Do Sovereign Wealth Funds (really) affect firm performance?

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Abstract

This paper reconciles an ongoing debate in literature on whether sovereign wealth funds(SWFs) affect operating performance of listed firms and shareholder wealth. I provide solutions to three major problems that lead to inconsistency in existing literature: (1) overlook the critical role of stake size in identifying potential impact; (2) evidences of real effect is sparse and based on incomplete metrics of firm operation;(3) reliance on ad-hoc specification of matching. Evidences of this paper suggest that previous belief that SWFs destroy or improve firm performance should be reformulated using methodology that incorporates analysis of stake size. SWFs rarely seek controlling or influential stake size in a listed firm. Partaking profit from well-established firms, not casting political influence, appears to be the main motive of SWFs in listed firms. This investment motive does not, in turn, lead to political distortion of firm operation.

JEL classification: G15,G23,G32.

Keywords: sovereign wealth fund; government ownership; real effect

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1. Introduction

The investment motive and economic impact of sovereign wealth funds(SWFs) are little understood, despite their significance on global capital market.[1] Do these government-controlled funds pursue non-financial goals and distort firm operation as conventional wisdom suggest?[2] This is a multi-trillion-dollar question, the answer to which can affect how policy makers in host countries deal with this new form of governmental investors. Yet there is no clear answer because the SWFs literature is still undergoing a heated debate.[3] Thus, to reconcile the debate not only concerns academia but also has real-world consequences. To this end, I aim to verify whether SWFs have any real effect on target firms by addressing the following three major causes that lead to inconsistent findings in SWFs literature.

First, previous studies do not seem to sufficiently treat the crucial role of stake size in indicating a shareholder's intention and power to intervene.[4] The choices of stake size signify what sources of gain an investor plans to explore.[5] For example, one investor can spread his wealth in small amount over a wide spectrum of large profitable firms to receive steady dividends, whereas another, by taking influential stake and actively monitoring, may turn around troubled firms and harvest a capital appreciation. Therefore, it is critical to thoroughly understand the distribution of stake size in order to effectively assess SWFs' political impact on firms.

Second, existing literature contain many warnings of SWFs' non-financial motive, but few evidences on realized economic distortion. Dyck and Morse (2011), Knill et al. (2012), and Calluzzo et al. (2017) infer a political objective of SWFs from how they select investment targets. Relying on event study of stock market reaction, Dewenter et al. (2010) document an investor perception that SWFs might play a politically tunnelling role in firms when they take relatively

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[1]By the end of 2014, assets managed by SWFs climbed to USD 7.1 trillion, far exceeding private equity (USD 4.1 trillions) and hedge funds (USD 2.7 trillions), according to TheCityUK Fund Management Report, September 2015. SWFs' asset size is close to one third of the total market capitalization of United States(USD 26.33 trillions at year end 2014, World Bank).

[2]A non-exhaustive list includes Shleifer and Vishny (1994), Faccio, Masulis, and McConnell (2006), and Claessens, Feijen, and Laeven (2008).

[3]From the standpoint of peer shareholders invested in the same firm as SWFs, literature see four different views on the role of SWFs: (1) passive shareholders (Kotter and Lel, 2011); (2) governmental friend (Sojli and Tham, 2011; Fernandes, 2014; Bertoni and Lugo, 2014) ; (3) governmental enemy (Dewenter, Han, and Malatesta, 2010; Bortolotti, Fotak, and Megginson, 2015) ;(4) peer shareholders with a possible political agenda, yet the damage of which is unclear (Dyck and Morse, 2011; Knill, Lee, and Mauck, 2012; Calluzzo, Dong, and Godsell, 2017)

[4]There is a large variation of average stake size documented in existing literature: 12% in Kotter and Lel (2011); 0.08% in Dyck and Morse (2011); 5.91% in Fernandes (2014); a median of 1.23% for SWFs versus 12.09% for benchmark in Bortolotti et al. (2015).

[5]Jensen and Meckling (1976), Ouimet (2013), Liao (2014), and Dhillon and Rossetto (2015) discuss drivers of choosing stake size.Bushee (2001),Cronqvist and Fahlenbrach (2009) and Edmans (2014) document the co-existence of heterogeneous blockholders and their interaction with firm management.

larger equity stake. But none of them show evidence of damage caused by SWFs. If perceived non-financial motive is truly and largely at work in target firms, we should eventually see distortion on firm operation. In this regard, Kotter and Lel (2011), Sojli and Tham (2011), and Fernandes (2014) conduct univariate analysis on firm operation and reach inconclusive results. Bortolotti et al. (2015) conduct a deeper analysis on operation efficiency. Yet inadequate attention is put on real investment, an important firm policy that is also exposed to potential political distortion. In fact, a necessary upgrade in capital expenditure decreases operation efficiency in the short run. In this scenario, to solely focus on efficiency measure might mislead us to believe SWFs cause inefficiency. Thus, to ensure a full picture on what happens to firm operation, we need to test, at the same time, the entire metric of firm operation measures that are predicted by prior studies to reflect non-financial motives. In the context of SWFs, they are sales growth, operation efficiency, and real investment.

Third, benchmarks used in SWFs literature are mostly constructed using matching techniques, which may actually introduce bias. The choice of matching metric seems adhoc because there is no consensus what truly determines the motive and heterogeneous behaviours of SWFs.[6] To assess causal effect of SWFs, we need to have an empirical design that does not compromise rigorousness but allows us to circumvent the difficulty that literature lacks agreed determinants of SWFs target selection. In this paper, I construct a sample of target firms invested by SWFs from 1989 to 2012 and run pooled OLS regressions on an event window three years before and five years after SWFs investment event. In this estimation, I use three separate variables to measure respectively: (1) average difference in operation performance between SWFs target firms and control groups before SWFs investment event, (2) post-event time trends shared by SWFs targets and control groups, and (3) post-event incremental effect of SWFs on target operation performance. By construction, self-selection bias would be captured by the first two variables and other control variables, which reduces dependence on matching techniques. In addition, this model easily accommodates various ways of forming control groups and sensitivity analysis on different thresholds of stake size.

This paper presents several important empirical findings. First, a detailed analysis on stake size distribution reveals striking difference between SWFs and private financial investors matched according to criteria in Bortolotti et al. (2015). SWFs typically buy non-influential stake(mean

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[6]For instance, Kotter and Lel (2011) use ROA, Sojli and Tham (2011) use size and book to market, Bertoni and Lugo (2014) use size, leverage and ROA, Fernandes (2014) uses Tobin's q, size and a metric of net income over total assets, net income over equity and EBITDA over total assets.

four percent; median 0.5 percent) in firms located in developed financial markets with high investor protection(63 percent of total transactions) via cross-border transactions(94 percent of total transactions), whereas private financial investors mostly seek influence(mean 16 percent; median 10 percent) in domestic firms(84 percent of total transactions). Such wide discrepancy highlights the necessity to use stake size to spot truly comparable cases. Thus I impose a minimum stake size threshold of five percent to filter comparable deals where both SWFs and private financial investors potentially have the intention and power to intervene. It turns out that target firms perform similarly after investment events, regardless if the investor is political or not. The finding is robust to higher stake size thresholds. Taken together, it seems that Bortolotti et al. (2015) suffers from "stake-motive mismatch" bias built into their benchmark formation. If SWFs have certain political motives as suggested by Dyck and Morse (2011), Knill et al. (2012), and Calluzzo et al. (2017), my findings suggest they are unlikely to directly affect operation efficiency in listed firms.

To compare my findings to Kotter and Lel (2011), I replace the benchmark of private financial investors with the universe of firms in Worldscope that have not been invested by SWFs. Consistent with Kotter and Lel (2011), I find little evidence supporting either positive or negative political effects of SWFs. This absence of incremental change is persistent to various thresholds of influential block size, matched control groups by different metrics, and alternative proxies of operating performance. I run country-to-country and year-to-year analysis to test the possibility that SWFs carry political goals before 2007, or only in countries where they have little restrain to impose political agenda.[7] No evidence is found that this absence of incremental change is a sub-period pattern or driven by any particular country. To sum, the conclusion of Kotter and Lel (2011) is robust to various tests proposed in my paper.

Furthermore, I re-examine why Fernandes (2014) and Sojli and Tham (2011) conclude that SWFs improve firm growth and profitability. Specifically, I analyse the association of Tobin's q and SWFs investment events at various stake size thresholds. I find targets of SWFs are growing faster than their peers already before SWFs investment. That indicates a self-selection into firms with high growth. Specifically, Fernandes (2014) might have applied a too low threshold and be driven by the sub-sample where SWFs buy a stake lower than 5%. This sub-sample, accounting for 80% of full sample, demonstrates a strong self-selection bias. With regard to Sojli and Tham

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[7]Search results in Nexis-Lexis show the number of news articles and politicians' public speeches on SWFs soared around February 2007. Faced with rising public attention, SWFs might give up their political goal.

(2011), their usage of SEC 13-Filings does not rule out the possibility that SWFs accumulate their holding via tiny but frequent allocation. Thus, it is challenging to distinguish between selecting into firms with good market valuation and actively improving target firm performance.

I mainly contribute to the growing literature on SWFs by proposing a simpler yet more reliable method to gauge SWFs' real effect. This paper suggests that, in face of SWFs' heterogeneous background, stake size is a primary filter to effectively detect SWFs' intention and power to intervene. Due to lack of consensus on SWFs investment motive, we must use matching techniques with great caution. Otherwise, ad hoc model specification might lead us to unstable and incomparable results. My empirical design circumvents such obstacle without compromising rigorousness in distinguishing selection and real effects.

This paper also offers new evidences in the direction to reconcile the debate on SWFs' motive and real impact. Among the studies on SWFs' real effect, only the conclusion of Kotter and Lel (2011) continues to hold throughout various tests proposed in this paper. That is, SWFs do not affect performance in listed firms. I reconcile this finding with Bortolotti et al. (2015), which show political SWFs cause firm operation inefficiency. I find their study may suffer a "stake-motive mismatch" bias built in their sample construction and in turn an over-proportionate presence of an incomparable benchmark with different incentives. I also provide explanation to opposing results in Sojli and Tham (2011) and Fernandes (2014), which show SWFs create firm value. Those two studies may be driven by a disproportionately large sub-sample where SWFs select firms with high growth prior to SWFs investment.

I also contribute to the broader literature on politician-firm connection by revealing that SWFs, as a new class of governmental investor, behave like modern financial institutional investors when they invest in listed firms. This sheds new light into the largely held belief that government intend to keep control (Bortolotti and Faccio, 2009), be actively involved with firm business either as a friend (Goldman, Rocholl, and So, 2009, 2013) or a foe (Faccio et al., 2006; Claessens et al., 2008).

In addition, I provide reference to a recent call by scholars in law (Epstein and Rose, 2012; Rose, 2014) to policy makers of host countries to realize the risk of adverse corporate governance arising from scrutiny of SWFs investment. They point out SWFs may be forced to shirk monitoring responsibility so to avoid controversy and hostility against their governmental background, which in turn might exacerbate management agency problem. However, I show that the presence of SWFs as block shareholder in listed firms does not lead to any deterioration in firm

performance. Perhaps regulatory attention and scrutiny are necessary to tame SWFs to behave like modern financial investors.

2. Data

2.1. Measure investment of SWFs and private financial investors

The event of SWFs becoming shareholders is defined as SWFs complete a purchase of existing common shares. I do not consider new shares purchase, including subscribing to seasonal equity offering, private placement,and convertibles. That is because in these transactions it is companies that motivate investors to invest in company prospect, which introduces self-selection bias into my exploration for a causal effect of SWFs on companies.[8]

I start to collect SWFs investment from SDC Merger & Acquisitions(SDC MA) database from the first record towards 2012 December 31. I keep records that satisfy the following criteria: (1) transactions that are flagged as "Y" for "Buyside: sovereign wealth funds Involvement"; (2)the deal status is marked "Completed". Next, I exclude privatization, repurchases, self-tenders, exchange offer, recapitalization, spinoffs. To ensure comparability of firm performance before and after SWFs investment, I require available accounting data prior and subsequent to SWFs investment. Hence, I drop leveraged buyout and transactions involving unlisted targets. In addition, I drop transactions in which deal terms or acquirers are not disclosed, i.e. information on SWFs' names and stake size is unavailable.[9] Two reasons motivate this filter. First, SWFs are shown to conduct heterogeneous investment strategies, which implies that an across-the-board analysis might underestimate real influence of subgroups.[10] Second, stake size is a key variable that determines SWFs' incentive and power to affect firm management. To precisely detect potential impact of SWFs, I must know their identity and stake of interest. From SDC MA, I collect 724 SWFs investment events with complete deal information.

Then I go to the transaction database provided by Sovereign Wealth Fund Institute and add to my initial sample the transactions that satisfy the following criteria: (1) the summary does not contain key words indicating purchase of new shares, such as "new shares","new ordinary shares","preferred shares","subscribe",and "subscription"; (2) deal term and acquirer name are

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[8]I double check both SDC Global New Issues database and SWF Institute transaction database. SWFs are involved in only 55 purchases of new shares.

[9]Prior to this filter, I extensively search for complementary information on SWF name and stake size in SDC synopsis and news.

[10]For example,Dyck and Morse (2011) document distinct portfolio allocation patterns among SWFs

disclosed; (3) the investment type is marked as "Listed Equity"; (4) transactions contain target name and target country different from those records in my initial sample from SDC MA. Till now, my raw deal sample contains 3578 SWFs transactions.[11]

If a single firm receives multiple SWF investments, either from the same fund or other SWFs, in the same year, I count once.[12] But if a firm receives SWF investment in different years, either from the same fund or another SWF, that firm is counted by the number of events. Key variables collected at this step include announcement date, effective date, target company name, country where target companies are primarily listed, the home country of SWF country, SWF name, transaction amount in U.S. dollars, stake purchased, and stake owned post transaction.

