Sovereign Wealth Funds: Investment Choices and Implications around the World*

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Abstract: This study focuses on a major global phenomenon: the rise of sovereign wealth funds (SWFs). Using data from 2002 through 2007 that includes SWF holdings in 8,000 firms in 58 countries, we find that firms with higher ownership by SWFs have higher firm valuations and better operating performance. The results are not driven by any particular SWF. Evidence of SWF impact on firms is also obtained from tests of changes in operating performance and value, before and after large purchases by SWFs. Additionally, we find evidence that after a large investment by SWFs, firms have better monitoring, expand their international operations, and are able to raise more capital as a consequence of the SWF investment.

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In this paper, we study the changing pattern of world capital markets and analyze the role sovereign wealth funds (SWFs) play in it. We examine what impact SWFs have on a firm's value and performance. We also analyze potential channels through which they may affect firms.

To achieve this, we construct the most extensive set of observations of SWF investments that has been compiled to date, which extends from the beginning of 2002 through the end of 2007. Across this time frame, the data set contains investments of SWFs in more than 8,000 firms in 58 countries.

SWFs are unique institutions. Besides being large investors with an increasing amount of assets under management, SWFs are very different from traditional large investors, which justifies studying them separately.[1] Furthermore, it is not clear *a priori* what their impact on companies is, as there are arguments for both positive and negative impacts.

In principle, SWFs invest in equities with the purpose of maximizing the return on their origin country's reserves. By taking sizeable (and long-term) stakes in corporations, they can play a positive role that other shareholders should welcome. On the other hand, it is possible for SWFs to expropriate minority shareholders and pursue interests other than maximizing portfolio performance.

SWFs are state owned or controlled by the state. As they are politically connected, they may have objectives other than obtaining optimum financial returns.[2]

[1] Motivated by the different features of SWFs, several asset managers have set up dedicated SWF teams and departments, in order to specifically address SWF managers' interests.

[2] Following this possibility, legislators and policy makers around the world have often pushed for regulatory action in response to SWFs. In October 2008, the Santiago Principles were voluntarily adopted by SWFs. These principles include a number of agreed procedures to be followed by SWFs in

A large literature has shown how public enterprises are relatively inefficient, as they cater not only to their shareholders and customers, but also to the interests of politicians. Thus, a possible outcome is that firms with SWF ownership become less efficient, and thus are valued less in the market.

The fact that SWFs may be interested in political objectives may also lead them to behave differently from other institutional investors. For instance, SWFs may use overseas investments to contribute to economic development in their home country (*Financial Times*, September 14th, 2010). In order to achieve these political objectives, SWFs may influence firm strategy in a way that is not consistent with shareholder value. Thus, besides aiming for a direct financial return on their investment, they may influence the company's investment and product decisions. They may, for instance, invite invested companies to build off-shore production facilities, trying to develop a new domestic industry in their home country. One fund from Abu Dhabi holds a significant stake in computer chip maker AMD. In its annual report, the fund states: "As well as having a solid (financial) return, the AMD partnership also demonstrates Mubadala's mandate of delivering social value to Abu Dhabi."[3] This means that companies may potentially be forced to choose locations and technologies that favor the SWF region of origin, but not directly the company. This raises the possibility that SWFs use their portfolios to achieve social and political objectives, at the expense of the value and performance of the firm they invest in.

terms of governance, transparency on investments and strategies, risk management and leverage utilization, and have the objective of alleviating concerns about dangers of their politically motivated investments.

[3] Source: Mubadala Annual Report.

On the other hand, SWFs may have advantages over other type of investors. Indeed, SWFs may be able to increase the firms' value by influencing government decisions in favor of their invested companies. These decisions may be related to government-related contracts, or may open doors for their invested firms to enter new markets, and help them market their products in their home markets.

Another important difference from other institutional investors is that SWFs do not have liabilities (as opposed to pension funds or insurance companies). In addition to their sheer size, this means that they can make long-term investments without having to worry about short-term demands for liquidity. Indeed, many SWFs are clearly set up with an inter-generational time horizon, which in turn means they have a longer time horizon than traditional investors. This, in turn, may bring significant advantages for their invested firms.

Recent papers by Chhaochharia and Laeven (2009), Dewenter, Han, and Malatesta (2010), Bortolotti, Fotak, Megginson, and Miracky (2010), and Kotter and Lel (2010) analyze the impact of SWF investments in firms, based on the abnormal returns upon announcement of the intervention.[4] Although they use different samples, each of the papers finds positive abnormal returns upon announcement of SWF investments. The evidence using long-run stock returns is more mixed. It is well known that horizon length has a big impact on statistical properties of stock returns (particularly in a multifactor world), and therefore, on event studies based on long-run performance. Indeed, Kotter and Lel (2010) find for a sample of 172 deals, positive and significant

[4] In a different setting, Bernstein, Lerner, and Schoar (2009) examine the direct private equity investment strategies of SWFs and how these are related to their organizational structures. Karolyi and Liao (2009) analyze motives and consequences of cross-border acquisitions of government-controlled acquirers.

buy-and-hold abnormal returns over the 2- and 3-year holding period following an SWF investment. Dewenter el al. (2010) also find positive cumulative abnormal returns over the 3- and 5-year periods following the acquisition announcement dates. On the other hand, Bortolotti et al. (2010) claim to document strong evidence of negative post-announcement returns. Their strongest evidence is based on a market model risk adjustment of abnormal returns. However, when using only market-adjusted returns, they report a positive mean (and median) long-run cumulative abnormal return. In multi-year long-horizon tests, small differences in risk adjustment, price-run ups before events, and different control groups can yield widely different results. This can explain some of the differences between the papers using stock returns. As Lyon et al. (1999) put it, "the analysis of long-run abnormal returns is treacherous." In the particular case of studies analyzing stock returns of firms following SWF investments, it is even more difficult, due to differences in samples, confounding events such as earnings releases on the same date of the SWF announcement, pre-event run-up,[5] and selection effects (SWFs do not select random stocks from the population). Thus, moving the discussion beyond stock returns may help to resolve this debate. That is one of the objectives of this paper.

We first document a positive relationship between SWF ownership and firm value. Controlling for a variety of firm and country characteristics, across different samples and specifications, we find a significant premium associated with SWF investments in a firm. This evidence is not consistent with the idea that SWFs extract

[5] Dewenter el al. (2010) report that 14% of the target firms have abnormal returns above 50% in the year prior to the SWF investment. They show that by using market model parameters estimated using returns realized during the year before purchases, the large pre-event returns result in positively biased estimates of the alphas. As a result, there is a negative bias in market model abnormal return estimates for post-event periods.

private benefits of control or that they may be investing with hidden political agendas or to expropriate minority shareholders.

The results are not driven by any specific SWF from our sample. We exclude the largest funds (in terms of number of observations) from our sample – Norway and New Zealand – and continue to observe a positive relationship between SWF ownership and firm value. The results are also robust to an event study analysis that focuses on the period before and after SWFs acquire large stakes in the company, relative to a propensity-score matched control group.

We also assess whether SWF ownership has an impact on operational measures of performance. We find a positive association of SWF investments with ROA (return on assets), ROE (return on equity), and operating returns. The positive impact documented on a firm's value is fully consistent with the evidence of improved performance of firms in which SWFs invest.

Finally, we analyze potential channels through which SWFs affect firms. We find evidence consistent with monitoring by SWFs and an expanded international product market for the firms they invest in. Given their availability of funds, and the possible long-term view, one additional possibility is that firms SWFs invest in have an easier time accessing capital and financing their growth than other firms. Indeed, our analysis of the channels of influence shows how firms with SWF ownership are able to issue more capital after their investment.

The rest of the paper is structured as follows. Section I provides an introduction to SWFs and the controversies that surround them. Section II describes the sample. Section III analyzes firm valuation implications of SWF investments. Section IV

presents additional evidence, and also investigates the impact of SWFs on firm performance, including a before-after analysis of their impact on firms. Section V documents some channels of SWF impact. Section VI concludes the paper and discusses some implications of our work.

I. The Sovereign Wealth Fund Controversy

Lack of confidence in financial markets following the 2008 crash has driven investors and funds away from corporations. In this setting, SWFs have emerged as one of the key funding sources of the future. According to the Sovereign Wealth Fund Institute, SWFs manage more than USD 3 trillion, a number that can be put into perspective by considering that the hedge fund and private equity markets combined account for less than USD 2 trillion. Some estimates suggest that SWFs will manage more than USD 10 trillion by 2015 (Financial Times Special Report (2008); Lyons (2007)).

Table I describes the main SWFs around the world and their size (in absolute terms and relative to the country population). The biggest SWF is the Abu Dhabi Investment Authority (ADIA), with assets under management of more than USD 870 billion at the end of 2007, making it a comparable player to Vanguard. This fund is also the largest in the world in terms of wealth per capita. The assets under management are close to USD 200,000 per capita.

Given their increasing size, SWFs have recently been widely discussed. However, much of the commentary on them is based on anecdotal evidence. Large-

sample, hard evidence on SWFs is lacking. As a result, even the most basic questions about SWF investments remain unanswered.

SWFs have existed since at least the 1950s—the Kuwait Investment Office was set up in 1953—but their total size worldwide has increased substantially over the past 10–15 years. Oil-producing nations set up the first wave of SWFs after the price increases in the 1970s and 1980s. Oil being a nonrenewable resource, governments were motivated by the desire to spread the benefits of this endowment across generations by investing a part of today's income in financial assets. The crisis in East Asia in the late 1990s resulted in a second wave of SWFs being set up. After the crisis, most emerging markets in the region shifted from being debtors to being creditors. Many of these countries now prudently hold more reserves than needed. As in many other markets, China's strong manufacturing growth has not been matched by higher domestic spending and investment. Savings thus began to accumulate in an SWF. This led to the recent creation (in September 2007) of the China Investment Corporation, the large Chinese SWF with more than USD 200 billion in assets under management.

