Sovereign Wealth Fund Investments: The Bondholders' Perspective

Previous studies investigated whether SWF investments affect shareholder wealth. This paper considers the perspective of the target firms' existing bondholders to analyze the market reaction to such investments. Using a sample of 113 announcements, we find that bondholders experience significantly positive abnormal returns in the short run (+0.32%) and in the medium run (+2.67%). Further, excess returns are higher when the target is a non-financial or a non-strategic firm. Positive bond price performances are directly related to the cash flows and earnings of the targets; they are inversely related to the credit rating and outlook of the targets. Finally, we find no evidence of any expropriation effect from bondholders to shareholders. The abnormal returns experienced by bondholders could be the starting point for policy-making considerations on the role and influence of SWFs with respect to this particular category of stakeholders.

JEL Codes: G21 and G24

1. Introduction

The history of state-owned investment funds can be traced back to the nineteenth century; however, this investment activity significantly increased in number and scope only in the last two decades. Despite such a long history, the term "sovereign wealth fund" is relatively recent in academic literature, having been introduced in 2005 (Rozanov, 2005). Prior to this, scholars mainly referred to this type of investment entities as "stabilization funds." This term referred to the origin of these investment funds—countries with revenue flows strictly dependent on and arising from just one kind of commodity needed to diversify their investments for the greater goal of income stabilization.

Sovereign wealth funds (SWFs) were only recently defined; this definition implies that no universal meaning can be attached to this category. Sovereign wealth funds constitute quite a heterogeneous category that can vary widely with respect to their organization, disclosure, and their fund managers' compensation schemes and purposes.

Several simultaneous macro-events, such as the rise in oil and raw material prices and increased prospects of cross-border investments (Chan et al., 2005), coupled and stimulated the growth and appetite for higher returns of SWFs in recent years, with these investment entities increasing assets under control from $500 billion in 1990 to $5.2 trillion in 2012 (SWF Institute, 2013).

Despite this recent trend, current empirical evidence regarding the effects of SWF investments on target firms is scant at most and mainly pertains to changes in the wealth of the target's shareholders. This paper contributes to the existing literature by shedding new light on the effect of SWF investments on target bondholder returns.

2. Related Literature

Kotter et al. (2011) defined SWFs as "government-owned investment vehicles with no explicit liabilities to their owners other than internal to the government, significant exposure to high-risk foreign assets, and a long-term investment horizon." Sovereign wealth funds can also be examined within the research framework of large institutional shareholders and their impact on target companies. Therefore, the combined effects of government and institutional ownership on target firms might be relevant in the context of SWF investments.

The literature on government investments in firms is consolidated and mainly indicates that governments are usually ineffective in managing companies for two main reasons: political interference (Shleifer et al., 1994) and agency conflicts (Banarjee, 2007). Empirical research shows that having the government as the controlling shareholder often causes a lack of efficiency in companies (Djankov et al., 2002), as governments are less prompt in adapting to the new, dynamic economic environment. Dewenter et al. (2001) compared private companies and state-owned companies and found evidence that the latter perform worse than the former do. Empirical studies have frequently highlighted that privatization results in positive performances in formerly public-owned firms. Megginson et al. (2001) found that after privatization, the performance of companies improves and existing minority shareholders get significantly positive excess returns.

The literature on firm value in the context of private institutional and individual investors having dominant ownership is also vast. Scholars have generally associated the concept of value maximization with the benefits coming from the active monitoring of the target firms. Ferreira et al. (2008), for instance, showed that foreign independent institutional investors are more involved in monitoring activities, resulting in higher corporate valuations, lower capital expenditure, and better operating performance.

Nevertheless, a trade-off between institutional investors' monitoring and wealth expropriation from minorities might exist. For instance, Johnson et al. (2000) indicated that tunneling activities—the transfer of assets and profits out of firms for the benefit of their controlling shareholders—should also

be taken into account. The authors emphasized that tunneling is more likely to be accommodated by legal provisions in civil law countries than in common law ones.

Studies that were more narrowly focused on SWF investments in private firms have addressed the political concerns raised by the government ownership of SWFs. In particular, being state-owned entities, SWFs are quite peculiar compared to other institutional investors. First, the fast-paced growth of SWFs raises serious concerns among policy makers, most of which are related to whether such large amounts of money could be used to achieve political goals indirectly. Anecdotal evidence, for instance, indicates that following the $300 million deal between China's SAFE and Costa Rica, the latter ceased to diplomatically recognize Taiwan (Batson et al., 2008). Second, SWFs may be driven by other broader, non-commercial purposes. They might influence the target companies to choose specific employment levels, technologies, and marketing strategies that are likely to benefit and promote the home country's economy and development. Further, the managers of SWFs could take advantage of their connections with the controlling governments to enact lobbyist activities in favor of the firms held in their portfolios (Dewenter et al., 2009).

Rose (2008) highlighted two other concerns related to SWF investments. First, SWFs may take advantage of privileged information that the controlling government could retrieve from other sovereign institutions and use this information to influence investment decisions. Former SEC Chairman Christopher Cox warned about "a world in which governments use the vast amounts of covert information collection that are available through their national intelligence services in trading and other market activities to the disadvantage of private investors." Second, the security of intellectual property not only in the technological field but also in the military sector might be at risk. These risks might be significantly worse than has been reported since a large number of SWFs are based in countries characterized by high levels of corruption and a weak legal environment.

A possible solution to these strategic and political issues could be SWF transparency. When an SWF voluntarily enacts a transparency policy, it is perceived to follow (and is more likely to follow) investment strategies that are based on financial goals. Leuz et al. (2003) showed that expropriation from minority shareholders to an SWF and the pursuit of the SWF's political and social purposes are more frequent in poorly informative frameworks. One reason is that opaqueness facilitates the hiding of information related to investment activities. Secondly, when SWFs are more transparent, the managers would be held responsible for their performance; thus, there is a clear incentive to make more valuable investments and to aim at maximizing the target firm's value (Shleifer and Vishny, 1997).

