The Role of Sovereign Wealth Funds in Global Financial Intermediation

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Sovereign wealth funds (SWFs) have experienced tremendous growth lately. Their combined wealth is currently estimated at $3 trillion, and the International Monetary Fund estimates that they will continue to grow to $10 trillion by 2012. SWFs' recent investments in the United States and Europe have been the focus of media and government scrutiny, given that a number of SWFs are not transparent, and emanate from authoritarian regimes, which are not political allies of the West. In this article, we provide a comprehensive overview, along with detailed summary statistics on various aspects of SWFs. We also provide recommendations to facilitate SWFs' role in global financial intermediation. © 2010 Wiley Periodicals, Inc.

Introduction

Following a series of high-profile international investments in the corporate sector in 2007 and 2008, sovereign wealth funds (SWFs) became the focus of media and government attention among target nations. SWFs are government-owned investment funds, which are set up to invest a country's trade surpluses and/or excess reserves. Income from SWF investments can be used as a rainy day fund, to help pay for a future liability (for example, public pensions), or by future generations, among others.

SWFs have experienced tremendous growth lately. Their total wealth is estimated at $3.22 trillion.[1] This value is greater than the total assets of hedge funds ($2 trillion) but less than the total official monetary reserves of central banks ($6 trillion).[2] The International Monetary Fund (IMF) estimates that SWF total assets could grow to $10 trillion by 2012.

While their growth is a welcome source of capital internationally, their lack of disclosure (particularly those from China and the Middle East) had regulators and financial market authorities pondering the political risks that SWFs may pose. While some SWFs are committed to full disclosure

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(for example, Norway and Singapore), many of the world's biggest ones do not report their investment objectives, annual accounts, asset size, and investment portfolios. Therefore, their investment motives are not well understood.

As Philipp M. Hildebrand, member of the governing board of the Swiss National Bank, puts it: "The rise in SWFs has undoubtedly brought a number of benefits. One of these has become particularly evident recently. Against the backdrop of the current market turmoil, SWFs have been a welcome source of capital, strengthening the vulnerable balance sheets of some of the world's largest financial institutions. But they have also given rise to considerable political controversy, as their rapid ascent challenges some long-held assumptions about how the global economy works."[3]

Individually, each SWF is typically endowed with billions of dollars. For example, the Abu Dhabi Investment Authority, a Middle Eastern SWF widely regarded as the world's largest, is estimated to be worth up to $875 billion. Therefore, many SWFs have the resources to acquire a sizeable stake and take control of a target company. While their massive investments can boost economic activity, critics (both in and out of government) argue that some SWF investments may be politically rather than commercially motivated. This is due to the fact that they are government-owned; many are not transparent; and many emanate from authoritarian regimes. Russia's state-owned Gazprom cut off gas supplies to Ukraine twice, once in winter 2006 and a second time in winter 2009.[4] Even though it occurred under a different context and did not involve SWFs, the example illustrates the extent of harm that a state-owned corporation may cause.

Given that SWFs represent a relatively new, cash-rich investment group, it is important to study their investment objectives and their roles in the global financial market, and it is this intellectual inquiry that motivates our article. The rest of the article proceeds as follows. In the first section, we define SWFs and look at their various types. We briefly describe the history of SWFs in the next section, and we analyze the multiple benefits of SWF investments in the third section. In the fourth section, we look at the controversies created by SWFs and the ongoing efforts to deal with them. In the fifth section, we present empirical evidence on various aspects of SWFs—for example, their location, size, transparency, funding, objectives, management, portfolio mix, target countries, target industries, and target corporations, among others. We conclude with a summary and recommendations.

Definition and Types of SWFs

While there is not a precise definition of SWFs, Borgne and Medas provide a comprehensive overview. In their article, the authors define SWFs as vehicles to manage public funds, predominantly engaged in cross-border investments seeking a higher risk-return combination than the one offered by safer investments like government bonds.[5] SWFs obtain their capital mainly from current account surpluses and excess foreign exchange reserves, and are typically controlled by their governments.

There are two general types of SWFs: commodity and noncommodity.[6] Commodity SWFs are funded by oil or commodity export revenues, and noncommodity SWFs are funded by transfers from official foreign exchange reserves. According to Butt et al., SWFs belong to a continuum of government-owned investment vehicles that include central banks, sovereign stabilization funds, sovereign saving funds, government investment corporations, and government-owned enterprises.[7] SWFs include the following variations: sovereign stabilization funds (designed to stabilize revenue), sovereign saving funds (to act as intergenerational funds), and government investment corporations (to invest in riskier assets like corporate bonds, common stocks, and real estate).

Although SWFs belong to their respective governments, an SWF is neither managed like a central bank nor does it form part of a country's foreign exchange reserves. Unlike a central bank, SWFs do not have the day-to-day responsibility for maintaining the stability of the national currency and money supply. And unlike an official foreign exchange reserve, SWFs are not held in foreign currencies. Further, compared to either central banks or an official foreign exchange reserve, SWFs are able to lengthen their investment horizons, assume greater risk, and seek higher returns despite the fact that they are investing state funds.

It is difficult to generalize SWFs as a class. For example, while the majority is owned by national governments, there are also those that are owned by local governments like provinces, emirates, and states (such as in Canada, the United Arab Emirates, and the United States, respectively). Some are managed semi-independently—that is, the government appoints a board to oversee the operations of the SWF (for example, the Australian Government Future Fund)—while others are managed directly by their Ministry of Finance (for example, Indonesia's Pusat Investasi Pemerintah). There are also those that are managed by their central banks (for example, Kazakhstan National Fund and Nigeria—Excess Crude Account). A few SWFs are under the direct control of their head of state (for example, the State Oil Fund of the Republic of Azerbaijan and Venezuela's Fund for Investment of Macroeconomic Stabilization). Some SWFs are set up as a private company under the Companies Act, wholly owned by the government (for example, the Government of Singapore Investment Corporation).

Next, all SWFs do not invest in the same way. While some invest primarily in their local economy (for example, Khazanah Nasional BHD in Malaysia), others invest predominantly abroad (for example, the China Investment Corporation). There are SWFs that invest conservatively in safe assets like government bonds, and there are also those that undertake riskier investments through participation in joint ventures and/or private-equity deals and/or buyouts (for example, Abu Dhabi Investment Authority, Abu Dhabi's Mubadala Development Company, and the China Investment Corporation). A few SWFs invest as pension funds in the sense that they are set up to facilitate government savings necessary to meet public pension expenditure (for example, the Government Pension Fund-Global of Norway). While some governments establish only one such fund, others establish a family of those funds (for example, the United Arab Emirates). Therefore, SWFs differ in their objectives, the way they are managed, and their investment approaches.

The lower required rate of return for SWFs makes a given investment more valuable to them compared to funds that are financed by debt/equity.

History of SWFs

Kuwait founded the first SWF in 1953, the Kuwait Investment Authority (KIA). KIA's objective was to achieve revenue diversification, since Kuwait was overly dependent on revenue from oil exploration and oil sales. Following KIA, there wasn't a major wave of SWF creation until the 1970s, when Singapore, Abu Dhabi, and Canada all created their first SWFs. Norway set up the most transparent—and among the world's largest—SWF in 1990. There was then a second major wave of SWF creation in the 2000s. In 2007, China formed the China Investment Corporation with an initial endowment estimated at $200 billion, and Russia announced a pair of new SWFs with a combined wealth estimated at $150 billion. Currently, a number of countries have these funds, and a few more have expressed an interest in establishing one.[8] Most SWFs are located in either oil-producing nations or in economies running trade surpluses.