Most of the savings in SWFs have accumulated in the form of foreign currency reserves, the traditional investment vehicles being debt instruments such as government bonds from industrialized nations. The low returns on these investments, however, have prompted nations with surplus foreign reserves to invest in equities to achieve higher returns. These expanded activities over the past several years have led to concerns that SWFs can destabilize financial markets and the global economy if their investments are motivated by political rather than economic considerations.

The first SWF, the Kuwait Investment Office, ran into trouble in the U.K. in 1987 when it acquired a stake of more than 20% in British Petroleum (recently privatized). The U.K. government, headed by Margaret Thatcher at the time, did not like the idea of an important national asset being owned by a foreign government. In the end, the Kuwaitis had to sell more than half their stake.

The recent emergence and size of SWFs such as the China Investment Corporation (CIC) has provoked intense political debate in Western countries (Summers (2007)). The main concern centers on CIC's objectives and how far its investments will be driven by purely financial considerations. Other concerns include low transparency, obscure motives underlying the purchase of strategic assets, possible breach of national security as a result of this "pseudo-government" ownership, and the influence SWFs may obtain in the management of the firms in which they hold shares. In 2005, a Chinese oil company, CNOOC, tried to acquire Unacol, a U.S. oil company. The deal was blocked in Washington on grounds of "national security and strategic interests." In 2006, DP World, a port operator owned by the government of Dubai, sought to take over P&O's business in America, which included terminals in New York and New Jersey. This provoked intense debate in the U.S. on the need to review foreign investments in strategically important sectors and sensitive infrastructure, such as the oil industry and marine cargo facilities. Several other Western countries have expressed concerns about SWFs. The German government, for example, has announced that it would introduce controls on investments by SWFs, especially if they seek stakes in strategic sectors. French President Nicolas Sarkozy has announced that he would use his country's state-owned bank (Caisse des Depots

et Consignations) to help protect French companies against potential takeover threats posed by SWFs (The Economist (2008)).

Although most SWFs have so far declined a seat on the management boards of the companies they have invested in, there is suspicion that they may wield influence behind the scenes. Critics argue that SWFs do not need to appoint directors to a board in order to have influence when they own 10% of a company. Particularly relevant is the case of Saudi Arabia's Prince Al-Walid bin Talal, who does not have a seat on Citigroup's board. He is, however, thought to influence the decision-making process, an example being the ouster of chief executive Charles O. Prince III (Dash, 2007).

II. Data Description

The initial sample includes all firms in the Datastream/Worldscope (DS/WS) database for the years 2002 through 2007. The valuation measure we use is Tobin's Q, which we compute as follows. For the numerator, we start with the book value of total assets, subtract the book value of equity, and add the market value of equity.

As control variables, we use a number of variables that have been shown to be related to international investment choices.[6] Using Worldscope and Datastream, we construct measures of firm size (logarithm of firm total assets), financial leverage (total debt divided by total assets), return on equity (ROE), return on assets (ROA), dividend yield, the ratio of cash to total assets, the ratio of capital expenditures to total assets, and firm growth opportunities (sales growth). We use the percentage of foreign sales

[6] Other studies have analyzed the preferences of institutional investors in the U.S. (Gompers and Metrick (2001)) and internationally (Ferreira and Matos (2008)); foreign holdings by investors from a single country (U.S. investors, as in Aggarwal et al. (2005); Ammer et al. (2005)); country-level institutional holdings or block holdings (Chan et al. (2005)); and holdings from mutual funds (Covrig et al. (2006)).

(FX sales) as a proxy for the product market's recognition abroad. We also include information on cross-listings. ADR (American Depository Receipt) is a dummy that equals one if a company is cross-listed in a U.S. exchange in that year.[7] In addition, we construct a global industry Q, which equals, for each year, the median Q in the industry to which the firm belongs (based on 2-digit SIC codes). We winsorize financial ratios such as Tobin's Q, return on equity, and leverage at the bottom and top 1% levels. Table II provides details of the control variables used.

A. A New Database on SWFs

We construct a novel data set of SWF international holdings since 2002. Our data collection follows a three-step procedure. As a first step, we use the Sovereign Wealth Fund Institute (Table I) list of SWFs and concentrate on the top 20 funds. These funds represent 97% of the SWF universe.

In our second step, we gather all ownership information for these funds from many different sources. We start with the SWF Institute Web site, which contains information for some funds. We then use each individual fund's Web pages. Although the average fund transparency is low, some funds provide detailed information on their holdings in their annual reports.[8] We then obtain stock holdings data from the FactSet/LionShares database, together with Thomson Financial. These are the two leading information sources for global institutional ownership. They gather holdings

[7] We used several data sources to determine which non-U.S. firms are cross-listed in the U.S. and when they entered and exited the listing. Data on non-U.S. firms listing in the U.S. market are obtained from the major depository institutions: Citibank, Bank of New York, JP Morgan, stock exchanges, SEC, and news searches.

[8] We discuss the different transparency levels of SWFs in Section III.

information from mandatory filings with national regulatory agencies (e.g., Form 13F filings with the Securities and Exchange Commission or Share Register in the U.K.) as well as stock exchange announcements, company proxies, and annual reports. We also merge additional holdings using purchase transactions from the Security Data Corporation (SDC) database.

In the final step, we conduct extensive news searches in Factiva using different combinations of the funds' names as key words. We thus clean duplicate observations, incorrect dates, and other misleading observations that can be found in SDC.[9]

The data set offers unique worldwide panel data for each year over the 2002–2007 period. Over this time period, our data set covers close to 42,000 individual SWF holdings, in more than 8,000 distinct firms in 58 countries.

Table III describes our database, and reports the number of individual holdings for each fund (during the whole sample period, and at the end of 2007), as well as the total market value of the positions. Table III also reports the number of the ownership stakes above 1% held by each SWF in our sample. Over the full sample period 2002–2007, we use a total of 42,110 individual fund holdings, out of which 4,104 are domestic investments. At the end of 2007, our database includes a total of 14,087 individual SWF holdings, which represent a total of USD 640 billion of SWF holdings in publicly traded firms.

Following Gompers and Metrick (2001) and Ferreira and Matos (2008), in our empirical analysis, we define for each firm/year total SWF Ownership as the sum of the holdings of all SWFs of a firm's stock divided by market capitalization at the end of

[9] This procedure allows us to confirm the results reported by Dewenter et al. (2010) that about 15% of announcement dates reported on SDC are wrongly dated.

each calendar year. We sum SWF positions in local and ADR shares (if the firm held is cross-listed in the U.S.).[10] In many of our tests, we concentrate on SWF large ownership positions on invested firms. In order to do this, we define a dummy variable for large equity investments by SWFs (SWF Dummy) that equals one if the ownership stake held by SWFs in the company is greater than 1%, and zero otherwise.

Table IV presents summary statistics on the variables that capture SWF ownership in firms: SWF Ownership (continuous variable without any threshold), and SWF Dummy (for large investments). In summary, during the whole sample period, we have a total of 27,431 yearly observations of firms where SWFs have invested.[11] At the end of 2007, a total of 7,683 firms had investments from SWFs.

The average ownership by SWFs in firms in our sample is 0.80%. When we consider large investments (SWF Dummy equals one), we are focusing on a smaller set of observations (2,749 in all years, and 871 in 2007), but with a significantly higher stake in companies. Indeed, most of our tests focus only on this subset of large holdings, where the average stake is close to 6%.

Table V reports the number of firms in different countries in which SWFs invest during the whole sample period. SWFs invest in virtually all countries in the developed world as well as in several emerging market economies. Overall, SWFs invest in close to 23% of firms around the world.

[10] Our results are unchanged if we redefine SWF Ownership as the single largest position any SWF has in the company.
[11] Since many times more than one SWF invests in the same firm, we have more individual holdings than unique firms where SWFs invest.

III. The Impact of Sovereign Wealth Fund Ownership on Firm Value

To investigate the relationship between SWF ownership and firm value, we use Tobin's Q as a measure of firm value. We will subsequently also test whether SWF ownership has an influence on firms' operating performance.

We estimate regressions of a firm's Tobin's Q on variables associated with firm value such as size (SIZE), growth opportunities (INVOP), leverage (LEVERAGE), cash holdings (CASH), cross-listing dummy (ADR), and median Tobin's Q for the firm's global industry (Q_INDUSTRY) following Doidge et al. (2004). We then add to these variables each of our proxies for SWF investments in the firm: the continuous variable SWF Ownership and the SWF Dummy for large investments. Our unit of observation is the firm/year.

Table VI presents the estimates of the annual time-series cross-sectional regressions for Tobin's Q for our worldwide sample of firms over the 2002–2007 sample period. We restrict the sample to firms with a market capitalization above USD 10 million.[12] Cross-sectional dependence across firms in a given year is a concern associated with Tobin's Q regressions. Another concern is that errors are correlated across time for a given firm (time-series dependence). We address these issues by using standard errors adjusted for clustering at the firm level and year dummies in our panel regressions (Petersen (2008)). Panel A of Table VI presents the results using a dummy variable for large equity investment by SWFs (SWF Dummy) that equals one if the ownership stake held by SWFs in the company is greater than 1%, and zero

[12] In a robustness test, we confirm that the results are not affected by this procedure.

otherwise. As described in the previous section, in this subset of large SWF positions, the average ownership stake is close to 6%. In Panel B, we present results using the percentage of ownership by SWFs for all firms in the database, without any threshold restriction.

In column (1) of Panel A, we only control for firm size and global industry Q. We find a positive and significant relationship between SWF holdings and firm value. The coefficient on SWF Dummy is +0.3336. In column (2), we include additional firm-level control variables, namely, the cash holdings, ADR dummy, investment opportunities, and leverage. In this estimation, the coefficient on the SWF variable is +0.2863. Other control variable coefficients are, in general, consistent with previous findings: smaller firms, firms with investment opportunities, cash-rich firms, and firms with a U.S. cross-listing have higher valuations. The magnitude of the coefficients is also comparable to previous results on international determinants of Q (e.g., Doidge et al. (2008b); Ferreira and Matos (2008)). Institutional ownership, in general, is associated with higher firm valuations (McConnell and Servaes (1990), Gompers and Metrick (2001), Ferreira and Matos (2008)). In column (3), we control for institutional ownership. Consistent with previous results, we find that there is still a significant premium associated with SWF ownership.