2.2. Measure firm operation performance

To measure operating performance, I collect firm-level accounting data from Worldscope. To identify firms that receive SWFs investment, I match firm name and country to those in my transaction sample described above. Next, I drop observations with negative book equity or missing values on total assets. Till now, 2143(5277) SWFs(private) investment events are matched to accounting data.

The metric of operating performance to which I pay closest attention are real investment level, sales growth, and operation efficiency. These three aspects are predicted by prior theories to reflect political impact.[13] As a friend to target firms, SWFs may help management to communicate more efficiently with regulators, to obtain private information, to reduce political uncertainty, and ultimately to optimize operation. As a foe, SWFs could attempt to impose political agenda by altering product mix, changing choices of technology, or thrust requirement for plant location and employment. Either role being in action would lead to changes in aforementioned three accounting measures. To investigate real investment, sales growth, and efficiency in parallel allow me to cover the following scenarios. If SWFs invest in firms that have idle production capacity prior to SWF investment, network transactions on product market, as mentioned by Dewenter et al. (2010) and Fernandes (2014), might boost the firm sales in a short run but not necessarily the capital expenditure. This scenario would be reflected in an increase in 1-year

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[11]25 transactions involve a group of several SWFs as buyer.

[12]By doing so, I do not imply homogeneous investment objectives among SWFs. Yet investing in the same firm in the same year, that firm must attract those SWFs for common reasons. By further controlling stake size, I can assume similar objectives of SWFs in that specific.

[13]See Shleifer and Vishny (1994) for subsidies and bribes deriving from a bargaining model between politicians and managers,Atkinson and Stiglitz (1980) for government's role in curing market failure, and Pfeffer (1978) for political connections as a scarce resource for business.

sales growth and operation efficiency. However, if a firm already runs at full capacity before SWF investment, a new long-term government procurement contract, as accentuated in Sojli and Tham (2011), would lead to increase in firm investment level and a decrease in operation efficiency in the short run.

I also include other key firm variables as alternative proxys for performance and control variables. They are Tobin's q for market valuation, operating cash flow to total assets for efficiency, cash to total assets and leverage for financial health, total assets and market capitalization for firm size, paid dividends to total assets for dividend polity in place.

2.3. Final sample construction

After merging transaction and firm accounting data, my sample becomes a panel that comprises firms invested by SWFs or paired private financial investors. This panel is highly unbalanced because the earliest tractable investment of SWFs takes place in 1989 and not all international data is available throughout such long period. The attrition of international data is unlikely to be random. Thus, to mitigate potential inflation in estimation errors (Cameron and Trivedi, 2010), I decide to focus on only three years prior to a SWF investment and five years after it. Economically, it is reasonable to focus on a shortened sample window because the further into a firm's historical operation performance, the less relevant to its future performance and to an investor's investment decision. As I only observe the announcement date but not the true time point at which investor reach agreement with target firm management, I extend prior-event window from one year to three years so to incorporate the possibility that investors start to affect target operation before their investment is disclosed to the public. As a final restriction, I keep deals that have non-missing accounting information at least one year before and one year after investment events.

2.4. Descriptive statistics

2.4.1. Uneven distribution of stake size

Table 1 compares the distribution of stake size taken by SWFs(*SWF*) to that of matched private financial investors(*Private*). The construction of private financial investors is the same as the benchmark formation in Bortolotti et al. (2015). Panel A reports the overall descriptive statistics for stake bought in the deal(*Stake bought*) and stake owned after the deal(*Stake owned*). The mean stake size taken by SWFs is 4.09 percent, whereas that of benchmark deals is 16.28

percent. The contrast is even more striking under the measure of median. While private financial investors seek a large stake of 10 percent, SWFs typically purchase as small as 0.5 percent. A wider gap exists for stake owned after investment. It seems that only private financial investors intend to seek for influence in target firms, not SWFs.

In face of suspicious attitude of host countries towards SWFs' government background, SWFs might keep a low profile abroad but freely impose political agenda at home. Thus, it is worth examining whether the distribution of stake size differs abroad and domestically. Panel B first decomposes sample by national border: deals where target firms locate in the same country as the investor(*Domestic*), and deals where targets firms locate in a different country from the investor(*Cross-border*). *N*(*%ofN*) stands for the number of transactions (as a percentage of total transactions). *Mean*(*Median*) is the average(median) stake size purchased. In each of the two categories, Panel B further breaks down the sample by stake bought: $< 50\%$(*Control*), $\geqslant 5\%$ and $\leqslant 50\%$ (*Large*), $\geqslant 1\%$ and $< 5\%$ (*Small*), $\geqslant 0$ and $< 1\%$ (*Tiny*). There is no one-size-fit-all threshold to indicate a shareholder's effective power in a firm. In studies focused on U.S. data, five percent is widely used. SEC considers five percent as the starting point for a sharehold to be influential and in turn requires firms to disclose the identify and intention of shareholders in SEC 13-Filings. Probably because of this, five percent is a commonly applied threshold in previous studies on blochholder and corporate governance.[14] The cut-off level outside U.S. is much less clear, probably lower than the five percent threshold. As Ferreira and Matos (2008) shows, holding a 2.7 percent is already ranked as the top one shareholder in large non-U.S. international firms. Thus by employing five percent as the minimum threshold for influential stake, I might put a stricter standard on non-U.S. target firms. And results display an obviously uneven distribution between SWFs and private financial investors: SWFs typically invest abroad in small stake (93.66 abroad, 75.56 percent in non-influential), and private financial investors mainly seek for influential stake at home(83.49 percent domestic, 92.26 percent of total transactions in influential).

Keeping domestic and cross-border deals separated, Panel C further displays a breakdown by individual host countries. 63 percent of SWFs investment are in US and UK, all in small stake, whereas private financial investors rarely invest there. It appears only SWFs seek secured and stable income from capital markets with higher investor protection. Furthermore, 670 domestic

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[14]Five percent is also found to be the effective average holding of top five institutional investors. For example, Michaely and Vincent(2012) document top five institutional investors together hold 20% of total outstanding shares.

deals(40 percent of total transactions) conducted by private financial investors take place in Australia and South Korea, mostly buying influential stake. Only one observation of their counterparts is found in the sample of SWFs. Except for Malaysia and Singapore, hardly any other country contains sufficient observations for a sensible comparison between cross-border and domestic investment.

Panel D decomposes stake bought by year of announcement. By SWFs, there is a switch of investment strategy around 2008. Before 2008, SWFs invest larger stake and less frequently. After 2008, they mainly purchase small block holding. This might reflect an adjustment of SWFs to an increasingly less friendly investment environment. Since Feb 2007, SWFs have been featured periodically in headline of major news media.[15] Around the same time, regulators in host countries start to express openly their concerns of SWFs' political background[16]. Therefore, in Section 4.4.3, I perform year-to-year analysis on their real effects. In terms of industry(Panel E), SWFs and private financial investors investment share similar frequency in each industry, but again with distinct interest in firm stake size.

[TABLE 1 HERE]

To sum up, SWFs typically buy non-influential stake in firms located in developed financial markets with high investor protection via cross-border transactions, whereas private financial investors mostly seek influence in domestic firms. The sharp contrast between SWFs and private financial investors points out the necessity to use stake size to filter truly comparable cases. Otherwise, there might be an over-proportionate presence of a differently motivated investor into the sample. As a result, SWFs' limited impact relative to benchmark might be misinterpreted as SWFs destroying firm value in absolute term.

2.4.2. Key firm characteristics

In this section, I examine difference in firm characteristics of targets selected by SWFs, private financial investors. I also introduce a raw benchmark composed by the whole universe of firms in Worldscope that have not been invested by SWFs(Universe).[17]

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[15]Search results in Nexis-Lexis show the number of news articles on SWFs soared around February 2007. Since then, "Sovereign Wealth Fund" has been headlined by at least 2700 news articles in English language.

[16]See for example, "The Role of Government in Markets", the keynote address by Christopher Cox who was then the chairman of the U.S. Securities and Exchange Commission at the John F. Kennedy School of Government on October 24 2007, Kennedy School of Government, Harvard University

[17]Kotter and Lel (2011) also use this raw benchmark as a start to examine SWFs investment behaviours.

Three firm characteristics picture a particular firm profile targeted by SWFs, regardless which benchmark is used. Target firms of SWFs are larger, efficiently generating cash flow and paying higher dividends, respectively reflected by larger total assets(TA) and market capitalization($MktCap$), higher operating cash flow to total assets($CFta$), and higher paid dividend to total assets($DvdTA$).

There are two inconsistent results. One is operation efficiency proxied by ROA. While my findings is consistent with Kotter and Lel (2011), the private financial investor benchmark shows SWFs target at more profitable firms. The other is market valuation of firm proxied by Tobin's q(Q). Different from Kotter and Lel (2011) that SWFs target past losers measured by one-year trailing stock returns, I find SWFs targets have a higher valuation proxied by Tobin's q.

[TABLE 2 HERE]

In sum, descriptive statistics suggest that SWFs targets are different from the universe average and target firms of private financial investor. Combining with results from deal analysis, there is crude evidence that SWFs typically aim to seek steady income from well-established firms in developed financial markets.

3. Methodology

My empirical analysis is proceeded in two steps. First, I conduct a univariate test on firm operating performance before and after SWF investment relative to targets of matched private financial investors. Second, I assess incremental effect of SWFs on firm operation using the following controlled regression setting.

$$y_{i,t} = \alpha + \lambda_1 SWF_i + \lambda_2 After_t + \lambda_3 SWF_i \times After_t + \lambda_4 SWF_i \times After_t \times Political_i + \boldsymbol{\beta X_{i,t-1}} + \epsilon_{i,t} \quad (1)$$

where i indexes firms and t indexes fiscal years. The dependent variable of interest, $y_{i,t}$, is one of the following three measures: capital expenditure over year-start net book value of property, plants and equipment ($CapexPPE$), one-year sales growth ($SalesGrowth$) measured by the yearly change of net revenue, and operation efficiency measured by operating income over year-start book value of total assets (ROA). SWF_i is a time-invariant dummy variable that equals one for firms that are going to be invested by SWFs at some point in my sample period and equals zero for benchmark firms. $After_t$ is a dummy that equals one for both SWF target firms and benchmark firms during the [+1Year,+5Year] event window period. $Political_i$ is a time-invariant dummy that equals one for firms whose investors are from countries with higher political

interference according to Table 2 of Bortolotti et al. (2015). λ_1 captures average difference in operation performance between SWFs target firms and control groups over the entire event window.[18] λ_2 captures post-event time trends shared by SWFs targets and control groups. The coefficients of interest, λ_3 and λ_4, capture post-event incremental effect of SWFs and political SWFs on on $y_{i,t}$. By construction, this model easily accommodate various ways of forming control groups and sensitivity analysis on different thresholds of stake size. As explained in Section 2.2, SWFs' potential roles as friends versus foes contrast one another. Thus, at this step, I do not give prediction on the sign of λ_3. If political SWFs indeed destroy firm operating performance, λ_4 should be negative and statistically significant.

$\boldsymbol{X}_{i,t-1}$ is a vector of time-varying firm- and industry-level control variables. All control variables here are with one-year lag, unless stated otherwise. When $y_{i,t}$ is capital expenditure, I include in the vector $\boldsymbol{X}_{i,t-1}$ operating cash flow over total assets, Tobin's q, firm size, and 2-digit SIC industry average of Tobin's q. When $y_{i,t}$ is one-year sales growth, I include in the vector $\boldsymbol{X}_{i,t-1}$ sales growth, capital expenditure, cash over total assets, firm size, and 2-digit SIC industry average of Tobin's q. When $y_{i,t}$ is operating efficiency, I include in the vector $\boldsymbol{X}_{i,t-1}$ sales growth, capital expenditure, firm size, and 2-digit SIC industry average of Tobin's q.

Regarding possible presence of a fixed effect, I do not consider year fixed effect because $After_t$ already controls for changes in macroeconomic environment that affect all firms. Furthermore, I do not consider country, industry or firm fixed effects primarily because they are embedded in fixed effects of SWFs investment strategies. A fund decides which country and industry to invest simultaneously with which firm to pick. All relevant information to SWFs investment decisions, either at country-, industry-, or firm-level, are observable to SWFs. Thus, the ultimate unobservable fixed effects that may bias my estimation derive from heterogeneous fund investment strategies.[19]. Ideally, I should control for investment strategy fixed effect. Unfortunately, as investment strategies are driven by different investment goals, it is infeasible to clearly classify them unless all investment goals are observable. SWF fund-level fixed effect is not an appropriate alternative because a fund can implement multiple strategies simultaneously (Dyck and Morse, 2011). Alternatively, I use various stake size thresholds to mitigate fund-related unobservable effects because stake size sought by SWFs determines not only the intention but also the ability

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[18]In robustness, I use alternative variables to capture the average difference only before investment event.

[19]Statistically, I confirm my belief by following the diagnosis procedures suggested by Petersen (2009) and Cameron and Miller (2015) That is, while I add fixed effect one dimension after another, fund fixed effect leads to the largest variation in standard errors of λ_3 and λ_4, my coefficients of interest in Model (1)

of SWFs to affect firm operation. The choice of minimum five percent to distinguish influential and non-influential deals is explained in Section 2.4.1.