The Benefits of SWF Investments

Benefits of SWFs to Recipient Firms

For a publicly incorporated fund, its cost of capital is usually a weighted average of its costs of debt and equity. However, since SWFs do not borrow money or sell stock to the public, they incur neither a cost of debt nor a cost of equity, which potentially allows SWFs to demand a lower rate of return on their investments compared to a private or publicly listed fund.

Likewise, SWFs do not have impending liabilities (like debt) that they are obligated to pay, nor do they have to pay investors who might want to withdraw their capital on short notice. Therefore, they are relatively free to adopt risky strategies over a long-term investment horizon.

Any fund that borrows money faces bankruptcy risk, and as a result, its cost of capital includes a premium for default risk. The higher the risk of default, the higher the default risk premium, and the higher the fund's cost of capital. Because SWFs do not borrow money, plus the fact that they are backed by their government, it should be the case that their cost of capital does not include a default risk premium. With a lower cost of capital, SWFs should be able to supply funds at a lower required rate of return than a leveraged fund. The lower required rate of return for SWFs makes a given investment more valuable to them compared to funds that are financed by debt/equity.

Stockholders' risk is generally made up of two types: business risk and financial risk. Business risk refers to market- and industry-wide risks that affect a firm's operations irrespective of its capital structure. Financial risk refers to the addition in stockholders' risk, resulting from the firm's use of debt. Therefore, the higher the cost of debt, the greater the increase in stockholder risk, *ceteris paribus.* Since the cost of sovereign funds can be lower than the cost of debt from nongovernment sources, the use of sovereign funds would increase the target's stockholder risk by a lower amount than does the cost of debt.

The fact that SWFs can accept a lower return on investment than funds that are financed by debt holders and stockholders implies that SWFs are generally more likely to provide financing during a financial crisis than traditional funds with private investors. For example, the financial crisis of 2007–2008 led to an increase in the cost of capital for many U.S. financial firms. Since the required rate of return for SWFs can be lower than the rate demanded by other investors, corporations in need of financing during the crisis turned to SWFs for capital.

In Table 1, we present the major SWF investments in the United States during the financial crisis of 2007–2008. In Panel A of Table 1, except for Advanced Micro Devices and MGM Mirage, all of the targeted firms by SWFs are financial ones directly affected by the subprime mortgage crisis. Therefore, recent experience suggests that SWFs can help in mitigating the adverse effects of a liquidity or credit crisis. In fact, SWFs invested nearly $40 billion in U.S. financial institutions in 2007 alone during the beginning stages of the subprime crisis.[9] However, as bank stocks tumbled in 2008 and the crisis worsened, SWFs significantly reduced their investments in U.S. financial institutions.

On a larger scale, SWFs facilitate the global allocation of credit and capital from countries with excess capital to firms that need capital. And not only do SWFs improve access to capital for corporations, but they can also make it available at a lower rate, as explained earlier. This, in turn, potentially increases the value of the investment for which the financing is needed. As a result, value is added to the SWF-financed corporation.

Additionally, considering the stake acquired in target companies in Panel B of Table 1, SWFs are also passive investors. SWFs have not been demanding boardroom changes or changes in executive management in the U.S. companies displayed in Table 1—at least not so far—and they have not been withdrawing funds as markets declined further in 2008 and into early 2009. Rose explains how various statutes discourage SWFs from acquiring a controlling investment in U.S. firms.[10] Kotter and Lel provide evidence that shareholder activism is not common among SWFs.[11]

The Benefits of SWF Investments on Target Company Stock Price

Examining the initial stock-price impact of 163 announcements of SWF investments in firms from 28 countries, Kotter and Lel, as well as Fotak, Bortolotti, and Megginson, and Chhaochharia and Laeven, find that investors generally react favorably to these announcements.[12] On average, the stock price of the target firm increases by 2% (on a risk-adjusted basis during the three-day window surrounding the announcement date). In dollar terms, the market value of the target firm increases by $327 million on average (median increase of $60 million) in the first two days of the announcement. However, the market reaction is more favorable for more transparent SWFs, such as Norway and Singapore.

Benefits to Investing Governments

SWFs provide multiple benefits to their home-country governments. First, through their investments, SWFs enable their governments to diversify their income sources. Diversification allows the minimization of risk and does not leave the government completely exposed to the price volatilities in one commodity/asset. Second, SWFs allow governments to profitably invest their excess foreign exchange reserves, trade surpluses, and/or budget surpluses. Third, by investing in their local industries, SWFs help in creating/preserving employment and growth. Fourth, by investing abroad, an SWF can help to improve the reputation of its home government as being business-friendly and playing an important role in global financial intermediation (as is the case with Dubai and Abu Dhabi). Fifth, by investing abroad, an SWF allows its government the opportunity to access new skills, knowledge, and technology to support the development of its domestic industries and sectors. For example, Dubai's stock exchange is now using a new trading system developed by Nasdaq following SWF investments by its government in Nasdaq and the London Stock Exchange.

When Are SWF Investments Controversial?

Except for Norway and Singapore, the world's largest SWFs disclose too little information relative to their size. There is ample evidence that a lack of disclosure in these cases generates a lot of political concern.[13] For example, much of the political furor in the United States has to do with the fact that many cash-rich SWFs are based in countries or areas that are not political allies (for example, Russia, the Middle East, and China).

Among the concerns levied against SWFs are:

1. Their lack of disclosure, especially with regard to their size and objectives;
2. The potential threat of a rival nation employing SWF capital to acquire strategic assets and use them as a potential "weapon" against the recipient country;

TABLE 1 Sovereign Wealth Funds' Investments in the United States

Panel A: Investments in Publicly Listed Firms					
Date	Target	Target's Business	Target Exchange	Acquirer	Origin
25-Jul-07	Fortress Inv. Group LLC	Asset Management	NYSE	Qatar Investment Authority	Qatar
22-Aug-07	MGM Mirage	Resorts & Casinos	NYSE	Dubai World	UAE
20-Sep-07	Nasdaq Stock Market Inc.	Security & Commodity Exch	Nasdaq	Borse Dubai	UAE
23-Oct-07	Bear Stearns Cos. Inc.	Security Brokers & Dealers	NYSE	CITIC Securities Co. Ltd	China
16-Nov-07	Advanced Micro Devices Inc.	Semiconductors	NYSE	Mubadala Development Co.	UAE
26-Nov-07	Citigroup Inc.	Money Center Banks	NYSE	Abu Dhabi Inv. Authority	UAE
19-Dec-07	Morgan Stanley	Security Brokers & Dealers	NYSE	China Investment Corp.	China
24-Dec-07	Merrill Lynch & Co. Inc.	Security Brokers & Dealers	NYSE	Temasek Holdings (Pte) Ltd	Singapore
15-Jan-08	Merrill Lynch & Co. Inc.	Security Brokers & Dealers	NYSE	Kuwait Investment Authority	Kuwait
15-Jan-08	Merrill Lynch & Co. Inc.	Security Brokers & Dealers	NYSE	Korea Investment Corporation	South Korea
15-Jan-08	Citigroup Inc.	Money Center Banks	NYSE	Kuwait Investment Authority	Kuwait
15-Jan-08	Citigroup Inc.	Money Center Banks	NYSE	Government Inv. Corp.	Singapore