Columns (4)–(6) present estimates for the specifications in columns (1)–(3), but including country fixed effects in addition to year fixed effects, to account for all potential unobserved heterogeneity across countries. Our estimates are qualitatively invariant. The economic and statistical significance of the SWF valuation effect is

barely affected. In column (6), the coefficient on SWF Dummy is +0.3308 with a statistically significant *t*-statistic.

In Panel B of Table VI, we use the continuous variable of percentage of SWF ownership (and not SWF Dummy). We use the same control variables as in Panel A. Columns (1) to (3) include year fixed effects and firm-level clustered standard errors. Columns (4) to (6) include year and country fixed effects together with firm-level clustered standard errors; there is no significant difference here from the primary findings. As found in Panel A, the results using the continuous variable SWF Ownership suggest that firms with a larger percentage of ownership by SWFs have higher Tobin's Q.

We perform a number of robustness checks (unreported) of the relationship between firm value and SWF ownership. In all cases, we use the most complete specification from Table VI, which includes country and year fixed effects, and standard errors clustered at the firm level. First, we use as dependent variable the log of Tobin's Q. Overall, the results using log(Q) corroborate the findings of a positive impact on firm value of SWF holdings. We also include all firms in our sample, without any restriction on firm size. As before, there is a positive and significant SWF premium. A possible additional concern with our results is within-country correlation. To account for possible country-level correlation of the residuals, we estimate the model with country-clustered standard errors, in addition to country and year fixed effects. The results remain unchanged. To obtain a more homogenous sample of firms across countries, we restrict the sample to firms with assets or market capitalization above the threshold of USD 10 million or USD 100 million. Finally, we redefine our ownership

variables such that they only include the single largest holding any SWF has in the company (as opposed to aggregating all the holdings from different SWFs into the continuous variable SWF holdings). Across all the different models and variable definitions we find similar results, which confirms the positive and significant relationship between Tobin's Q and SWF ownership.

B. Does Any Fund Dominate the Results?

We investigate whether the positive valuation effect of SWFs is dependent on any particular fund's holdings. In particular, one of the largest SWFs in our sample, the Norwegian SWF, represents close to 50% of the individual funds' holdings data (Table III), although most of its investments are small and diversified. Also very dominant in terms of number of observations is the New Zealand SWF. The fund has a total of 2967 individual holdings at the end of 2007, but most of them very small — mean size = 0.07%.

Table VII presents a robustness check of the relationship between firm value and SWF ownership, where we exclude all holdings of the Norwegian and New Zealand SWFs from the sample. The variable Ownership SWF now equals the sum of ownership positions of all SWFs after excluding these two funds. Similarly, the variable SWF Dummy is equal to one if other SWFs (other than the New Zealand and Norway funds) have more than 1% of ownership in a firm. We report in Table VII the results of estimations that include country and year fixed effects, and all the control variables used in the more complete specification of Table VI, together with standard errors clustered at the firm level. Columns (1) and (2) report the results obtained by excluding

the Norwegian SWF holdings. Even after excluding this large fund from our sample, the positive relationship between SWF holdings and firm value remains robust. We note, however, that the estimated coefficients are smaller than the ones reported in Table VI. Columns 3 and 4 report results that exclude the New Zealand SWF holdings when computing the ownership variables. The results are unchanged. Finally, in columns 5 and 6, we exclude simultaneously the Norwegian and New Zealand SWFs. We continue to document a positive and significant relationship between SWF ownership and firm value, even after excluding the holdings of the SWFs that dominate our sample.

Some SWFs are reluctant to disclose much information about their investment policies and objectives. The lack of transparency has prompted a political discussion on whether and how to regulate SWFs' degrees of transparency. Several countries have called for greater openness on the part of the "opaque" or nontransparent funds. Recently, an agreement was reached on general practices that should govern SWF investments, called the Santiago Principles.[13] In the previous sections, we have also discussed the potential concerns many have voiced with regard to the governance and transparency of SWF strategies.

In Table VIII, we estimate the impact of SWFs on valuations, for different levels of funds' transparency. We use the Linaburg–Maduell Transparency index (from the SWF Institute), as well as the Truman (2009) indexes of SWF governance and transparency. The Linaburg–Maduell index rates SWFs on different disclosure policies, including providing up-to-date, independently audited annual reports, and providing

[13] IWG (International Working Group of Sovereign Wealth Funds) October 2008.

ownership data and geographic locations of holdings. The Truman (2009) indices are based on individual fund scores on some characteristics: transparency and accountability, structure, governance, and behavior. Truman also reports an overall score based on these four categories. Table III reports the Linaburg–Maduell and the overall Truman scores for the different SWFs.

We divide SWFs into two groups, based on the median transparency score. Then we compute the percentages of holdings by high-transparency funds and by low-transparency funds. Using these ownership percentages, we compute new dummy variables for large holdings for each transparency group. We repeat the procedure for each index. Table VIII presents the results. Column (1) shows the results for the high-transparency funds according to the overall Truman index (HIGH), and column (2) for the lowest levels of this transparency index (LOW). In both cases, there is a positive effect of SWF ownership on company values. Column (3) combines both high- and low-transparency funds ownership. The results are unchanged.

We repeat the procedure for the different metrics of SWF transparency and governance described earlier (including the different subscores of the Truman Index — unreported). Across all the specifications, we find a positive relationship between SWF Dummy and firm value. We note however, that the effect appears to be stronger for the holdings of SWFs classified as “high” on the different categories. These results are consistent with evidence in Kotter and Lel (2010) and Dewenter et al. (2010), who report that announcement returns are higher for more transparent funds. The results are also consistent with the previously documented evidence excluding Norway (one of the most transparent funds in our sample). Importantly, these results also confirm that

the positive impact of SWFs on firm's value is not dependent on any specific type of funds.

Purchases of large stakes in foreign equities have generated a lot of political controversy (see discussion in Section I). We now analyze a potential different role of SWF domestic holdings and SWF foreign holdings. We use the individual SWF holdings in each firm to compute two separate variables: SWF domestic holdings and SWF foreign holdings. Once again, we use these continuous variables to compute two separate dummy variables for large investments. SWF Dummy Domestic (SWF Dummy Foreign) equals one if domestic (foreign) SWFs hold more than 1% of the firm's shares.

In Table IX, we estimate the impact of SWFs on valuations, separating local holdings and foreign holdings. Whether using the continuous variable or the dummy for large holdings, the results suggest that it is mostly the foreign holdings that affect firm value, and there is very limited evidence of a domestic impact. We will analyze possible explanations for this result in Section V, when we look at the impact of SWFs on firms' international profile.

In summary, this section documents a positive relationship between SWF ownership and firm value that is robust to (a) exclusion of Norway and New Zealand from the sample, (b) controlling for a firm's growth opportunities, cross-listing, and institutional ownership, and (c) different SWF transparency indicators. Also, the relationship is stronger for foreign holdings. These results hint at the value-enhancing role of SWFs for corporations worldwide.

IV. Additional Evidence on the Impact of Sovereign Wealth Funds

The results so far suggest that SWFs have a positive impact on firms. The evidence points to a positive premium for firms in which SWFs have a substantial stake. In this section, we address potential concerns associated with omitted variables and endogeneity.

First, we use firm fixed effects to address the omitted-variables problem, as SWF ownership might be related to some unobserved firm characteristics that explain value as well. Including firm fixed effects is equivalent to looking at within-firm changes in value and SWF ownership. Second, we use self-selection models to address the possibility that SWFs could be attracted to firms with higher Tobin's Q, which could introduce a selection bias in our estimate of the relationship between SWF investment and firm value. Finally, we focus on changes around large acquisitions. To do this, we match SWF-invested firms with a relevant control group. Then we analyze changes in value as well as in operational performance around these events.

Table X addresses the potential endogeneity of SWF ownership and firm valuation. Columns (1) to (4) present the estimates of the Tobin's Q regression by two-stage least squares (2SLS) using an estimated probability of having an SWF investment as an instrument for SWF Dummy. Following Doidge et al. (2004), we specify a probit model of the choice of SWF investments as a function of all the independent variables included in the most complete estimate of Table VI, as well as additional instruments to be described below. The fitted values from this probit are then used as an instrument for the variable SWF Dummy in the second-stage regression.

We use different sets of instruments for the decision to invest. First, we focus on firm characteristics typically found relevant in the literature of large investors' choices. Then we add as additional instruments variables that are directly related to the SWFs' availability of funds, and thus their decision to invest. The main sources of capital for SWFs are commodities (oil, gas, etc.) and trade surpluses. Higher commodity prices should lead to greater ownership by SWFs. Similarly, higher trade balance surpluses and levels of foreign reserves should also translate into more cash available to invest.

Column (1) of Table X uses many different firm characteristics as instruments (following Gompers and Metrick (2001) and Ferreira and Matos (2008)). In addition to the variables that are related to the business model and financial performance of the firm (used in Table VI), we use the firm's stock returns in the past year, as well as its stock turnover, as additional instruments. We also add to the list of instrumental variables a number of proxies for external visibility. We use the percentage of foreign sales (FX sales) as a proxy for the product market's recognition abroad and the number of analysts (Analysts) following a firm in a certain year (Institutional Brokers' Estimate System, or IBES) as a proxy for the level of information available to investors. MSCI is a dummy variable that equals one if the firm is a member of the MSCI All Country World index, and zero otherwise. After including all these in the estimation, the results of the 2SLS estimation in column (1) confirm the positive relationship between SWF investment and firm value.[14]

In column (2), we use (in addition to the previously defined firm characteristics) additional instruments related to the level of accumulated foreign reserves and trade

[14] We alternatively use the Heckman (1979) two-step estimation procedure for all the estimations in columns (1)–(4), and we find a similar relationship between SWF ownership and firm value using the Heckman self-selection method. The SWF premium is positive and significant in all specifications.

surpluses. Trade surplus is the sum of the trade surpluses of all countries with SWFs, and foreign reserves represent the aggregate level of foreign reserves held by countries with SWFs. Trade surplus data are obtained from the IMF International Financial Statistics (IFS), and foreign reserves are obtained from IFS and the Economist Intelligence Unit. Column (3) uses commodity prices as instruments. In this case, the instruments are firm characteristics, and commodity price indices for oil, gas, and gold. Data on commodity prices are from Datastream. Column (4) uses all the instruments combined, firm-level variables, trade surplus, foreign reserve holdings, and commodity prices. The results are qualitatively unchanged across the different estimations and instruments.