I use five benchmarks in regression. The first benchmark is target firms of private financial investors using the approach of Bortolotti et al. (2015). The second benchmark is simply all listed firms in Worldscope that have never been invested by SWFs, i.e. the universe average. The advantage of using this universe average is that I do not have to decide *a prior* determinants of target selection. Existing literature does not provide consensus on whether and how different investment strategies translate into different criteria for firm selection. For example, Kotter and Lel (2011) use the whole Worldscope universe as the candidate pool to analyse determinants of SWF target selection but do not find consistent predictors for subgroups of SWFs investment classified by stake size.[20] The lack of agreed determinants of target selection may be the reason why previous studies use adhoc combinations of firm-level variables to construct matched control group. Nevertheless, for robustness purpose, I matched control firms to target firms by 2-digit SIC industry and host country and thereby my third benchmark. To build the fourth one, I match by 2-digit SIC industry, host country, and firm size. My fourth control group is composed by firms matched to targets by 2-digit SIC industry, host country, and a firm performance measure. Specifically, when ROA is the dependant var, then the matching criterion for firm performance is Tobin's q. I replace Tobin's q with ROA, when the dependent variable is $SalesGrowth$ or $CapexPPE$.

I exclude financial firms (SIC codes between 6000 and 6999) in the rest of empirical analysis for two reasons. First, the economics of financial service firms are different from regular firms. Take capital expenditure as an example, investment activities of financial service firms are not clearly defined (Damodaran, 2013). Second, though SWFs do not have their own real sector operations, they do not necessarily have the same strategic motive that drives an insurance firm to take over another insurance firm. To focus financial investors' investment in real sector targets largely remove such mismatch in motive (Bargeron, Schlingemann, Stulz, and Zutter (2008)).

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[20]See Table IA1. in internet appendix of Kotter and Lel (2011)

4. Empirical results

4.1. Univariate test results

Table 3 reports univariate results on whether SWFs affect firm operation. Besides the key metric of capital expenditure($CapexPPE$), sales growth($SalesGrowth$), operation efficiency(ROA), I include dividend payment($DvdTA$), and Tobin's q(Q) of target firms in order to grasp a broader view on firm operating activities and performance. For each accounting variable, the first row shows results for the full sample. Then the sample is divided into subgroups:(1) *Influential*, where stake bought is $\geqslant 5\%$, and (2) *NonInfluential*, where stake bought is $< 5\%$.[21] In each sub-group, *Political* include target firms invested by SWFs and benchmarked private financial investors that are from countries where political interference is likely, according to Table 2 of Bortolotti et al. (2015). The rest of target firms are in *NonPolitical*. Column 1 and 2 compute the average of each accounting variable over three years before investment(*Before[-3year, -1year]*). Column 3 reports mean difference in operating performance before investors become shareholders. Column 4-6 conduct similar comparison for the five-year period after investment takes place(*After[+1year,+5year]*). The last column, *Before-After*, reports preliminary difference in difference between SWFs target firms and those of private financial investors after investment events take place.

[TABLE 3 HERE]

Results highlight the importance to split sample into influential and non-influential subgroups. Under each accounting variable, the two sub-groups receive opposing sign for difference in difference. For example, capital expenditure of SWFs target firms increase more quickly than benchmark in the subgroup of influential stake. But in the non-influential stake, benchmark firms invest at faster speed. Opposite situation is found for sales growth. As for operation efficiency and dividend payment, there is no incremental change for the influential sub-group, but a significant decrease for the non-influential sub-group. Evolution of market valuation for target firms of both investors remains the same for influential sub-group. But it appears SWFs' target firms in the non-influential sub-group improve in valuation.

Bortolotti et al. (2015) conclude political SWFs lead to deterioration in firm operation efficiency. However, according to new evidences gathered here, their result might be alternatively

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[21] I aggregate control and large into one group because, as Table 1 suggests, the sample of SWFs taking controlling stake is statistically too few in number to draw any sensible interpretation.

driven by the fact that political SWFs that purchase large stake self-select into firms with lower operation efficiency, as suggested by a statistically significant difference of -0.03 for three years before investment event. In the next section, I verify those crude findings in a controlled regression setting.

4.2. Do political SWFs harm firm operating performance?

In this section, I re-examine the effect of political SWFs documented in Bortolotti et al. (2015). Instead of strictly replicating their regression, I directly use Model (1) as described in Section 3. That is because I do not obtain the same propensity score matching result as reported in Bortolotti et al. (2015) and thus unable to replicate their benchmark in regression.

Results are displayed in Table 4. Panel A examines effects on sales growth, Panel B on operation efficiency, and Panel C on market valuation. The variable of interest, $SWFAfterPolitical$, captures incremental effect of SWFs who are subject to political interference. Column (1)-(3) cover the event window three years before investment and five years after it. To be consistent with Bortolotti et al. (2015), Column (4)-(6) estimate operation performance only for the third year after investment events. Column (2) and (5) contain target firms where SWFs or benchmarked private financial investor purchase no less than 5 percent, in Column (3) and (6) no less than 10 percent.

[TABLE 4 HERE]

Overall, there is no evidence suggesting political SWFs harm firm operating performance. But there are some particular results worth elaboration. In Panel A, the coefficient on $SWFAfterPolitical$ is even positive and statistically significant in Column (1). If it is political SWFs that cause an acceleration in sales growth, the effect should be more pronounced in cases where SWFs have higher incentive and power. Yet this effect immediately disappears once I impose a minimum stake size threshold. It seems a disproportionate effect of non-influential deals impact the coefficient estimation. In Column (6), the highly significant coefficient should also be interpreted with caution. As sample size drops sharply, Column (6) actually only contain five investment transaction by political SWFs and thus do not provide sensible analysis results.

As for operation efficiency, in Panel B Column 1, the coefficient of $SWFAfterPolitical$ is negative but insignificant. When I enhance the stake size threshold, its coefficient gradually turns from negative to positive, both for full period or Year 3. Results from both univariate

tests and regression here demonstrate that the "stake-motive mismatch" bias is indeed a probable cause that misleads Bortolotti et al. (2015) to conclude political SWFs negatively affect firm operation efficiency. Their result might be alternatively driven by over-proportionate presence of firms where SWFs buy a non-influential stake. These firms experience a significant decrease in operation efficiency after SWFs investment due to other unknown factors. Another possible explanation is that matching procedures adopted by Bortolotti et al. (2015) fail to remove political SWFs that purchase large stake self-select into firms with lower operation efficiency before investment event.

4.3. Do SWFs cause any change in firm operation?

In this section, I re-examine the univariate results of Kotter and Lel (2011) in a multivariate setting. I replace the benchmark of private financial investors with the other four benchmarks described in Section 3. Up to now, I obtain sufficient evidences to make the case that stake size is a primary indicator for any potential impact of SWFs on target operation. Therefore, in following estimations, I use the sample where SWFs buy no less than five percent of common shares, unless otherwise mentioned.

[TABLE 5 HERE]

Table 5 reports the relationship between the presence of SWFs as shareholders and firm operation. In particular, Column (1) presents the results obtained from Model (1) benchmarked to the universe average. In line with descriptive statistics of firm characteristics in Table 2, SWF target firms are pervasively different from universe in terms of real investment and operation efficiency, but my variable of interest, $SWFAfter$, does not indicate any incremental change resulted from the presence of SWFs as shareholders. In unreported table, I find the firm characteristics of SWFs target are also systematically different from industry average. This points to a need for more refined benchmarks to address particular characteristics of target firms. Thus, in Column (2)-(4), I re-estimate Model (1) with three other sets of control group. The first is matched by 2-digit SIC and host country. The second is matched by 2-digit SIC, host country, and firm size. And the third is matched by 2-digit SIC, host country, and a firm-level performance measure. I find that, the absence of incremental change prevails through the control groups.

Though I do not find any incremental change on firm operation led by SWFs, the coefficient

of SWF does reveal new evidence on how SWFs select target firms. Using the whole Worldscope stock universe as the pool for candidates, Kotter and Lel (2011) discover that SWFs, similar to hedge funds, select past losers measured by negative operating profitability. Using the same benchmark, I also find a strong negative sign on SWF in Panel C ROA, which captures the average difference between SWFs target firms and universe. However, once I add industry and host country into my matching, this difference diminishes, which suggests different firm-level criteria be employed after SWFs decide on the geographic and industrial focus. On the other hand, the real investment of target firms measured by $CapexPPE$, maintains its higher level regardless the benchmark I use. This extends the conclusion drawn by Karolyi and Liao (2016) that only firm size matters for SWFs target selection. The persistently positive coefficient on SWF suggests the scale of capital expenditure as a key determinant of target selection, not firm size by its very nature.

4.4. Robustness tests

4.4.1. Short-term dynamics

So far I obtain an average insignificant incremental effect of SWFs. It could be that SWFs only trigger short term dynamics around the event. To detect whether there is any dynamic effect of SWFs investment on firm, in Table 5 Column (5), I interact indicator variable for SWFs targets and time dummies to explicitly account for firm characteristics before and after SWF investment event. $SWFBefore_t^{-2}$ is a dummy variable that equals one if a firm will announce to be invested by SWFs in two year.[22] $SWFBefore_t^{-1}$ is a dummy variable that equals one if a firm announces SWFs investment in one year. $SWFAfter_t^1$ is a dummy that equals one if a firm announced SWFs investment a year ago. $SWFAfter_t^2$ is a dummy that equals one if a firm announced SWFs investment two years ago. The dummy variables, $SWFBefore_t^{-2}$ and $SWFBefore_t^{-1}$, capture SWF-related difference of $y_{i,t}$ in Model (1) prior to the presence of SWFs as shareholders. I use the same benchmark as in Column (1).

I observe same patterns as in Column (1). As for real investment and operation efficiency, $SWFBefore_t^{-2}$ and $SWFBefore_t^{-1}$ are significantly different from the benchmark firms but not significantly different from $SWFAfter_t^1$ and $SWFAfter_t^2$. With respect to sales growth, neither prior- nor post-event terms indicate any difference from benchmark. All these correspond

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[22]I consider announcement instead of effective date mainly because I are interested in not only post-event effects but also SWFs' selection criteria. Since I use yearly observations, the gap between two dates should not pose significant bias on my estimation.

to my early observations in univariate tests. That is, SWFs target firms are pervasively different from industry average in terms of real investment and operation efficiency, whereas no evident changes emerge along the time line. Even the short-term fluctuation observed previously is statistically insignificant in this regression setting.

4.4.2. Sensitivity to stake threshold

So far I obtain consistent evidences that SWFs do not cause major change in firm operation. However, it could be that my baseline threshold of five percent is too low to detect the sub-sample where SWFs are willing and able to be active. Thus, I test the sensitivity of my conclusion to multiple stake thresholds. As SWFs do not easily take influential block of shares, the number of transactions drops sharply when I increase stake cut-off level. Accordingly, I remove all benchmarks and only examine whether there is any incremental effect on a SWFs target operation after a certain SWF becomes shareholders with respect to that target firm's average over the sample period. Table 6 summarizes the results. I enhance the threshold by five percent at a time until the number of remaining observations falls below 30. No subgroup generates any incremental change in firm operation after SWFs become shareholders, except for a slightly significant negative sign on ROA shown in Column (3) of Panel C. However, this negative effect disappears when I re-estimate the subgroup of stake larger than 10% in the strict regression setting as in Table 5 Panel C.[23]

[TABLE 6 HERE]

4.4.3. Analysis by year and country

My baseline panel regression estimates the average effect of SWFs becoming shareholders across all countries and years. Assuming the coefficients are identical in all years and in all countries, this approach potentially masks variation over time or cross countries. In reality, it is unlikely to be the case. Overtime, SWFs can learn and adjust their investment strategies. As discussed in Section 2.4.1, since February 2007, regulators and media of host countries have been opening expressing their concern about SWFs. Under such public pressure, SWFs may switch investment strategies to avoid strict scrutiny. Furthermore, attitudes towards SWFs vary across host countries (Thatcher, 2012). In a relatively more welcoming country, SWFs may have higher incentive and flexibility to play an active role.

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[23]Re-estimated results are not reported here

[Figure 1 HERE]

Therefore, to back up my results, I re-run Model (1) by event year and then by host country to assess the the association between SWFs becoming shareholders and firms' operation. I run the model through the sample period but drop event years and host countries in which less than five transactions take place. Figure 1A-1C report results for real investment, sales growth, and operating profitability respectively. For example, in Figure 1A, the dark-gray bars correspond to $CapexPPE$ for control group matched by 2-digit SIC, host country, and ROA in the sample (Constant α in Model(1)). The light-gray bars correspond to the incremental change in $CapexPPE$ for firms that receive SWFs investment (λ_3 in Model (1)). Except for Figure 1A Panel 2 $CapexPPE$ by host country, I do not observe the presence of incremental change in the rest figures. Even for $CapexPPE$ by host country, the light gray bar does not appear in the same direction or in all countries. Again, I obtain reinforcement that this absence of incremental change is not driven by any particular year or country.

4.5. SWFs and firm value: value-selection or value creation?

Thus far, all my evidences suggest SWFs neither improve firm performance nor cause any economic ill. Yet this finding contradicts to conclusion drawn in Sojli and Tham (2011) and Fernandes (2014). Both advocate that SWFs improve firm value, measured by Q, via channels of new growth opportunities in the home country of SWFs.

