relationship between the size of the stake owned and performance and the negative relationship between acquisition of board of director seats and performance are highly inconsistent with active monitoring. The negative abnormal returns are also not consistent with the Reduced Financial Constraints Hypothesis being dominant. Further, while the lower returns on OECD targets are consistent with this hypothesis, the lack of relationship between firm leverage and firm liquidity and abnormal performance is not consistent.

On the other hand, the negative abnormal returns are consistent with the predictions of the Political Interference and Constrained Foreign State Investor hypotheses. The negative relationship

between the level of government involvement and firm performance is consistent with the Political Interference Hypothesis, while the negative relationship between fund passivity and target performance is consistent with the Constrained Foreign State Investor Hypothesis. Yet, we should note that statistical significance of the relationship between fund passivity and target performance is much higher and more robust across holding periods, thus favoring the Constrained Foreign State Investor Hypothesis. The negative coefficient of the Stake variable is also consistent with both hypotheses, as is the one on board of director seats.

The fact that investments by Norway's Government Pension Fund Global (GPFG) exhibit stronger long-term performance than those by other SWFs deserves attention. GPFG is largely insulated from government interference, so the higher abnormal returns are consistent with the Political Interference Hypothesis. At the same time, Norway's SWF is generally considered a passive investor and, hence, the higher abnormal return is not consistent with value-destruction at the hands of passive investors. Yet, this commonly held perception might be inaccurate. Reports abound of the managing arm of the fund, Norges Bank Investment Management (NBIM) attempting to impact the governance of the companies in which it invests. Well publicized cases include opposing Volkswagen plans to take over Porsche assets, blocking a takeover attempt at Constellation Energy by Warren Buffett's Berkshire Hathaway and initiating governance changes at Sara Lee Corp.[15] In addition, a recent report by Mehropouya, Huang and Barnett (2009) finds that, contrary to public perceptions, GPFG "actively exercises its voting rights with a well-defined engagement strategy." Accordingly, we maintain that the higher abnormal returns earned by GPFG investment targets is consistent with both the Political Interference and the Constrained Foreign State Investor hypotheses.

We can determine which of the two surviving hypotheses receives the most empirical support from the regression analyses by summarizing how the hypotheses offer contradictory predictions regarding eight variables (see Table 1). First, the Political Interference Hypothesis predicts higher abnormal returns for foreign targets, as political interference is less likely with foreign targets, while the Constrained Foreign State Investor Hypothesis predicts lower returns on foreign targets since that is when SWFs are most constrained in their monitoring. Second, the Political Interference Hypothesis predicts higher returns for target firms headquartered in OECD countries, since political interference is less likely in OECD countries where shareholder protection tends to be better, while the Constrained Foreign State Investor Hypothesis predicts lower returns because opposition to SWFs is particularly strong in OECD countries. Third, the Political Interference Hypothesis predicts a positive relationship between firm size (measured by *Market Value*) and subsequent performance, as it is harder to impose non-commercial goals

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[15] An analysis of the GPFG's corporate governance (by Reuters), entitled "Norway SWF wages lone governance crusade," is available at http://blogs.reuters.com/columns/2009/10/08/norway-swf-wages-lone-governance-crusade/.

on larger and more visible firms, while the Constrained Foreign State Investor Hypothesis predicts a negative relationship since larger firms are more visible and hence opposition to investments by foreign state entities is more likely. Fourth, the Political Interference Hypothesis further predicts a negative coefficient on the variable identifying strategic targets, while no effects are predicted by the Constrained Foreign State Investor Hypothesis. Fifth, whereas the Political Interference Hypothesis predicts that greater fund-government involvement in SWF affairs will lead to poorer investment performance (thus a negative coefficient on *SWF Government Involvement*) the Constrained Foreign State Investor Hypothesis predicts that this will have no impact but, sixth, the hypotheses' predictions are reversed regarding the impact of SWF passivity-as-policy (SWF Passive Stance). Seventh and eighth, the Political Interference Hypothesis predicts a positive coefficient on the variable measuring leverage and a negative coefficient on the variable measuring liquidity, while the Constrained Foreign State Investor Hypothesis predicts no impact for either factor.

he results from cross-sectional analysis of long-term abnormal returns therefore indicate that SWFs act as politically constrained state investors, at least in their foreign investments. SWFs appear to have an adverse effect on the quality of the governance of target firms, but that negative impact appears largely due to a passive stance that leads to a gap in monitoring the activities of the firm's management. We discuss further evidence of the passive stance of SWFs in the following section.

4.   Are SWFs truly passive?

To directly study the monitoring role—or lack thereof—exercised by SWFs, we collect board of director composition data for companies and examine whether sovereign funds acquire representation on target firm boards in the years after the initial fund investment. Dewenter, Han, and Malatesta (2010) perform a similar analysis, and Saigol (2009) presents anecdotal evidence that some funds are demanding board seats. We begin with the full dataset of 318 SWF investments, other than by Norway's GPFG, for which full information on investment dates, amounts, and percent stakes acquired is available. We search for annual reports for the years following the SWF investment for all non-U.S. investee companies (from the target firm's website) and examine proxy statements from the SEC's EDGAR database for U.S. targets. We determine the composition of corporate boards for 198 companies, including director profiles, and record any director with an affiliation with an SWF or subsidiary as a representative of the fund who obtained their seat as a result of that fund's investment. The other 120 observations are unusable, because the investment was too recent to show up on statements on the target firm's website (30 cases), the investment was too early (usually before 2003) for an annual report to be listed on the target company's website (49 cases), or because no board of director profiles are provided (41 cases). Amazingly, English language reports are available for all but three companies. We also obtain board of director data for 157

companies in which Norway's GPFG made an initial investment between December 2006 and September 2009, yielding a usable sample of 355 observations. These results are presented in Table 11.

We find that funds acquire seats in only 53 companies, or in only 14.9% of all cases, though this percentage rises to 26.8% when the 157 targets of Norway's fund are excluded—since the Norwegian fund always makes small investments and never receives a board seat. In 53 of the 198 non-Norwegian cases, the investing SWF obtained one or more board seats (usually only one), and another six companies were acquired by the SWF - which presumably obtained a controlling number of seats, bringing the total to 59 of 204 cases (28.9%) where funds obtained board representation. In 145 cases, the fund did not obtain board representation within two years of investment (71.1%). Table 11 details the observations and lists how frequently individual funds and their subsidiaries obtain board seats, and aggregates the data for funds and their subsidiaries. Khazanah and Temasek obtain board seats far more frequently than do other funds, whereas ADIA, Kuwait Investment Authority, and Qatar Investment Authority rarely if ever acquire board representation. Only 4 of the 37 usable US investments by non-Norwegian funds are followed by board seat acquisitions and *none* of the twelve UK deals resulted in board seats.

**** Insert Table 11 about here ****

Non-Norwegian SWFs are significantly more likely to acquire seats in domestic than in foreign companies (in 56.4% versus 19.5% of all cases), and are especially unlikely to acquire seats on a target company headquartered in an OECD country (7.4% of cases). Furthermore, when non-Norwegian funds do acquire board seats, they are more likely to nominate a representative from a fund subsidiary than from the main fund itself, and this propensity is strikingly higher when acquiring a seat on a foreign (especially OECD) company's board. These results suggest that SWFs are reluctant to exercise effective corporate governance over their foreign investments, but are much more willing to do so domestically.[16] This is strongly supported by (unreported) supplemental analysis that examines seat acquisitions just by the main SWFs, rather than by both the funds and their subsidiaries. The difference between these findings and those for subsidiaries are striking. Main funds obtain board seats in only 32 of the 150 usable observations (21.3%), plus only 4 acquisitions (24.0% total), versus 22 board seat acquisitions and two acquisitions out of 53 usable SWF-subsidiary investments (41.5%). Subsidiaries are also much more likely to take seats in foreign deals than are the main funds. This suggests that SWFs deliberately and rationally choose to funnel controversial foreign investments through low-visibility subsidiaries rather than by investing directly using the main funds.