In columns (6) to (9) of Table X, we estimate the 2SLS regression using the percentage of SWF ownership as our main variable of interest (instead of SWF Dummy of columns (1) to (4)). We use the same set of instruments, and find no substantial change in our core results. There is evidence of a positive relationship between firm value and SWF Ownership, after taking into account the possibility that SWF ownership is endogenous.

Finally, in columns (5) and (10), we use firm fixed effects. Once again, this aims to address the fact that SWFs may be attracted to high-valuation firms, and is equivalent to looking at within-firm changes in value and SWF ownership. Column (5) presents the results using SWF Dummy for large holdings as the main variable of interest. Column (10) uses the continuous variable of SWF holdings. The firm fixed-effects regressions show that both SWF Dummy for large investments and the continuous variable SWF Ownership are positively related to firm value.

Overall, the results using different corrections for self-selection bias corroborate our core findings with respect to the positive impact on firm value of SWF investments. We now move beyond stock market valuations, and provide additional evidence on the impact of SWF ownership using other performance metrics. We also focus now on the changes around the large purchases, and how Tobin's Q,and operating performance metrics change for invested firms (relative to a control group).

Table XI presents the evidence of the impact of SWFs on Q, as well as different measures of firms' operating performance, around large purchases. We perform the analysis using a matching firm procedure. We construct a control sample of firms by matching our sample of large SWF investments with a propensity-score-matched sample of firms. In this table, we focus on what we previously defined as large investments, which are the subset of holdings that are above 1% of firms' shares. After excluding missing observations due to lack of a control firm or missing financial characteristics, we use a sample of deals where the average stake is 5.8%.

In Panel A of Table XI, we compare the different measures of firm performance between the sample and control firms over the period $t - 1$ to $t + 1$, where t is defined as the year in which SWFs obtained a significant stake in the sample firm. The first row of Table XI shows the change in Tobin's Q of firms where SWFs invested, before and after the deal occurred, relative to a control group obtained by matching by country, industry, size, and Tobin's Q in the previous year. We match each invested firm to a non-invested firm with the closest propensity score within two-digit SIC code and country. As expected, there is no significant difference in Tobin's Q between the two sets of firms in the year prior to the acquisition of a large stake by an SWF. However,

one year after the deal, the difference in Tobin's Q is significantly different, and so is the difference-in-difference reported in the last columns of this panel.

The premium documented so far is consistent with the view that SWF ownership is positively valued by the market. If SWF ownership is related to value creation at the firm level, we should also see a positive impact on non-stock-market measures of profitability. We use return on assets (ROA), return on equity (ROE), and operating returns (defined as EBITDA/assets) as measures of operating profitability.

The remaining rows of Table XI analyze the changes in operating performance: ROA, ROE, and EBITDA/Assets. In each one of these cases, the matching is done using Tobin's Q and Size, as well as the relevant performance metric (ROA, ROE, or EBITDA/Assets). Across the different metrics, the results show that the operating performance of firms where SWFs invested goes up relative to the control group. Most importantly, the results from this panel confirm the primary analysis of Tobin's Q in Sections III and IV.

Panel B performs a similar matched sample analysis, but concentrates on the differences over a longer period, 3 years before, compared to the 3 years after the deal. The results once more suggest a positive difference-in-difference across the alternative metrics. In firms where SWFs bought a significant stake, Tobin's Q goes up significantly more than in the propensity-score-matched sample of control firms (*t*-statistic of the difference-in-difference = 2.81). Also, these firms show improvements in operating performance when matched to other firms.

Across the different windows, firms in which SWFs invest achieve improved performance after the investment. All these results suggest that compared to a

matched sample of Country – Industry – Size - Tobin's Q - Performance firms, invested firms experience a statistically significant improvement in the various value and profitability measures following a large SWF investment.

Overall, the evidence from this section focuses on within-firm changes in SWF ownership. The results suggest that firm-specific omitted variables and reverse causality cannot explain the observed relationship between value and SWF ownership. Across the different estimations, including firm fixed effects, 2SLS models to account for possible endogeneity, and a propensity-score-matched event study, we confirm that ownership by SWFs is related to improvements in firm value and performance.

V. Channels of Impact of SWFs

We now analyze potential channels through which SWFs may impact firms. We first analyze the role of SWFs as monitors. Then we look at possible changes in the firms' product market as a result of SWF investment. Finally, we analyze capital-raising activities as a result of SWF ownership.

To study how SWFs can influence governance, we analyze their impact on CEO turnover of invested firms. For the sample of firms that we identify as large deals, and for a similar-sized control sample, we obtain data on the time series of the CEO turnover using Boardex and manual collection from annual reports. The CEO turnover variable takes on the value of one if during the year the firm replaces its CEO, and zero otherwise. The matched sample is obtained by matching firms within the same industry, country, size, and Tobin's Q.

The first row of Table XII presents the results. In the period before the deal, SWF-invested firms had similar levels (around 13%) of CEO turnover as matching firms. However, after a large SWF investment, the results show a significant difference in the rate of CEO turnover between the invested and control groups. Indeed, in the post-acquisition period, the turnover rate is significantly higher for the invested firms. The difference-in-difference is significant (+6.13%, *t*-statistic = 2.14). These findings are consistent with the evidence of Dewenter et al. (2010). Overall, they find that monitoring activities (CEO, COO, CFO turnover, board members replaced) occur in 27.2% of the 184 purchase announcements they analyze.

Demand for capital also can be an important factor in explaining why firms with SWF ownership are valued highly. The discussion from earlier sections suggests that SWFs have a long-term investment horizon. Indeed, using the individual holdings data for each fund, we compute a metric of SWF portfolio turnover. The data suggests that SWF average turnover is very low when compared to that of other investors (close to 7% per year). This confirms that SWFs are long-term investors, and tend to sell their positions very infrequently.

This long-term perspective raises the possibility that SWFs, unlike other types of institutional investors, may provide capital for future funding needs and therefore reduce the uncertainty regarding the company's future financing ability. Kotter and Lel (2010) indeed find that investors react more favorably to SWF investments in firms in greater need of capital. Thus, if SWF ownership allows for a relaxation of financial constraints, this may be another channel through which they affect firm value.

In order to test this hypothesis, we obtain data on firms' equity-issuing activity, and relate it to SWF ownership. In particular, we compare the amount of equity capital issued before and after the SWF entered the firm, relative to a control group. Equity Issues is the amount in million USD of equity issues in the year. The data is obtained from the SDC equity issuance database.

The second row of Panel A of Table XII shows how equity issues and SWF ownership indeed appear to be related. There is no significant difference in equity issues between the two sets of firms in the year prior to the acquisition of a large stake by an SWF. However, we note a significant increase (*t*-statistic of the difference-in-difference = 2.53) between the pre- to post-SWF period for firms owned by SWFs, and no significant change for the control group. These results suggest that firms with a large SWF ownership stake become better able to issue capital after their entry.

Another channel through which SWFs may influence firms is in their own product market, and in particular, firms' international profile. As described in previous sections, SWFs can provide valuable political connections. These connections in turn may help invested companies to boost trade and expand overseas. SWFs may also be able to influence government decisions in favor of their invested companies, and they may in general help to open doors for their invested firms to enter new markets. As an example, after Dubai invested in the Nasdaq OMX in February 2008, significant changes occurred. Some months later (July 2008), Dubai International Financial Exchange (DIFX) announced it would start working with a new software supplied by Nasdaq OMX.[15] Another example is the case of the Bank of East Asia credit card

[15] DIFC press release available at http://www.nasdaqdubai.com/press/pressDetail.html?year=2008&id=4

business documented by Dewenter et al. (2010). After the Chinese SWF (China Investment Corporation) acquired a 4.9% stake of Bank of East Asia's equity in 2007, “the bank won approval from the People's Bank of China to become the first foreign bank to issue debit cards in mainland China.”

In order to assess the impact of SWFs on firm international profile, we obtain data on the percentage of foreign sales (ratio of the foreign sales to total sales) from Worldscope. We then proceed by matching each invested firm with a control firm, using a propensity score matching that includes firm size, Tobin’s Q, and foreign sales as selection variables.

The third row of Panel A of Table XII shows that SWF-invested firms exhibit approximately the same level of foreign sales as their matched firms, before the SWF investment. However, after the investment, there is a significant increase in the percentage of foreign sales for the invested firms, while no change occurs for the control group.

In Panel B of Table XII, we report the same analysis focusing on the period $t - 3$ to $t + 3$. There is no significant change in the results. For instance, the percentage of foreign sales of SWF target firms increases significantly, by 2.37%, in comparison to the matched group from three years before the investment to the three years after the investment. The difference-in-difference is significant (t-statistic = 4.39).

Our evidence using foreign sales as a proxy for product market impact is consistent with the analysis of Dewenter et al. (2010). They find that related business transactions (for instance, setting up new JVs for new businesses between the target

company and the SWF) occur in 35.3% of the transactions. They also find that in 14% of the deals, there was a favorable government decision affecting the target firm after the transaction took place.[16]

We also perform a test based on a regression with all observations, before and after the investment occurs. In this regression, we include only firms that have received large investments by SWFs, as well as their control group matched as described above. We then regress CEO Turnover, Equity Issues, or Foreign Sales on a dummy variable that equals one for control firms (CONTROL), a dummy variable AFTER that equals one for the periods after the SWF bought the stake, and an interaction AFTER * CONTROL. This interaction tests for the differential effect of SWFs on the different variables, relative to the control group. The regression is run with firm- and year-fixed effects.