[TABLE 7 HERE]

To further understand this discrepancy, I use Model (1) to re-examine whether SWFs lead to any incremental increase in Q compared to a control group matched by 2-digit SIC, host country, and ROA, a similar control group used by aforementioned two papers. Table 7 reports the results. In Column (1) and (2), I maintain the five percent cut-off level. I neither observe any incremental change indicated by $SWFAfter$ nor any difference in average between SWFs target firms and control group indicated by SWF. Next, I lower the threshold to one percent, which is employed by Fernandes (2014). SWF becomes positive and statistically significant, but there is still no support for any improvement resulted from SWFs investment. Similar pattern emerges once I fully relax stake threshold. While mean stake size decreases, the statistical significance grows for indicators that capture SWF-related difference of firm operation prior to the presence of SWFs as shareholders, i.e. $SWFBefore^2$ and $SWFBefore^1$. These findings

reveal two characteristics with respect to SWFs' investment strategies. First, different target selection criteria are applied to purchases of large block size and purchases of tiny stake but in a wider range of equities. Second, in the latter type of purchase, SWFs select target firms that have high growth prospective prior to their investment, which introduces a self-selection bias into the estimation of aforementioned two studies. Fernandes (2014) use Heckman selection model and two-stage regressions to address this self-selection issue. Yet it is unclear how valid his instrumental variables are. His study might have applied a too low threshold and thus be driven by a disproportionately large sub-sample of firms where SWFs lack incentive or power to play any active role. With regard to Sojli and Tham (2011), their usage of SEC 13-Filings does not rule out the possibility that SWFs accumulate their holding via tiny but frequent allocation. Thus, it is challenging to distinguish whether SWFs select firms with good market valuation or SWFs actively improve target firm performance.

5. Discussion

5.1. Do no-change results mean shirking from monitoring?

The absence of significant impact does not mean SWFs shirk their responsibility to monitor when they are entitled to. Note that the type of firms preferred by SWFs are large firms listed in developed financial markets that pay high dividend. The existing ownership structure of these well-established firms implies their stock shares are not always readily available in large amount for potential investors. As predicted by Dhillon and Rossetto (2015), initial control shareholder or active block holders do not easily put their right for sell as long as their slice of firm profit offsets active monitoring cost. Thus, SWFs may only be able to obtain stock shares from liquid shareholders on open market or through private negotiation, unless the initially pivot shareholder, being a single majority holder or multiple blockholders, agrees to tender new shares or put their control right for sale. If SWFs buy shares from liquid shareholders, it is just a switch of hands of non-influential shareholders.[24]. If SWFs obtain shares from a former blockholder though private negotiation, SWFs are likely to monitor only to the extend the slice of profit compensates the cost of monitoring.

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[24]I do not exclude the mechanism of governance through trading (Edmans and Manso, 2011)

5.2. Reconciliation to small but positive valuation effect of SWFs investment

Up to this point, I find that SWFs do not cause major change in firm operation. It seems they aim to just partake stable profit from well-established firms, where the cost of monitoring is affordable to SWFs. In fact, this motive is logically reconciled to the positive yet small market reaction towards SWFs investment(Dewenter et al., 2010; Kotter and Lel, 2011; Bortolotti et al., 2015; Karolyi and Liao, 2016). A plausible yet unverified driver for this valuation effect could be undervaluation. Through investing in a firm, SWFs signals to the market that the firm is under-priced, which, if recognized by the market, would lead to upward price correction. This adjustment is however small because investors rationally anticipate SWFs' limited role in making any big change in those particular firms. This explanation differs from the view of Dewenter et al. (2010) that the observed net valuation effect is a trade-off between an actively harmful and an actively beneficial role of SWFs.

Results of this paper put into question the "Sovereign Wealth Funds Discount" claimed by Bortolotti et al. (2015). As statistics powerfully show a "stake-motive mismatch" bias misleads them to conclude SWFs negatively affect firm performance. A natural follow-up question is whether valuation discount is robust to a minimum stake size threshold. In fact, Bortolotti et al. (2015) admit that once they narrow sample to stake greater than five percent, the difference in valuation effect becomes statistically insignificant. That suggests the stock market does not anticipate intervention of SWFs in target firms.

6. Conclusion

In this article, I examine whether SWFs as shareholders affect target firm operation. Previous belief that SWFs destroy or improve firm performance should be reformulated using methodology that incorporates analysis of stake size. SWFs rarely seek controlling or influential stake size in a firm. On the contrary, they typically purchase diversified non-influential stakes less than as one percent in large firms listed in developed financial markets that pay high dividends. I find no evidence that they interfere with target management and alter operating activities.

Since my primary goal is to reconcile an existing debate on SWFs' motive and real effect, this paper is subject to two major limitations. First, I follow the studies involved in this debate and focus on listed firms invested by SWFs.[25] Therefore, the no-impact result found in this

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[25]The list comprises Dewenter et al. (2010), Kotter and Lel (2011), Sojli and Tham (2011),Dyck and Morse (2011), Fernandes (2014), Bortolotti et al. (2015), and Karolyi and Liao (2016).

paper should not be generalize beyond listed target firms. In unreported table, I find SWFs take control in unlisted firms. If SWFs have important non-financial motives, it would be in unlisted firms that SWFs execute those motives. I leave analysis on unlisted firms to future research.

Second, in this paper, I focus on the metric of operating performance predicted by prior theories to reflect political impact, i.e. real investment level, sales growth, and operating profitability. The conclusion of SWFs having no effect cannot be generalized beyond that metric. From there, this paper can be extended to investigate firm financing and payout policies.

Appendix A.   Variable definitions

Deal-level variable

SWF	Time-invariant dummy variable that equals one for firms that are going to be invested by SWFs at some point in our sample period and equals zero for benchmark firms
$Private$	Time-invariant dummy variable that equals one for benchmark firms that are going to be invested by private financial investors at some point in our sample period and equals zero for firms to be invested by SWFs
$Political$	Time-invariant dummy variable that equals one for firms that are invested by SWFs or private financial investors from countries that are subject to political interference, i.e. labelled "y" in Table 2 of Bortolotti, Fotak, and Megginson (2015).
$After$	Dummy that equals one for both SWF target firms and benchmark firms during the [+1Year,+5Year] event window period
$SWFBefore^{-2}$	dummy variable that equals one if a firm will announce to be invested by SWFs in two year
$SWFBefore^{-1}$	dummy variable that equals one if a firm announces SWF investment in one year
$SWFBefore^{-0}$	Dummy that equals one for both SWF target firms and benchmark firms at event year
$SWFAfter^{1}$	dummy that equals one if a firm announced SWF investment a year ago
$SWFAfter^{2}$	dummy that equals one if a firm announced SWF investment two ago
$StakeBuy$	Percentage of stake bought by SWFs/Private per deal
$StakeOwn$	Percentage of stake owned by SWFs/Private after deal

Firm-level variable

$CapexPPE$	Capital expenditure scaled by beginning-of-year book value of total net PPE
$SalesGrowth$	The difference between sales and one-year lagged sales scaled by sales
ROA	Gross income scaled by book value of total assets
Q	Market capitalization, minus the book value of equity, plus the book value of debt, all scaled by the book value of total assets
$IndustryQ$	Industry Q mean classified by 2-digit SIC code
$MktCap$	Natural log of market capitalization
TA	Natural log of year-end total assets
$CfTA$	Net operating cash flow scaled by beginning-of-year book value of total assets
$CashTA$	Year-end cash and cash equivalent scaled by beginning-of-year book value of total assets
$DebtTA$	The book value of debt scaled by the book value of total assets
$DvdTA$	Paid dividend scaled by the book value of total assets

*Relevant variables are converted into U.S dollars using middle exchange rate at fiscal year end.

Appendix B.   Sovereign wealth funds name list

This table lists background information on sovereign wealth funds(SWFs), including the full names(*Name*), abbreviations(*Abb.*), set-up year(*Inception*), home countries(*Origin*), Bagnall and Truman (2013) transparency score(*Truman*), and classification by Bortolotti, Fotak, and Megginson(2015) of SWFs, the fund management of which is subject to political interference(*Political*).

Name	Abb	Inception	Origin	Truman	Political
Abu Dhabi Investment Authority	ADIA	1976	United Arab Emirates	58	y
Abu Dhabi Investment Council	ADIC	2007	United Arab Emirates	58	y
Alberta Investment Management Corporation	AIMCO	2008	Canada	86	na
Advanced Tech Invest Co LLC	ATIC	2008	United Arab Emirates	58	y
Brunei Investment Agency	BIA	1983	Brunei	21	y
China Investment Corp	CIC	2007	China	64	y
Dubai International Capital	DIC	2004	United Arab Emirates	55	y
Employees Provident Fund Organisation	EPFO	1952	India	na	na
Future Fund	FF	2006	Australia	89	n
National Welfare Fund Samruk-Kazyna	FNB	2008	Kazakhstan	na	na
Fundo Soberano do Brasil	FSB	2008	Brazil	na	na
Strategic Investment Fund	FSI	2008	France	na	na
Government of Singapore Investment Corporation	GIC	1981	Singapore	66	n
Government Pension Fund Global	GPFG	1990	Norway	98	n
Hong Kong Monetary Authority	HKMA	1993	China	na	na
International Petroleum Investment Company	IPIC	1984	United Arab Emirates	46	y
Istithmar World	Istithmar	2003	United Arab Emirates	17	y
Government Pension Fund Global	KIA	1953	Kuwait	73	n
Korea Investment Corporation	KIC	2005	South Korea	69	na
Khazanah Nasional Berhad	Khazanah	1993	Malaysia	59	n
Libyan Arab Foreign Invest Co	LAF	2006	Libya	na	y
Mineral Resources Dvlp Co Pty	MRDC	2011	Papua N Guinea	na	na
Mubadala Development Co PJSC	Mubadala	2002	United Arab Emirates	65	y
Mumtalakat Holding	Mumtalakat	2006	Kingdom of Bahrain	na	y
National Pensions Reserve Fund	NPRF	2001	Ireland	na	na
Norges Bank Investment Management	NBIM	1998	Norway	na	n
Oman Investment Fund	OIF	2006	Oman	27	y
Qatar Investment Authority	QIA	2005	Qatar	17	y
RAK Investment Authority	RAKIA	2005	United Arab Emirates	na	y
State Administration of Foreign Exchange	SAFE	1997	China	na	y
State Oil Fund of Azerbaijan	SOFAZ	1999	Azerbaijan	na	na
SAMA Foreign Holdings	SAMA	1952	Saudi Arabia	na	na
Temasek Holdings(Pte)Ltd	Temasek	1974	Singapore	76	n

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Table 1: Uneven distribution of stake size: SWFs versus private financial investors (Con't)

This table compares the distribution of stake size taken by SWFs(*SWF*) to that of benchmarked private financial investors(*Private*). Panel A reports the overall descriptive statistics for stake bought in the deal(*Stake bought*) and accumulated stake owned after the deal(*Stake owned*). Panel B decomposes sample (1)by stake bought: $\geqslant 50\%$(*Control*), $\geqslant 5\%$ and $< 50\%$ (*Large*), $\geqslant 1\%$ and $< 5\%$ (*Small*), $\geqslant 0$ and $< 1\%$ (*Tiny*); (2) by national border: deals where target firms locate in the same country as the investor(*Domestic*), where targets firms locate in a different country from the investor(*Cross-border*). Panel C-E decompose stake bought by host countries, year of announcement, and 1-digit SIC industries. *N*(*%ofN*) stands for the number of transactions (as a percentage of total transactions). *Mean*(*Median*) is the average(median) stake size purchased.

Panel A. *Full sample*

	N	Mean	Median	Std.dev.	Min	Max	Mean dif t-stat	Median rank z-stat
Stake bought							-20.95***	-27.73***
SWFs	577	4.09	0.50	9.20	0.00	100.00		
Private	1,720	16.28	10.00	17.32	0.02	100.00		
Stake own							-20.95***	-27.73***
SWFs	577	5.33	0.61	12.64	0.00	100.00		
Private	1,723	20.46	12.50	20.55	0.10	100.00		

Panel B. *Domestic versus Cross-border*

	SWF				Private			
	N	%ofN	Mean	Median	N	%ofN	Mean	Median
Domestic								
Control	2	0.37	61.06	61.06	79	4.59	73.82	69.44
Large	22	4.10	19.51	14.48	1,253	72.85	13.16	9.95
Small	5	0.93	2.64	3.00	95	5.52	3.79	4.00
Tiny	5	0.93	0.36	0.27	9	0.52	0.39	0.30
Sub-total	34	6.34	16.66	11.34	1,436	83.49	15.79	9.78
Cross-border								
Control	3	0.56	67.68	52.05	21	1.22	68.33	62.22
Large	104	19.40	11.91	8.96	233	13.55	16.27	12.88
Small	117	21.83	2.57	2.60	28	1.63	3.48	3.72
Tiny	278	51.87	0.17	0.07	2	0.12	0.67	0.67
Sub-total	502	93.66	3.57	0.56	284	16.51	18.75	12.38
Total	577	100.00	4.09	0.50	1,720	100.00	16.28	10.00

Table 1: Uneven distribution of stake size: SWFs versus private financial investors (Con't)

This table compares the distribution of stake size taken by SWFs(*SWF*) to that of benchmarked private financial investors(*Private*). Panel A reports the overall descriptive statistics for stake bought in the deal(*Stake bought*) and accumulated stake owned after the deal(*Stake owned*). Panel B decomposes sample (1)by stake bought: $\geqslant 50\%$(*Control*), $\geqslant 5\%$ and $< 50\%$ (*Large*), $\geqslant 1\%$ and $< 5\%$ (*Small*), $\geqslant 0$ and $< 1\%$ (*Tiny*); (2) by national border: deals where target firms locate in the same country as the investor(*Domestic*), where targets firms locate in a different country from the investor(*Cross-border*). Panel C-E decompose stake bought by host countries, year of announcement, and 1-digit SIC industries. $N(\%ofN)$ stands for the number of transactions (as a percentage of total transactions). $Mean(Median)$ is the average(median) stake size purchased.