Panel B: Investments in Initial Public Offerings					
Date	Target	Target Industry	Target Exchange	Acquirer	Origin
22-Jun-07	Blackstone Group LLC	Asset Management	NYSE	China State Investment Corp.	China
29-Oct-07	Och-Ziff Capital Mgmt Grp LLC	Asset Management	NYSE	Dubai International Capital	UAE
7-Apr-08	Visa Inc.	Business Services	NYSE	Kuwait Investment Authority	Kuwait

Panel C: Investments in Publicly Listed Firms						
Date	Target	Acquirer	Transparency	Amount ($Mil.)	Transaction/Security	Stake (%)
25-Jul-07	Fortress Inv Group LLC	Qatar Investment Authority	1	Undisclosed	Privately negotiated	Minority
22-Aug-07	MGM Mirage	Dubai World	5	5,200	Seasoned Equity Offering and Public Tender	9.50
20-Sep-07	Nasdaq Stock Market Inc.	Borse Dubai	5	Cross Invest	Cross Invest	19.99
23-Oct-07	Bear Stearns Cos. Inc.	CITIC Securities Co. Ltd	2	Cr. Inv. 1,000	Withdrawn	9.90
16-Nov-07	Advanced Micro Devices Inc.	Mubadala Development Co.	3	608	Secondary Equity Offering	8.00
26-Nov-07	Citigroup Inc.	Abu Dhabi Inv. Authority	3	7,500	Convertible Preferred	4.90
19-Dec-07	Morgan Stanley	China Investment Corp.	2	5,000	Convertible Preferred	9.90
24-Dec-07	Merrill Lynch & Co. Inc.	Temasek Holdings (Pte) Ltd	7	4,400	Newly Issued Common Stock in a Private Placement	9.40
15-Jan-08	Merrill Lynch & Co. Inc.	Kuwait Investment Authority	6	2,000	Convertible Preferred	3.00
15-Jan-08	Merrill Lynch & Co. Inc.	Korea Investment Corporation	9	2,000	Convertible Preferred	3.00
15-Jan-08	Citigroup Inc.	Kuwait Investment Authority	6	3,000	Convertible Preferred	1.60
15-Jan-08	Citigroup Inc.	Government Inv. Corp.	6	6,880	Convertible Preferred	3.70

Panel D: Investments in Initial Public Offerings						
Date	Target	Acquirer	Transparency	Amount ($Mil.)	Transaction/Security	Stake (%)
22-Jun-07	Blackstone Group LLC	China State Investment Corp.	2	3,000	Initial Public Offering	9.70
29-Oct-07	Och-Ziff Capital Mgmt Grp LLC	Dubai International Capital	5	1,250	Initial Public Offering	9.90
7-Apr-08	Visa Inc.	Kuwait Investment Authority	6	800	Initial Public Offering	4.00

3. The nontraditional investment approach of some (for example, many SWFs from China and the Middle East "bailed out" major U.S. financial firms in the subprime mortgage crisis of 2007–2008 when other investors did not; see Table 1. Many investors feared that the losses due to the credit crisis would persist and they needed more time to determine the full extent of the crisis before they committed more funds.); and
4. The risk that a foreign government will use an SWF to acquire proprietary knowledge, patented technology, or trade secrets.[14]

The weak legal environment and high level of corruption in many countries where SWFs originate complicate the issues even further.[15]

Senator Richard G. Lugar, the ranking Republican on the U.S. Senate Foreign Relations Committee, summarized the political concerns about SWFs this way: "The expansion of sovereign wealth funds is not an inherently negative development. They have infused helpful liquidity into international financial markets and, in some cases, promoted beneficial local development. Yet sovereign wealth funds are not ordinary investors. Their ties to foreign governments create the potential that they will be used to apply political pressure, manipulate markets, gain access to sensitive technologies, or undermine economic rivals."[16]

As a result of the political concerns, some SWF-target countries have passed legislation to contain the potential political risks of SWF investments. For example, the U.S. passed the Foreign Investment and National Security Act (FINSA) in 2007, and France in 2005, Japan and Canada in 2007, and Australia and Germany in 2008 took similar measures.[17] In October 2008, the IMF published a set of Generally Accepted Principles and Practices, known as the Santiago Principles, as best practices for SWFs.[18] At the same time, member countries of the Organisation for Economic Co-operation and Development (OECD), which collectively attracts major SWF investments, vowed to treat SWFs fairly and not restrict their investments as long as SWFs do not pose a threat to national security. In March 2008, the U.S. Department of Treasury reached a voluntary agreement with Abu Dhabi and Singapore that their SWFs will invest for purely financial reasons when considering opportunities in the United States.[19]

As a result of the political concerns, some SWF-target countries have passed legislation to contain the potential political risks of SWF investments.

Empirical Evidence on the Functioning of SWFs

Data

Collecting data on SWFs can be very challenging because many SWFs provide very little public information. We use three primary sources for SWF data. The first one is the Sovereign Wealth Fund Institute, a California-based organization designed to study SWFs and their impact on global economics, politics, financial markets, trade, and public policy.[20] Next, we collect data on SWF investments from the Zephyr database, which covers investment deals and transactions internationally. Zephyr covers investments of smaller value than either Thomson Financial or Mergerstat. Third, we complement data collected from the SWF Institute and the Zephyr database with news searches using LexisNexis Academic. Our sample includes 52 SWFs from 39 countries. However, because not all SWF information is publicly available, our data do not cover the entire universe of SWFs.

Our data allows us to analyze a number of important issues, including: Do SWFs target developed markets only? Do SWFs prefer to be passive investors that invest in minority stakes only? Do they invest in risky assets only? Do SWFs target potentially sensitive sectors like ports and shipping, aerospace and defense, energy and utilities, transportation, and telecommunications? Do they engage in cross-border investments only? What are their stated investment objectives? Are all SWFs located in major geopolitical powerhouses? How are SWFs managed? What is the mix of their investment portfolios?

Results

Location, Size, and Transparency of SWFs

Table 2 lists the SWFs and displays (1) the number of SWFs per country, (2) the mean size of an SWF per

TABLE 2 Number of Sovereign Wealth Funds Including Their Size and Transparency

Country	Number of SWFs	Mean Size (U.S. $ bn)	Mean Transparency Score	Average 2000 to 2008 Current A/C (U.S.$ bn)
Algeria	1	47	1	18.8
Angola	1	N/A	N/A	4.3
Australia	1	43.8	9	–32.8
Azerbaijan	1	10.2	9	3.1
Bahrain	1	14	6	1.3
Botswana	1	6.9	3	1.0
Brazil	1	5.9		–4.3
Brunei Darussalam	1	30	1	4.7
Canada	1	16.6	9	16.6
Chile	1	21.3	7	1.4
China	4	147.65	4.25	152.2
France	1	28	N/A	–5.3
Hong Kong SAR	1	173	7	17.6
India	1	N/A	N/A	–6.3
Iran, Islamic Repub	1	12.9	1	14.8
Ireland	1	22.8	10	–5.2
Japan	1	N/A	N/A	152.2
Kazakhstan	1	38	N/A	–0.6
Kiribati	1	0.4	1	0.0
Korea	1	30	9	8.9
Kuwait	1	264.4	6	29.3
Libya	1	50	2	15.0
Malaysia	2	14.25	4	17.6
Mauritania	1	0.3	1	–0.3
New Zealand	1	9.1	10	–6.4
Nigeria	1	11	1	4.4
Norway	1	301	10	44.1
Oman	1	8.2	1	2.9
Qatar	1	60	5	14.2
Russia	1	189.7	5	63.9
Saudi Arabia	2	219.15	2.5	63.7
Singapore	2	232	7	22.3
Thailand	1	N/A	N/A	5.0
Timor-Leste, Dem.R	1	3.2	6	0.3
Trinidad and Tobago	1	2.4	5	2.6
United Arab Emirate	5	242.05	4.25	22.4
United States	4	13	8.5	–591.3
Venezuela	1	0.8	1	16.6
Vietnam	1	2.1	4	–2.3
	52			

Data collected from SWF Institute (http://www.swfinstitute.org/).