The results in the first column of Panel C of Table XII once more suggest a positive effect of SWFs on CEO Turnover, relative to a control sample. Similar evidence of positive impact on Equity Issues and Foreign Sales is obtained in the other columns of this table. We once more find significant results on an interaction of a dummy that equals one for control firms, and a time dummy that equals one after the deal, that suggest that capital raising and international expansion increased significantly for the SWF-invested firms after a large SWF investment.

Overall, the evidence from this section suggests that firms with large SWF investments have higher levels of CEO turnover, are able to raise more capital, and

[16] Ideally, we would like to use the geographic segment dispersion of a firm's international operations, but this information is not available for our large sample of firms. However, our results are supported by Sojli and Tham (2010). They use a small sample of 50 investments in the US by different SWFs, and find evidence that the foreign political connections are indeed factors, and that firms substantially increase their number of government-related contracts after the SWF investment.

can boost their international profile. Importantly, all these channels are directly related to the differences between SWFs and other investors, namely, their large amount of available capital, political connections, and long-term view.

VI. Conclusion

Although SWFs have recently been widely discussed, much of this discussion is based on anecdotal evidence. Regulators question whether SWF investments benefit shareholders, and numerous critics claim that SWF investment decisions are politically motivated.

This paper studies the impact of SWFs on firm value and performance, using a large-scale sample of public equity holdings from 2002 through 2007. Our novel data set covers SWF investments across 58 countries during this period, and involves more than 8,000 unique companies.

The controversy around SWFs is more political than financial because SWF ownership is typically positively valued by the market. We document an increase in firm value following SWF investments, as well as significant improvements in operating performance. This suggests that contrary to arguments that SWFs expropriate investors and pursue detrimental political agendas, they in fact contribute to creating long-term shareholder value.

We confirm that the results are robust to endogeneity concerns using various samples and tests. Further support for the effects of SWFs comes from tests that focus on within-firm differences in ownership and valuation. Evidence of SWF impact on firms is also obtained from tests of changes in operating performance and value

around large purchases. These additional tests that focus on large purchases confirm the positive link between SWF ownership and firm valuation. They show that firms display higher Tobin's Q, ROA, and ROE, as well as higher operating returns, after large SWF investments.

Collectively, our results suggest that firms having SWFs as investors gain from having these investors in their ownership base. They are valued higher, and experience positive changes in their operating performance after the investment by SWFs. We analyze some channels of impact of large SWF investments on firms. The results suggest that after large SWF investments, firms enjoy better access to capital, monitoring, and access to foreign product markets.

There is a real danger that some governments may play up the fear of SWFs to a level akin to protectionism. Often, this investment protectionism is disguised by claims of national security concerns. The evidence from this paper suggests that the majority of SWF investments do not involve partial or complete control of firms. Even for investments that are large, there is no evidence that SWFs harm companies. The overall evidence is that firms perform better and are valued higher when SWFs invest in them.

References

Aggarwal, Reena, Leora Klapper, and Peter Wysocki, 2005, Portfolio preferences of foreign institutional investors, *Journal of Banking and Finance* 29, 2919–2946.

Ammer, John, Sara Holland, David Smith, and Francis Warnock, 2005, Look at me now: What attracts U.S. shareholders?, working paper, Federal Reserve Board of Governors.

Bernstein, S., J. Lerner, and A. Schoar, 2009, The investment strategies of sovereign wealth funds, working paper, Harvard Business School.

Bortolotti, B., Fotak, V., Megginson, W., and Miracky, W., 2010, Quiet Leviathans: Sovereign wealth fund investment, passivity, and the value of the firm, Unpublished working paper. University of Oklahoma.

Burkart, Mike, Denis Gromb, and Fausto Panunzi, 1997, Large shareholders, monitoring, and the value of the firm, *The Quarterly Journal of Economics* 112, Issue 3, 693–728.

Butt, S., Shivdasani, A., and Stendevad, C., Wyman, A., 2008, Sovereign wealth funds: A growing global force in corporate finance. *Journal of Applied Corporate Finance* 20, 73–83.

Chan, K., V. Covrig, and L. Ng, 2005, What determines the domestic bias and foreign bias? Evidence from mutual fund equity allocations worldwide, *Journal of Finance* 60 1495–1534.

Chen, X., J. Harford, and K. Li, 2007, Monitoring: Which institutions matter?, *Journal of Financial Economics* 86, 279–305.

Chhaochharia, Vidhi and Luc Laeven, 2009, Sovereign wealth funds: Their investment strategies and performance, working paper, *International Monetary Fund.*

Covrig, Vicentiu, Sie Ting Lau, and Lilian Ng, 2006, Do domestic and foreign fund managers have similar preferences for stock characteristics? A cross-country analysis, *Journal of International Business Studies* 37, 407–429.

Dash, Eric, 2007, Waning support led to ouster of Citigroup chief, *The New York Times*, November 6, 2007.

Del Guercio, Diane, 1996, The distorting effect of the prudent man law on institutional equity investments, *Journal of Financial Economics* 40, 31–62.

Dewenter, Kathryn L., Xi Han, and Paul H. Malatesta, 2010, Firm value and sovereign wealth fund investments, *Journal of Financial Economics* 98, 256–278.

Djankov, Simeon, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer, 2008, The law and economics of self-dealing, *Journal of Financial Economics* 88, 430-465.

Doidge, Craig, G. Andrew Karolyi, and René Stulz, 2004, Why are foreign firms listed in the U.S. worth more?, *Journal of Financial Economics* 71, 205–238.

Doidge, Craig, G. Andrew Karolyi, Karl Lins, Darius Miller, and René Stulz, 2008a, Private benefits of control, ownership and the cross-listing decision, *Journal of Finance*, forthcoming.

Doidge, C., G. Andrew Karolyi, and René Stulz, 2008b, Has New York become less competitive in global markets? Evaluating foreign listing choices over time, *Journal of Financial Economics*, forthcoming.

Dyck, A., L. Zingales, 2004, Private benefits of control: An international comparison, *Journal of Finance* 59, 537-600.

Ferreira, Miguel and Pedro Matos, 2008, The colors of investors' money: The role of institutional investors around the world, *Journal of Financial Economics* 88, 499–533.

Financial Times Special Report, Sovereign wealth funds: The new kids around the block, January 24, 2008.

Franks, Julian, and Colin Mayer, 2001, Ownership and control of German corporations, *Review of Financial Studies* 14, 943–977.

Gillian, Stuart, and Laura Starks, 2007, The evolution of shareholder investment in the United States, *Journal of Applied Corporate Finance* 19, 55-73.

Gompers, Paul, and Andrew Metrick, 2001, Institutional investors and equity prices, *Quarterly Journal of Economics* 116, 229–259.

Karpoff, Jonathan M., Paul H. Malatesta, and Ralph A. Walkling, 1996, Corporate governance and shareholder initiatives: Empirical evidence, *Journal of Financial Economics* 42, 365-395.

Karolyi, A., and Liao, R., 2009. What is different about government-controlled acquirers in cross-border acquisitions? Unpublished working paper. Cornell University.

Kotter, Jason and Ugur Lel, 2010, Friends or foes? Target selection decisions of sovereign wealth funds and their consequences, *Journal of Financial Economics* (forthcoming).

Lyon, John, Brad M. Barber, and Chih-Ling Tsai, 1999, Improved methods for tests of long-run abnormal stock returns, *Journal of Finance* 54, 165–201.

Lyons, Gerard, 2007, State capitalism: The rise of sovereign wealth funds, *Journal of Management Research* 7, Number 3, 119–146.

McConnell, John, and Henri Servaes, 1990, Additional evidence on equity ownership and corporate value, *Journal of Financial Economics* 27, 595–612.

Merton, Robert, 1987, A simple model of capital market equilibrium with incomplete information, *Journal of Finance* 43, 483–510.

Petersen, Mitchell, 2008, Estimating standard errors in finance panel data sets: Comparing approaches, *Review of Financial Studies*, forthcoming.

Shleifer, A. and R. Vishny, 1986, Large shareholders and corporate control, *Journal of Political Economy* 94, 461–488.

Sojli, Elvira and Wing Wah Tham, 2010, The impact of foreign government investments on corporate performance: Evidence from the U.S., working paper Erasmus School of Economics.

Summers, Lawrence, 2007, Sovereign wealth funds shake the logic of capitalism, *Financial Times,* July 30, 2007.

The Economist, 2008, Sovereign wealth funds: Asset-backed insecurity, January 17, 2008 (print edition).

Truman, E., 2009. A blueprint for sovereign wealth fund best practices. *Revue d'Economie Financiere*, special issue, 429-451.

Table I
The World of Sovereign Wealth Funds

This table reports the main SWFs around the world and their size at the end of 2007 (in absolute terms, and relative to the country population, all in USD). The assets of each fund in billion USD are from the Sovereign Wealth Fund Institute, and GDP per capita in USD is from the World Bank and the U.S. Bureau of Labor and Statistics. The last column divides the total assets of the fund by the country (state) population. Population data are from the World Bank and the U.S. Bureau of Labor and Statistics.