Panel C. *By host country*

	SWF				Private			
	N	%ofN	Mean	Median	N	%ofN	Mean	Median
Domestic								
AUSTRALIA	1	0.17	16.91	16.91	446	25.93	11.93	8.15
BRAZIL	1	0.17	0.60	0.60	26	1.51	22.24	9.72
CANADA					227	13.20	17.96	10.77
CHINA	2	0.35	2.36	2.36	250	14.53	15.15	10.38
FRANCE	3	0.52	8.37	5.10	100	5.81	25.51	13.70
KAZAKHSTAN	1	0.17	21.20	21.20	1	0.06	64.71	64.71
MALAYSIA	6	1.04	19.64	14.12	73	4.24	18.90	15.47
OMAN	1	0.17	7.79	7.79	7	0.41	18.62	15.00
SINGAPORE	20	3.47	18.61	10.73	82	4.77	18.02	11.50
SOUTH KOREA					224	13.02	14.79	8.36
Sub-total	35	6.07	16.18	10.33	1,436	83.49	15.79	9.78
Cross-border								
AUSTRALIA	8	1.39	7.67	8.66	46	2.67	12.21	10.55
BRAZIL	1	0.17	5.30	5.30	2	0.12	8.50	8.50
CANADA	5	0.87	12.37	14.16	11	0.64	18.43	14.24
CHINA	19	3.29	4.53	2.74	2	0.12	11.43	11.43
EGYPT	2	0.35	7.80	7.80	2	0.12	51.96	51.96
FRANCE	8	1.39	6.11	4.94				
GERMANY	5	0.87	6.48	5.00	5	0.29	21.90	11.88
HONG KONG	3	0.52	7.59	5.00	31	1.80	20.86	16.67
INDIA	22	3.81	4.60	3.71	16	0.93	9.42	8.55
INDONESIA	9	1.56	28.03	28.52	19	1.10	27.34	17.53
IRELAND	3	0.52	3.51	1.97	1	0.06	12.50	12.50
ITALY	10	1.73	7.64	2.06	3	0.17	25.03	23.80
JAPAN	5	0.87	9.41	6.05	15	0.87	17.35	14.32
JORDAN	4	0.69	14.06	17.32	3	0.17	23.19	15.72
KAZAKHSTAN	1	0.17	10.60	10.60				
MALAYSIA	13	2.25	3.07	0.87	11	0.64	13.42	11.35
NETHERLANDS	1	0.17	8.00	8.00	1	0.06	5.10	5.10
NEW ZEALAND	1	0.17	16.70	16.70	9	0.52	10.55	6.20
OMAN					1	0.06	51.00	51.00
PHILIPPINES	1	0.17	11.00	11.00	6	0.35	18.54	15.15
RUSSIA	1	0.17	0.55	0.55	2	0.12	9.63	9.63
SINGAPORE	3	0.52	9.01	5.61	11	0.64	29.44	29.02
SOUTH KOREA	1	0.17	11.96	11.96	2	0.12	12.29	12.29
SPAIN	6	1.04	5.80	5.33	6	0.35	5.55	4.07
SWEDEN	1	0.17	0.04	0.04	6	0.35	22.37	16.45
SWITZERLAND	2	0.35	4.37	4.37	4	0.23	17.00	15.28
TAIWAN	34	5.89	2.13	1.48	1	0.06	57.38	57.38
THAILAND	7	1.21	14.43	5.51	18	1.05	21.37	12.35
TURKEY	1	0.17	22.22	22.22	1	0.06	55.00	55.00
UNITED KINGDOM	124	21.49	2.13	0.25	14	0.81	26.15	25.51
UNITED STATES	238	41.25	0.94	0.05	33	1.92	20.60	9.60
VIETNAM	3	0.52	19.84	19.52	2	0.12	8.64	8.64
Sub-total	542	93.93	3.30	0.34	284	16.51	18.75	12.38
Total	577	100.00	4.09	0.50	1,720	100.00	16.28	10.00

Table 1: Uneven distribution of stake size: SWFs versus private financial investors (Con't)
This table compares the distribution of stake size taken by SWFs(*SWF*) to that of benchmarked private financial investors(*Private*). Panel A reports the overall descriptive statistics for stake bought in the deal(*Stake bought*) and accumulated stake owned after the deal(*Stake owned*). Panel B decomposes sample (1)by stake bought: $\geq 50\%$(*Control*), $\geq 5\%$ and $< 50\%$ (*Large*), $\geq 1\%$ and $< 5\%$ (*Small*), ≥ 0 and $< 1\%$ (*Tiny*); (2) by national border: deals where target firms locate in the same country as the investor(*Domestic*), where targets firms locate in a different country from the investor(*Cross-border*). Panel C-E decompose stake bought by host countries, year of announcement, and 1-digit SIC industries. $N(\%ofN)$ stands for the number of transactions (as a percentage of total transactions). *Mean(Median)* is the average(median) stake size purchased.

Panel D. *By year of announcement*

	SWF				Private			
	N	%ofN	Mean	Median	N	%ofN	Mean	Median
1989	1	0.17	5.00	5.00	3	0.17	5.53	4.91
1991	1	0.17	3.16	3.16	5	0.29	12.35	12.73
1992	2	0.35	1.46	1.46	9	0.52	14.18	6.91
1993	3	0.52	5.04	5.17	17	0.99	13.15	9.60
1994	5	0.87	3.14	3.37	23	1.34	13.63	9.97
1996	4	0.69	7.54	7.85	17	0.99	19.69	6.86
1997	3	0.52	7.57	4.85	19	1.10	22.92	9.89
1998	4	0.69	10.10	8.94	20	1.16	25.04	19.99
1999	3	0.52	9.77	11.80	25	1.45	21.23	14.45
2000	3	0.52	18.44	16.70	14	0.81	25.77	11.84
2001	1	0.17	3.00	3.00	10	0.58	16.14	7.29
2002	3	0.52	12.84	9.22	27	1.57	19.56	13.42
2003	4	0.69	19.95	9.90	122	7.09	15.09	10.06
2004	5	0.87	12.18	5.78	106	6.16	16.41	9.04
2005	8	1.39	16.38	12.27	98	5.70	16.17	10.72
2006	5	0.87	26.46	24.99	90	5.23	18.46	10.71
2007	15	2.60	14.83	10.00	191	11.10	16.77	10.19
2008	28	4.85	8.29	1.96	227	13.20	13.86	8.91
2009	146	25.30	2.93	0.16	294	17.09	15.83	9.90
2010	233	40.38	1.98	0.06	215	12.50	15.18	9.70
2011	100	17.33	3.50	1.73	188	10.93	17.66	12.08
Total	577	100.00	4.09	0.50	1,720	100.00	16.28	10.00

Panel E. *By 1-digit SIC industry classification*

	SWF				Private			
	N	%ofN	Mean	Median	N	%ofN	Mean	Median
Agriculture,Forest,Fishing	5	0.87	3.59	0.58	22	1.29	10.75	7.63
Construction	18	3.13	3.69	1.59	70	4.11	18.09	12.69
Finance,Insurance,Real Est	102	17.74	5.80	0.64	213	12.51	21.33	12.91
Manufacturing	211	36.35	2.46	0.25	574	31.77	16.08	10.00
Mining	35	6.09	4.71	0.63	401	23.55	13.68	9.37
Public Administration	2	0.35	1.70	1.70				
Retail Trade	36	6.26	5.25	0.55	59	3.46	15.49	8.89
Services	68	11.83	2.53	0.38	225	13.21	15.44	9.79
Transportation,Public Util	87	15.13	5.75	0.26	101	5.93	18.19	10.28
Wholesale Trade	13	2.26	9.26	3.32	71	4.17	18.46	10.15
Total	577	100.00	4.09	0.50	1,720	100.00	16.28	10.00

Table 2: Key firm characteristics

This table summarizes descriptive statistics of key accounting variables of firms invested by SWFs(*SWF*), firms invested by benchmarked private financial investors(*Private*), and the rest of firms in World-scope(*Universe*). The sample period of investment deals are from 1989 to 2012. Accounting data is aggregated under event window three years before and five years after the investment event. *CapexPPE* is capital expenditures scaled by the net balance of property, plants and equipment at year start. *ROA* is operating income over total assets at year end. *SalesGrowth* is yearly change in net sales. *Q* is Tobin's q, computed as the sum (total assets-book equity + market capitalization) divided by total assets at year end. *CfTA*, *DebtTA* and *DvdTA* are net operating cash flow, paid dividend and financial debt scaled by total assets at year start. *TA* and *MktCap* are natural logarithm of total assets and market capitalization at year end. The lower panel reports mean difference (*Mean difference*) of accounting variables between the pair *SWF-Private* and *SWF-Universe*. All are winsorized at the 5th and 95th percentiles throughout the analysis. Relevant variables are converted into U.S. dollar. Full variable definitions are provided in Appendix A.

	N	Mean	Median	Std.dev	Min	Max
SWF						
CapexPPE	514	0.57	0.30	0.71	0.01	3.18
SalesGrowth	387	0.12	0.10	0.28	-0.59	0.82
ROA	481	0.22	0.17	0.18	-0.13	0.74
Q	529	1.55	1.18	1.28	0.19	6.02
CFta	524	0.12	0.10	0.12	-0.35	0.49
DebtTA	534	0.20	0.17	0.17	0.00	0.56
TA	577	11.50	11.50	2.62	5.73	15.20
MktCap	529	11.43	11.46	2.49	4.87	14.88
DvdTA	340	0.01	0.01	0.01	0.00	0.05
Private						
CapexPPE	1295	0.61	0.23	0.88	0.01	3.18
SalesGrowth	269	0.13	0.10	0.41	-0.59	0.82
ROA	1550	0.15	0.08	0.25	-0.13	0.74
Q	1511	1.68	1.05	1.67	0.19	6.02
CFta	1262	0.03	0.01	0.21	-0.35	0.49
DebtTA	1362	0.16	0.07	0.18	0.00	0.56
TA	1720	9.58	9.74	2.34	5.73	15.20
MktCap	1480	9.47	9.67	2.37	4.87	14.88
DvdTA	1535	0.01	0.00	0.01	0.00	0.05
Universe						
CapexPPE	290,744	0.43	0.19	0.61	0.01	2.40
SalesGrowth	140,816	0.14	0.08	0.40	-0.53	1.26
ROA	305,907	0.29	0.17	0.35	-0.04	1.41
Q	299,694	1.47	0.92	1.48	0.18	6.06
CFta	277,025	0.11	0.06	0.27	-0.31	0.95
DebtTA	303,983	0.31	0.13	0.29	0.00	1.00
TA	319,775	9.05	9.63	3.39	2.67	14.40
MktCap	292,534	8.68	9.30	3.36	2.25	13.96
DvdTA	365,402	0.00	0.00	0.02	0.00	0.05

Mean difference	SWF-Private	SWF-Universe
CapexPPE	-0.0332	0.227***
SalesGrowth	-0.00535	-0.0392***
ROA	0.0666***	-0.0889***
Q	-0.133	0.0824***
CFta	0.0869***	0.00478***
DebtTA	0.0491***	-0.123
TA	1.915***	3.648***
MktCap	1.963***	3.670***
DvdTA	0.00903***	0.00750***

Table 3: Do SWFs affect firm operation? Univariate results

This table reports average capital expenditure(*CapexPPE*),sales growth(*SalesGrowth*), operating profitability(*ROA*), dividend payment(*DvdTA*), and Tobin's q(*Q*) of target firms invested by SWFs (Column 1-3) and benchmarked private financial investors (Column 4-6) three years before (*Before[-3year, -1year]*) investment event and four years after(*After[+1year,+5year]*). The last column, *Before-After*, reports the difference-in-difference between SWFs target firms and those of private financial investors. In each panel, the first row shows results for the full sample. Then the sample is divided into subgroups:(1) *Influential*, where stake bought is ⩾ 5%, and (2) *NonInfluential*, where stake bought is < 5%. In each sub-group, *Political* include target firms invested by SWFs and benchmarked private financial investors that are from countries where political interference is likely, according to Table 2 of Bortolotti, Fotak, and Megginson(2015). The rest of target firms are in *NonPolitical*. *, **, and *** indicate the mean difference is significantly different from zero at the 0.05, 0.01 and 0.001 levels respectively.