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[16] There is at least one other, practical reason why SWFs do not demand board seats more frequently: lack of staff. Johnson and Slyngstad (2010) and Anderlini (2009) report that the largest and third largest SWFs, Norway's Global Pension Fund- Global and China Investment Corporation, have only 250 and 400 employees, respectively.

Additional evidence of a passive role of SWFs is offered in an analysis of engagement and voting by SWFs presented in Mehropouya, Huang and Barnett (2009), which finds "few cases in which SWFs held seats at their portfolio companies" and that "the funds appear to stick to their claims that they are relatively passive investors". The report also documents that "proxy votes discovered through our analysis were mostly cast for management" and that "no major case of shareholder resolutions introduced by the SWFs was discovered, with the exception of ESG [Environmental, Social and Governance] engagements of the Norwegian Government Pension Fund Global". Rose (2008) discusses how SWFs avoid acquiring large, controlling stakes in the United States, especially in financial institutions, to avoid becoming "bank holding companies" and receiving additional oversight by the Federal Reserve. Kotter and Lel (2010) find that CEO turnover rates and accounting performance of SWF investment targets differ insignificantly between SWF target firms and a control group, concluding that SWFs are passive investors. Some SWFs commit themselves to a passive strategy, presumably in order to pre-empt political opposition to their investments. Examples include the China Investment Corporation, which in its 2009 annual report commits to a passive stance, and the Abu Dhabi Investment Authority which sent a letter to Western financial regulators, in which the fund commits to never use its investments as a foreign policy tool.[17]

The evidence described above most strongly supports the Constrained Foreign State Investor Hypothesis. As state-owned investment funds from largely non-democratic countries, these funds are politically constrained from exercising effective discipline of target firm managements--especially in the United States, Britain, and continental Europe, where expressed hostility to SWFs was intense during 2006-2008.

5.   Conclusions

This study presents an empirical analysis of SWF investment patterns and examines the impact of SWF investments on targeted firms. We list and describe the investment philosophies of the major funds, analyze their overall size, and discuss estimates of future growth. Using a broad sample of SWF investments in listed firm stocks we provide a comprehensive overview of SWF investment patterns by fund, by industry sector, and by geography. We present evidence on the mechanics of SWF investments, and measure the impact of SWFs on the subsequent performance of the listed companies in which they invest. We document that SWFs purchase, on average, sizable minority stakes in target companies. We also find that SWFs (except for Norway's Government Pension Fund-Global) generally buy equity stakes

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[17] A dissenting opinion regarding SWF governance assertiveness is offered by Dewenter, Han and Malatesta (2010) who analyze instances of monitoring, network transaction and governmental interference following SWF investments. Despite weak evidence obtained in cross-sectional analysis of abnormal returns, they conclude that SWFs are active investors and that their activities impact long term abnormal returns, yet they fail to explain how this active monitoring fails to lead to a positive impact on firm performance.

in listed companies by purchasing newly-issued stock directly from target companies in friendly transactions that exclude outside participation by existing shareholders. This feature of SWF investment suggests that funds become the allies of target-firm managers and are thus constrained from playing a meaningful disciplinary or monitoring role. In addition, these government-owned funds face significant political pressure from recipient countries to remain passive investors in cross-border deals.

On average, the stocks of companies receiving SWF equity investments increase significantly over the three-day window surrounding the purchase announcement, suggesting that investors welcome SWFs as shareholders. Despite these positive announcement-period reactions, SWF stock purchases are associated with much larger and significantly negative abnormal returns over the three years following the initial investment, and these results are robust to the use of multiple benchmarks and event study methodologies. Median excess returns and returns excluding Norway are consistently more negative than are mean excess returns. Funds only rarely acquire board of director seats after foreign investments, but are significantly more likely to acquire seats in domestic companies. Funds are especially unlikely to acquire seats on a target company headquartered in an OECD country.

In cross-sectional analyses, the longer-term post-acquisition target performance is related to fund characteristics and to the SWF's level of involvement. The performance of SWF investment targets is worse for more passive funds, for foreign targets, and for targets headquartered in an OECD country, but long-run returns are negatively related to the size of the stake acquired and to the size of the target firm. Firm performance also appears to deteriorate more when SWFs acquire seats on board of directors. These results are most consistent with the Constrained Foreign State Investor Hypothesis, which predicts that SWFs should be especially reluctant to "interfere" in target firm management by demanding high performance or by holding managers to account. The key question going forward is whether SWFs will continue to act as "Quiet Leviathans" in terms of corporate governance, or will instead adopt a more assertive stance commensurate with their true financial power.

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Table 1. Predictions

This table lists our predicted hypothesis and the testable implications of those. For the event study, we indicate whether the hypothesis predicts positive or negative excess returns. For the cross-sectional analysis, we report whether the hypothesis predicts a positive, negative or null impact of the relevant explanatory variable in cross-sectional analysis of abnormal returns.

Hypotheses:	Active Monitoring	Reduced Financial Constraints	Political Interference	Constrained Foreign State Investor	Stock-picking
Event Study					
Abnormal Returns	(+)	(+)	(-)	(-)	?
Cross-Section					
SWF Government Involvement	0	0	(-)	0	0
SWF Passive Stance	(-)	0	0	(-)	0
Norway	0	0	(+)	(+)	0
OECD	(-)	(-)	(+)	(-)	0
Strategic Target	0	0	(-)	0	0
SWF Age	0	0	0	0	(+)
Capital Infusion	0	(+)	0	0	0
Stake Owned	(+)	0	(-)	(-)	0
Foreign	(-)	0	(+)	(-)	0
Market Value	0	(-)	(+)	(-)	0
Leverage	(-)	(+)	(+)	0	0
Liquidity	(+)	(-)	(-)	0	0
BoD	(+)	0	(-)	(-)	0

Table 2. Descriptive Data and Investment Strategies of the 33 Sovereign Wealth Funds (SWFs) in the Monitor-FEEM SWF Transaction Database

This table lists the 33 funds that meet the Monitor-FEEM definition of a SWF, and offers information regarding country of origin; fund name; the estimated fund size in US$ billions as of March 23, 2010; the year in which the fund was established; the principal source of funding for the fund; the desired or actual asset allocations of each fund; and the geographic distribution of fund investments.

Country	Fund Name	AUM $US bn	Inception Year	Source of Funds	Mission or Investment Principles	Asset Classes		Geographies	
Norway	Government Pension Fund – Global[i]	453.3	1990	Commodity (Oil)	To facilitate government savings necessary to meet the rapid rise in public pension expenditures in the coming years, and to support a long-term management of petroleum revenues.	Bank Deposits	0.20%	Europe	54%
						Lending associated with reverse repurchase agreements	4.60%	Americas & Africa	35%
						Equities and units	53.00%	Asia/Oceania	11%
						Bonds and other fixed income instruments	41.90%		
						Other assets	0.30%		
UAE/Abu Dhabi	Abu Dhabi Investment Authority[ii]	395	1976	Commodity (Oil)	ADIA prudently invests the Emirate's assets through an investment strategy focused on long-term value creation.	Developed Market Stocks	45-55%	United States	35-50%
						Emerging Markets Stocks	8-12%	Europe	25-35%
						Small-Cap Stocks	1-4%	Asia	10-20%
						Government Bonds	12-18%	Emerging Markets	15-25%
						Corporate & Other Bonds	4-8%		
						Alternative Investments	5-10%		
						Real Estate	5-10%		
						Private Equity	2-8%		
						Infrastructure	0-4%		
China	China Investment Corporation[iii]	297.5	2007	Trade Surplus	To diversify the country's foreign exchange holdings and obtain higher long term risk-adjusted returns on those holdings.	Cash and bank deposits	16.50%	Domestic	≥50%
						Money market funds	11.40%	Global	≤50%
						Short-term notes	4.70%		
						Financial investments at fair value	2.20%		
						Interest receivables	0.50%		
						Held-to-maturity investments	5.10%		
						Long-term equity investments	57.50%		
						Other assets	1.90%		
Kuwait	Kuwait Investment Authority[iv]	295	1953	Commodity (oil)	KIAs mission is to achieve long term investment returns on the financial reserves of the State of Kuwait, providing an alternative to oil reserves and enabling Kuwait's future generations to face the uncertainties of the future with greater confidence, while meeting the principal objective of KIA's establishment as enshrined in Law No.47/1982.	Equities	55-65%	United States and Europe (equally divided)	76-86%
						Bonds	8-12%	Asia and Japan	13-17%
						Real Estate	8-12%	Other Emerging Markets	4-6%
						Alternative Investments	3-7%		
						Cash	3-7%		
Singapore	Government of Singapore Investment Corporation[v]	179	1981	Trade Surplus	To achieve good long-term returns on state assets placed under our charge by investing internationally, with due regard to risk and the nature of associated liabilities.	Developed Market equities	28%	Americas	45%
						Developing markets equity	10%	United States	38%
						Nominal Bonds	19%	Other North & South America	7%
						Inflation-Linked Bonds	5%	Europe	29%
						Real Estate	12%	United Kingdom	6%
						Private Equity, VC & Infrastructure	11%	France	5%
						Absolute Return Strategies	3%	Germany	4%
						Natural Resources	4%	Italy	3%
						Cash	8%	Others	11%
								Asia	24%
								Japan	11%
								China, Hong Kong, S. Korea & Taiwan	10%
								Others	3%
								Australasia	2%
Singapore	Temasek Holdings[vi]	86	1974	Government-Linked Companies	To create and maximise long-term shareholder value as an active investor and shareholder of successful enterprises.	Unlisted Assets	28%	Domestic	31%
						Listed Large bloc shares (≥20%)	38%	North Asia	27%
						Other listed and liquid assets	34%	ASEAN (Excl. Singapore)	9%
								South Asia	7%
								OECD	22%
								Latin America & Others	4%