We used the Linaburg-Maduell Transparency Index to calculate the mean transparency score.

The source for current account balances is the IMF's *World Economic Outlook*. Accessed on March 18, 2009.

N/A = not available.

country in billions of U.S. dollars, (3) the mean Linaburg-Maduell Transparency Index of all SWFs in each country, and (4) the average annual current account balance per country from 2000–2008.

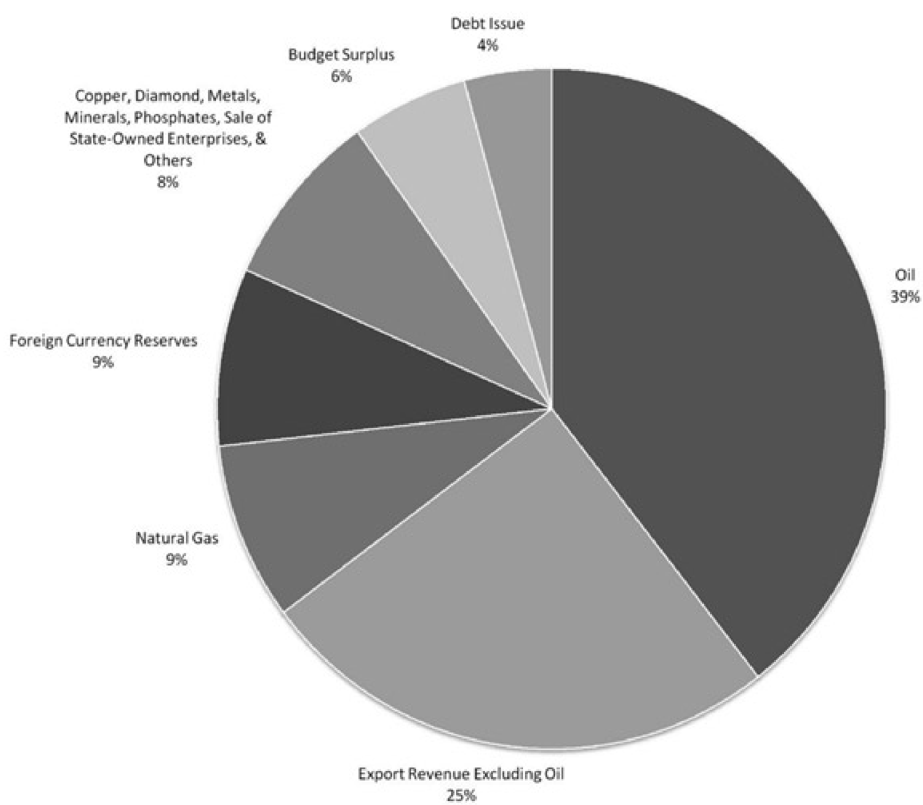
The Linaburg-Maduell Transparency Index is published by the SWF Institute and rates SWFs on ten individual transparency factors that result in a composite transparency index measure that ranges from a minimum score of 1 (least transparent) to a maximum score of 10 (most transparent). The Government Pension Fund-Global of Norway is considered the world's most transparent SWF (index value of 10) and is used as the benchmark for maximum fund transparency, largely because its origin, financing, and objectives are all well documented. Moreover, it is subject to independent audits and releases annual reports that are publicly available, and it regularly publicizes the composition of its investment portfolio and performance. Because of its importance as a model of SWF transparency, we provide a detailed description of Norway's SWF in Appendix A. Temasek of Singapore is also perceived as a transparent SWF and, just like the Government Pension Fund-Global of Norway, is in many ways considered a model of transparency for other SWFs. Temasek publishes annual reports and makes the details of its investment portfolio and performance publicly available.

The UAE owns the world's largest SWFs, both in number and size, and its total SWF assets exceed $1 trillion. The country with the second-largest SWFs is China, followed by Singapore, Saudi Arabia, Norway, and Russia. The average annual current account balance from 2000–2008 for each of the six countries is positive and among the highest in the world.

The mean Linaburg-Maduell Transparency Index for both UAE and Chinese SWFs is 4.25 (on a scale of 1 to 10). The mean transparency ratings for SWFs in Singapore, Saudi Arabia, Norway, Kuwait, and Russia are 7, 2.5, 10, 6, and 5, respectively. Since the SWF Institute recommends a minimum index value of 8 in order to be seen as adequately transparent, most of the world's largest SWFs are not very transparent, except for Norway.

Our summary statistics for SWFs are consistent with those of Lyons.[21] Lyons's list of the world's largest SWFs includes Abu Dhabi ($875 billion), China ($200 billion), Kuwait ($265 billion), Norway ($400 billion), Russia ($165 billion), and Singapore (Government of Singapore Investment Corporation and Temasek Holdings, totaling $490 billion). Cohen adds Saudi Arabia (estimated at $365 bil-

FIGURE 1 Sources of Funding for SWFs



lion) to this list, along with Hong Kong (estimated at $175 billion), Algeria, Dubai, Libya, and Qatar (each in the range of $50–100 million). According to Cohen, these 12 countries account for well over 80% of total SWF assets.[22]

Sources of Funding for SWFs

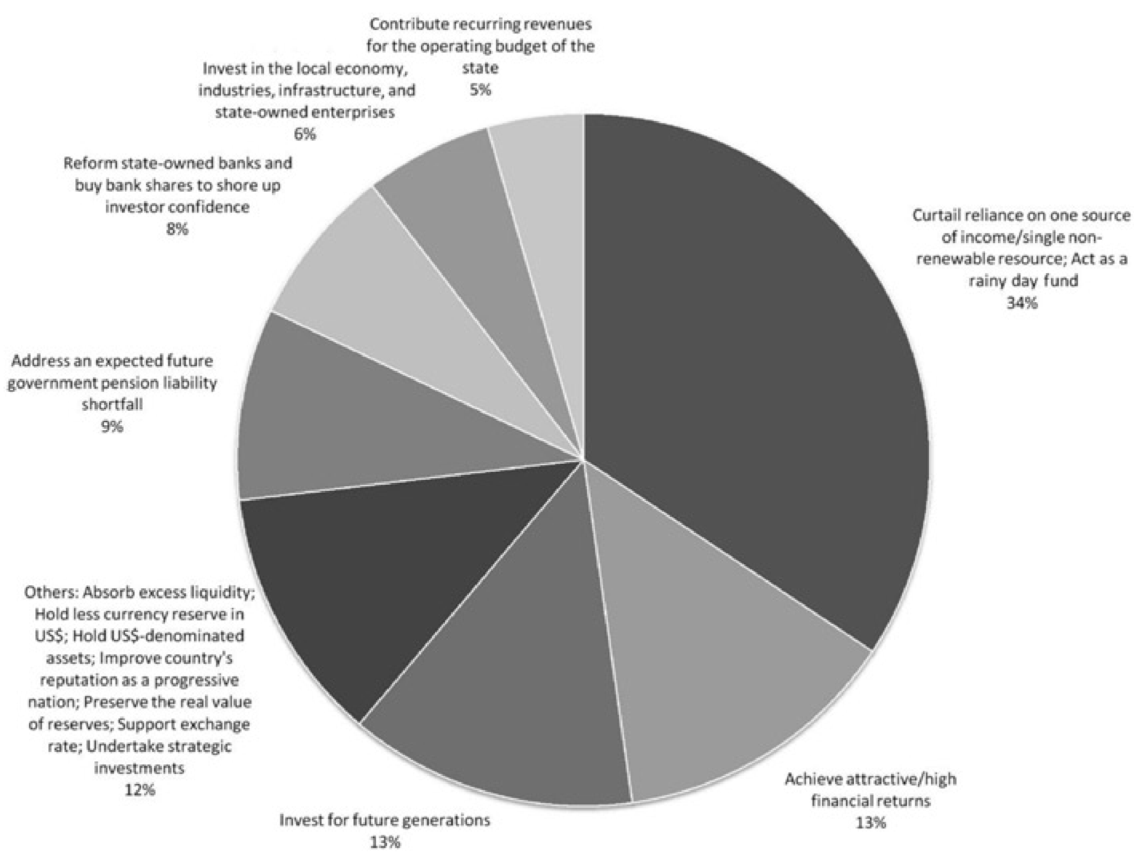
Figure 1 presents the sources of funding for SWFs and shows that revenue from oil is the most common source, accounting for 39% of the total. As shown in Table 2, most of the world's largest SWFs are located in oil-producing nations like the UAE, Saudi Arabia, Norway, Kuwait, Russia, and Qatar, which is consistent with oil being the most important source of funding for SWFs. Revenue from noncommodity exports is the second most significant source of funding for SWFs, especially in countries like China and Singapore.

While many SWFs are funded with export revenue and revenue from the exploration of a natural resource, some SWFs use nontraditional funding sources. For example, the China Investment Corporation is partly financed by issues of government-backed bonds, and the National Security Fund of China is partly financed with revenues from the sale of state-owned assets.

Investment Objectives of SWFs

We collected data on the investment objectives of SWFs and present the results in Figure 2. We observe that the most common objective is to achieve revenue diversification (34% of the total). Under the category of revenue diversification, we include all SWFs with one of the following as a stated objective: (1) to curtail reliance on energy exports; (2) to cushion the budget from oil price shocks; (3) to act as a stabilizer/rainy day fund; (4) to achieve revenue diversification; (5) to diversify the government's asset exposure; and (6) to reduce the country's reliance on a single nonrenewable resource. Achieving attractive/high financial returns is the second most cited SWF objective (13.1% of total). The third most cited SWF objective is to invest for future generations (12.9% of total), since SWFs are seen as a very attractive strategy to save a country's current excess wealth for the benefit of future generations. This strategy works especially well for countries that are presently heavily reliant on revenue from the exploration and trade of a nonrenewable natural resource like oil. Another objective mentioned by a number of SWFs is to address an expected future government pension liability shortfall (e.g., the Government Pension Fund-Global of Norway).

FIGURE 2 SWFs' Objectives



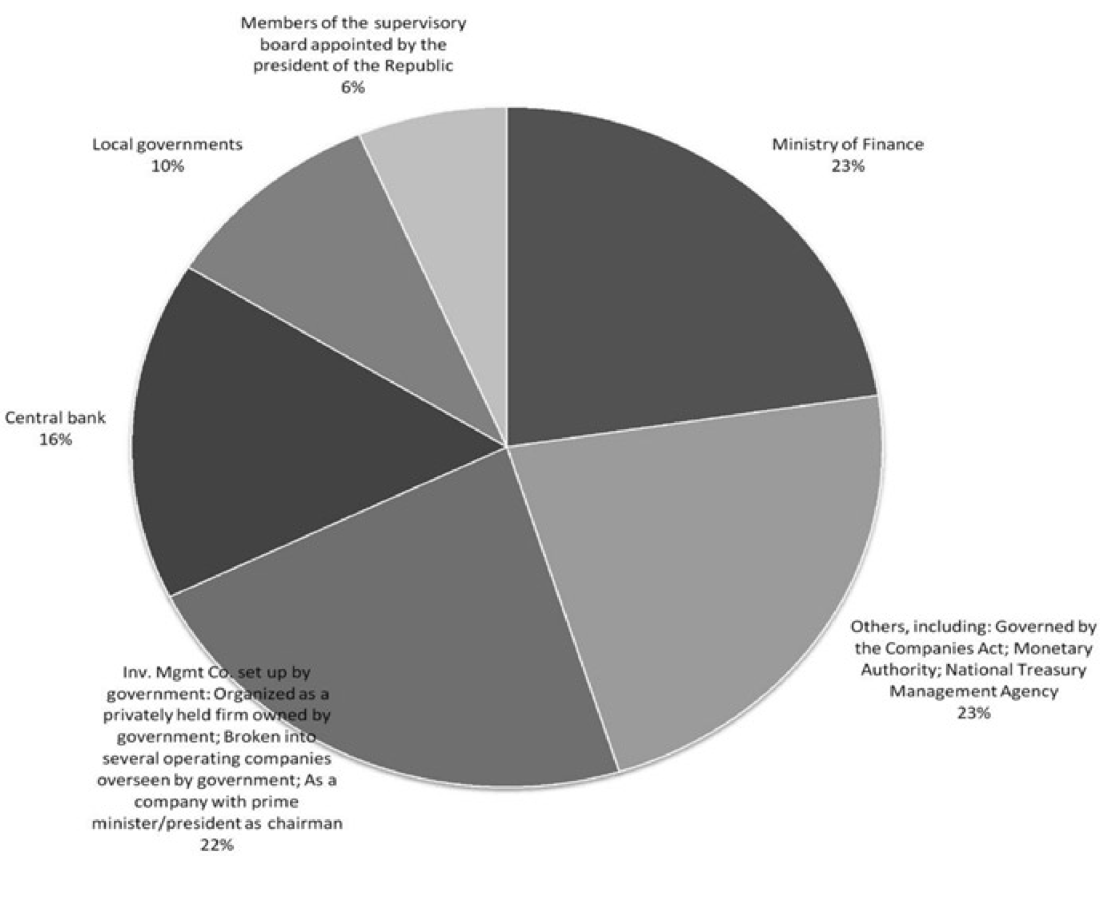
A number of SWFs were established recently. For example, 25% of the SWFs listed in Table 2 (13 SWFs out of 52 total) were established in 2007 and 2008. That period also coincided with the financial crisis that adversely affected financial markets globally. We observe that a few of the recently created SWFs state that the reform of their domestic state-owned banks and the purchase of domestic banks' shares to shore up investor confidence is an important objective. There are also SWFs that invest in other local sectors apart from the financial sector.