| | Before [-3year,-1year] | | | After [+1year,+5year] | | | Before-After |
	SWF	Private	Difference	SWF	Private	Difference	Difference
CapexPPE							
Full	0.59	0.67	-0.08***	0.65	0.65	-0.00*	0.05***
Influential	0.87	0.67	0.20***	0.88	0.66	0.22***	0.01*
Political	0.99	0.68	0.31***	0.91	0.55	0.37***	0.05***
NonPolitical	0.84	0.67	0.17***	0.87	0.68	0.20***	0.01
NonInfluential	0.55	0.65	-0.10***	0.61	0.69	-0.09***	-0.01*
Political	0.60	0.60	0.00	0.76	0.61	0.15***	0.10***
NonPolitical	0.53	0.66	-0.13***	0.55	0.72	-0.17***	-0.06***
SalesGrowth							
Full	0.10	0.09	0.01***	0.07	0.06	0.01***	-0.00
Influential	0.15	0.08	0.07***	0.05	0.06	-0.01***	-0.04***
Political	0.11	0.03	0.08***	0.11	0.02	0.10***	0.17***
NonPolitical	0.16	0.09	0.08***	0.03	0.06	-0.03***	-0.08***
NonInfluential	0.09	0.13	-0.04***	0.08	0.06	0.02***	0.04***
Political	0.13	0.06	0.07**	0.14	-0.59	0.73***	0.66***
NonPolitical	0.09	0.15	-0.06***	0.07	0.06	0.02**	0.07***
ROA							
Full	0.23	0.12	0.11***	0.21	0.12	0.09***	-0.02***
Influential	0.14	0.12	0.02***	0.15	0.12	0.02***	0.00
Political	0.11	0.13	-0.03***	0.13	0.16	-0.03***	0.00
NonPolitical	0.15	0.12	0.03***	0.15	0.12	0.03***	0.00
NonInfluential	0.25	0.14	0.10***	0.23	0.15	0.08***	-0.03***
Political	0.19	0.09	0.10***	0.19	0.13	0.07***	-0.03***
NonPolitical	0.25	0.16	0.09***	0.23	0.16	0.07***	-0.02***
DvdTA							
Full	0.01	0.00	0.01***	0.01	0.00	0.01***	-0.00***
Influential	0.01	0.00	0.01***	0.01	0.00	0.01***	0.00***
Political	0.02	0.01	0.01***	0.01	0.01	0.00***	-0.01***
NonPolitical	0.01	0.00	0.00***	0.01	0.00	0.01***	0.00***
NonInfluential	0.02	0.00	0.01***	0.02	0.00	0.01***	-0.00***
Political	0.01	0.00	0.01***	0.02	0.01	0.01***	-0.00***
NonPolitical	0.02	0.00	0.01***	0.02	0.00	0.01***	-0.00***
Q							
Full	1.48	1.74	-0.26***	1.34	1.72	-0.38***	-0.08***
Influential	1.29	1.72	-0.42***	1.22	1.73	-0.51***	0.00
Political	1.26	2.06	-0.80***	1.46	2.33	-0.88***	0.11***
NonPolitical	1.30	1.66	-0.36***	1.16	1.64	-0.47***	-0.04**
NonInfluential	1.51	2.14	-0.63***	1.37	1.71	-0.34***	0.22***
Political	1.38	2.61	-1.23***	1.18	2.33	-1.15***	0.10***
NonPolitical	1.51	2.02	-0.50***	1.38	1.55	-0.17***	0.25***

Table 4: Do political SWFs harm firm operating performance? Multivariate results

This table reports estimation results of Model (1) for an event window [-3year,+5year] around SWFs investment events from 1989 to 2012. The sample include target firms in real sectors invested by SWFs and benchmarked private financial investors. *SWF* is a time-invariant dummy that equals one for firms that are going to be invested by SWFs at some point in the sample period and equals zero for benchmark firms. *After* is a dummy that equals one for both SWF target firms and benchmark firms during the [+1Year,+5Year] event window period. *SWFAfter* is an interaction term of the former two. *SWFAfterPolitical* interacts *SWFAfter* with a time-invariant dummy, *Political*, that equals one for firms, the investors of which are from countries where political interference is likely, according to Table 2 of Bortolotti, Fotak, and Megginson(2015). Panel A display results for the dependent variable *SalesGrowth*, Panel B for *ROA*, Panel C for *Q*. Column (1)-(3) cover an event window [-3year,+5year] around SWFs investment events. Column (4)-(6) only keep the third year after SWFs investment. Column (2) and (5) contain target firms where SWFs or benchmarked private financial investor purchase no less than 5 percent, in Column (3) and (6) no less than 10 percent. Detailed definitions of all the other variables can be found in Appendix A. The standard errors are adjusted for heteroscedasticity and within-firm clustering.

Panel A. *SalesGrowth*

	(1) SalesGrowth (Full)	(2) SalesGrowth (Full⩾ 5%)	(3) SalesGrowth (Full⩾ 10%)	(4) SalesGrowth (Year3)	(5) SalesGrowth (Year3⩾ 5%)	(6) SalesGrowth (Year3⩾ 10%)
SWF	0.015	-0.034	-0.034	0.134*	0.035	0.014
	[0.037]	[0.066]	[0.109]	[0.064]	[0.075]	[0.084]
After	0.001	-0.009	-0.030			
	[0.044]	[0.048]	[0.064]			
SWFAfter	-0.010	-0.071	-0.073			
	[0.046]	[0.065]	[0.075]			
SWFAfterPolitical	0.071*	0.134	0.089	-0.055	-0.010	0.534**
	[0.031]	[0.086]	[0.055]	[0.045]	[0.139]	[0.177]
SalesGrowth$_{t-1}$	-0.127***	-0.168**	-0.221***	-0.071	-0.084	-0.252***
	[0.029]	[0.052]	[0.057]	[0.070]	[0.084]	[0.055]
CapexPPE$_{t-1}$	0.024	0.033	0.023	0.002	-0.008	-0.146***
	[0.013]	[0.024]	[0.036]	[0.032]	[0.044]	[0.029]
CashTA$_{t-1}$	0.131**	0.108	0.108	-0.078	0.026	0.361**
	[0.042]	[0.065]	[0.070]	[0.113]	[0.127]	[0.109]
TA$_{t-1}$	-0.000	0.008	0.016	0.023*	0.030	0.042*
	[0.006]	[0.012]	[0.020]	[0.011]	[0.016]	[0.019]
Constant	0.064	-0.207	-0.053	-0.121	0.003	0.011
	[0.089]	[0.186]	[0.236]	[0.182]	[0.276]	[0.284]
Observations	358748	88507	48002	26118	8508	5130
adj-R^2	0.047	0.074	0.105	0.470	0.568	0.815

Standard errors in brackets
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Panel B. *ROA*

	(1) ROA (Full)	(2) ROA (Full⩾ 5%)	(3) ROA (Full⩾ 10%)	(4) ROA (Year3)	(5) ROA (Year3⩾ 5%)	(6) ROA (Year3⩾ 10%)
SWF	0.073**	-0.013	-0.057	0.099**	0.115	-0.020
	[0.027]	[0.030]	[0.054]	[0.037]	[0.060]	[0.091]
After	0.020	0.011	0.016			
	[0.015]	[0.015]	[0.019]			
SWFAfter	-0.022	-0.003	-0.007			
	[0.015]	[0.025]	[0.036]			
SWFAfterPolitical	-0.035	-0.018	0.002	-0.013	-0.081	0.155
	[0.029]	[0.033]	[0.031]	[0.041]	[0.068]	[0.117]
SalesGrowth$_{t-1}$	0.020	0.033*	0.028	0.004	0.014	0.092
	[0.011]	[0.016]	[0.018]	[0.053]	[0.075]	[0.056]
CapexPPE$_{t-1}$	-0.015	-0.026*	-0.022	-0.011	-0.036	-0.062**
	[0.008]	[0.011]	[0.012]	[0.025]	[0.032]	[0.023]
TA$_{t-1}$	-0.024***	-0.010	-0.030*	-0.042***	-0.044**	-0.040*
	[0.006]	[0.008]	[0.012]	[0.011]	[0.015]	[0.019]
Constant	0.440***	0.406**	0.588**	0.610***	0.327	0.447
	[0.099]	[0.151]	[0.189]	[0.144]	[0.267]	[0.235]
Observations	340795	91462	50472	24797	8500	5132
adj-R^2	0.369	0.236	0.343	0.485	0.494	0.754

Standard errors in brackets
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: Do political SWFs harm firm operating performance? Multivariate results

This table reports estimation results of Model (1) for an event window [-3year,+5year] around SWFs investment events from 1989 to 2012. The sample include target firms in real sectors invested by SWFs and benchmarked private financial investors. *SWF* is a time-invariant dummy that equals one for firms that are going to be invested by SWFs at some point in the sample period and equals zero for benchmark firms. *After* is a dummy that equals one for both SWF target firms and benchmark firms during the [+1Year,+5Year] event window period. *SWFAfter* is an interaction term of the former two. *SWFAfterPolitical* interacts *SWFAfter* with a time-invariant dummy, *Political*, that equals one for firms, the investors of which are from countries where political interference is likely, according to Table 2 of Bortolotti, Fotak, and Megginson(2015). Panel A display results for the dependent variable *SalesGrowth*, Panel B for *ROA*, Panel C for *Q*. Column (1)-(3) cover an event window [-3year,+5year] around SWFs investment events. Column (4)-(6) only keep the third year after SWFs investment. Column (2) and (5) contain target firms where SWFs or benchmarked private financial investor purchase no less than 5 percent, in Column (3) and (6) no less than 10 percent. Detailed definitions of all the other variables can be found in Appendix A. The standard errors are adjusted for heteroscedasticity and within-firm clustering.

Panel C. Q

	(1) Q (Full)	(2) Q (Full≥ 5%)	(3) Q (Full≥ 10%)	(4) Q (Year3)	(5) Q (Year3≥ 5%)	(6) Q (Year3≥ 10%)
SWF	0.239	0.206	-0.013	0.141	0.253	0.344
	[0.195]	[0.317]	[0.572]	[0.177]	[0.235]	[0.271]
After	-0.122	-0.079	-0.055			
	[0.115]	[0.119]	[0.164]			
SWFAfter	0.143	0.031	-0.013			
	[0.121]	[0.152]	[0.200]			
SWFAfterPolitical	0.036	0.180	0.460	-0.383	-0.590	0.115
	[0.175]	[0.240]	[0.309]	[0.252]	[0.404]	[0.628]
SalesGrowth$_{t-1}$	-0.058	-0.182	-0.069	0.501*	0.306	0.924***
	[0.080]	[0.105]	[0.125]	[0.233]	[0.350]	[0.220]
OperIncTA$_{t-1}$	1.636***	0.600	-0.810	2.426***	1.971**	0.611
	[0.291]	[0.575]	[0.705]	[0.562]	[0.595]	[0.383]
DebtTA$_{t-1}$	-0.127	0.160	0.459	-0.320	-1.462*	0.738
	[0.211]	[0.519]	[0.970]	[0.370]	[0.736]	[0.443]
TA$_{t-1}$	-0.208***	-0.226***	-0.331**	-0.017	0.037	-0.169***
	[0.035]	[0.056]	[0.105]	[0.048]	[0.053]	[0.048]
Constant	3.938***	4.213***	5.672***	1.801**	0.388	2.161**
	[0.548]	[0.838]	[1.342]	[0.657]	[0.855]	[0.702]
Observations	339944	91447	50325	24795	8499	5001
adj-R^2	0.295	0.250	0.313	0.500	0.590	0.825

Standard errors in brackets
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: Do SWFs change firm operation? Multivariate results (Continued)

This table reports estimation results of Model (1) for an event window [-3year,+5year] around SWFs investment events from 1989 to 2012. The sample only include firms in which SWFs invest no less than 5% and their benchmarks. *SWF* is a time-invariant dummy that equals one for firms that are going to be invested by SWFs at some point in the sample period and equals zero for benchmark firms. *After* is a dummy that equals one for both SWF target firms and benchmark firms during the [+1Year,+5Year] event window period. *SWFAfter* is an interaction term of the former two. Panel A display results for the dependent variable *CapexPPE*, Panel B for *SalesGrowth*, Panel C for *ROA*. In Column 1, I benchmark results against an average of all firms from Worldscope that have not been invested by SWFs. In Column 2, I use a control group of firms matched by 2-digit SIC number and host country. In Column 3, I use a control group of firms matched by total assets. In Column 4, the control group is built by matching firms to previous two criteria plus a third factor, i.e. one of firm-level performance measures. In Panel A (*CapexPPE*), this third matching factor is *ROA*, in Panel B (*SalesGrowth*) *ROA*, and in Panel C (*ROA*) *Q*. Column 5 uses the same benchmark as in Column 1 and tests explicitly changes at time points -2year, -1year, 1year, and 2year. Detailed definitions of all the other variables can be found in Appendix A. The standard errors are adjusted for heteroscedasticity and within-firm clustering.

Panel A. *CapexPPE*

	(1) Baseline	(2) SIC-Country	(3) Size	(4) ROA	(5) Short dynamic
SWF	0.461***	0.414***	0.444***	0.430***	
	[0.073]	[0.082]	[0.081]	[0.088]	
After	-0.022***	0.006	0.002	-0.006	
	[0.004]	[0.011]	[0.026]	[0.030]	
SWFAfter	-0.007	-0.064	-0.059	-0.031	
	[0.070]	[0.079]	[0.077]	[0.084]	
SWFBefore^{-2} (1)					0.439***
					[0.088]
SWFBefore^{-1} (2)					0.531***
					[0.090]
SWFAfter^{1} (3)					0.526***
					[0.084]
SWFAfter^{2} (4)					0.467***
					[0.089]
CfTA$_{t-1}$	0.278***	0.114*	0.560**	0.628**	0.248***
	[0.013]	[0.049]	[0.216]	[0.217]	[0.013]
Q$_{t-1}$	0.050***	0.082***	0.051*	0.078**	0.058***
	[0.002]	[0.006]	[0.023]	[0.028]	[0.002]
TA$_{t-1}$	-0.015***	-0.017***		-0.013	-0.018***
	[0.001]	[0.002]		[0.012]	[0.001]
IndustryQ$_{t-1}$	0.166***				
	[0.008]				
Constant	0.227***	0.549***	0.284***	0.443**	0.471***
	[0.015]	[0.026]	[0.037]	[0.154]	[0.010]
Observations	188637	21080	2360	2356	188637
adj-R^2	0.064	0.047	0.085	0.080	0.056
p:(1)=(3)					0.361
p:(1)=(4)					0.799
p:(2)=(3)					0.952
p:(2)=(4)					0.515

Standard errors in brackets
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: Do SWFs change firm operation? Multivariate results (Continued)

This table reports estimation results of Model (1) for an event window [-3year,+5year] around SWFs investment events from 1989 to 2012. The sample only include firms in which SWFs invest no less than 5% and their benchmarks. *SWF* is a time-invariant dummy that equals one for firms that are going to be invested by SWFs at some point in the sample period and equals zero for benchmark firms. *After* is a dummy that equals one for both SWF target firms and benchmark firms during the [+1Year,+5Year] event window period. *SWFAfter* is an interaction term of the former two. Panel A display results for the dependent variable *CapexPPE*, Panel B for *SalesGrowth*, Panel C for *ROA*. In Column 1, I benchmark results against an average of all firms from Worldscope that have not been invested by SWFs. In Column 2, I use a control group of firms matched by 2-digit SIC number and host country. In Column 3, I use a control group of firms matched by total assets. In Column 4, the control group is built by matching firms to previous two criteria plus a third factor, i.e. one of firm-level performance measures. In Panel A (*CapexPPE*), this third matching factor is *ROA*, in Panel B (*SalesGrowth*) *ROA*, and in Panel C (*ROA*) *Q*. Column 5 uses the same benchmark as in Column 1 and tests explicitly changes at time points -2year, -1year, 1year, and 2year. Detailed definitions of all the other variables can be found in Appendix A. The standard errors are adjusted for heteroscedasticity and within-firm clustering.