In the context of the strategic and political features that characterize SWFs as peculiar institutional investors, several studies investigated the impact of SWF investments in target companies on

shareholders' wealth; these studies reported mixed results. Bortolotti et al. (2010) used a sample of 688 deals involving publicly traded companies from 1985 through 2009 and found significant positive short-run abnormal returns [CAR (-1, +1) = +1.25%], where CAR stands for cumulative abnormal return. In a long-run perspective, they found that excess stock returns tend to be negative over 6-month, 1-year, and 2-year windows (ranging from -1.24% to -6.22%), while they turn positive over a 3-year horizon (from +0.85% to +3.72%). From a qualitative standpoint, underperformance in the long run is likely to be related to the high stakes acquired and the direct investments, thus suggesting that SWFs more frequently worsen conflicts than monitor targets. Using a sample of 227 equity purchases and 47 divestments from 1996 to 2008, Dewenter et al. (2009) focused on the trade-off between monitoring and tunneling activities that results from having SWFs as large blockholders. In the short run, SWF investments are associated with significantly positive abnormal returns [CAR (-1, +1) = +1.5%], while divestments show negative abnormal returns [CAR (-1, +1) = -1.4%]. They observed that SWFs were activist investors in almost half of the observations and found evidence of at least one event involving influence or monitoring.

Kotter et al. (2009) used a sample of 417 deals from 1980 to 2009 to examine whether the investment strategies of SWFs create or destroy value. They found that SWFs most commonly target underperforming multinational companies as well as distressed or cash-constrained firms. Such investments bring significantly positive excess returns (ERs) in the short run [+2.25% in (-1, +1)], while negative ERs are significant over a 1-year holding period and are not significant thereafter. The regression analyses showed that higher ERs are related to situations of financial distress, the opaqueness of targets covered by few analysts, and high levels of press coverage. Contradictory results have been reported with regard to corporate governance issues: the positive relation between the acquired stake and the ERs points to a constructive monitoring role, but the insignificance of country-specific corporate governance rules suggests that they are less likely to become active monitors. Finally, performance on the accounting side displayed no significant changes over the three years following investment.

Thus, SWFs are similar to other institutional investors—they neither yield long-lasting performance improvements nor cause any material damage to targets. Chhaochharia and Laeven (2008) conducted a study that did not involve event studies; instead, they used indirect valuation measures that focused on investment allocation decisions. The authors used a very large sample of almost 30,000 equity investments made between 1998 and 2007 and found a stronger "home bias" in the case of SWFs than in other groups of institutional investors. Further, they documented a preference for investments in financial firms (except private equity firms) than in oil and gas or unethical corporations as well as a concentration on developed markets. The results of these prior studies clearly show that while several

authors analyzed the impact of SWF investments on shareholder wealth, they did not arrive at a common conclusion. The impact of SWF investments on bondholder wealth has been largely neglected by academics; this subject will be addressed in this work.

3. Hypotheses

This empirical research analyzes the main characteristics of SWF investments. This work focuses on bondholder returns, a perspective that has not been considered in prior studies, and compares the findings to those of other studies on bondholders in different merger and acquisition (M&A) contexts.

First, the short-term consequences for bondholder wealth in terms of bond prices and returns are analyzed. We intend to identify whether bondholders experience any significant abnormal returns during (and shortly after) the announcement of the SWF investment. Even though we expect to find an abnormal performance in bond prices, we are unable to predict whether it is going to be positive or negative. In fact, the extant literature does not provide any homogeneous evidence on whether the coinsurance or the expropriation effect prevails.

Second, if any significant abnormal returns (ARs) are detected, the full sample will be split based on the target's characteristics in order to understand whether financial or "strategic" companies experience stronger ARs than the full sample. We consider all companies involved in developing, maintaining, and managing energy, communication, and transportation networks as "strategic" companies.

Finally, we try to find explanatory variables for the cross-sectional variability in ARs. The linear regression methodology is used and SWF-specific, deal-specific, industry-specific, and target-specific variables are tested. Further, we test the same variables on the subsamples mentioned earlier to understand whether ARs are driven by different factors across different categories.

4. Empirical Analysis

4.1. Sample construction

Since the term "sovereign wealth fund" is quite new and no homogeneous definition for this term exists, for the purpose of this study, we consider all the SWFs recorded by the Sovereign Wealth Fund Institute and all their subsidiaries.

We collect information on SWF investment announcements (between January 1998 and December 2011) primarily from Thomson ONE Banker and Zephyr databases. Our search criteria are: (1) direct or indirect involvement of SWF as acquirer; (2) exclusion of rumored and withdrawn deals; and (3) announcement date between January 1998 and December 2011. This search yields 698 deal announcements.

From these events, we select only 125 target firms (18%) with outstanding bonds over one year prior to the announcement date. We also eliminate six firms with insufficient or unavailable bond trading data, obtaining a final sample of 119 events.

In most cases, firms have more than one outstanding bond; we choose the last issued bond to represent the firms in our study (following Dhillon and Johnson, 1994). In order to have accurate event dates, we cross-check them through different information sources via Factiva database. Through Factiva, We also verify that the investments reported for the SWF subsidiaries in our sample were carried out by actual subsidiaries at the time of announcement.

4.2. Descriptive statistics

In the Introduction, we discussed recent trends in SWF investment activities. The increase in the assets under control (AuC) is reflected in the number of transactions announced. Deal announcements strongly increased over the 2005–2006 period; the decrease during 2011 reflects the slowdown in AuC over that year. The number of target firms with outstanding bonds on the announcement date is directly related to the number of total investments, thus, following the same trend.