Management of SWFs

Figure 3 displays data on the management structure of SWFs. Most SWFs fall under the direct control of their Ministry of Finance (23% of the total). Under this arrangement, SWF management is essentially bureaucratic, with state employees operating the fund on a daily basis, supplemented by a committee of government appointees (usually high-level state officials and outside specialists) that reviews the fund's performance and advises the fund on investment strategies. It would be interesting to compare the skills, experience, remuneration, and performance of these SWF managers with those of fund managers in the private sector. Kotter and Lel find that the proportion of private industry directors on an SWF's board positively affects the market value of the firms receiving investments from that SWF.[23]

We separately categorize SWFs that are set up as investment companies but are still overseen and controlled by their governments. The extent of government interference is lower in this set-up compared to the first. This set-up is the second most common form of SWF (22% of the total). In third place, we have SWFs that are managed by their central banks (16% of the total). The fourth most common management structure is for local governments to administer SWFs (10% of the total). In fifth place (6% of the total), the head of the state personally selects members of the SWF supervisory board.

FIGURE 3 How Are SWFs Managed



Asset Allocation of SWFs

In Figure 4, we present data on the asset allocation of SWFs. Fixed-income securities are the most preferred investment securities (37.5% of the total), followed by investments in the common stock of listed corporations (21.25% of the total). The attractive feature of fixed-income securities is that they provide income certainty as long as the borrowing entity is not in financial distress. The expected returns on listed corporations' common stocks are higher but riskier. The third most common investment asset held by SWFs is real estate (11.25% of the total). Real estate assets typically preserve value and offer considerable potential for capital appreciation over time. The *2009 Preqin Sovereign Wealth Fund Review*, published by *Research and Markets*, finds equity to be the most preferred asset class for SWFs, followed by (in decreasing order of importance) fixed income, real estate, infrastructure, private equity, and hedge funds.[24] According to the Monitor Group, sovereign wealth funds are estimated to have as much as $3 trillion in assets, and much of that money is invested in bonds.[25]

Countries in Which SWFs Invest

Data on recipient countries of SWF investments are presented in Table 3. The United States is the most favored destination for SWF investments (16.3% of the total), followed by the United Kingdom (11.2%) and Singapore (9%). Other notable destinations for SWF investments include the UAE (8.7%), Malaysia (6.9%), and China (5%). Our data suggest that SWFs do not exclusively target the OECD markets, but they also make significant investments in both domestic and emerging markets as well.

Industries in Which SWFs Invest

In Figure 5, we present data on the target industries in which SWFs invest. The financial industry is the most common target industry, with almost 35% of total funds invested in that one sector. This finding supports the large inflow of SWF money into the U.S. financial industry during the crisis in 2007 and 2008. Since 2007, SWFs from China, Dubai, Kuwait, and Singapore have invested almost $50 billion in major U.S. financial firms like Citigroup, Merrill Lynch (which has now been acquired by Bank of America), Morgan Stanley, Bear Stearns (which has now been acquired by JPMorgan Chase), Blackstone Group, and Och-Ziff Capital Management Group (see Table 1).

The real estate industry is the second most common target investment sector (almost 7% of the total).

FIGURE 4 Asset Allocation of Sovereign Wealth Funds

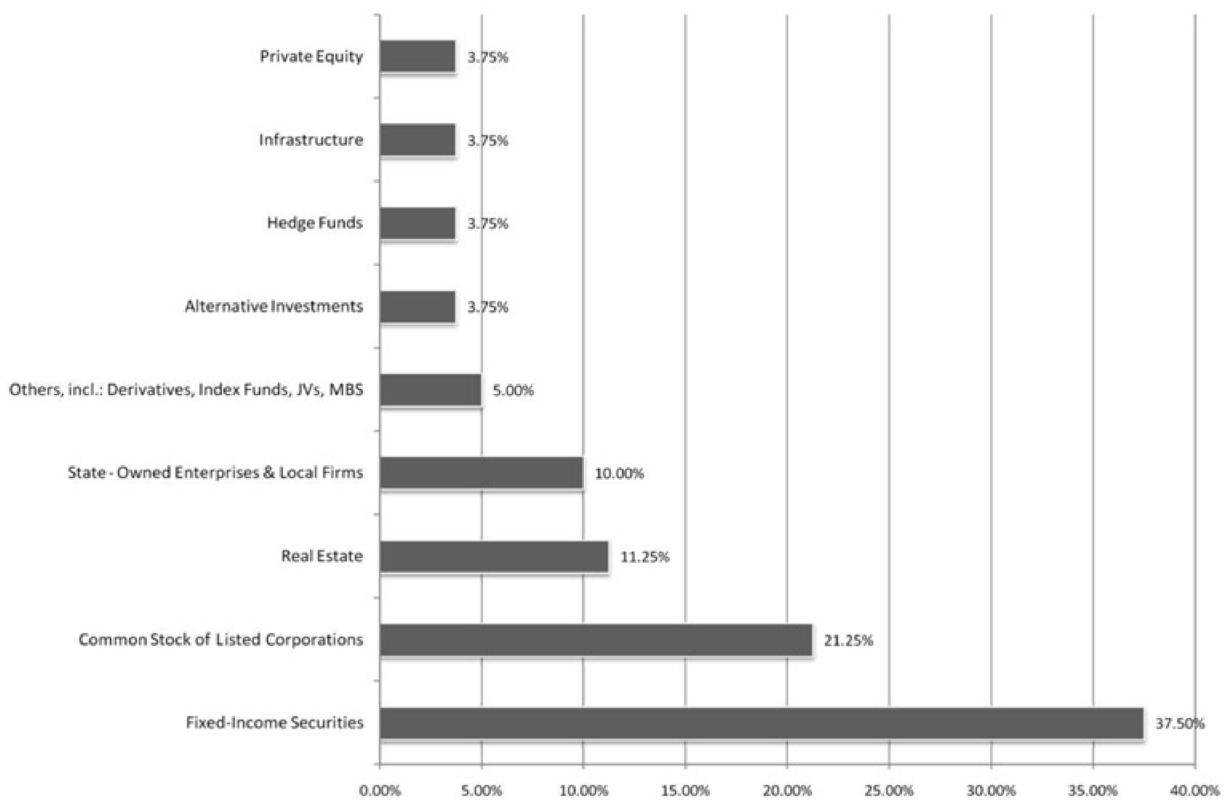


TABLE 3 SWF Target Country for Investment

Target Country	Frequency	Percent
Algeria	3	1.09%
Armenia	1	0.36%
Australia	3	1.09%
Austria	1	0.36%
Bahrain	3	1.09%
Bermuda	2	0.72%
Canada	3	1.09%
Cayman Is	1	0.36%
China	14	5.07%
Egypt	7	2.54%
France	5	1.81%
Georgia	2	0.72%
Germany	7	2.54%
Greece	2	0.72%
Guinea	1	0.36%
Hong Kong	7	2.54%
India	5	1.81%
Indonesia	2	0.72%
Italy	7	2.54%
Japan	4	1.45%
Jordan	5	1.81%
Kazakhstan	1	0.36%
Kenya	1	0.36%
Kuwait	3	1.09%
Libya	3	1.09%
Malaysia	19	6.88%
Malta	1	0.36%
Middle East	1	0.36%
Morocco	1	0.36%
Netherlands	4	1.45%
Oman	3	1.09%
Pakistan	2	0.72%
Palestine	2	0.72%
Philippines	1	0.36%
Qatar	2	0.72%
Republic of Benin	1	0.36%
Russia	1	0.36%
Saudi Arabia	1	0.36%
Singapore	25	9.06%
South Korea	2	0.72%
Spain	1	0.36%
Sudan	1	0.36%
Switzerland	3	1.09%
Taiwan	2	0.72%
Thailand	2	0.72%
Tunisia	4	1.45%
United Arab Emirates	24	8.70%
United Kingdom	31	11.23%
United States	45	16.30%
Vietnam	3	1.09%
Yemen	1	0.36%
	276	100.00%

Data collected from the SWF Institute and the Zephyr database.

As explained earlier, we find the real estate sector to be an important asset class in the investment portfolios of SWFs. Alongside real estate, the technology industry also ranks second (almost 7% of the total) as a target industry for SWFs. Our findings are consistent with those of the Monitor Group in its *2008 SWF Report*.[26] Covering 17 funds, with a total of 785 deals, and some $250 billion of investments, it reports that, in terms of the number of deals, 25% occur in financial services, 18% in real estate, 15% in industrials, 10% in information technology, and 10% in consumer goods. Figure 5 does not suggest that SWFs only target sensitive sectors and industries.

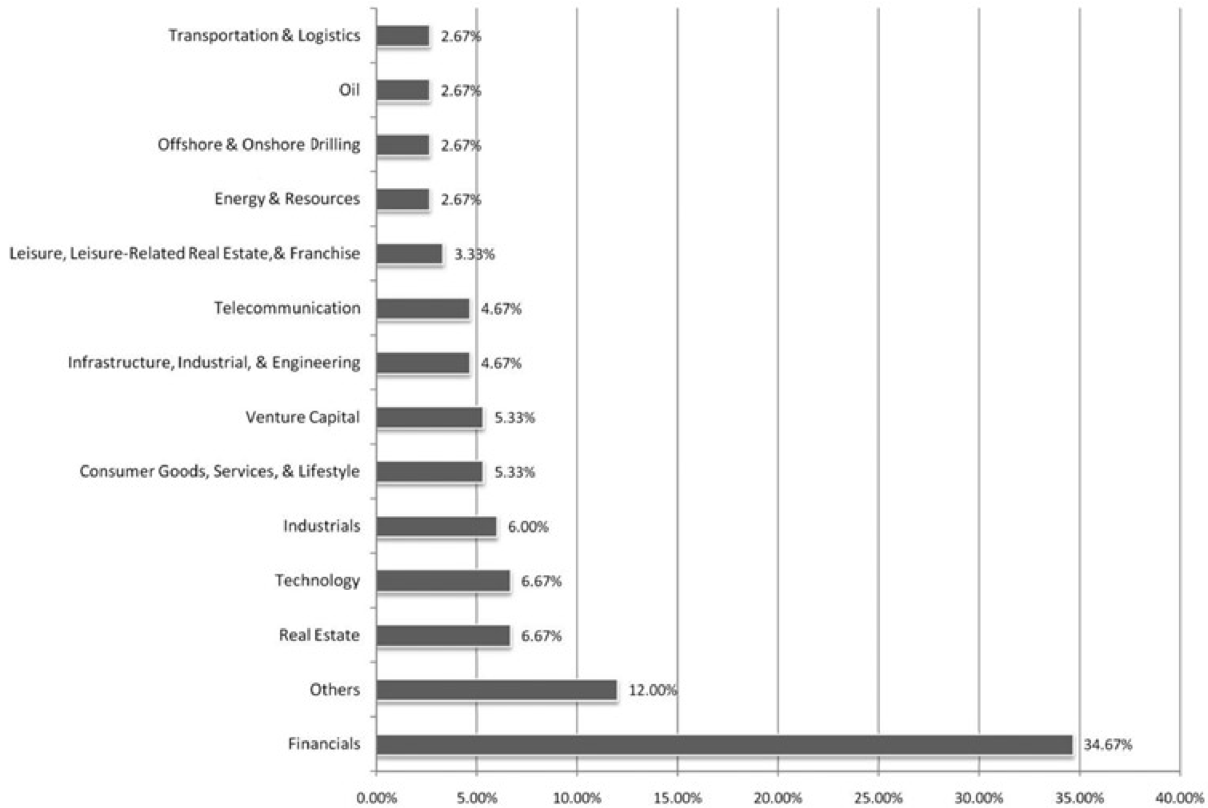
Types of Companies in Which SWFs Invest

Figure 6 presents summary statistics on the types of companies targeted by SWFs for investment. Publicly listed corporations are the dominant target company for SWF investment, representing 67% of the total. SWFs also invest in private corporations (23%) and state-owned enterprises (10%), but to a lesser extent than publicly listed corporations. In the category of publicly listed corporations, we include stock acquisitions on the open market, participation in equity offerings, joint ventures, and buyouts. Also included in this category are acquisitions of convertible preferred stocks and corporate bonds.

Size of SWFs' Equity Stakes

We collect data on the size of equity ownership positions acquired by SWFs and display the results in Figure 7. The range of equity ownership from 90 to 100% of the acquired target ranks highest, representing almost 30% of the total of all equity investments. In this range of equity ownership, we also include buyouts of private corporations and subsidiaries. The 40 to 50% range is the next most common equity ownership position (almost 20% of the total deals), which can be explained by the fact that many SWFs are engaged in joint ventures, and we categorize SWFs' participation in joint ventures as 50% equity. The ownership range below 10% ranks fifth (13% of the deals). Therefore, our findings on equity ownership suggest that SWFs are not passive investors only, and take majority ownership positions in more than half of their total investments. Our findings on equity ownership are consistent with those of the Monitor Group. The group found that out of 420 publicly reported equity investments by SWFs since 2000, half involved purchases of majority stakes (i.e., 51% or higher), but the overwhelming majority of these transactions took place in their domestic and emerging mar-

FIGURE 5 Industries Targeted by Sovereign Wealth Funds for Investment



kets.[27] Thirty-seven percent of the deals involved stakes of between 10% and 50%.

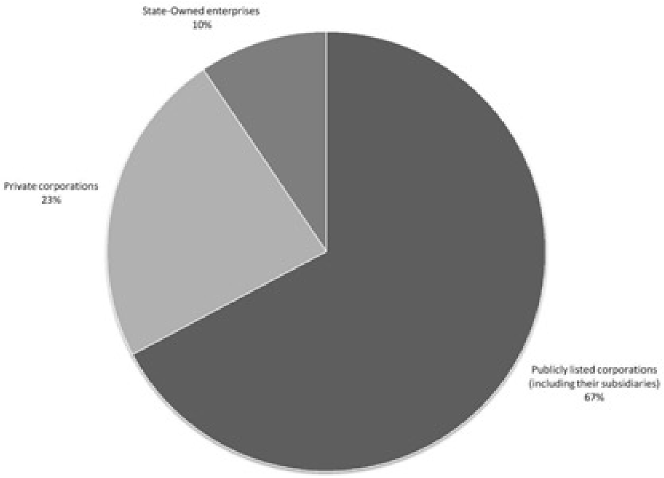
Summary and Recommendations

The advent of SWFs was inevitable. The opportunity cost of holding foreign exchange reserves and running trade surpluses in emerging economies have been mounting over time. High oil prices will continue to give oil-exporting countries more financial heft.[28] Holding excess wealth in a foreign currency and/or risk-free government bonds is not the perfect solution for countries with mounting reserves year after year. First, foreign currency reserves expose countries to foreign exchange risk. Second, the yields on government bonds (for example, U.S. Treasury Bills) have been decreasing over time and are currently very low. By creating SWFs, these countries have been able to invest their excess wealth more profitably. In this concluding section, we propose how the various stakeholders should proceed to accommodate each other.

First, SWFs' governments should improve disclosure. For example, publishing audited annual accounts will help SWFs to be perceived as transparent. Making their investment objectives, portfolio mix, and performance public will improve the transparency of SWFs. In that regard, the Government Pension Fund-Global of Norway, Singapore's Temasek Holdings, and the Government of Singapore Investment Corporation are potential models to follow (see also Appendix A). The more information SWFs make available to the public, the less resistance they will face. Furthermore, home-country governments should not use SWFs to advance geopolitical goals.

Private equity firms and hedge funds do not disclose information publicly. Therefore, why the call for SWFs to be more transparent? One of the reasons is that private equity firms and hedge funds are not government-owned, do not emanate from authoritarian regimes, and are not engaging in politically controversial investments. Nevertheless, had a private equity firm or hedge fund of the same size as an SWF originat-

FIGURE 6 Types of Corporations Targeted by SWFs

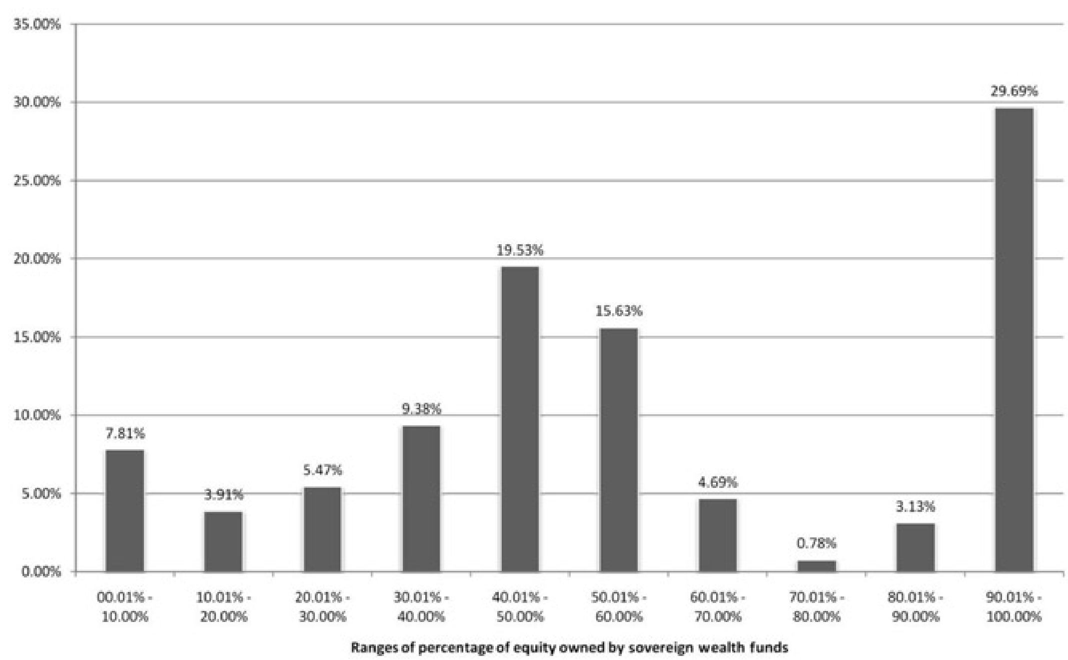


ing from an authoritarian regime been investing in the United States or Western Europe, it could have sparked a similar political furor. While there is no evidence yet of an SWF being used as a political weapon, political differences will cause some SWF investments to be viewed suspiciously.

Second, while it is important for recipient-country governments to thoroughly scrutinize SWF investments to assess the geopolitical risks that they may pose, it is also important that host-country governments communicate and clarify all the rules and procedures involved to SWF governments. This should be done at a very early stage in the process. Both governments should also assess the noncommercial implications of the investment and the public reactions to them. Host-country governments should also make sure that they are seen as assessing all inward investments (SWFs and non-SWFs) in the same way and are not discriminatory.

Last, but not least, while international associations like the IMF, World Bank, OECD, and the European Commission do not have jurisdictional authority over SWFs, they should continue to engage all stakeholders in developing "best operational practices." Even though adherence to the principles is voluntary, the engagement of all parties ensures that they are listening to each other and know what to do to improve their relations and facilitate SWF investments.

FIGURE 7 SWFs' Percentage of Equity Ownership Acquired in Acquisitions of Common Stock (Including IPOs), Joint Ventures, Private Equity Deals, and Buyouts



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APPENDIX A The Government Pension Fund-Global of Norway

The Government Pension Fund-Global of Norway (GPF) is considered to be a very transparent SWF and a model that other SWFs may follow. In its annual reports, the fund states its objective as "to support government saving to finance pension expenditure and underpin long-term considerations in the use of Norway's petroleum revenue."

GPF falls under the responsibility of the Norwegian Ministry of Finance. However, the latter has delegated management of the fund to Norges Bank Investment Management (NBIM), a unit of the Norwegian central bank (Norges Bank). The fund invests internationally in equities, fixed-income instruments, money market instruments, and derivatives. It has offices in Oslo, London, New York, and Shanghai. It employed 217 people as of December 31, 2008. As well as managing the funds internally, NBIM employs external managers. As of December 31, 2008, NBIM employed 33 external equity managers and nine external fixed-income managers. The market value of GPF is estimated at $350 billion.

The Ministry of Finance decides on the fund's investment strategy. It also establishes a benchmark portfolio that the fund has to match. Quarterly reports are prepared and published, as well as annual reports. In 2007, the Norges Bank entered into an agreement with accountancy firm Deloitte AS on financial auditing of GPF. Nonetheless, the ultimate responsibility for the audit rests with the Office of the Auditor General.

As per the fund's benchmark portfolio, equities account for 60% of the fund's portfolio distributed as follows: Europe (50%), America/Africa (35%), and Asia/Oceania (15%). Fixed-income instruments account for 40% of the portfolio, distributed as follows: European currencies (60%), American currencies (35%), and Asian currencies (5%). In April 2008, the Government of Norway announced its intention to allow GPF to allocate up to 5% of its portfolio to real-estate investments. As of December 31, 2008, the fund had equity ownership in 7,900 companies across the globe. A national Council of Ethics reviews the fund's holdings in all these companies based on strict guidelines imposed in 2004. The fund avoids investments in arm manufacturing companies, and those that violate the environment and human rights.

Starting in 2007, the fund has published its voting records in the companies in which it holds equity, together with the basis for the voting decisions. Any investment advice received by the Ministry of Finance from the Norges Bank is rendered public under the Freedom of Information Act. All information related to GPF is available at www.norges-bank.no.