Panel B. *SalesGrowth*

	(1) Baseline	(2) SIC-Country	(3) Size	(4) ROA	(5) Short dynamic
SWF	-0.066	0.041	0.027	0.031	
	[0.035]	[0.031]	[0.040]	[0.046]	
After	-0.066***	0.029***	0.030	0.042	
	[0.003]	[0.007]	[0.026]	[0.032]	
SWFAfter	0.070	-0.057	-0.070	-0.071	
	[0.046]	[0.041]	[0.050]	[0.056]	
SWFBefore^{-2} (1)					0.071
					[0.067]
SWFBefore^{-1} (2)					0.075
					[0.074]
SWFAfter^1 (3)					-0.024
					[0.052]
SWFAfter^2 (4)					-0.106
					[0.067]
SalesGrowth$_{t-1}$	0.017***	0.050***	-0.194***	-0.204***	0.023***
	[0.005]	[0.015]	[0.045]	[0.044]	[0.005]
CapexPPE$_{t-1}$	0.057***	0.056***	0.027	0.010	0.060***
	[0.003]	[0.007]	[0.023]	[0.018]	[0.003]
CashTA$_{t-1}$	0.111***	0.131***	0.195**	0.253**	0.110***
	[0.006]	[0.018]	[0.074]	[0.080]	[0.006]
TA$_{t-1}$	-0.000	-0.002*		-0.006	-0.001*
	[0.000]	[0.001]		[0.004]	[0.000]
IndustryQ$_{t-1}$	0.071***	0.028***	0.077***	0.115***	0.075***
	[0.004]	[0.005]	[0.021]	[0.028]	[0.004]
Constant	0.023**	-0.008	-0.064	-0.042	-0.028***
	[0.008]	[0.017]	[0.060]	[0.067]	[0.007]
Observations	89430	9010	1105	1022	89430
adj-R^2	0.033	0.044	0.048	0.065	0.027
p:(1)=(3)					0.310
p:(1)=(4)					0.059
p:(2)=(3)					0.247
p:(2)=(4)					0.059

Standard errors in brackets

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: Do SWFs change firm operation? Multivariate results

This table reports estimation results of Model (1) for an event window [-3year,+5year] around SWFs investment events from 1989 to 2012. The sample only include firms in which SWFs invest no less than 5% and their benchmarks. *SWF* is a time-invariant dummy that equals one for firms that are going to be invested by SWFs at some point in the sample period and equals zero for benchmark firms. *After* is a dummy that equals one for both SWF target firms and benchmark firms during the [+1Year,+5Year] event window period. *SWFAfter* is an interaction term of the former two. Panel A display results for the dependent variable *CapexPPE*, Panel B for *SalesGrowth*, Panel C for *ROA*. In Column 1, I benchmark results against an average of all firms from Worldscope that have not been invested by SWFs. In Column 2, I use a control group of firms matched by 2-digit SIC number and host country. In Column 3, I use a control group of firms matched by total assets. In Column 4, the control group is built by matching firms to previous two criteria plus a third factor, i.e. one of firm-level performance measures. In Panel A (*CapexPPE*), this third matching factor is *ROA*, in Panel B (*SalesGrowth*) *ROA*, and in Panel C (*ROA*) *Q*. Column 5 uses the same benchmark as in Column 1 and tests explicitly changes at time points -2year, -1year, 1year, and 2year. Detailed definitions of all the other variables can be found in Appendix A. The standard errors are adjusted for heteroscedasticity and within-firm clustering.

Panel C. *ROA*

	(1) Baseline	(2) SIC-Country	(3) Size	(4) Q	(5) Short dynamic
SWF	-0.108***	-0.044	-0.060*	-0.054	
	[0.025]	[0.024]	[0.025]	[0.032]	
After	0.004	0.027***	-0.014	0.030	
	[0.003]	[0.006]	[0.012]	[0.017]	
SWFAfter	-0.009	-0.026	0.021	-0.017	
	[0.020]	[0.019]	[0.021]	[0.027]	
SWFBefore^{-2} (1)					-0.108***
					[0.028]
SWFBefore^{-1} (2)					-0.115***
					[0.025]
SWFAfter^{1} (3)					-0.116***
					[0.025]
SWFAfter^{2} (4)					-0.102***
					[0.024]
SalesGrowth$_{t-1}$	-0.023***	0.014	0.011	0.014	-0.024***
	[0.003]	[0.009]	[0.011]	[0.017]	[0.003]
CapexPPE$_{t-1}$	0.064***	0.023**	-0.004	0.026	0.064***
	[0.006]	[0.008]	[0.019]	[0.025]	[0.006]
TA$_{t-1}$	-0.016***	-0.021***		-0.010*	-0.016***
	[0.001]	[0.001]		[0.004]	[0.001]
IndustryQ$_{t-1}$	0.036***	0.063***	0.122***	0.143***	0.036***
	[0.007]	[0.005]	[0.022]	[0.021]	[0.007]
Constant	0.377***	0.350***	0.191**	0.117	0.380***
	[0.014]	[0.016]	[0.062]	[0.060]	[0.013]
Observations	84440	8325	1056	987	84440
adj-R^2	0.055	0.195	0.123	0.230	0.055
p:(1)=(3)					0.715
p:(1)=(4)					0.845
p:(2)=(3)					0.956
p:(2)=(4)					0.645

Standard errors in brackets

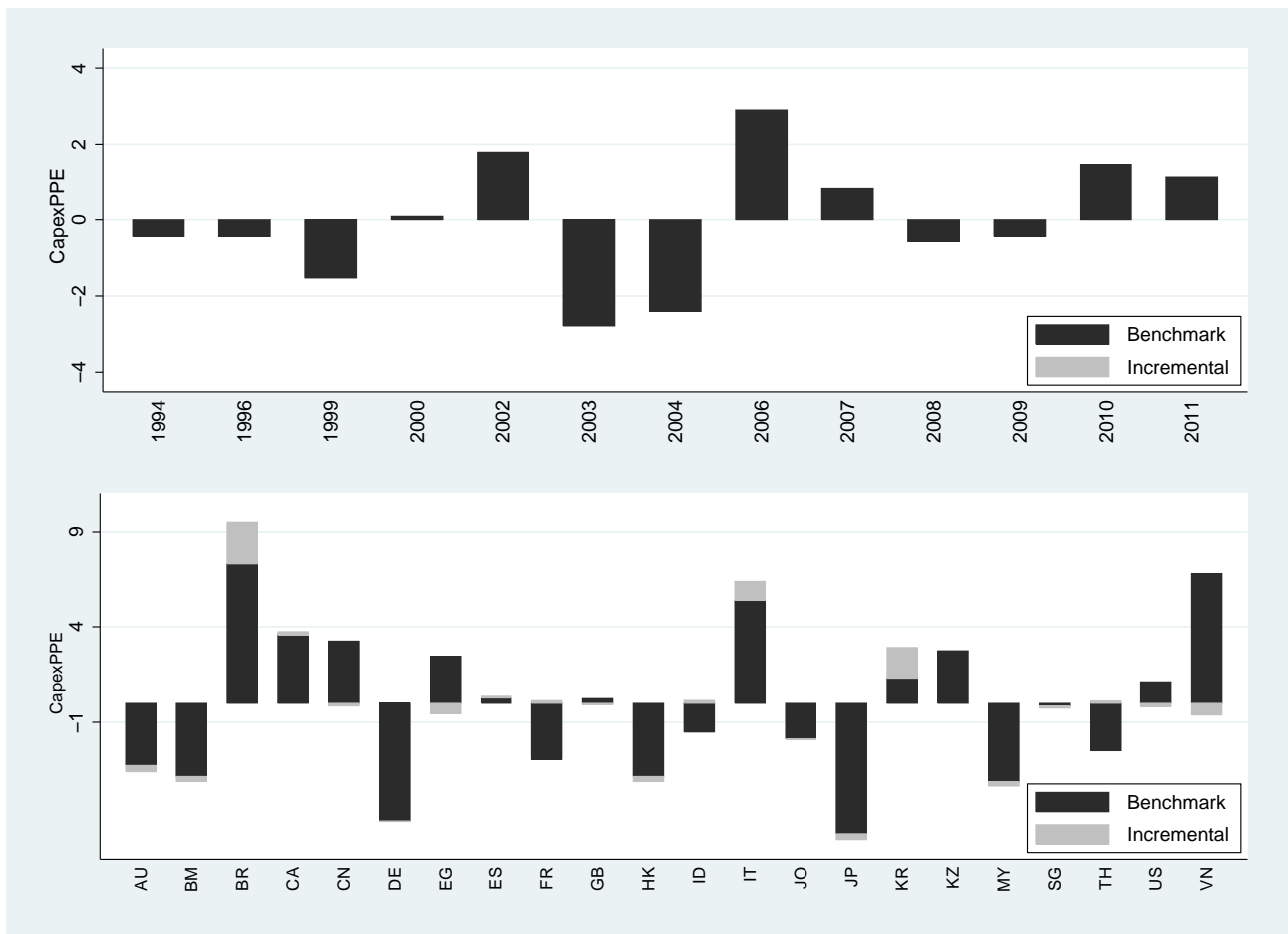* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1A. This figure reports the results from regressions by event year respectively by host country of the association between SWFs becoming shareholders and firms' operation performance (Model (1)). The dark-gray bars correspond to $CapexPPE$ for control group matched by 2-digit SIC, host country, and ROA in the sample (Constant α). The light-gray bars correspond to the incremental performance for firms that receive SWFs investment (λ_3). The initial sample period is from 1989 to 2012. I drop event years and host countries in which less than five transactions take place.