The most active SWFs in our sample are those related to the Government of Singapore (Temasek Holdings and Government of Singapore Investment Council), which account for almost a quarter of our observations. We are unable to track deal announcements for Norway's Government Pension Fund (even though it is the largest SWF with more than $660 billion in assets) because of the intrinsic

characteristics of its investments—very small stakes (well under the thresholds that require communications to regulatory authorities) acquired through open-market share transactions. The first 15 SWFs in terms of assets account for more than two-thirds of the transactions in our sample.

Asia-based SWFs prefer to invest in home country firms while other funds rely more on cross-border transactions. In this context, Asia is followed by Europe with slightly more than half of its transactions. The Middle East, the Americas, and the aggregate of Australia-Japan-New Zealand account for about 70 deals each; SWFs show only marginal interest in Africa.

The number of deals does not correspond to high value of transactions. A large part of the investments is made in Europe ($130 billion), with the investments in Asia totaling less than those in the Americas and Australia-Japan-New Zealand. The Middle East appears to be marginally important while Africa attracts very little investments (just $2 billion).

The clear predominance of Europe over the Americas in terms of invested amounts (even though the latter represents a far bigger market than the former) is notable. Given that the aggregate "Americas" is mainly constituted by the United States ($61 billion out of $74 billion), this could be considered an effect of the tighter regulations imposed by the US. The US is the only developed country that has effectively enacted regulations related to SWF investments. This could be one of the determinants or it could even be a coincidence; there are no empirical studies to back this argument.

Table 1 presents the main characteristics of the parties involved in the deals on the announcement date (those included in the sample for the event study). As mentioned earlier, the full sample of observations used in our analysis is split based on two variables: strategic and financial. The information in Table 1 was retrieved from Bloomberg and Datastream/Worldscope.

Table 1: Characteristics of target firms, SWFs, and bonds at the announcement date and one-year changes

	Full Sample		Strategic		Non-strategic		Financial		Non-financial	
Net Sales	151,889.9	(.0204)	449,508.6	.0327	52,683.6	(.0374)	75,976.5	(.0599)	219,521.8	.0155 *
Operating Margin (%)	7.9	(.7708)	15.3	.0052	5.5	(1.0196)	5.9	(1.4256)	9.7	(.1995)
EPS	17.3	(.4384)	62.0	(.0818)	2.4	(.5539)	2.5	(.6571)	30.9	(.2196)
ROE (%)	8.4	(1.2768)	13.1	(.0424)	6.8	(1.7061)	1.3	(.7774)	14.5	(1.6880)
Dividend per Share	1.1	.1634 **	.9	.1669	1.1	.1623 ***	1.7	.0483	.6	.2696 ***
ROA (%)	1.6	(.1950)	2.3	.3529	1.3	(.3847)	(.0)	(.5705)	3.0	.1336
ROIC (%)	11.4	(.5175)	10.7	(.0596)	11.7	(.6787)	5.8	(1.0984)	16.6	(.0259)
Total Assets	435,876.2	25.3319	294,877.7	93.7805	484,065.6	1.9381 ***	767,809.5	3.0041 ***	150,530.1	44.5260
Total Debt	178,064.9	.1416 *	112,754.2	.2573 **	200,386.3	.1020 ***	318,485.8	.0372	57,352.2	.2313 **
Net Debt	140,332.9	.1305	105,246.7	.2255 ***	151,880.3	.0993	241,457.3	.0832	51,849.1	.1720
Leverage (%)	39.9	(.0225)	33.7	.0432	42.0	(.0450)	45.4	(.0658)	35.2	.0147
Intangible Assets	9,185.0	2.2245 **	17,763.9	.2231 **	6,087.0	2.9603 **	8,418.5	2.6938 **	9,809.5	1.8703
Free Cash Flow	(4,631.1)	2.9424 *	(8,904.2)	4.4956 ***	(3,188.3)	2.4110 **	(5,272.2)	3.5763 **	(4,093.1)	2.4216 **
Altman's Z-score	1.9	(.1568)	1.8	.2220	2.0	(.4409)	1.3	(.2605)	2.0	(.1423)
Market-to-Book (x)	1.5	1.4636 *	2.0	2.0430 *	1.3	1.2889 *	.9	.8822 *	2.0	2.0328 *
Beta adj.	1.3	.2055 *	.9	.0660	1.4	.2476 *	1.3	.3043 *	1.3	.1088
SWF Transparency	6.8	9	7.0	2	6.7	7	6.4	4	7.2	5
Stake acquired	16.0%	29	16.2%	2	15.9%	27	11%	21	17.2%	8
# Acquired by subsidiary	22		5		17		10		12	
# Bond inv. grade	77		23		54		41		36	
# Bond non-inv. grade	17		2		15		3		14	
# Repetitive in same industry	59		15		44		32		27	
# Strategic target	27									
# Financial target	49									

One-year change is measured as the difference between the four quarters following the event date and the four quarters preceding the event date. Significance levels for the differences (measured with Z-test) are reported. ***, **, and * indicate significance at 1%, 5%, and 10% level, respectively.

On average, all the companies have positive performance indicators, except in the case of free cash flow. This is consistent with the findings of Kotter and Lel (2009). The fact that the majority of these investments were carried out in the past few years when the financial crisis caused liquidity shortage in the markets should be considered in this context. This explains why financial firms have the lowest market-to-book ratio, return on assets, and return on investments in the sample.

Interestingly, the SWFs in our sample tend to acquire large stakes in target firms. Lower stakes in financial firms could be related to the highly regulated environment they operate in and to the bylaw restrictions on blockholding that are common in most such institutions.

Consistent with our definition of strategic companies, the average amount of intangible assets recorded in the balance sheets is higher (almost double) for these companies compared to the full sample. Such companies, in fact, are characterized by large investments in R&D and high levels of goodwill.

With regard to credit ratings, the majority of the targets in our sample are rated investment grade; almost none of the strategic or financial firms are rated non-investment grade.