Fund Name	Assets (Billions)	Inception	Origin	GDP per capita	Wealth in the Fund per capita
Abu Dhabi Investment Authority	875	1976	Oil	$42,501	$194,964
Norges Bank Investment Management	397	1990	Oil	$83,485	$84,995
Government of Singapore Investment Corporation	330	1981	Non-Commodity	$35,163	$71,911
SAFE Investment Company	312		Non-Commodity	$2,483	$236
Saudi Arabian Monetary Agency	300		Oil	$15,724	$12,351
Kuwait Investment Authority	250	1953	Oil	$33,687	$75,529
China Investment Corporation	200	2007	Non-Commodity	$2,483	$151
Hong Kong Monetary Authority	163	1998	Non-Commodity	$29,753	$23,409
National Welfare Fund	163	2008	Oil	$9,075	$1,144
Temasek Holdings	159	1974	Non-Commodity	$35,163	$34,648
Australian Future Fund	61	2004	Non-Commodity	$43,163	$2,897
Qatar Investment Authority	60	2000	Oil	$78,754	$64,516
Libyan Arab Foreign Investment Company	50	1981	Oil	$11,484	$8,212
Revenue Regulation Fund	47	2000	Oil	$3,903	$1,366
Alaska Permanent Fund	40	1976	Oil	$37,271	$59,403
National Pensions Reserve Fund	31	2001	Non-Commodity	$60,209	$7,098
Korea Investment Corporation	30	2005	Non-Commodity	$20,015	$619
Brunei Investment Agency	30	1983	Oil	$31,879	$77,922
Khazanah Nasional	26	1993	Non-Commodity	$6,956	$957
Kazakhstan National Fund	22	2000	Oil	$6,748	$1,384
Alberta's Heritage Fund	17	1976	Oil	$43,674	$505
New Mexico State Investment Office Trust	16	1958	Non-Commodity	$29,673	$8,185
Social and Economic Stabilization Fund	16	1985	Copper	$9,884	$935
National Stabilisation Fund	15	2000	Non-Commodity	$16,698	$653
New Zealand Superannuation Fund	14	2003	Non-commodity	$30,390	$3,259
Oil Stabilisation Fund	13	1999	Oil	$3,981	$180
Excess Crude Account	11	2004	Oil	$1,161	$76
Pula Fund	7	1966	Diamonds & Minerals	$7,933	$4,420
Public Investment Fund	5	2008	Oil	$15,724	$218
China-Africa Development Fund	5	2007	Non-Commodity	$2,483	$4
Permanent Wyoming Mineral Trust Fund	4	1974	Minerals	$40,676	$12
State Oil Fund	3	1999	Oil	$3,632	$384
Alabama Trust Fund	3	1986	Natural Gas	$31,295	$10
Timor-Leste Petroleum Fund	3	2005	Oil & Gas	$440	$2,882
Mumtalakat Holding Company	3	2006	Oil	$22,771	$3,403
State Capital Investment Corporation	2	2006	Non-Commodity	$829	$25
State General Reserve Fund	2	1980	Oil & Gas	$15,714	$778
RAK Investment Authority	1	2005	Oil	$42,501	$267
FIEM	1	1998	Oil	$8,282	$29
Heritage and Stabilization Fund	0.5	2000	Oil	$16,042	$354
Revenue Stabilisation Fund	0.4	1956	Phosphates	$686	$4,082
Poverty Action Fund	0.4	1998	Foreign Aid	$381	$11
National Fund for Hydrocarbon Reserves	0.3	2006	Oil, gas	$952	$101
Reserve Fund for Oil	0.2	2007	Oil	$3,756	$12

Table II
Descriptive Statistics of Control Variables

This table presents descriptive statistics of different firm-level variables. Q is Tobin's Q computed as book value of total assets plus the market value of equity minus the book value of equity divided by total assets; INDUSTRY Q is the median of the individual firm's Tobin's Q in a certain industry-year (based on 2-digit SIC); Size is the log of total assets in USD; Leverage is the ratio of total debt to total assets; INVOP is investment opportunities, computed as the 2-year geometric sales growth; ROE is the return on equity; DY is the dividend yield; R&D is the ratio of R&D spending to total assets; CAPEX is the ratio of capital expenditures to total assets; Cash is the ratio of cash holdings to total assets; ADR is a dummy equal to one if the stock is cross-listed in U.S. exchanges, and zero otherwise; FX sales is the percentage of foreign sales; Analysts is the number of financial analysts following the firm; MSCI is a dummy variable equal to one if the firm is included in the MSCI index, and zero otherwise; Return is the return in the past year; TURNOVER is the trading volume divided by shares outstanding; IO percentage is the percentage of ownership by institutional investors, IO Dummy is equal to one if institutional investors hold more than 1% of firm's shares. The sample period is from 2002 to 2007. All ratios are winsorized at the 1% and 99% levels.

	Source	Mean	Median	St. Dev	Observations
Q	Worldscope	1.70	1.25	1.15	162,147
INDUSTRY Q	Worldscope	1.35	1.25	0.35	162,147
SIZE	Worldscope	12.39	12.21	2.11	162,147
LEVERAGE	Worldscope	0.23	0.18	0.25	161,604
INVOP	Worldscope	0.15	0.08	0.44	136,647
DY	Worldscope	1.75	0.78	2.66	161,773
R&D	Worldscope	0.02	0.00	0.06	161,982
CAPEX	Worldscope	0.05	0.03	0.07	158,550
CASH	Worldscope	0.18	0.11	0.20	149,543
ADR	Hand-collected	0.03	0.00	0.45	162,147
FX Sales	Worldscope	13.94	0.00	26.69	162,147
Analysts	Worldscope	2.25	0.00	4.71	162,147
MSCI	MSCI	0.08	0.00	0.28	162,147
Return	Datastream	0.33	0.16	0.80	151,818
TURNOVER	Datastream	1.04	0.46	1.65	160,284
IO Percentage	LionShares	0.14	0.01	0.26	162,147
IO Dummy	LionShares	0.41	0.00	0.49	162,147

Table III - Equity Holdings of Sovereign Wealth Funds in the Sample

This table reports the equity holdings database used. The database is a combination of fund-provided information, 13Fs, LionShares, Thomson, SDC, Factiva, and Web searches. The table reports the total number of individual fund holdings at the end of 2007 and during all years in the sample. Number Domestic Holdings is the number of individual fund investments in its domestic markets. Average Holding is the average percentage of ownership across all the holdings of each SWF. Number of Large Holdings is the number of fund investments that represent more than 1% of ownership in a given company. Total Value of Holdings is the sum of the market value of all the individual fund holdings in million USD at the end of 2007. Truman Index is from Truman (2009), and LM is the Linaburg–Maduell Transparency index from the SWF Institute.

Fund Name	Number Individual Fund Holdings 2007	Number Individual Fund Holdings - All Years	Number Domestic Holdings	Average Holding (%)	Number Large Holdings 2007	Number Large Holdings - All Years	Total Value of Holdings 2007	Truman Index	LM Index
Abu Dhabi Investment Authority	989	3,210	5	0.9%	64	152	$ 54,858	9	3
Alaska Permanent Fund Corporation	1,765	7,254	3,702	0.1%	16	71	$ 12,968	94	10
Australian Future Fund	2	2	2	17.5%	1	2	$ 7,262	80	9
Brunei Investment Agency	58	232	0	0.7%	3	9	$ 1,320	18	1
China Investment Corporation	20	20	10	24.4%	10	10	$ 173,038	29	2
GIC - Government of Singapore Investment	517	1,365	0	2.2%	177	579	$ 30,686	41	6
Khazanah Nasional	25	97	87	31.8%	24	96	$ 18,934	38	4
Korea Investment Corporation	Does not invest in equities in the sample period							51	
Kuwait Investment Authority	259	516	5	0.7%	17	62	$ 40,896	48	6
Libyan Arab Foreign Investment Company	7	20	0	6.2%	7	20	$ 597		2
National Welfare Fund - Russia	Does not invest in equities in the sample period							51	
New Mexico State Investment Office Trust	17	60	0	0.1%	0	0	$ 42	86	9
New Zealand Superannuation Fund	2,967	8,024	151	0.07%	31	79	$ 4,933	95	10
Norges Bank Investment Management	7,049	20,060	0	0.5%	521	1490	$ 172,540	92	10
Qatar Investment Authority	11	36	0	5.9%	7	22	$ 4,231	9	5
Revenue Regulation Fund - Algeria	Does not invest in equities in the sample period							27	
Saudi Arabian Monetary Agency	289	896	0	0.3%	16	22	$ 6,425	9	2
Temasek Holdings Pte Ltd.	112	318	142	17.8%	66	237	$ 112,558	45	8
Total	14,087	42,110	4,104	0.54%	960	2,844	$ 641,288		

Table IV
Descriptive Statistics of the SWF Ownership Variables

This table reports the descriptive statistics of the SWF ownership variables. The first two columns present statistics, for all years, and for 2007, of the SWF Ownership in the firm, without any threshold restriction. The last two columns present statistics on all the observations where SWF Dummy is equal to one. These represent the subset of observations where SWF Ownership is greater than 1% of firm's shares.

	SWF Ownership - Any Size		Large Ownership Positions	
	All years	2007	All years	2007
Observations	27,431	7,683	2,749	871
Mean ownership	0.80%	0.83%	5.91%	5.33%
St. Dev. Ownership	4.42%	4.27%	12.87%	11.73%
P5% Ownership	0.02%	0.02%	1.05%	1.05%
P95 Ownership	1.74%	1.96%	32.71%	23.85%

Table V: Sovereign Wealth Fund Holdings by Country

This table reports the total number of firms, as well as the number of firms where SWF invest (or hold large positions) in each country at the end of 2007. "% of stocks" is the percentage of firms in the country with any SWF investment. The number of firms in each market is from Datastream.

	Number of Firms in 2007			
Country	Total Number of Firms	SWF Ownership	Large positions	% of stocks
Argentina	79	7	0	8.86
Australia	1,882	235	15	12.49
Austria	97	34	2	35.05
Belgium	134	55	5	41.04
Bermuda	78	24	6	30.77
Brazil	347	88	13	25.36
Canada	1,540	247	14	16.04
Chile	192	6	0	3.13
China	1,918	167	91	8.71
Czech Republic	16	4	1	25.00
Denmark	166	45	2	27.11
Egypt, Arab Rep.	33	3	0	9.09
Finland	132	49	7	37.12
France	685	185	18	27.01
Germany	833	149	17	17.89
Greece	288	58	9	20.14
Hong Kong, China	1,013	245	32	24.19
Hungary	31	4	1	12.90
India	953	75	12	7.87
Indonesia	361	16	5	4.43
Ireland	74	26	2	35.14
Israel	175	14	1	8.00
Italy	292	134	8	45.89
Japan	4,049	1,421	142	35.10
Korea, Rep.	1,041	276	28	26.51
Luxembourg	39	8	2	20.51
Malaysia	1,026	68	42	6.63
Mexico	123	43	1	34.96
Morocco	15	1	1	6.67
Netherlands	181	74	12	40.88
New Zealand	154	52	28	33.77
Norway	196	15	1	7.65
Pakistan	117	4	4	3.42
Peru	90	1	0	1.11
Philippines	228	7	0	3.07
Poland	239	1	0	0.42
Portugal	50	21	2	42.00
Russian Federation	112	20	0	17.86
Singapore	636	110	27	17.30
South Africa	368	94	1	25.54
Spain	147	81	5	55.10
Sweden	352	96	15	27.27
Switzerland	265	123	16	46.42
Taiwan, China	1,245	372	3	29.88
Thailand	526	36	17	6.84
Turkey	233	18	4	7.73
United Arab Emirates	52	3	3	5.77
United Kingdom	2,260	421	119	18.63
United States	7,847	2,446	136	31.17
Total	33,073	7,683	871	23.23

Table VI
Sovereign Wealth Fund Ownership and Firm Value

This table reports estimates of coefficients of the annual time-series cross-sectional firm-level regression of Tobin's Q. Panel A presents the results using a dummy variable for large equity investment by SWFs (SWF Dummy) that equals one if the ownership stake held by SWFs in the company is greater than 1%, and zero otherwise. Panel B presents results using the percentage of ownership by SWFs (SWF Ownership) without any threshold restriction. The sample period is from 2002 to 2007. All variables are defined in Table II. Columns (1)–(3) include year fixed effects. Columns (4)–(6) include country and year fixed effects. We restrict the sample to firms with a market capitalization above USD 10 million. All specifications use standard errors corrected for heteroskedasticity and clustered at the firm level. Absolute values of *t*-statistics are presented below the coefficients. ** and * denote that a coefficient is significant at the 1% and 5% levels, respectively.