Table 2. Descriptive Data and Investment Strategies of the 33 Sovereign Wealth Funds (SWFs) in the Monitor-FEEM SWF Transaction Database - Continued

Country	Fund Name	AUM $US bn	Inception Year	Source of Funds	Mission or Investment Principles	Asset Classes		Geographies	
Qatar	Qatar Investment Authority[vii]	70	2003	Commodity (Oil & Gas)	To develop, invest and manage the state reserve funds and other property assigned to it by the Supreme Council in accordance with policies, plans and programs approved by the Supreme Council				
Libya	Libyan Investment Authority[viii]	52	2006	Commodity (Oil)	To protect and develop the value of Libya's oil revenue reserves and to diversify the sources of national income away from dependence on these.				
Australia	Australian Future Fund[ix]	49.16	2006	Commodity (Various)	To meet unfunded superannuation liabilities that will become payable during a period when an ageing population is likely to place significant pressure on Commonwealth finances.	Australian equities	7.40%		
						Developed markets equity	11.90%		
						Developing markets equity	2.80%		
						Private equity	2.00%		
						Property	1.20%		
						Infrastructure	1.90%		
						Debt securities	20.50%		
						Alternative assets	4.40%		
						Cash	36.50%		
						Telstra holding	11.30%		
Russia	National Wealth Fund[x]	33.99	2008	Commodity (Oil)	The objectives of the NWF are to co-finance voluntary pension savings of the Russian citizens and to maintain the budget balance of the Pension Fund of the Russian Federation. The NWF assets could not be used for any other purposes.				
Brunei	Brunei Investment Agency	30	1983	Commodity (Oil)					
Kazakhstan	Kazakhstan National Fund[xi]	26.5	2000	Commodity (Oil)					
Malaysia	Khazanah Nasional Berhard[xii]	25	1993	Government-Linked Companies	To be regarded as a leading regional strategic investment house that drives superior corporate performance with high standards of achievement in sectors that are deemed strategic to the nation's economy. We are committed to building a globally competitive Malaysia by developing the right human capital and maintaining the highest professional ethics. We shall develop a high level of integrity and professionalism with the aim of earning the trust of those with and for whom we work.				
UAE-Abu Dhabi	Mubadala Development Company PJSC[xiii]	21.6	2002	Commodity (Oil)	Mubadala is both a catalyst for, and a reflection of, the drive for economic diversification of the Emirate of Abu Dhabi. Its impact is evident domestically and internationally.	See discussion		United Arab Emirates[xiv]	33%
								Qatar	41%
								Others	26%
UAE-Dubai	Investment Corporation of Dubai[xv]	19.6	2006	Government-Linked Companies	To realize superior return on investment by: − Providing protection and transparency for its assets within strong corporate structures − Identifying and nurturing specific assets through to privatization − Broadening its pool of assets as opportunities arise through mergers and acquisitions	Transportation Sector Companies	~40%	Dubai	100%
						Financial Sector Companies	~20%		
						Industrial Sector Companies	~20%		
						Real Estate Companies	~15%		
						Other Companies	~5%		
Republic of Korea	Korea Investment Corporation[xvi]	17.8	2005	Trade Surplus	KIC strives to preserve long-term purchasing power of the assets entrusted and exceed investment target return within justifiable level of the risk through investing well-diversified, foreign currency denominated assets transacted in the international capital markets.	Government Bonds	34.10%		
						Agency Bonds	7.40%		
						Corporate Bonds	12.90%		
						ABS	16.70%		
						Cash & derivatives	3.40%		
						Stocks	28.30%		
UAE-Abu Dhabi	International Petroleum Investment Company[xvii]	14	1984	Commodity (Oil)	IPIC operates on commercial principles, with the objective of maximizing the long term shareholder value of the company. This is achieved by IPIC's vigorous participation in the Board of Directors and other strategy making bodies for every company in IPIC's investment portfolio.				
Bahrain	Mumtalakat Holding Company	14	2006	Government-Linked Companies	To Develop a balanced portfolio of international, regional, and national investments; achieve high returns on all our investments; spread risk through geographic and industrial diversification.	See discussion			
São Tomé & Principe	National Oil Account	12.2	2004	Commodity (Oil)					

Table 2. Descriptive Data and Investment Strategies of the 33 Sovereign Wealth Funds (SWFs) in the Monitor-FEEM SWF Transaction Database - Continued

Country	Fund Name	AUM $US bn	Inception Year	Source of Funds	Mission or Investment Principles	Asset Classes		Geographies	
UAE/Dubai	Istithmar World	11.5	2003	Government-Linked Companies	Istithmar is an alternative investment house… wholly owned by the Government of Dubai… established with the key mission of earning exceptional returns for its investors while maintaining due regard for risk.	Equity & Venture Capital Real Estate	40% 60%	Europe Middle East North America Asia Pacific Sub-Saharan Africa Latin America	20% 25% 40% 5% 5% 5%
Azerbaijan	State Oil Fund of Azerbaijan (SOFAZ) [i]	10.8	1999	Commodity (Oil)	To preserve macroeconomic stability, ensuring fiscal-tax discipline, decreasing dependence on oil revenues and stimulating development of the non-oil sector; …ensure intergenerational equality with regard to the country's oil wealth and accumulate and preserve oil revenues for future generations; and finance major national scale projects to support socio-economic progress.				
Oman	State General Reserve Fund[ii]	8.2	1980	Commodity (Oil & Gas)					
East Timor	Timor-Leste Petroleum Fund[iii]	5.3	2005	Commodity (Oil& Gas)	The Petroleum Fund shall contribute to the wise management of the petroleum resources for the benefit of both current and future generations.	Cash and Cash Equivalents Fixed Interest Investments Accrued Interest	0.10% 98.60% 1.30%		
UAE-Ras Khaimah	Ras Al Khaimah (RAK) Investment Authority	1.2	2005	Commodity (Oil)	To work towards reinforcing the investment climate in the Emirate and to promote its various economic sectors.				
Vietnam	State Capital Investment Corporation[iv]	0.473	2005	Trade Surplus	1. To be the Government's strategic investor 2. To be an active shareholder 3. To be a professional financial consultant	Strategic Investments Flexible Investment Divestments (holdings in privatized companies)	17.30% 56.20% 25.50%	Vietnam	100
Kiribati	Revenue Equalization Reserve Fund[v]	0.391	1956	Commodity Phosphates)					
Oman	Oman Investment Fund	N/A	2006	Commodity (Oil & Gas)					
UAE-Federal	Emirates Investment Authority	N/A	2007	Commodity (oil)	To achieve attractive financial returns and diversify the government's asset exposure by cultivating sovereign funding arrangements in tandem with first-class investment opportunities in the public and private markets of the GCC and overseas.				
UAE-Dubai	DIFC Investments (Company) LLC	N/A	2006	Government-Linked Companies	DIFC Investments operates and manages a diverse portfolio of investments in line with the development of the Centre's investment strategy and policies. It works to form strategic alliances to further the goals and objectives of DIFC				
UAE-Abu Dhabi	Abu Dhabi Investment Council	N/A	2007	Commodity (Oil)	To assist the Government of Abu Dhabi in achieving continuous financial success and wealth protection, while sustaining prosperity for the future. To increasingly participate in and support sustainable growth for the Abu Dhabi economy.				
Angola	Fundo Soberano Angolano	N/A	2009	Commodity (Oil)					
Equatorial Guinea	Fund for Future Generations	N/A	N/A	Commodity (Oil)					
Gabon	Fund for Future Generations	N/A	1998	Commodity (Oil)					
Total Oil & Gas Related		$1,240.30							
Total Other		700.52							
TOTAL		$1,940.82							