Even though some performance indicators register a negative change, they are not statistically significant. Altman's Z-score decreases (-16%) mainly because most of the deals occurred in 2008–2010, when systemic risk dramatically increased in the global economy. Additionally, credit ratings worsen, with the financial firms in our sample experiencing the highest number of downgrades. We also observe a general increase in total and net debt, but no significant change occurs in leverage. Given the strength of exogenous distress factors, it is not possible to relate such changes directly to SWF investments or to understand the extent to which they are accountable (partly or otherwise) for such changes.

We also record a significant increase in dividends per share after SWFs acquire stakes in target firms. For the companies in our sample, this would not be an issue since free cash flows significantly and consistently increase over the same period on average. Further, we observe a significantly robust increase in the intangible assets in the sample. This increase is mainly registered among financial firms; there is strong evidence that this phenomenon should be related to the consolidation wave that occurred in the banking sector in the 2000s.

Finally, the market-to-book ratio significantly increases in the full sample as well as in the subsamples. This demonstrates that despite the recent financial crisis, market valuations improved on average. This evidence suggests that the growth registered before 2008 (which includes the merger wave occurring between 2003 and late 2007) was not completely wiped out in subsequent years. In fact, the financial firms in our sample register the lowest increase in this ratio, consistent with the fallouts of the financial crisis.

4.3. Bond market reaction to SWF investments

4.3.1. Calculating bond returns

The bond returns for the target firms in our sample are calculated as the total bond return (i.e., change in price plus accrued interests). We compute returns over different observation windows in order to capture the evolution of the bond market reaction to SWF investments in the short/medium run.

Considering the announcement date as day 0, we calculate daily bond returns from the first trading day before the event, through sixty days after the announcement. Bloomberg is the source of our bond trading data (including accrued interests).

Bond returns are calculated according to the following formula:

$$BR_t = \frac{BP_t + C_t - BP_{t-1}}{BP_{t-1}}$$

where BP_t is the bond price in t, BP_{t-1} is the earliest bond price prior to day t, and C_t is the coupon amount paid between t and $t-1$.

From an econometric standpoint, calculating bond returns is not very straightforward; certain issues need to be considered when evaluating the results of an empirical study like ours. First, bond markets are thinner than equity markets, and many bonds do not trade for very long periods. In order to reduce the noise that such staleness in data could bring about, we delete any observation with no trading during the (-30, +60) period around the announcement date. Thus, we eliminate six more events, arriving at a final sample of 113 firms. Second, several firms with multiple bonds trade simultaneously. As mentioned earlier, in order to calculate bond returns, we choose the last bond issued one year prior to the event date.

4.3.2. Abnormal returns

In our study, we calculate abnormal returns (ARs) for each bond i from the earliest trading day prior to the announcement date (day -1) throughout two months after the event date (day 60). The ARs are calculated from day -1 in order to capture the effects of possible information leakage.

The estimation window for the market model goes from one year prior to the announcement date (day -365), through two days before the event (day -2). Our event window is set at the interval (-1, +1) so as not to overlap with the estimation window. Further, three post-event windows are used in this analysis to capture possible bond market reaction patterns to SWF investments; these windows are (-1, +30), (-1, +45), (-1, +60).

One issue with bond trading data is that a large number of bonds are quite illiquid. In order to avoid possible noise in the estimation of the normal returns, we use weekly trading data in the market model regressions. Such regressions are carried out using the ordinary least squares (OLS) method.

5. Results

5.1. Abnormal bond returns

The results of the abnormal returns calculation and aggregation for the full sample are reported in Table 2: Panel A. The ARs are positive over all the four event and post-event windows. Although the average for the (-1, +1) period is quite low (+0.32%), it is highly significant at the 0.05 level. Further, the ARs present an increasing trend until day +45 after the announcement date and present a decreasing trend over the following period. The medians are positive, although significant only at day +45, showing a monotonic, slightly increasing trend.

Table 2: Average and median significant abnormal returns

Panel A	**(-1, +1)**	**(-1, +30)**	**(-1, +45)**	**(-1, +60)**
CAR	0.0032 **	0.0166 *	0.0267 **	0.0226
t-statistics (p-value)	0.0426	0.0647	0.0255	0.1132
Median of ARs	0.0006	0.0039	0.0084 *	0.0100
Chi-square statistics for the median (p-value)	0.3600	0.1030	0.0830	0.2640
Panel B	**(-1, +1)**	**(-1, +30)**	**(-1, +45)**	**(-1, +60)**
CAR	0.0061 **	0.0220 **	0.0289 *	0.0280
t-stat (p-value)	0.0173	0.0472	0.0901	0.1628
Median of ARs	0.0016	0.0075 **	0.0079	0.0112
Chi-square stat (p-value)	0.1890	0.0370	0.1460	0.2390
Panel C	**(-1, +1)**	**(-1, +30)**	**(-1, +45)**	**(-1, +60)**
CAR	0.0038 **	0.0189	0.0348 **	0.0336
t-stat (p-value)	0.0490	0.1152	0.0504	0.1185
Median of ARs	0.0009	0.0017	0.0087	(0.0016)
Chi-square stat (p-value)	0.2840	0.3440	0.1680	0.4840

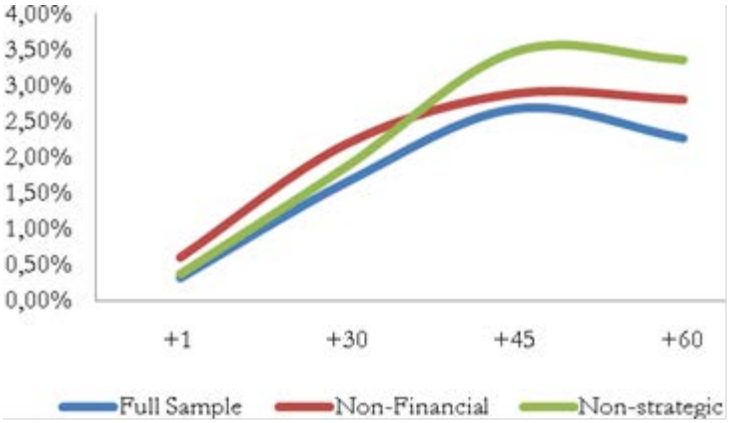
This table presents short-run and medium-run mean and median abnormal bond returns for the 113 firms in our sample (Panel A), 64 non-financial firms (Panel B), and 86 non-strategic firms (Panel C). All data are Winsorized at 95% level. Significance levels and p-value of t- and [illegible] statistics are reported significance at 1%, 5%, and 10% level, respectively.