Panel A: SWF Dummy

	(1)	(2)	(3)	(4)	(5)	(6)
SWF DUMMY	0.3336**	0.2863**	0.2579**	0.4227**	0.3527**	0.3308**
	9.92	7.45	6.61	12.13	8.8	8.15
SIZE	−0.1704**	−0.1139**	−0.1257**	−0.1847**	−0.1288**	−0.1349**
	62.97	33.96	36.58	68.99	39.01	40.25
INDUSTRY Q	0.9314**	0.7761**	0.7392**	0.7914**	0.6007**	0.5873**
	54.28	38.35	36.5	46.74	30.97	30.27
INVOP		0.2240**	0.2276**		0.1761**	0.1781**
		21.92	22.3		17.86	18.07
LEVERAGE		0.4881**	0.5084**		0.4039**	0.4146**
		17.77	18.67		15.41	15.86
CASH		1.3647**	1.3211**		1.2548**	1.2344**
		37.39	36.62		35.43	34.94
ADR		0.1526**	0.1344**		0.2446**	0.2304**
		4.36	3.82		7	6.57
IO Dummy			0.1658**			0.1045**
			17.48			11.05
Constant	2.4884**	1.5547**	1.6780**	2.4833**	1.6103**	1.6847**
	55.88	31.14	33.19	32.48	22.28	23.1
Observations	162147	125359	125359	162147	125359	125359
Adjusted R-squared	0.2273	0.2087	0.2141	0.2925	0.2867	0.2886
Country Fixed Effects	No	No	No	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Panel B: Ownership Percentage

	(1)	(2)	(3)	(4)	(5)	(6)
SWF OWNERSHIP	0.9932**	0.6751*	0.7576**	1.5467**	1.1263**	1.1121**
	3.37	2.22	2.64	4.73	3.6	3.64
SIZE	−0.1688**	−0.1123**	−0.1381**	−0.1827**	−0.1268**	−0.1342**
	62.62	33.61	40.36	68.35	38.51	40.46
INDUSTRY Q	0.9333**	0.7771**	0.7125**	0.7949**	0.6035**	0.5959**
	54.34	38.35	35.42	46.83	31	30.65
INVOP		0.2234**	0.2293**		0.1758**	0.1792**
		21.85	22.65		17.81	18.15
LEVERAGE		0.4874**	0.4996**		0.4039**	0.4146**
		17.72	18.55		15.39	15.82
CASH		1.3684**	1.2867**		1.2607**	1.2514**
		37.47	36.11		35.56	35.43
ADR		0.1568**	0.1540**		0.2499**	0.2357**
		4.47	4.34		7.15	6.71
IO Percentage			0.5435**			0.2071**
			26.71			9.24
Constant	2.4674**	1.5328**	1.8720**	2.4510**	1.5777**	1.6783**
	55.53	30.8	36.83	32.16	21.88	23.09
Observations	162147	125359	125359	162147	125359	125359
Adjusted R-squared	0.2262	0.2076	0.2236	0.291	0.2852	0.2869
Country Fixed Effects	No	No	No	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Table VII

Sovereign Wealth Fund Ownership and Firm Value (excluding Norway and New Zealand)

This table reports estimates of coefficients of the annual time-series cross-sectional firm-level regression of Tobin's Q after excluding the Norwegian and/or New Zealand SWFs from the sample. SWF Dummy equals one if the ownership stake held by other SWFs in the company is greater than 1%, and zero otherwise. SWF Ownership is the percentage of ownership by other SWFs without any threshold restriction. The sample period is from 2002 to 2007. All the other variables are defined in Table II. All specifications use standard errors corrected for heteroskedasticity and clustered at the firm level. Absolute values of *t*-statistics are presented below the coefficients. ** and * denote that a coefficient is significant at the 1% and 5% levels, respectively.

	Exclude Norway		**Exclude New Zealand**		**Exclude Norway and New Zealand**	
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
SWF DUMMY	0.2119**		0.3625**		0.2044**	
	3.26		7.84		3.08	
SWF OWNERSHIP		0.6600**		1.2309**		0.6508**
		3.18		3.74		3.24
SIZE	−0.1591**	−0.1593**	−0.1611**	−0.1600**	−0.1591**	−0.1593**
	40.81	41.39	41.17	41.48	40.81	41.39
INDUSTRY Q	0.6208**	0.6277**	0.6183**	0.6272**	0.6209**	0.6277**
	28.52	28.85	28.48	28.83	28.52	28.85
INVOP	0.1876**	0.1887**	0.1880**	0.1889**	0.1875**	0.1887**
	16.32	16.41	16.38	16.43	16.32	16.41
LEVERAGE	0.5335**	0.5324**	0.5333**	0.5327**	0.5335**	0.5324**
	17.13	17.07	17.15	17.09	17.13	17.07
CASH	1.3921**	1.4063**	1.3869**	1.4045**	1.3922**	1.4063**
	34.44	34.82	34.35	34.78	34.44	34.82
ADR	0.2770**	0.2788**	0.2712**	0.2775**	0.2770**	0.2789**
	7.07	7.1	6.92	7.06	7.07	7.1
IO Dummy	0.1072**		0.1026**		0.1073**	
	10.25		9.79		10.26	
IO Percentage		0.1951**		0.1941**		0.1951**
		7.91		7.87		7.91
Constant	1.8754**	1.8858**	1.9082**	1.8958**	1.8750**	1.8857**
	23.87	24.1	24.22	24.19	23.87	24.09
Observations	125359	125359	125359	125359	125359	125359
Adjusted R-squared	0.2823	0.2818	0.2837	0.2821	0.2823	0.2818
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Table VIII

Sovereign Wealth Fund Ownership and Firm Value: The Role of Transparency

This table reports estimates of coefficients of the annual time-series cross-sectional firm-level regression of Tobin's Q. The estimations use the Linaburg–Maduell and Truman Transparency indexes to sort SWF holdings into two groups, based on the median transparency score: ownership by funds with high transparency scores (HIGH), and ownership by funds with low transparency scores (LOW). The sample period is from 2002 to 2007. All the other variables are defined in Table II. All specifications use standard errors corrected for heteroskedasticity and clustered at the firm level. *t*-statistics are presented below the coefficients. ** and * denote that a coefficient is significant at the 1% and 5% levels, respectively.

	Truman			**LM Index**		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
HIGH	0.346**		0.343**	0.323**		0.322**
	6.915		6.845	7.420		7.378
LOW		0.169*	0.154*		0.225**	0.206**
		2.468	2.193		2.781	3.138
SIZE	−0.134**	−0.133**	−0.134**	−0.134**	−0.132**	−0.134**
	−39.95	−39.81	−40.02	−40.11	−39.70	−40.10
INDUSTRY Q	0.588**	0.590**	0.588**	0.588**	0.590**	0.588**
	30.27	30.32	30.28	30.28	30.31	30.28
INVOP	0.178**	0.178**	0.178**	0.178**	0.178**	0.178**
	18.03	18.01	18.03	18.04	18.01	18.04
LEVERAGE	0.415**	0.415**	0.415**	0.415**	0.415**	0.415**
	15.88	15.84	15.89	15.88	15.84	15.88
CASH	1.238**	1.240**	1.237**	1.236**	1.241**	1.235**
	35.06	35.04	35.01	34.97	35.08	34.96
ADR	0.235**	0.237**	0.235**	0.235**	0.236**	0.235**
	6.687	6.749	6.686	6.684	6.742	6.677
IO Dummy	0.106**	0.109**	0.105**	0.105**	0.110**	0.105**
	11.24	11.58	11.13	11.09	11.67	11.07
Constant	1.666**	1.651**	1.672**	1.675**	1.646**	1.677**
	22.86	22.70	22.94	22.99	22.64	23.00
Observations	125359	125359	125359	125359	125359	125359
Adjusted R-squared	0.289	0.287	0.289	0.289	0.287	0.289
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Table IX