Table 3. Characteristics of the Sample of SWF Investments in Publicly-Traded Firms
This table characterizes the sample of 802 sovereign wealth fund investments in listed companies between 1985 and November 2009. Panel A describes the number, total value, and average size of investments each year from 1985 through 2009. Panel B describes the funds for which investments are recorded and the total number, total value, and average value (both in US$ millions) made by each fund. Panel C describes the industrial distribution of SWF investments in listed companies, and Panel D describes the geographic distribution of these investments.

Panel A. Annual distribution of SWF Investments in Listed firm stocks

Year	Number of investments	Total value, $US million	Average value, $US million
1985	1	24	24
1987	1	--	--
1988	3	1,952	1,952
1990	1	24	24
1991	2	112	58
1992	2	65	33
1993	3	713	357
1994	9	373	41
1996	4	75	24.9
1997	2	100	100
1998	1	--	--
1999	4	116	39
2000	7	360	72
2001	13	850	95
2002	17	978	109
2003	20	5,641	313
2004	32	2,621	175
2005	42	4,337	181
2006	49	11,492	328
2007	198	61,162	336
2008	340	61,306	191
2009	50	29,306	733
1985-2009	**802**	**181,606**	**266**

Panel B. Investments by Individual Sovereign Wealth Funds

Fund Name	Country	Number of Investments	Total Value $US millions	Average value, $US millions
Government Pension Fund – Global	Norway	403	4,762	12
Temasek Holdings	Singapore	132	42,375	441
Government Investment Corporation (GIC)	Singapore	79	22,571	364
Khazanah Nasional Berhard	Malaysia	32	3,240	154
Qatar Investment Authority (QIA)	Qatar	31	15,297	1,177
Kuwait Investment Authority (KIA)	Kuwait	19	13,235	1,018
China Investment Corporation (CIC)	China	18	38,933	2,781
Abu Dhabi Investment Authority (ADIA)	UAE-Abu Dhabi	18	8,518	710
Libyan Investment Authority	Libya	17	1,519	127
Istithmar World	UAE-Dubai	16	2,788	232
Mubadala Development Company PJSC	UAE-Abu Dhabi	11	2,618	436
International Petroleum Investment Company	UAE-Abu Dhabi	10	14,651	1,628
Dubai International Financial Center	UAE-Dubai	6	2,386	477
Investment Corporation of Dubai	UAE-Dubai	4	6,430	1,607
Brunei Investment Agency	Brunei	2	112	112
Oman Investment Fund	Oman	2	2	2
Korea Investment Corporation	Korea	1	2,000	2,000
Mumtalakat Holding Company	Bahrain	1	170	170

Table 2 (Continued). Characteristics of the Sample of SWF Investments in Publicly-traded Firms

Panel C. Industrial distribution of SWF investments in listed firm stocks

Industry	Number of Investments	Total Value, $US mn	Average Value, US$ mn
Banking	77	55,243	1,228
Real estate development and services	46	49,782	1,158
Financial services	59	43,322	850
Oil and gas producers	33	6,918	239
General industrials	10	5,850	585
Chemicals	24	5,807	264
Technology hardware and equipment	29	4,434	153
Construction and materials	17	3,740	249
Automobiles and parts	22	3,048	160
Electricity	20	2,609	137
Mining	10	2,424	269
General retailers	22	2,376	113
Industrial transportation	30	2,025	78
Real estate investment trusts (REIT)	20	1,791	90
Fixed line telecommunications	19	1,753	117
Unclassified	11	25, 308	48
Others (23 industries)	376	11,275	35

Panel D. Geographic distribution of SWF investments in listed firm stocks

Country of Target Firm	Number of Investments	Total Value, $US mn	Average Value, US$ mn
United States	426	58,336	140
China	43	32,049	916
Singapore	39	10,936	377
Malaysia	38	2,195	100
India	34	1,386	53
United Kingdom	28	20,883	906
Canada	19	5,517	307
Indonesia	16	3,758	470
Italy	15	1,092	135
Thailand	10	2,458	351
France	10	2,376	396
Australia	9	1,026	128
Qatar	7	1,085	362
Sweden	6	5,238	1,310
United Arab Emirates	6	2,810	937
Switzerland	5	12,839	3,210
OECD countries	560	120,207	232
Non-OECD countries	242	61,399	372
BRIC countries	85	34,166	502
Foreign (cross-border) investments	723	141,252	224
Domestic (home country) investments	79	40,351	761

Table 4. Target-Firm Abnormal Stock Price Performance, Pre-Investment

This table reports cumulative abnormal stock returns for target firms preceding the announcement of investment by a SWF. *Interval* indicates the length of the time interval of interest ending on the day prior to the date of the announcement of the SWF investment. *N* reports the number of observations. *Mean Compounded Abnormal Return* and *Median Compounded Abnormal Returns* report, respectively, average and median abnormal compounded returns. *Positive* and *Negative* report, respectively, the number of positive and negative cumulative abnormal returns for the period of interest. *Bootstrapped, Skewness Adjusted t* presents the p-value associated with the bootstrapped, skewness adjusted t-statistic employed by Hall (1992). *Generalized Sign Z* reports the p-values of a generalized nonparametric sign test, and *Wilcoxon Signed Rank Test* reports the p-values associated with this alternative non-parametric test of significance. The significance levels are denoted as follows: "*" indicates significance at the 0.10 level; "**" indicates significance at the 0.05 level; "***" indicates significance at the 0.01 level. Panel A includes all announcements of SWF investments in publicly traded companies, Panel B reports the same values for all investments announcements, excluding those made by Norway's SWF.

Panel A: All Observations

Interval	N	Mean Compounded Abnormal Return	Median Compounded Abnormal Return	Positive	Negative	Bootstrapped, Skewness Adjusted t		Generalized Sign Z	WSR
1 Year	638	17.09%	1.35%	329	309	< 0.01	***	0.32	0.19
6 Months	638	3.83%	-2.14%	300	338	< 0.01	***	0.52	0.48
3 Months	635	2.11%	-1.29%	306	329	0.01	**	0.42	0.84
1 Month	635	1.31%	0.44%	329	306	< 0.01	***	0.24	0.67
1 Week	635	-0.05%	-0.17%	307	328	0.43		0.02	0.21
1 Day	634	-0.20%	-0.09%	307	326	0.13		0.11	0.23

Panel B: Excluding Norway

Interval	N	Mean Compounded Abnormal Return	Median Compounded Abnormal Return	Positive	Negative	Bootstrapped, Skewness Adjusted t		Generalized Sign Z		WSR
1 Year	277	20.99%	-0.85%	137	140	< 0.01	***	0.32		0.19
6 Months	277	6.67%	-1.46%	134	143	< 0.01	***	0.52		0.48
3 Months	274	2.58%	-0.92%	134	140	0.03	**	0.42		0.88
1 Month	274	2.26%	0.02%	137	137	0.01	**	0.24		0.67
1 Week	274	0.46%	0.36%	147	127	0.10		0.02	**	0.21
1 Day	273	0.41%	0.15%	140	132	0.03	**	0.11		0.23

Table 5. Description of the Explanatory Variables Used in the Empirical Analyses
We report the source of the each variable we use (and, where appropriate, the name or identifying code of the variable in the original database) and a brief definition of each variable employed in our study. Definitions of Worldscope variables are included in the Worldscope Database Datatype Definitions Guide (www.thomson.com/financial).

Variable	Source	Definition
BoD (Board of Directors)	Monitor - FEEM SWF Database	Binary variable set equal to one if the SWF acquires one or more seats on the board of directors of the investment target
Book Value of Equity	Worldscope, WC03501	Common shareholders' investment in a company
Capital Infusion	Monitor - FEEM SWF Database	If the transaction is a capital infusion, this variable is set equal to the size of the stake acquired; if the transaction is not a capital infusion, it is set to zero
Cash Over Total Assets	Worldscope, WC08111	Cash and Equivalents as a percentage of total assets
Dividend Yield	Worldscope, WC09404	Annual divideds per share divided by price per share
Foreign	Monitor - FEEM SWF Database	Binary variable, set equal to one if the target firm headquarters are in a different country than the country of origin of the investing SWF
Leverage (Debt over Assets)	Worldscope, (WC02999-WC03501)/WC02999	Debt over total assets
Liquidity (Quick Ratio)	Worldscope, WC08101	Cash and Equivalents plus net receivables, divided by total current liabilities
Market Value	Worldscope, WC08001	Aggregate market capitalization of the firm, including all common and/or ordinary shares
Market to Book Ratio (Firm)	Worldscope, WC09704	Market capitalization of the firm divided by common equity
Market to Book Ratio (Security)	Datastream, MTBV	Market value of the individual security, divided by adjusted common equity
Norway	Monitor - FEEM SWF Database	Binary variable, set equal to one if the acquiring SWF is the Norwegian Government Pension Fund Global
OECD	Monitor - FEEM SWF Database	Binary variable, set equal to one if the target firm headquarters are in an OECD-member country
Return - daily	Datastream, RI	Daily percentage change in the total return index (RI), in USD
Return - monthly	Datastream, RI	Monthly percentage change in the total return index (RI), in USD
ROA	Worldscope, WC08326	Te exact definition varies by industry; please refer to the Worldscope Database Datatype Definitions Guide, available at www.thomson.com/financial
ROE	Worldscope, WC08301	Te exact definition varies by industry; please refer to the Worldscope Database Datatype Definitions Guide, available at www.thomson.com/financial
Stake Owned	Monitor - FEEM SWF Database	Size of the stake owned by the SWF in the investment target after the transaction
Strategic Target	Monitor - FEEM SWF Database	Binary variable, set equal to one if the target firm's primary industrial sector is either Aerospace and Defense, Energy, Utilities, Telecom, or Information Technology
SWF Age	Monitor - FEEM SWF Database	Years since SWF inception, at the time of the investment
SWF Government Involvement	Truman (2008)	One minus the score given by Truman (2008) to question (10): "Are decisions on specific investments made by the managers?"
SWF Passive Stance	Truman (2008)	The sum of the scores given by Tuman (2008) to question (29): "Does the SWF have limits on the size of its stakes?" and question (30): "Does the SWF not take controlling stakes?"
Tobin's Q	Worldscope, (WC08001+WC02999-WC03501)/WC02999	Market Value of Common Equity plus Total Assets minus Book Value of Common Equity, divided by Total Assets

Table 6. SWF Target Firm Characteristics Pre-Investment

The variables of interest are as defined in Table 3. *N* reports the number of observations, *Mean* and *Median* report, respectively, the mean and median value of the variable of interest as of Dec. 31 of the year preceding the SWF investment. *% Above Industry Median* reports the proportion of SWF investment targets for which the value of the variable of interest exceeds the median value of the same variable for all firms from the same country (same *Market*) and with the same primary industrial sector (same FTSE level 3 industrial sector classification) on the same date. *WSR p-value* reports the probability of rejecting the null hypothesis that *% Above Industry Median* is equal to .5 based on a Wilcoxon sign rank test. Significance is denoted as follows: "*" indicates significance at the 0.10 level; "**" indicates significance at the 0.05 level; "***" indicates significance at the 0.01 level.

Variable	N	Mean	Median	% Above Industry Median	WSR	*p*-value
Book Value of Equity (USD M)	744	4,021	890	86.73%	20.30 ***	< 0.01
Market Cap (USD M)	636	7,898	2,270	89.59%	19.80 ***	< 0.01
Total Assets (USD M)	743	53,000	2,795	87.93%	20.39 ***	< 0.01
Market to Book Ratio	652	3.47	2.26	65.54%	10.73 ***	< 0.01
Debt over Assets	743	63.07%	61.65%	55.51%	3.50 ***	< 0.01
Cash Over Total Assets	561	36.72%	29.81%	48.12%	2.80 ***	< 0.01
Quick Ratio	566	1.55	1.03	47.95%	2.55 **	0.01
ROA	698	5.43%	6.10%	69.37%	11.94 ***	< 0.01
ROE	705	6.56%	15.32%	65.16%	10.23 ***	< 0.01
Tobin's Q	636	1.96	1.40	50.31%	2.94 ***	< 0.01
Dividend Yield	648	1.71%	0.87%	49.41%	8.58 ***	< 0.01

Table 7. Short-Term Market Reaction to Announcements of SWF Investments

This table reports cumulative abnormal stock returns for target firms on the days surrounding the announcement of investment by a SWF. *Interval* indicates the time interval of interest relative to the date of the announcement of the SWF investment (day 0). *N* reports the number of observations. *Mean Cumulative Abnormal Return* and *Median Cumulative Abnormal Return* report, respectively, average and median abnormal cumulative returns. *Positive* and *Negative* report, respectively, the number of positive and negative cumulative abnormal returns for the period of interest, *Patell z* reports *p*-values of Patell's z-scores computed to test the statistical significance of the mean cumulative abnormal return relative to the period of interest, and *CDA t* the *p*-value associated with a *t*-test based on the portfolio time-series standard error computed with the 'crude dependency adjustment' proposed by Brown and Warner (1985). *Generalized Sign z* reports the *p*-value of a generalized nonparametric sign test, and *Wilcoxon Signed Rank Test* reports the *p*-values associated with this alternative nonparametric test of significance. The significance levels are denoted as follows: "*" indicates significance at the 0.10 level; "**" indicates significance at the 0.05 level; "***" indicates significance at the 0.01 level. Panel A includes all announcements of SWF investments in publicly traded companies, Panel B reports the same values for all investments announcements, excluding those made by Norway's SWF, while Panel C presents only investment announcements associated with the Norwegian fund.