These trends are represented in Figure 1. The increase from an average of +0.32% on day +1 to an average of +2.67% at day +45 could be due to the poor liquidity of the bond market. It would be reasonable, in fact, that bondholders take a longer time to realize their credit view of target firms when the transactions are more sporadic.

Our findings related to the bond market are consistent with those presented in the extant literature in the context of the stock market (e.g., Bortolotti et al., 2009). The average abnormal returns in +45 were

in line with those recorded by shares over short-run periods; thus, validating our interpretation of a slower bond market reaction.

Figure 1: Evolution of cumulative abnormal returns over the four periods



Financial firms do not show any significant abnormal return over the four observation periods. In the previous section, we discussed how SWFs usually acquire smaller stakes in such firms, probably because of stringent regulations and bylaw restrictions on blockholding. This could be why financial institution bondholders did not change their opinion and credit view of the issuer; thereby, they did not realize any excess gains.

On the other hand, bondholders of non-financial companies experience significant ARs that are higher than those reported on average for the full sample. In this case, the medians increase more strongly, thus suggesting better expectations of short-run bondholders. Nonetheless, the average cumulative abnormal return (CAR) in +45 is less significant than in +30; that is, investors have prompter reactions to SWF investments but they last for a shorter time.

Strategic target firms fail to show any significant abnormal returns. This suggests that investors do not believe there could be possible changes in their wealth due to political concerns that keep SWF investments in such companies under scrutiny or even actual regulations. On the contrary, as shown in Panel C, non-strategic companies record significant ARs, with a maximum in +45 (+3.48%) that is higher than in any previous case. Although the medians of the ARs are positive, they are not significant over any period.

These results suggest that bondholders do not seem to fear any expropriation risk in the short run and medium run. In fact, the CARs of stocks are positive as well (discussed later in this study and in the extant literature), and this has been typically related to such risk. On the contrary, investors seem to expect SWFs to have a positive influence on target companies, at least in terms of credit quality.

Prior studies on SWF investments and their impact on share prices usually analyzed long-run abnormal returns as well and found them to be significantly negative. In this study, we do not present the results for long-run abnormal returns because the poor trading data for a number of bonds over the estimation window would lead to very rough estimates of normal returns, with the risk of misleading results. Nonetheless, we can argue that our findings do not contradict those of previous studies. In fact, the CARs of bonds cease to be significantly positive in +60 for all the subsamples, which leaves space for an inversion in the long run.

Our results could suggest that the CARs of bonds are mostly due to a momentum among the investors; over longer periods, they tend to stay neutral. As shown in the previous section, there is no significant one-year change in those parameters that usually represent the bondholder's perspective (e.g., leverage, ROA).

5.2. Cross-sectional analysis

In each set of regressions, we use different firm-specific, bond-specific, deal-specific, and SWF-specific variables (discussed in Section 4.2). For each regression, we use a listwise case selection criterion, thus excluding all those observations with missing data for any of the independent variables.

For the dependent variable, we use both CAR (-1, +1) and CAR (-1, +45). The first is employed for consistency with the CAR (0, +1) independent variable of stocks; the second is used because it has the highest value for each subsample. Thus, by finding non-contradictory results between the two regressions, we are able to analyze whether the bond market reacts more slowly than the stock market does. Further, the use of CAR (-1, +45) gives us explanatory power in our cross-sectional analyses.

As anticipated, the regression with the dependent variable CAR (-1, +45) is far more significant than the one with CAR (-1, +1). In the latter, only the downgrade dummy variable is significant and positively related to an increase in CARs; this is confirmed by the other regression where the non-investment grade dummy variable is significant, with a positive standardized coefficient. This evidence suggests that bondholders of firms under financial pressure welcome SWF investments. In our sample, the companies experiencing a downgrade are almost all financial institutions. Given this, we can infer that bondholders of banks positively view the acquisition of important stakes by SWFs.

Our cross-sectional analysis shows a significantly negative coefficient of the Δ ROA variable. Firms with decreasing ROA seem to benefit from the announcement of an SWF investment, probably because of the perception among investors that ROA presents a "pessimistic" view of the company's

actual performance. Murphy et al. (1996), for example, suggest that ROA is a more conservative indicator compared to an equity side ratio such as ROE. In fact, ROE presents a positive standardized coefficient, although it is not significant.

Table 3: Linear regression results for the full sample of observations

Variables	CAR (-1, +1)		CAR (-1, +45)	
	Standardized coefficients	t-statistics	Standardized coefficients	t-statistics
Intercept	-	0.084	-	0.185
Firm-specific				
Stocks' CAR (0, +1)	0.171	1.258	0.072	0.604
Δ Net Sales	(0.034)	(0.259)	(0.030)	(0.258)
Δ ROA	0.137	0.946	(0.300) **	(2.373)
Δ ROE	0.123	0.971	0.131	1.187
Δ EPS	(0.035)	(0.217)	0.351 **	2.475
Δ DPS	(0.141)	(0.961)	(0.184)	(1.434)
Δ Free Cash Flow	0.151	1.207	0.226 **	2.075
Δ Leverage	(0.165)	(1.117)	0.195	1.511
Asset Intangibility	0.208	1.619	0.175	1.566
Bond-specific				
Non-inv. Grade	0.101	0.795	0.278 **	2.507
Downgrade	0.254 *	1.755	0.542 ***	4.289
Deal-specific				
Strategic target sector	0.074	0.569	0.081	0.715
Acquired by a subsidiary	0.116	0.884	(0.013)	(0.110)
Stake	0.042	0.315	(0.080)	(0.695)
SWF-specific				
Transparency	(0.106)	(0.794)	(0.034)	(0.290)
Repetitive in same industry	(0.093)	(0.701)	(0.140)	(1.201)
Adj. R-square	**0.058**		**0.284**	

This table shows the results of the OLS regressions on the full SWF target sample's abnormal bond returns. The dependent variable is CAR (-1, +1) in the first column and CAR (-1, +45) in the second one. All data are Winsorized at 95% level. The t-statistic of the coefficient is reported for each variable. ***, **, and * indicate significance at 1%, 5%, and 10% level, respectively.