Figure 1B. This figure reports the results from regressions by event year respectively by host country of the association between a SWFs becoming shareholders and firms' operation performance (Model (1)). The dark-gray bars correspond to *SalesGrowth* measure for control group matched by 2-digit SIC, host country, and *ROA* in the sample (Constant α). The light-gray bars correspond to the incremental performance for firms that receive SWFs investment (λ_3). The initial sample period is from 1989 to 2012. I drop event years and host countries in which less than five transactions take place.
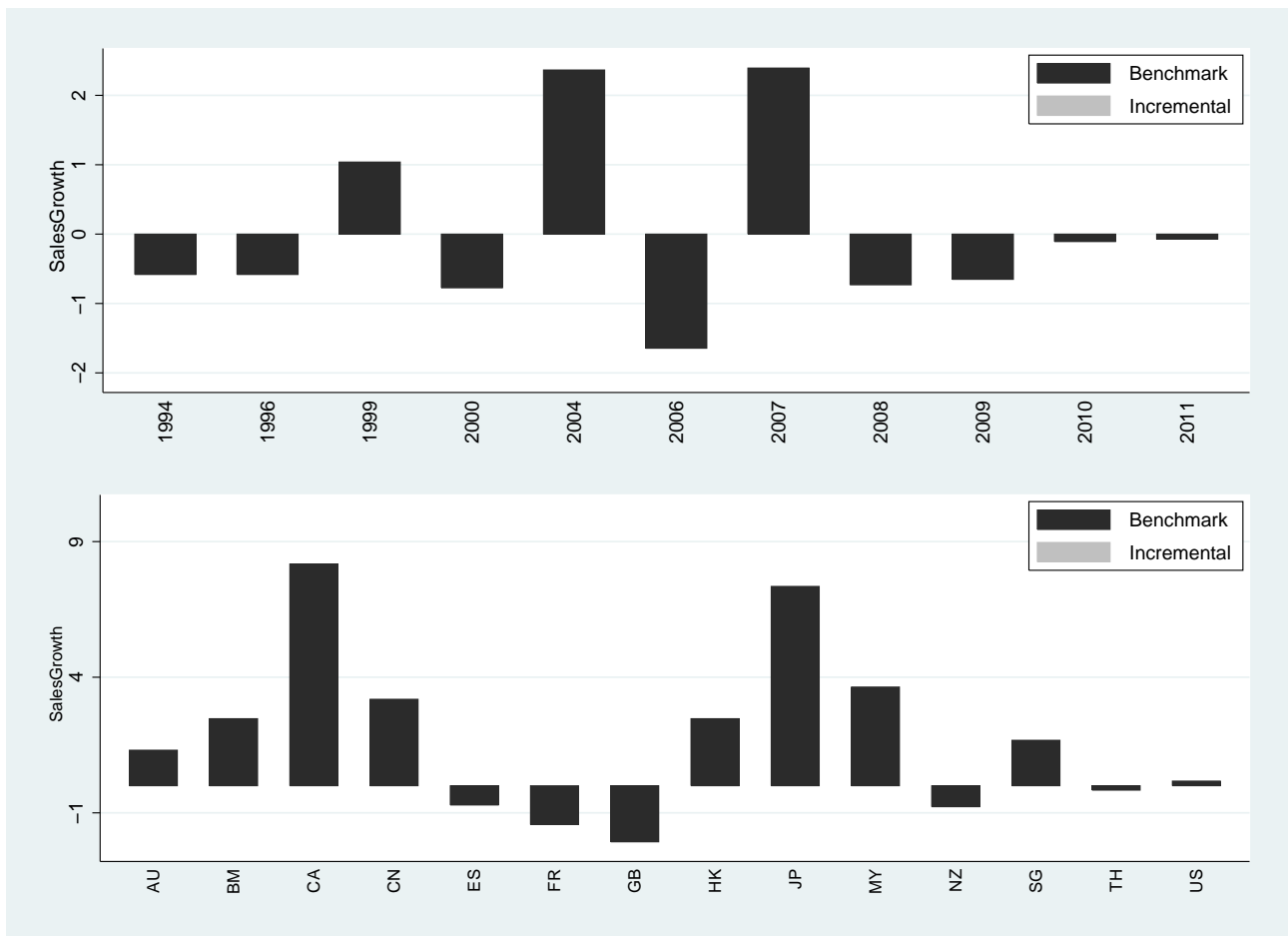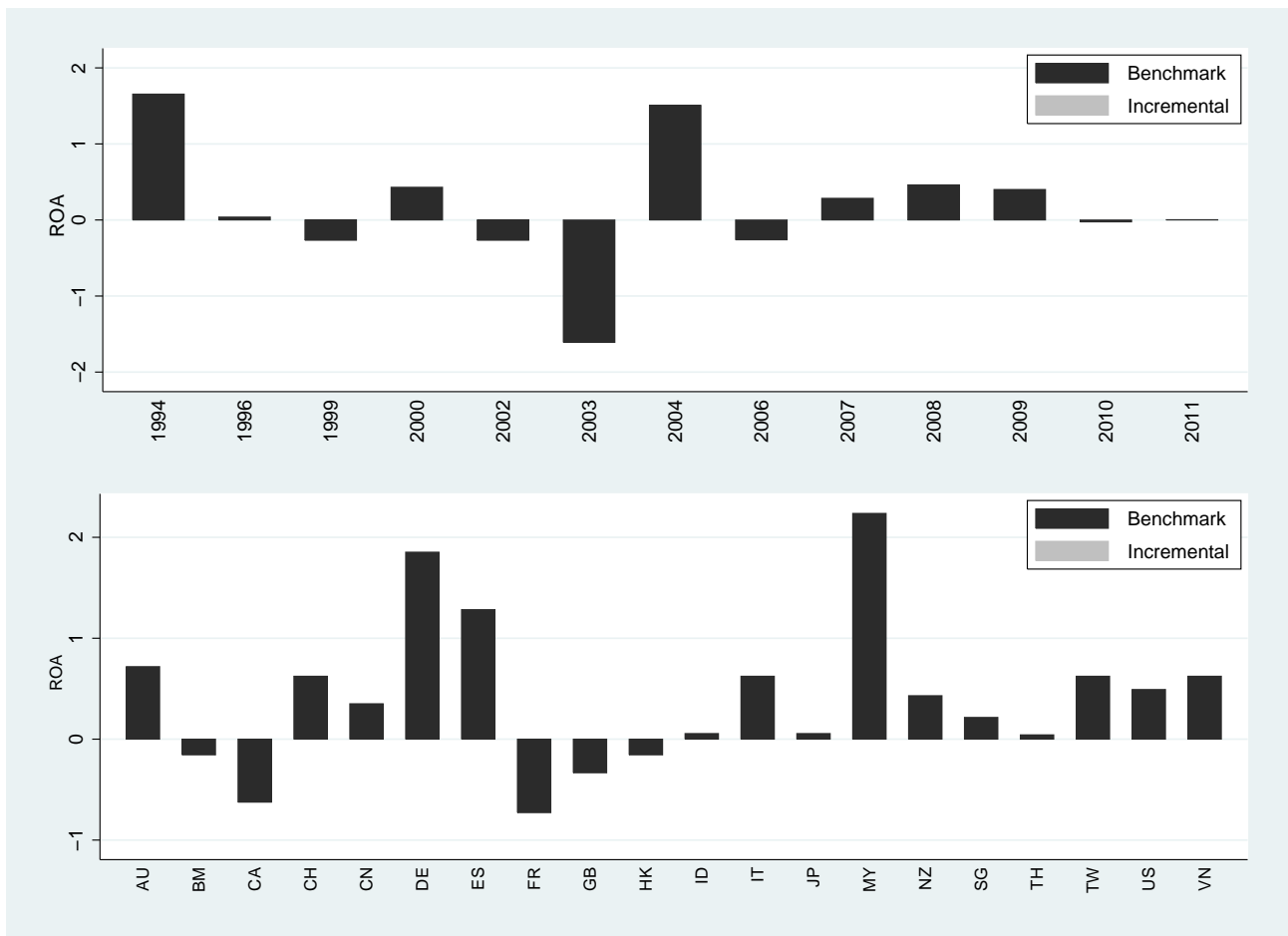
Figure 1C. This figure reports the results from regressions by event year respectively by host country of the association between a SWFs becoming shareholders and firms' operation performance (Model (1)). The dark-gray bars correspond to ROA measure for control group matched by 2-digit SIC, host country, and Q in the sample (Constant α). The light-gray bars correspond to the incremental performance for firms that receive SWFs investment (λ_3). The initial sample period is from 1989 to 2012. I drop event years and host countries in which less than five transactions take place.

Table 6: Do SWFs change firm operation? Sensitivity analysis on stake threshold (Continued)

This table reports estimation results at different stake thresholds of Model (1) for an event window [-3year,+5year] around SWFs investment events from 1989 to 2012. Only target firms of SWFs are included in the model. *After* is a dummy that equals one for both SWF target firms and benchmark firms during the [+1Year,+5Year] event window period. Panel A display results for the dependent variable *CapexPPE*, Panel B for *SalesGrowth*, Panel C for *ROA*. In Column 1, I include all target firms. Then I increase the threshold by 5%. In Column 2-5, I exclude target firms in which SWFs investment less than 5%, 10%, 15%, and 20% respectively. In Panel B and C, Column 5 contains no content because the number of target firms drop under 30. Detailed definitions of all the other variables can be found in Appendix A. The standard errors are adjusted for heteroscedasticity and within-firm clustering.

Panel A. *CapexPPE*

	(1) Full	(2) Stake>5%	(3) Stake>10%	(4) Stake>15%	(5) Stake>20%
After	0.048	-0.022	-0.000	-0.039	-0.086
	[0.028]	[0.072]	[0.103]	[0.115]	[0.132]
$CfTA_{t-1}$	0.132	0.603	0.263	-0.097	0.236
	[0.188]	[0.315]	[0.474]	[0.650]	[0.918]
Q_{t-1}	0.042**	0.072	0.100	0.045	-0.058
	[0.015]	[0.037]	[0.056]	[0.089]	[0.105]
TA_{t-1}	0.061***	0.014	0.019	0.032	-0.005
	[0.010]	[0.019]	[0.029]	[0.035]	[0.041]
$IndustryQ_{t-1}$	0.013	0.070	0.306	0.595*	0.896
	[0.090]	[0.149]	[0.239]	[0.261]	[0.557]
Constant	-0.201	0.414	0.038	-0.440	-0.322
	[0.184]	[0.352]	[0.488]	[0.572]	[0.958]
Observations	2641	565	300	183	110
adj-R^2	0.038	0.018	0.020	0.030	0.026

Standard errors in brackets
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Panel B. *SalesGrowth*

	(1) Full	(2) Stake>5%	(3) Stake>10%	(4) Stake>15%
After	0.018	-0.023	-0.043	-0.106
	[0.017]	[0.049]	[0.053]	[0.057]
$SalesGrowth_{t-1}$	-0.164***	-0.250**	-0.387***	-0.315*
	[0.037]	[0.084]	[0.103]	[0.126]
$CapexPPE_{t-1}$	0.052**	0.039	-0.039	-0.101*
	[0.017]	[0.041]	[0.044]	[0.040]
$CashTA_{t-1}$	0.207***	0.408*	0.307	0.360
	[0.054]	[0.177]	[0.191]	[0.207]
TA_{t-1}	0.002	-0.007	0.001	0.003
	[0.004]	[0.011]	[0.016]	[0.023]
$IndustryQ_{t-1}$	0.105***	-0.064	0.016	0.178
	[0.030]	[0.074]	[0.125]	[0.147]
Constant	-0.123*	0.262	0.146	-0.025
	[0.062]	[0.211]	[0.279]	[0.291]
Observations	1586	282	137	94
adj-R^2	0.047	0.071	0.115	0.082

Standard errors in brackets
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6: Do SWFs change firm operation? Sensitivity analysis on stake threshold

This table reports estimation results at different stake thresholds of Model (1) for an event window [-3year,+5year] around SWFs investment events from 1989 to 2012. Only target firms of SWFs are included in the model. *After* is a dummy that equals one for both SWF target firms and benchmark firms during the [+1Year,+5Year] event window period. Panel A display results for the dependent variable *CapexPPE*, Panel B for *SalesGrowth*, Panel C for *ROA*. In Column 1, I include all target firms. Then I increase the threshold by 5%. In Column 2-5, I exclude target firms in which SWFs investment less than 5%, 10%, 15%, and 20% respectively. In Panel B and C, Column 5 contains no content because the number of target firms drop under 30. Detailed definitions of all the other variables can be found in Appendix A. The standard errors are adjusted for heteroscedasticity and within-firm clustering.

Panel C. *ROA*

	(1) Full	(2) Stake>5%	(3) Stake>10%	(4) Stake>15%
After	-0.017*	-0.004	-0.035*	-0.020
	[0.008]	[0.019]	[0.014]	[0.015]
SalesGrowth$_{t-1}$	-0.002	-0.003	0.009	0.021*
	[0.011]	[0.017]	[0.013]	[0.010]
CapexPPE$_{t-1}$	-0.053***	-0.031*	-0.007	-0.010
	[0.010]	[0.014]	[0.012]	[0.016]
TA$_{t-1}$	-0.019***	-0.022	-0.001	-0.004
	[0.005]	[0.013]	[0.005]	[0.006]
IndustryQ$_{t-1}$	0.077**	0.100*	0.031	0.032
	[0.029]	[0.049]	[0.027]	[0.037]
Constant	0.383***	0.320*	0.103	0.130
	[0.067]	[0.137]	[0.069]	[0.094]
Observations	1511	278	140	97
adj-R^2	0.128	0.214	0.057	0.029

Standard errors in brackets

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7: SWFs and firm value: value-selection or value creation? Multivariate results

This table reports estimation results of the association between Tobin's q and SWFs becoming shareholders based on Model (1) for an event window [-3year,+5year] around SWFs investment events between 1989 and 2012. The dependent variable is Q. In Column 1-2, I keep target firms in which SWFs invest more than 5%. In Column 3-4, the stake threshold is decreased to 1%. In Column 5-6, I use the full sample. The benchmark is a control group matched by 2-digit SIC, host country, and ROA. Detailed definitions of all the other variables can be found in Appendix A. The standard errors are adjusted for heteroscedasticity and within-firm clustering.

	(1) Stake>5%	(2) Stake>5%	(3) Stake>1%	(4) Stake>1%	(5) Full	(6) Full
SWF	0.079		0.215*		0.350***	
	[0.138]		[0.093]		[0.060]	
After	-0.123		-0.076		0.011	
	[0.074]		[0.053]		[0.028]	
SWFAfter	0.109		0.069		-0.009	
	[0.125]		[0.098]		[0.057]	
SWFBefore^{-2} (1)		0.374		0.348**		0.333***
		[0.208]		[0.120]		[0.068]
SWFBefore^{-1} (2)		0.102		0.270*		0.301***
		[0.150]		[0.106]		[0.062]
SWFAfter^{1} (3)		0.112		0.277**		0.342***
		[0.129]		[0.101]		[0.063]
SWFAfter^{2} (4)		0.156		0.213		0.324***
		[0.125]		[0.110]		[0.068]
SalesGrowth$_{t-1}$	0.058	0.056	0.067	0.064	0.160***	0.158***
	[0.067]	[0.067]	[0.049]	[0.049]	[0.036]	[0.036]
DebtTA$_{t-1}$	-0.242	-0.241	-0.057	-0.066	-0.125	-0.127*
	[0.201]	[0.200]	[0.142]	[0.141]	[0.064]	[0.064]
TA$_{t-1}$	-0.086***	-0.086***	-0.092***	-0.089***	-0.067***	-0.060***
	[0.016]	[0.016]	[0.013]	[0.013]	[0.008]	[0.007]
Constant	2.158***	2.104***	2.226***	2.184***	1.816***	1.784***
	[0.205]	[0.207]	[0.167]	[0.168]	[0.079]	[0.078]
Observations	1041	1041	2268	2268	5872	5872
adj-R^2	0.067	0.066	0.060	0.058	0.049	0.044
p:(1)=(3)		0.238		0.558		0.888
p:(1)=(4)		0.311		0.312		0.904
p:(2)=(3)		0.941		0.947		0.506
p:(2)=(4)		0.713		0.673		0.737

Standard errors in brackets
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$