Panel A: ALL observations

Interval	N	Mean Cumulative Abnormal Return	Median Cumulative Abnormal Return	Positive	Negative	Patell z	CDA t	Generalized Sign z	Wilcoxon Sign Rank Test
(-1,+1)	688	1.25%	0.17%	368	320	< 0.01 ***	< 0.01 ***	< 0.01 ***	0.05 **
(0,0)	688	1.10%	0.00%	342	344	< 0.01 ***	< 0.01 ***	0.10	0.19
(0,+1)	688	1.29%	0.15%	358	329	< 0.01 ***	< 0.01 ***	< 0.01 ***	0.04 **

Panel B: Excluding Norway

Interval	N	Mean Cumulative Abnormal Return	Median Cumulative Abnormal Return	Positive	Negative	Patell z	CDA t	Generalized Sign z	Wilcoxon Sign Rank Test
(-1,+1)	293	2.91%	0.37%	168	125	< 0.01 ***	< 0.01 ***	< 0.01 ***	< 0.01 ***
(0,0)	293	2.14%	0.01%	148	143	< 0.01 ***	< 0.01 ***	0.07 *	0.08 *
(0,+1)	293	2.70%	0.56%	163	129	< 0.01 ***	< 0.01 ***	< 0.01 ***	< 0.01 ***

Panel C: Norway Only

Interval	N	Mean Cumulative Abnormal Return	Median Cumulative Abnormal Return	Positive	Negative	Patell z	CDA t	Generalized Sign z	Wilcoxon Sign Rank Test
(-1,+1)	395	0.02%	2.00%	200	195	0.66	0.97	0.23	0.90
(0,0)	395	0.32%	-1.00%	194	201	0.01 **	0.24	0.56	0.83
(0,+1)	395	0.25%	-2.00%	195	200	0.28	0.52	0.49	0.76

Table 8. Long-Term Buy-and-Hold Abnormal Returns Following SWF Investments

Interval indicates the time interval of interest, starting on the day following the SWF investment. *N* reports the number of observations. *Mean Compounded Abnormal Return* and *Median Compounded Abnormal Returns* report, respectively, average and median abnormal compounded returns. *Positive* and *Negative* report, respectively, the number of positive and negative cumulative abnormal returns for the period of interest. *Bootstrapped, Skewness Adjusted t* presents the p-value associated with the bootstrapped, skewness adjusted t-statistic employed by Hall (1992). *Generalized Sign Z* reports the p-values of a generalized nonparametric sign test, and *Wilcoxon Signed Rank Test* reports the p-values associated with this alternative non-parametric test of significance. Panel A reports mean and median cumulative abnormal monthly returns following SWF investments, where abnormal returns are market adjusted against a local-market total return index. Panel B reports the same values for all investments announcements, with abnormal returns computed versus matching firms where matches are made based on country, exchange, size and book-to-market ratios. Panel C presents similar values computed versus a matching set of firms matched on country, exchange, industry, and pre-event performance. Panels D, E, and F present measures corresponding to Panels A, B, and C, respectively, but excluding observations for Norway's sovereign fund. The significance levels are denoted as follows: "*" indicates significance at the 0.10 level; "**" indicates significance at the 0.05 level; "***" indicates significance at the 0.01 level.

Panel A: Local Index

Interval	N	Mean Compounded Abnormal Return	Median Compounded Abnormal Return	Positive	Negative	Bootstrapped, Skewness Adjusted t	Generalized Sign z	Wilcoxon Sign Rank Test	
6 months	631	-1.36%	-3.13%	276	355	0.20	0.13	< 0.01	***
1 year	617	-1.32%	-6.00%	275	342	0.25	0.27	< 0.01	***
2 years	366	-4.50%	-8.51%	153	213	0.19	0.11	< 0.01	***
3 years	165	-4.61%	-12.75%	71	94	0.32	0.88	0.02	**

Panel B: Matched Firms, Country, Exchange, Size and Market-to-Book

Interval	N	Mean Compounded Abnormal Return	Median Compounded Abnormal Return	Positive	Negative	Bootstrapped, Skewness Adjusted t	Generalized Sign z	Wilcoxon Sign Rank Test	
6 months	584	-1.86%	-2.75%	275	313	0.19	0.39	0.20	
1 year	576	-3.68%	-2.02%	281	293	0.05 *	0.84	0.10	
2 years	294	-6.37%	-11.82%	148	197	0.17	0.05 **	< 0.01	***
3 years	128	-21.88%	-16.73%	61	97	0.04 **	0.02 **	0.03	**

Panel C: Matched Firms, Country, Exchange, Industry and Pre-event Performance

Interval	N	Mean Compounded Abnormal Return	Median Compounded Abnormal Return	Positive	Negative	Bootstrapped, Skewness Adjusted t	Generalized Sign z	Wilcoxon Sign Rank Test	
6 months	546	-3.74%	-2.40%	262	284	0.05 **	0.85	0.13	
1 year	532	-8.39%	-2.50%	249	283	< 0.01 ***	0.51	0.08	*
2 years	325	-5.10%	-6.68%	145	180	0.26	0.22	0.06	*
3 years	149	-12.13%	-0.96%	74	75	0.16	0.71	0.74	

Table 8 (Continued): Long-Term Abnormal Returns Following SWF Investments

Panel D: Local Index, Excluding Norway

Interval	N	Mean Compounded Abnormal Return	Median Compounded Abnormal Return	Positive	Negative	Bootstrapped, Skewness Adjusted *t*	Generalized Sign *z*	Wilcoxon Sign Rank Test
6 months	236	-2.94%	-4.17%	98	138	0.09 *	0.22	< 0.01 ***
1 year	222	-3.67%	-10.09%	91	131	0.15	0.18	0.01 **
2 years	201	-5.65%	-13.85%	80	121	0.26	0.11	< 0.01 ***
3 years	157	-4.22%	-12.04%	68	89	0.31	0.47	0.03 **

Panel E: Matched Firms, Country, Exchange, Size and Market-to-Book, Excluding Norway

Interval	N	Mean Compounded Abnormal Return	Median Compounded Abnormal Return	Positive	Negative	Bootstrapped, Skewness Adjusted *t*	Generalized Sign *z*	Wilcoxon Sign Rank Test
6 months	227	-0.83%	-4.09%	101	126	0.37	0.31	0.30
1 year	213	-1.58%	-5.43%	97	116	0.32	0.52	0.39
2 years	190	-4.37%	-16.07%	79	111	0.36	0.09 *	0.03 **
3 years	150	-22.19%	-16.73%	59	91	0.06 *	0.03 **	0.04 **

Panel F: Matched Firms, Country, Exchange, Industry and Pre-event Performance, Excluding Norway

Interval	N	Mean Compounded Abnormal Return	Median Compounded Abnormal Return	Positive	Negative	Bootstrapped, Skewness Adjusted *t*	Generalized Sign *z*	Wilcoxon Sign Rank Test
6 months	213	-2.43%	-1.78%	103	110	0.18	0.99	0.61
1 year	199	-7.98%	-2.34%	96	103	0.07 *	0.99	0.33
2 years	177	-3.96%	-5.32%	83	64	0.42	0.75	0.27
3 years	141	-10.07%	-0.96%	70	71	0.23	0.73	0.88

Table 9. Long-Term Impact to SWF Investment, Cumulative Abnormal Returns and Calendar Time Abnormal Returns

Interval indicates the time interval of interest, starting on the day following the SWF investment. *N* reports the number of observations. *Mean Compounded Abnormal Return* and *Median Compounded Abnormal Returns* report, respectively, average and median abnormal compounded returns. *Calendar Time Abnormal Returns* and the related *Calendar Time t* are computed using the calendar-time methodology presented in Jaffe (1974) and Mandelker (1974). *Positive* and *Negative* report, respectively, the number of positive and negative cumulative abnormal returns for the period of interest, and *CDA t* the p-value associated with a t-test based on the portfolio time-series standard error computed with the 'crude dependency adjustment' proposed by Brown and Warner (1985). *Generalized Sign Z* reports the p-values of a generalized nonparametric sign test, and *Wilcoxon Signed Rank Test* reports the p-values associated with this alternative nonparametric test of significance. Panel A reports mean and median cumulative abnormal monthly returns following SWF investments, where abnormal returns are market adjusted against a local-market total return index. Panel B reports the same values for all investments announcements, with abnormal returns computed versus matching firms where matches are made based on country, exchange, size and book-to-market ratios. Panel C presents similar values computed versus a matching set of firms matched on country, exchange, industry, and pre-event performance. Panels D, E, and F present measures corresponding to Panels A, B, and C, respectively, but excluding observations for Norway's sovereign fund. The significance levels are denoted as follows: "*" indicates significance at the 0.10 level; "**" indicates significance at the 0.05 level; "***" indicates significance at the 0.01 level.

Panel A: Local Index, Market Adjusted

Interval	N	Mean Cumulative Abnormal Return	Median Cumulative Abnormal Return	Calendar Time AR	Positive	Negative	CDA *t*	Calendar Time t	Generalized Sign *z*	Wilcoxon Sign Rank Test
6 months	570	-1.60%	-1.27%	-2.87%	276	294	0.56	0.19	0.17	0.51
1 year	557	0.68%	4.63%	-6.31%	302	255	0.86	0.10 *	0.18	0.25
2 years	337	8.41%	10.57%	-0.45%	205	132	0.30	0.49	< 0.01 ***	< 0.01 ***
3 years	153	0.37%	12.49%	-1.58%	88	65	0.98	0.54	0.09 *	0.45

Panel B Local Index, Market Model

Interval	N	Mean Cumulative Abnormal Return	Median Cumulative Abnormal Return	Calendar Time AR	Positive	Negative	CDA *t*	Calendar Time t	Generalized Sign *z*	Wilcoxon Sign Rank Test
6 months	570	-7.26%	-4.72%	-11.41%	258	312	< 0.01 ***	< 0.01 ***	0.48	< 0.01 ***
1 year	557	-9.31%	-4.93%	-23.63%	247	310	0.01 **	< 0.01 ***	0.24	< 0.01 ***
2 years	337	-18.45%	-12.18%	-34.94%	150	187	0.02 **	< 0.01 ***	0.56	< 0.01 ***
3 years	153	-57.25%	-23.45%	-57.19%	53	100	< 0.01 ***	< 0.01 ***	0.01 **	< 0.01 ***

Panel C: Matched Firms, Country, Exchange, Size and Market-to-Book

Interval	N	Mean Cumulative Abnormal Return	Median Cumulative Abnormal Return	Calendar Time AR	Positive	Negative	CDA *t*	Calendar Time *t*	Generalized Sign *z*	Wilcoxon Sign Rank Test
6 months	546	-2.08%	-2.96%	-1.96%	253	293	0.51	0.34	0.02 **	0.17
1 year	533	-4.95%	-4.11%	-5.06%	250	283	0.27	0.06 *	0.04 **	0.02 **
2 years	320	-8.37%	-8.42%	-7.85%	140	180	0.35	0.04 **	0.01 **	0.01 **
3 years	144	-5.77%	-6.10%	-0.67%	67	77	0.81	0.16	0.43	0.38

Panel D: Matched Firms, Country, Exchange, Industry and Pre-event Performance

Interval	N	Mean Cumulative Abnormal Return	Median Cumulative Abnormal Return	Calendar Time AR	Positive	Negative	CDA t	Calendar Time *t*	Generalized Sign *z*	Wilcoxon Sign Rank Test
6 months	533	-3.32%	-3.26%	-3.80%	248	285	0.29	0.10 *	0.02**	0.12
1 year	320	-5.60%	-4.47%	-5.52%	243	277	0.21	0.04 **	0.03**	0.02 **
2 years	317	-8.16%	-8.33%	-1.93%	141	176	0.36	0.05 **	0.02**	0.02 **
3 years	143	-4.91%	-3.16%	4.04%	69	74	0.84	0.26	0.67	0.40

Table 9 (Continued). Long-Term Impact to SWF Investment, Cumulative Abnormal Returns and Calendar Time Abnormal Returns, Excluding Norway

Panel E: Local Index, Market Adjusted, Excluding Norway

Interval	N	Mean Cumulative Abnormal Return	Median Cumulative Abnormal Return	Calendar Time AR	Positive	Negative	CDA t	Calendar Time t	Generalized Sign Z	Wilcoxon Sign Rank Test
6 months	217	-4.81%	-6.14%	-3.64%	92	125	0.42	0.14	0.06 *	0.02 **
1 year	204	-8.65%	-6.94%	-6.35%	92	112	0.33	0.05*	0.28	0.03 **
2 years	185	-3.72%	0.75%	-1.18%	96	89	0.78	0.17	0.44	0.66
3 years	145	-1.70%	11.33%	-1.70%	80	65	0.93	0.42	0.24	0.76

Panel F Local Index, Market Model, Excluding Norway

Interval	N	Mean Cumulative Abnormal Return	Median Cumulative Abnormal Return	Calendar Time AR	Positive	Negative	CDA t	Calendar Time t	Generalized Sign Z	Wilcoxon Sign Rank Test
6 months	217	-13.31%	-8.37%	-12.25%	86	131	0.02 **	< 0.01 ***	0.14	< 0.01 ***
1 year	204	-25.11%	-15.11%	-22.75%	70	134	< 0.01 ***	< 0.01 ***	< 0.01 ***	< 0.01 ***
2 years	185	-40.39%	-19.23%	-35.82%	65	120	< 0.00 ***	< 0.00 ***	0.01 **	< 0.00 ***
3 years	145	-61.97%	-33.07%	-57.88%	48	97	< 0.01 ***	< 0.01 ***	< 0.01 ***	< 0.01 ***

Panel G: Matched Firms, Country, Exchange, Size and Market-to-Book, Excluding Norway

Interval	N	Mean Cumulative Abnormal Return	Median Cumulative Abnormal Return	Calendar Time AR	Positive	Negative	CDA t	Calendar Time t	Generalized Sign Z	Wilcoxon Sign Rank Test
6 months	207	-3.06%	-5.03%	-2.53%	88	119	0.67	0.25	0.07*	0.10
1 year	194	-6.00%	-4.33%	-4.78%	85	109	0.57	0.13	0.16	0.05 **
2 years	172	-9.49%	-8.55%	-5.07%	77	95	0.56	0.05* *	0.27	0.05 **
3 years	136	-7.74%	-7.66%	-0.88%	61	75	0.76	0.12	0.27	0.23

Panel H: Matched Firms, Country, Exchange, Industry and Pre-event Performance, Excluding Norway

Interval	N	Mean Cumulative Abnormal Return	Median Cumulative Abnormal Return	Calendar Time AR	Positive	Negative	CDA t	Calendar Time t	Generalized Sign Z	Wilcoxon Sign Rank Test
6 months	206	-5.58%	-5.11%	-4.42%	90	116	0.43	0.63	0.10	0.09 *
1 year	193	-7.38%	-4.61%	-6.15%	84	109	0.48	0.06 *	0.11	0.04 **
2 years	171	-7.62%	-7.94%	-2.22%	77	94	0.64	0.06 *	0.25	0.11
3 years	135	-7.32%	-7.39%	3.62%	63	72	0.77	0.19	0.47	0.22

Table 10. Cross-Sectional Analysis of Long-Term Abnormal Returns
This table reports results from OLS regressions; the response variable is a market-adjusted abnormal return, with local total return indices as benchmarks, over the indicated post-investment event window. Variables are as defined in Table 3, with the exception of the *Pre-Event BHAR 1 Year,* which are buy-and-hold market adjusted abnormal returns computed over one year prior to the day on which the SWF investment was announced. *N* reports the number of observations and *R-sq* the R squared statistic. All regressions are estimated with heteroskedasticity robust standard errors clustered by target firm and year fixed effects. The table included parameter estimates and, in grey italicized font, related p-values. Significance is denoted as follows: "*" indicates significance at the 0.10 level "**" indicates significance at the 0.05 level; "***" indicates significance at the 0.01 level.

Variable	6 months	1 year	2 years	3 years
SWF Government Involvement	-0.6348	-0.7802	-2.9666 **	-3.5149
	0.17	*0.25*	*0.03*	*0.29*
SWF Passive Stance	-1.0152 ***	-0.8160 *	-2.0815 **	-3.6491 **
	< 0.01	*0.07*	*< 0.01*	*0.04*
Norway	1.8663 ***	1.3386 *	2.8404 ***	6.0818 **
	< 0.01	*0.07*	*< 0.01*	*0.01*
OECD	-0.3975 ***	-0.2651	-0.4014	-1.2880 *
	< 0.01	*0.35*	*0.18*	*0.06*
Strategic Target	0.0489	0.0170	0.0400	0.2317
	0.39	*0.77*	*0.75*	*0.54*
SWF Age	-0.0202	-0.0249	-0.1060 **	-0.1346
	0.19	*0.32*	*0.02*	*0.22*
Capital Infusion	-0.2636	-1.1607	0.6369	2.1505
	0.81	*0.42*	*0.66*	*0.60*
Stake Owned	0.2014	-0.3595	-1.4052 **	-1.9523
	0.84	*0.69*	*0.01*	*0.39*
Foreign	0.0258	-0.3470 *	-0.7295 ***	-1.2867
	0.88	*0.08*	*< 0.01*	*0.11*
Market Value (*1000)	-0.0061	-0.0035	-0.0109 **	-0.0364
	0.15	*0.35*	*0.02*	*0.35*
Leverage	-0.1689	0.1111	-0.2385	1.0468
	0.29	*0.45*	*0.27*	*0.71*
Liquidity	0.0098	0.0116	-0.0015	0.1637
	0.18	*0.26*	*0.97*	*0.54*
BoD	-0.2133	-0.1105	-0.3535 **	-1.2034 *
	0.20	*0.40*	*0.03*	*0.08*
Pre-Event BHAR, 1 year	0.0020	-0.0534 **	-0.0571 ***	-0.1570
	0.91	*0.01*	*< 0.01*	*0.37*
Intercept	0.9741 ***	1.2707 ***	4.4350 ***	5.4758 *
	< 0.01	*< 0.01*	*< 0.01*	*0.08*
N	*294*	*293*	*144*	*23*
R-Squared	4.91%	4.37%	23.95%	73.13%
Adjusted R-Squared	0.14%	-0.45%	15.69%	26.10%

Table 11: Board of Director Seat Acquisition by Sovereign Wealth Funds and Subsidiaries Following Significant Investments

This table presents details about how frequently individual SWFs assume seats on board of directors of target firms, broken down by investing subsidiary, with detail on domestic vs. foreign investment and with specific information concerning investments in OECD target firms.

Parent Sovereign Wealth Fund	Region	Investing Entity (SWF or Subsidiary)	Country	Useable Obs	Yes-Acquired board seat(s)				No-Did not acquire board seat(s)			
					Number	Domestic	Foreign	OECD	Number	Domestic	Foreign	OECD
International Petroleum Investment Company (IPIC)	MENA	Aabar Investments	Abu Dhabi	2	0				2		2	2
	MENA	**International Petroleum Investment Company**	**Abu Dhabi**	**4**	**3**	**1**	**2**	**2**	**1**		**1**	**1**
		International Petroleum Investment Company and subsidiaries		**6**	**3**	**1**	**2**	**2**	**3**	**0**	**3**	**3**
Abu Dhabi Investment Authority (ADIA)	**MENA**	**Abu Dhabi Investment Authority (ADIA)**	**Abu Dhabi**	**4**	**0**				**4**		**4**	**3**
Temasek Holdings	Asia-Pacific	Aranda Investment	Singapore	3	3	2	1		0			
	Asia-Pacific	Asia Financial Holdings Pte Ltd	Singapore	1	1		1		0			
	Asia-Pacific	Bank Danamon	Singapore	1	0				1		1	
	Asia-Pacific	Maxwell (Mauritius)Pte Ltd	Singapore	1	0				1		1	
	Asia-Pacific	NIB Bank Ltd	Pakistan	1	0	1			0			
	Asia-Pacific	Seletar Invest Pte Ltd	Singapore	3	1	1			2	2		
	Asia-Pacific	Sing Tel Electronics	Singapore	1	1	1			0			
	Asia-Pacific	Singapore Airlines Ltd	Singapore	1	0				1		1	1
	Asia-Pacific	Singapore Technologies Telemedia	Singapore	4	2	1	1		2		2	1
	Asia-Pacific	Sorak Finl Holdings Pte Ltd	Singapore	2	0				2		2	
	Asia-Pacific	Tazwell Pte Ltd	Singapore	1	0				1	1		
	Asia-Pacific	**Temasek Holdings**	**Singapore**	**50**	**10**	**3**	**7**	**2**	**40**	**6**	**34**	**17**
		All Temasek and subsidiaries		**69**	**19**	**9**	**10**	**2**	**50**	**9**	**41**	**19**
Brunei Investment Agency	**Asia-Pacific**	**Brunei Investment Agency**	**Brunei**	**1**	**1**		**1**		**0**			
China Investment Corporation (CIC)	Asia-Pacific	Central Huijin Investment Co., Ltd	China	1	1	1			0			
	Asia-Pacific	**China Investment Corporation (CIC)**	**China**	**4**	**0**				**4**	**1**	**3**	**3**
	Asia-Pacific	Fullbloom Investment Corporation	China	0	0				0			
		China Investment Corporation and subsidiaries		**5**	**1**	**1**	**0**	**0**	**4**	**1**	**3**	**3**
Dubai International Financial Centre (DIFC)	**MENA**	**Dubai International Financial Centre**	**Dubai**	**3**	**0**				**3**		**3**	**3**
Khazanah Nasional Bhd	**Asia-Pacific**	**Khazanah Nasional Bd**	**Malaysia**	**12**	**7**	**6**	**1**		**5**	**3**	**2**	**0**
	Asia-Pacific	Mount Kinabalu Investments Ltd	Malaysia	1	1		1		0			
	Asia-Pacific	Pangkor Investments Ltd.	Mhalaysia	1	0				1		1	
	Asia-Pacific	Trinity Saga Sdn Bhd	Malaysia	2	2	2			0			
	Asia-Pacific	UEM Group Bhd	Malaysia	2	1	1			1	1		

		All Khazanah and subsidiaries		18	11	9	2	0	7	4	3	0
Government of Singapore Investment Corpor (GIC)	Asia-Pacific	GIC Real Estate	Singapore	6	2		2	1	4		4	2
	Asia-Pacific	GIC Special Investments Pte	Singapore	3	0				3	0	3	
	Asia-Pacific	**Govt of Singapore Investment Corporation**	**Singapore**	26	0				26		26	10
	Asia-Pacific	Reco Pearl Pte Ltd	Singapore	1	1		1		0			
		All GIC and subsidiaries		36	3	0	3	1	33	0	33	12
Investment Corporation of Dubai	MENA	Borse Dubai	Dubai	1	1	0	1	1	0			
Istithmar	**MENA**	**Istithmar**	**Dubai**	8	3		3	1	5		5	3
	MENA	Leisurecorp LLC	Dubai	1	1		1	1	0			
		All Istithmar and subsidiaries		9	4	0	4	2	5	0	5	3
Korea Investment Corporation (KIC)	**Asia-Pacific**	**Korea Investment Corporation (KIC)**	**Korea**	1	0				1		1	1
Kuwait Investment Authority (KIA)	**MENA**	**Kuwait Investment Authority (KIA)**	**Kuwait**	10	1		1	1	9	1	8	6
Libyan Investment Authority	MENA	Libya Oil Holding	Libya	1	1		1	1	0			
	MENA	Libyan Arab African Investment Company	Libya	6	0				6		6	4
	MENA	**Libyan Investment Authority (LIA)**	**Libya**	3	1		1	1	2		2	2
		All Libyan Investment Authority and subsidiaries		10	2	0	2	2	8	0	8	6
Mubadala Development Company	**MENA**	**Mubadala Development Company**	**Abu Dhabi**	9	5	2	3	3	4	0	4	4
Mumtalakat Holding Company	**MENA**	**Mumtalakat Holding Company**	**Bahrain**	1	0	0	0	0	1	1	0	0
Oman Investment Fund	**MENA**	**Oman Investment Fund**	**Oman**	1	0				1		1	1
Qatar Investment Authority (QIA)	MENA	Qatar Holdings	Qatar	4	0				4		4	3
	MENA	**Qatar Investment Authority (QIA)**	**Qatar**	9	1		1		8	1	7	5
	MENA	Qatari Diar	Qatar	1	1		1	1	0			
		All Qatar Investment Authority and subsidiaries		14	2	0	2	1	12	1	11	8
Government Pension Fund-Global	**Europe**	**Government Pension Fund-Global**	**Norway**	157	0				157		157	157
		Total, All observations		355	53	22	31	15	302	17	285	229
		Total, All observations excluding Norway		198	53	22	31	15	145	17	128	72