Further, the regression results indicate that CARs are positively related to an increase in the earnings per share (EPS). This could indicate that EPS is seen as a better proxy of a firm's performance than ROA is; therefore, if EPS is positive, it can generate excess returns.

Moreover, an increase in free cash flows (FCFs) is positively related to CARs. This is a common market reaction—the more the FCFs a firm can generate, the more the resources that will be available for debt service.

The results of the regressions show that deal-specific and SWF-specific predictive variables are not significant in our model. This suggests that in the full sample (on average), bondholders are more focused on firm and bond characteristics when reacting to an SWF investment. Some company-specific variables are also not significant. The variation of leverage does not seem to influence CARs; we also found no evidence of significant changes in the debt-to-assets ratio in our sample. The CARs of stocks, Δ Net Sales, Δ DPS, and asset intangibility are also not significant.

When we distinguish between financial and non-financial firms, only the latter show significant abnormal returns. Therefore, we discuss the regression results of the non-financial subsample only.

Unlike the multivariate model for the full sample, in this case, we need to exclude the Δ EPS variable because of its collinearity, which could affect the robustness of our results.

Table 4 shows that the adjusted R-squares are higher for this subsample than for the full sample. In fact, we find more significant variables in the regression on the event window CARs. In the (-1, +1) window, CARs are positively influenced by those of the shares over the same period; in +45, this variable's coefficient is no longer significant. This could indicate that bondholders and stockholders share the same positive sentiment with regard to SWF investments.

Table 4: Linear regression results for the non-financial targets subsample

	Non-financial subsample		**Non-strategic subsample**	
	CAR (-1, +1)	**CAR (-1, +45)**	**CAR (-1, +1)**	**CAR (-1, +45)**

	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
Intercept	-	0.498	-	0.403		(0.935)		(0.788)
Firm-specific								
Stocks' CAR (0,+1)	0.461**	2.044	0.080	0.395	0.053	0.356	0.146	0.990
Δ Net Sales	0.152	0.826	0.012	0.074	(0.096)	(0.701)	0.007	0.051
Δ ROA	0.052	0.281	(0.410)**	(2.453)	0.123	0.888	(0.212)	(1.542)
Δ ROE	0.149	0.953	0.212	1.504	0.061	0.456	0.084	0.634
Δ DPS	(0.350)*	(1.880)	(0.315)*	(1.878)	(0.080)	(0.554)	(0.063)	(0.440)
Δ Free Cash Flow	(0.146)	(0.983)	(0.108)	(0.808)	0.145	1.141	0.219*	1.735
Δ Leverage	0.089	0.431	0.023	0.124	(0.304)**	(2.227)	0.007	0.049
Asset Intangibility	0.187	1.190	0.107	0.753	0.090	0.672	0.050	0.374
Bond-specific								
Non-inv. Grade	0.121	0.587	0.136	0.734	0.409***	2.840	0.369**	2.583
Downgrade	0.080	0.382	0.503**	2.672	0.217	1.606	0.336***	2.498
Deal-specific								
Strategic target sector	0.103	0.565	0.035	0.212				
Acquired by a subsidiary	0.188	1.165	0.044	0.304	(0.032)	(0.239)	(0.141)	(1.047)
Stake	0.066	0.349	0.223	1.316	0.215	1.501	0.132	0.927
SWF-specific								
Transparency	(0.129)	(0.793)	(0.006)	(0.040)	(0.011)	(0.079)	0.063	0.446
Repetitive in same industry	(0.305)*	(1.840)	(0.325)**	(2.171)	(0.001)	(0.009)	(0.030)	(0.219)
Adj. R-square	**0.163**		**0.319**		**0.222**		**0.233**	

See annotations to Table 3.

This evidence could lead us to think that bondholders do not fear any expropriation risk. However, this inference is contradicted by the significantly negative coefficient of the Δ DPS variable (in both the regressions). Since DPS shows a significant one-year increase on average, bondholders may be led to lower their credit view of the company, thereby reducing any excess returns.

Further, CARs are negatively related to the dummy variable that indicates whether or not an SWF has already invested in the same industry at the time of announcement. This is consistent with our findings in terms of CAR evolution over time. Since CARs tend to decrease two months after the announcement (as they are not significant), we can argue that bondholders are aware of such a trend in the same industry, thereby anticipating it and cushioning excess positive market reactions.

As anticipated, the regression with the dependent variable CAR (-1, +45) is far more significant than the one with CAR (-1, +1). In the latter, only the downgrade dummy variable is significant and positively related to an increase in CAR; this is confirmed by the other regression where the non-investment grade dummy variable is significant, with a positive standardized coefficient. This evidence suggests that the bondholders of firms under financial pressure welcome SWF investments. In our

sample, the companies experiencing a downgrade are almost all financial institutions. Given this, we can infer that bondholders of banks positively view the acquisition of important stakes by SWFs.

With CAR in +45 as the dependent variable, the two other predictors are significant and have coefficients that are consistent with those of the full sample. In this case, the variation of ROA and the downgrade dummy variable are related to CARs negatively and positively, respectively.

As was the case with the full sample, in this subsample, no deal-specific variable is significant for the model. Among the SWF-specific ones, only the transparency index appears not to be relevant. Moreover, Δ Net Sales, Δ Leverage, and asset intangibility remain non-significant.

Since strategic firms failed to show significant abnormal returns in our analysis, only the ARs of non-strategic firms will be investigated. We need to eliminate the Δ EPS variable from the linear regression analysis because of collinearity issues.

For the first time in our analysis, we find that the change in leverage is significant (only for the event-window) and negatively related to CARs in the case of non-strategic firms. In fact, an increase in leverage worsens the credit perspectives of a company. Although there is no significant evidence of an increase in leverage of non-strategic firms, there is a substantial increase in total debt for this subsample.

The regressions show that the non-investment grade dummy variable is significant in both cases, unlike in the case of non-financial firms. The positive coefficient (also paired with the significantly positive one of the downgrade variable for the post-event window) is consistent with the result for the full sample. Therefore, it can be argued that non-strategic companies experiencing financial distress have a positive reaction to SWF investment announcements. Such announcements are seen more as an opportunity than as a threat.

Moreover, the change in free cash flows is positively significant (like in the full sample) while deal-specific and SWF-specific variables remain non-significant along with asset intangibility, CARs of stocks, Δ Net Sales, Δ DPS, Δ EPS, ROE, and ROA.

Overall, the cross-sectional analyses show that in the short and medium run, bondholders of companies with poor credit rating and/or with a negative outlook should experience higher abnormal returns. Moreover, our evidence suggests that ROA is a conservative performance indicator, with a decrease in ROA being associated with higher ARs. Other significant variables among the different regressions reflect the common relation between higher cash availability to service debt and better bond price.

Finally, our analyses do not provide evidence that deal-specific or SWF-specific characteristics affect bond market reaction. Except for the repetitive variable in the non-financial subsample, no learning effect seems to arise from previous SWF investment announcements. Moreover, the transparency of SWFs seems to concern public regulators more compared to bondholders, as they do not seem to react to the high stakes that SWFs acquire.

6. Conclusions

In this paper, we analyze SWF investments from the perspective of bondholders. In doing so, we combine two perspectives: the effects of SWF investments on shareholder wealth and the bond market's reaction to SWF investments in M&A and large blockholding contexts.

Our sample reflects the trends recorded in the overall SWF market with a continuous increase in the number of transactions as well as in value in recent years. We also notice that while the greatest number of investment announcements is made in Asia, the most valuable deals are carried out in Europe, Australia, Japan, and the US.

With regard to the performance of the target firm, we find that SWFs acquire (on average) companies with quite good performance (except in many cases for free cash flows; the negative impact of the recent financial crisis could be considered a determinant). Further, the firms in our sample are mostly investment grade; those experiencing a downgrade in the year following the announcement (because of the recent financial crisis) are mainly financial. We also observe an increase in dividend per share; this evidence is consistent with the findings discussed in the extant literature. However, this is not considered a relevant issue since FCFs significantly grow on average.

The event study documents significantly positive abnormal returns for bondholders in the short run [CAR (-1, +1) = + 0.23%] as well as in the medium run [CAR (-1, +45) = + 2.67%]; no evidence of significant excess returns is found in the long run. We also find that CARs increase over the first 45 days after the investment announcement, which suggests that poor liquidity of the bond market slows down the reaction to the event. This is consistent with studies on shareholder and bondholder wealth when a coinsurance effect exists. Such evidence leads us to state that no expropriation of wealth from bondholders to stockholders seems to arise in our sample.

Moreover, we find that strategic and financial firms do not show any significant ARs; this suggests that when regulations or political concerns are high, the reaction is softened. On the contrary, non-strategic

and non-financial firms record far higher abnormal returns over the different event and post-event windows.

We perform different cross-sectional analyses on the full sample and the two subsamples with significant ARs. In general, we find that the bondholders of companies with poor credit rating (i.e., non-investment grade) or a bad outlook (i.e., downgraded within the year following the event) are likely to earn higher returns. The regressions results show that a one-year increase in free cash flows is positively related to ARs, while an increase in dividends per share has a negative impact.

With respect to non-financial firms, we find that bondholders have a "colder" reaction when an SWF has already invested in the same industry as that of the target. They seem to anticipate the overall trend of decreasing ARs in the long run. On the other hand, bondholders of non-strategic firms seem to look more at the leverage—an increase in leverage has a negative impact on bond prices.

The cross-sectional analyses do not provide any significant evidence that SWF-specific or deal-specific characteristics affect bondholders; not even the stake acquired (or sought) in the transaction seems to affect ARs.

The evidence of the abnormal returns experienced by bondholders could be the starting point for policy-making considerations on the role and influence of SWFs with respect to this particular category of stakeholders. This influence has been found to be positive, which indicates the need for future regulations.

Finally, the unique perspective of this paper could be a starting point for future research on SWF investments—the coinsurance or expropriation effect requires further investigation.

References

Aktas, N., & de Bodt, E.-G., 2007. Event studies with a contaminated estimation period. *Journal of Corporate Finance, 13* (1), pp. 129-145.

Balding, C., 2008. *A portfolio analysis of sovereign wealth funds.* University of California-Irvine.

Balding, C., 2012. *Sovereign Wealth Funds.* New York: Oxford University Press.

Banarjee, A., 1997. A theory of misgovernance. *Quarterly Journal of Economics* (112), pp. 1289-1332.

Bernstein, S., Lerner, J., & Schoar, A., 2009. *The investment strategies of sovereign wealth funds.* Working Paper. Harvard University.

Billet, M., King, T., & Mauer, D., 2004. Bondholder Wealth Effects in Mergers and Acquisitions: New Evidence from the 1980s and 1990s. *The Journal of Finance* (59), pp. 107-135.

Bortolotti, B., Fotak, V., Megginson, W., & Miracky, W., 2010. *Sovereign Wealth Fund Investment Patterns and Performance.* Milan: Fondazione Eni Enrico Mattei.

Burnett, J., Carroll, C., & Thristle, P., 1995. Implications of multiple structural changes in event studies. *Quarterly Reviews of Economics and Finance, 37* (4), pp. 467-481.

Chan, K., Covrig, V., & Ng, L., 2005. What determines the domestic bias and foreign bias? Evidence from mutual fund equity allocation worldwide. *Journal of Finance* (60), pp. 1495-1534.

Chhaochharia, V., & Laeven, L., 2008. The Investment Allocation of Sovereign Wealth Funds. Washington, DC, US.

Deutsche Bank. 2008. *SWFs and foreign investment policies – An update.* Deutsche Bank Research.

Dewenter, K., & Malatesta, P., 2001. State-owned and privately-owned firms: an empirical analysis of profitability, leverage, and labour intensity. *American Economic Review* (91), pp. 320-334.

Dewenter, K., Han, X., & Malatesta, P., 2009. Firm values and sovereign wealth fund investments.

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1354252 .

Dhillon, U., & Johnson, H., 1994. The Effect of Dividend Changes on Stock and Bond Prices. *Journal of Finance* (49), pp. 281-289.

Djankov, S., & Marrel, P., 2002. Enterprise restructuring in transition: a quantitative survey. *Journal of Economic Literature* (40), pp. 739-792.

Drezner, D., 2009. *BRIC by BRIC: The Emergent Regime for Sovereign Wealth Funds.* Working Paper.

Estrin, S., Hanousek, J., Kocenda, E., & Svejnar, J., 2009. The effects of privatization and ownership in transition economies. *Journal of Economic Literature* (47), pp. 699-728.

Ferreira, M., & Matos, P., 2008. The colors of investors' money: the role of institutional investors around the world. *Journal of Financial Economics* (88), pp. 499-533.

Galai, D., & Masulis, R., 1976. The option pricing model and the risk factor of stock. *The Journal of Financial Economics* (3), pp. 53-81.

Green, M., & Forry, J., 2010. Sovereign Wealth Funds: International Growth and National Concerns. *The banking law*

journal, 127 (10), pp. 965-985.

Hand, D., Blunt, G., Kelly, M., & Adams, N., 2000. Data Mining for Fun and Profit. *Statistical Science, 15* (2), pp. 111-126.

Henderson, G., 1990. Problems and Solutions in Conducting Event Studies. *Journal of Risk and Insurance, 57* (2), pp. 282-306.

Higgins, R., & Schall, L., 1976. Corporate bankruptcy and conglomerate merger. *The Journal of Finance*, 30 (1), pp. 93-113.

Holderness, C., 2003. A survey of blockholders and corporate control. *Economic Policy Review* (9), pp. 51-64.

Johnson, S., & Mitton., T., 2003. Cronyism and capital controls: evidence from Malaysia. *Journal of Financial Economics*, 67 (2), pp. 351-382.

Johnson, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A., 2000. Tunnelling. *American Economic Review* (90), pp. 22-27.

Klein, A., & Zur, E., 2011. The Impact of Hedge Fund Activism on the Target Firm's Existing Bondholders. *The Review of Financial Studies, 24* (5), pp. 1735-1771.

Knill, A., Lee, B., & Mauck, F., 2009. 'Sleeping with the enemy' or 'an ounce of prevention': sovereign wealth fund investments and market destabilization. *http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1328045* .

Kothari, S., & Warner, J., 2007. Econometrics of event studies. In *Handbook of Corporate Finance* pp. 4-36).

Kotter, J., & Lel, U., 2009. Friends or foes? Target selection decisions and performance effects of sovereign wealth funds. *http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1292407* .

La Porta, R., & Lopez-de-Silanes, F., 1999. The benefits of privatization: evidence from Mexico. *Quarterly Journal of Economics* (114), pp. 1193-1242.

Leuz, C., Nanda, D., & Wysocky, P. D., 2003. Investors protection and earning management: an international comparison. *Journal of Financial Economics* (69), pp. 505-527.

Levy, H., & Sarnat, M., 1970. Diversification, portfolio analysis, and the uneasy case for conglomerate mergers. *The Journal of Finance* (25), pp. 795-802.

Lewellen, W., 1971. A pure financial rationale for the conglomerate merger. *The Journal of Finance* (26), pp. 521-537.

Lins, K., 2003. Equity Ownership and Firm Value in Emerging Markets. *Journal of Financial and Quantitative Analysis, 38* (1), pp. 159-184.

MacKinley, A., 1997. Event studies in Economics and Finance. *Journal of Economic Literature* (35), pp. 13-39.

Maxwell, W., & Stephens, C., 2003. The Wealth Effects of Repurchases on Bondholders. *The Journal of Finance* (58), pp. 895-919.

Megginson, W. L., & Netter, J. M., 2001. From state to market: A survey of empirical studies on privatization. *Journal of Economic Literature* (39), pp. 321-389.

Mikkelson, W., & Ruback, R., 1985. An empirical analysis of the inter-firm equity investment process. *Journal of Financial Economics* (14), pp. 523-553.

Murphy, G., Trailer, G., & Hill, R., 1996. Measuring performance in entrepreneurship research. *Journal of Business Research, 36* (1), pp. 15-23.

Rose, P. 2008. Sovereigns as Shareholders. *North Carolina Law Review* (87), pp. 102-162.

Rozanov, A., 2005. Who holds the wealth of nations. *Central Banking Journal, XV* (4).

Ruiz-Mallorquí, M., & Santana-Martín, D., 2011. Dominant institutional owners and firm value. *Journal of Banking & Finance* (35), pp. 118-129.

Shleifer, A., & Vishny, R., 1994. Politicians and firms. *Quarterly Journal of Economics* (109), pp. 995-1025.

Truman, E., 2008. *A blueprint for sovereign wealth fund best practice.* Peterson Institute for International Economics Policy Brief.

Warga, A., & Welch, I., 1993. Bondholder losses in leveraged buyouts. *The review of financial studies* (6), pp. 959-982.