Sovereign Wealth Fund Ownership and Firm Value: Foreign and Domestic Holdings

This table reports estimates of coefficients of the annual time-series cross-sectional firm-level regression of Tobin's Q on SWF domestic and foreign holdings. SWF Dummy Domestic (Foreign) is a dummy variable for large equity investment by Domestic (Foreign) SWFs that equals one if the ownership stake held by Domestic (Foreign) SWFs in the company is greater than 1%, and zero otherwise. SWF Ownership Domestic (Foreign) is the percentage of ownership by Domestic (Foreign) SWFs without any threshold restriction. The sample period is from 2002 to 2007. All the other variables are defined in Table II. All specifications use standard errors corrected for heteroskedasticity and clustered at the firm level. Absolute values of *t*-statistics are presented below the coefficients. ** and * denote that a coefficient is significant at the 1% and 5% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
SWF DUMMY Domestic	0.2445*		0.1861			
	2.43		1.65			
SWF DUMMY Foreign		0.3036**	0.3011**			
		6.92	6.82			
SWF OWNERSHIP Domestic				0.7872*		0.7724
				2.12		1.57
SWF OWNERSHIP Foreign					1.8855**	1.8552**
					3.21	3.06
SIZE	−0.1301**	−0.1462**	−0.1463**	−0.1299**	−0.1345**	−0.1368**
	39.38	42.91	42.85	39.56	40.09	40.94
INDUSTRY Q	0.5935**	0.5770**	0.5760**	0.6008**	0.5921**	0.5904**
	30.47	29.98	29.89	30.87	30.5	30.42
INVOP	0.1779**	0.1792**	0.1796**	0.1777**	0.1767**	0.1781**
	18.02	18.28	18.31	17.99	17.96	18.09
LEVERAGE	0.4131**	0.4217**	0.4227**	0.4098**	0.4108**	0.4145**
	15.75	16.29	16.33	15.61	15.75	15.89
CASH	1.2524**	1.2134**	1.2129**	1.2594**	1.2427**	1.2406**
	35.41	34.48	34.46	35.59	35.19	35.16
ADR	0.2543**	0.2042**	0.2070**	0.2602**	0.1556**	0.1658**
	7.3	5.79	5.88	7.45	4.35	4.64
IO Dummy Domestic	0.1140**		0.022			
	10.88		1.93			
IO Dummy Foreign		0.1981**	0.1881**			
		20.21	17.77			
IO Percentage Domestic				0.1415**		0.0884**
				5.6		3.4
IO Percentage Foreign					0.7398**	0.7006**
					12.74	11.85
Constant	1.6326**	1.8250**	1.8295**	1.6170**	1.6891**	1.7192**
	22.52	24.68	24.72	22.39	23.12	23.52
Observations	125359	125359	125359	125359	125359	125359
Adjusted R-squared	0.2868	0.2925	0.2926	0.2856	0.2882	0.2886
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Table X - Sovereign Wealth Fund Ownership and Firm Value: Two-Stage Least Squares and Firm Fixed Effects

This table reports estimates of coefficients of the annual time-series cross-sectional firm-level regression of Tobin's Q. Columns (1) to (5) present the results using a dummy variable for large equity investment by SWFs (SWF Dummy). Columns (6) to (10) use the continuous variable SWF Ownership, without any threshold restriction. Columns (1)–(4) and (6)–(10) use different combinations of instrumental variables in the first stage estimation. Columns (5) and (10) include firm and year fixed effects. The sample period is from 2002 to 2007. *t*-statistics are presented below the coefficients. ** and * denote that a coefficient is significant at the 1% and 5% levels, respectively.

	Large SWF Holdings					All SWF Holdings				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
SWF DUMMY	0.655**	0.534**	0.536**	0.528**	0.111**					
	20.84	22.3	22.29	22.12	6.595					
SWF OWNERSHIP						1.043**	1.080**	1.068**	1.070**	0.544**
						30.35	31.83	31.79	31.82	2.859
SIZE	−0.131**	−0.121**	−0.121**	−0.121**	−0.322**	−0.196**	−0.200**	−0.199**	−0.199**	−0.316**
	−54.72	−57.75	−57.69	−57.77	−71.00	−37.43	−37.55	−37.54	−71.00	−69.64
INDUSTRY Q	0.548**	0.564**	0.564**	0.565**	1.016**	0.524**	0.526**	0.525**	1.016**	1.029**
	49.15	55.11	54.94	55.38	84.35	24.65	24.95	24.90	84.35	85.39
INVOP	0.225**	0.225**	0.225**	0.225**	0.0784**	0.244**	0.243**	0.243**	0.0784**	0.0769**
	28.07	30.35	30.28	30.45	15.20	15.77	15.91	15.88	15.20	14.89
LEVERAGE	-0.116**	-0.126**	-0.126**	-0.126**	0.0747**	0.00900	0.00704	0.00739	0.0747**	0.0726**
	-6.182	-7.241	-7.210	-7.291	4.542	0.245	0.194	0.203	4.542	4.408
CASH	1.025**	1.046**	1.045**	1.047**	0.580**	0.864**	0.867**	0.866**	0.580**	0.581**
	49.12	54.39	54.23	54.62	28.07	21.17	21.45	21.40	28.07	28.10
ADR	0.0694**	0.0866**	0.0861**	0.0874**	-0.0120	0.0670	0.0680	0.0678	-0.0120	-0.0168
	3.234	4.381	4.347	4.437	-0.327	1.638	1.678	1.671	-0.327	-0.459
IO Dummy	0.00478	0.0280**	0.0273**	0.0291**	0.0795**				0.0795**	
	0.606	3.942	3.837	4.106	12.19				12.19	
IO Percentage						0.135**	0.136**	0.136**		0.0949**
						4.594	4.673	4.659		5.145
Constant	2.195**	2.061**	2.065**	2.055**	4.101**	3.019**	3.002**	3.005**	4.101**	4.034**
	62.23	66.18	66.09	66.24	75.05	40.44	40.62	40.60	75.05	73.75
Observations	119779	119779	119779	119779	125359	119779	119779	119779	119779	125359
Instrumental Variables										
Firm	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	
Reserves, Trade Surplus		Yes		Yes			Yes		Yes	
Commodities			Yes	Yes				Yes	Yes	

Table XI
Value and Operating Performance Changes Around Large Purchases by SWFs

This table compares the Tobin's Q and operating performance of invested firms before versus after a large SWF investment, and the same measures for a propensity score matched control group. The operating performance metrics are ROE, ROA, and operating returns (EBITDA-to-Assets). The last columns of each panel show the *t*-statistics for the test of difference in changes in the before–after periods, between the invested companies and their control group. Panel A displays values of changes in the respective measures from year $t - 1$ to year $t + 1$. Panel B displays values of changes in the respective measures from year $t - 3$ to year t + 3. ** and * denote that a coefficient is significant at the 1% and 5% levels, respectively.

Panel A: Comparison between t = −1; +1

	Invested Companies			**Control Group**					
	Before	**After**	**Change**	**Before**	**After**	**Change**	**Difference in Difference**	***t*-Stat of the difference in difference**	**Obs.**
Tobin's Q	1.76	1.86	0.10*	1.74	1.75	0.01	0.09*	2.11	897
ROE	11.73	14.09	2.36**	11.58	12.32	0.74	1.62*	1.97	880
ROA	6.05	7.23	1.18**	6.07	5.96	-0.11	1.29**	3.85	880
EBITDA/Assets	13.47	15.83	2.36**	13.4	12.95	-0.45	2.81**	3.01	880

Panel B: Comparison between t = −3; +3

	Invested Companies			**Control Group**					
	Before	**After**	**Change**	**Before**	**After**	**Change**	**Difference in Difference**	***t*-Stat of the difference in difference**	**Obs.**
Tobin's Q	1.71	1.79	0.08*	1.70	1.68	−0.02	0.10**	2.81	410
ROE	11.33	13.59	2.26*	11.81	11.68	−0.13	2.39**	3.82	395
ROA	5.71	6.77	1.06**	5.68	5.51	−0.17	1.23**	3.52	395
EBITDA/Assets	13.27	15.28	2.01**	12.83	13.01	0.18	1.83*	2.22	395

Table XII
Channels of Sovereign Wealth Funds Impact

This table compares the CEO turnover, capital issued, and international sales of invested firms before versus after a large SWF investment, and the same measures for a propensity score matched control group. CEO turnover is equal to one if the CEO was replaced in the year, and is obtained from Boardex and also hand-collected from annual reports. Equity Issues is the amount of equity capital raised by the company in the year, in million USD, and is obtained from the SDC Database. FX Sales is the percentage of foreign sales in each year, and is from Worldscope. The last columns of each panel show the *t*-statistics for the test of difference in changes in the before–after periods, between the invested companies and their control group. Panel A displays values of changes in the respective measures from year $t - 1$ to year $t + 1$. Panel B displays values of changes in the respective measures from year $t - 3$ to year t + 3. Panel C presents a regression analysis that includes only invested firms and their propensity scored matched control group. All regressions include firm and year fixed effects. "Control" is a dummy variable that equals one if the firm belongs to the matched control group. "After" is a dummy variable that equals one if the year is after the SWF investment. Absolute values of *t*-statistics are presented below the coefficients. ** and * denote that a coefficient is significant at the 1% and 5% levels, respectively.

Panel A: Comparison between t = −1; +1

	Invested Companies			Control Group					
	Before	**After**	**Change**	**Before**	**After**	**Change**	**Difference in Difference**	***t*-Stat of the difference in difference**	**Obs.**
CEO Turnover	13.36%	17.84%	4.48%*	13.46%	11.81%	−1.65%	6.13%*	2.14	312
Equity Issues	72.8	128.6	55.8**	66.8	50.84	−15.96*	71.76**	2.53	880
FX Sales	23.55%	25.53%	1.98%**	23.90%	23.68%	−0.22%	2.2%**	4.125	880

Panel B: Comparison between t = −3; +3

	Invested Companies			Control Group					
	Before	**After**	**Change**	**Before**	**After**	**Change**	**Difference in Difference**	***t*-Stat of the difference in difference**	**Obs.**
CEO Turnover	12.48%	19.01%	6.53%*	12.84%	13.86%	1.02%	5.51%**	2.65	247
Equity Issues	69.8	161.4	91.6**	62.02	66.4	4.38	87.22**	2.73	395
FX Sales	23.05%	25.58%	2.53%**	23.18%	23.34%	0.16%	2.37%**	4.39	395

Panel C: Regression analysis

	CEO Turnover	FX Sales	SEO
Control * After	−0.063*	−1.50**	−73.51**
	2.27	3.39	2.73
Control	0.026	0.3344	42.43
	0.56	0.70	0.89
After	0.0289	−0.06	50.36
	1.09	−0.17	1.08
Observations	3383	11622	7865
Adjusted R-squared	0.0394	0.8417	0.1263
Firm Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes