

APPLICATION OF ESG PRINCIPLES IN INVESTMENT PROJECTS FINANCED BY SOVEREIGN INVESTMENT FUNDS

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ABSTRACT	KEYWORDS
<p>Sovereign wealth funds (SWFs) have over \$11.83 trillion in assets under management as of October 2023. Most of these 176 funds are sponsored by non-Western countries and their growth has made SWFs important international investors, particularly in private equity funding. We first define SWFs, then discuss their evolution into today’s categories of stabilization, savings, and development/strategic funds. We discuss the documented importance of SWF funding sources – oil sales revenues versus excess reserves from export earnings – and summarize the empirical literature studying how SWFs allocate funds geographically and across asset classes.</p>	<p>Sovereign wealth funds, international financial markets, government policy and regulation, environmental, social, and governance policies</p>

Introduction

Sovereign Wealth Funds (SWFs) have emerged as significant players in the global financial landscape, wielding substantial influence over economies and markets worldwide. These state-owned investment vehicles manage vast pools of capital amassed from reserves, surpluses, or revenues generated by a country's natural resources or other state-owned enterprises. Beyond mere financial management, SWFs play a pivotal role in fostering economic development and ensuring financial stability, both domestically and internationally.

The impact of SWFs extends beyond direct investment into sectors; they also play a vital role in shaping the financial landscape. By participating in capital markets through equity investments, debt securities, and alternative assets, SWFs enhance liquidity, deepen markets, and foster transparency. Their long-term investment horizon and patient capital approach provide stability amidst short-term fluctuations, thereby attracting other institutional investors and stimulating capital market growth.

Literature Review

There is no consensus in the academic and practitioner literature on the definition of a sovereign wealth fund, although most researchers agree that SWFs can be seen as government-owned investment vehicles with no explicit liabilities, significant exposure to risky foreign assets and a long-term investment horizon (Kotter & Lel, 2011). Truman (2010) uses a broader definition and defines SWFs as pools of government-owned or controlled assets that include some international assets. Hence, he also defines some pension funds as SWFs. Maybe the most authoritative definition comes from the IMF (2008a), who define SWFs as special purpose investment funds owned by the general government. SWFs hold assets to achieve financial objectives and employ a set of investment strategies that include investing in foreign financial assets. They have diverse legal, institutional and governance structures. Fotak, Gao and Megginson (2016) use the definition employed by the Sovereign Investment Laboratory, that specifies an SWF as: 1) An investment fund rather than a company; 2) Wholly owned by a sovereign government, but organized separately from the central bank or finance ministry; 3) Makes international and domestic investment in a variety of risky assets; 4) Charged with seeking a commercial return; 5) A wealth fund rather than a pension fund – it should not be financed with contributions from pensioners and should not have explicit liabilities to individual citizens. SWFs do exist at the subnational level, such as those of states, but more often at the level of regional governments. They usually do not take direct roles in the management of target companies. Their purpose is to explicitly hold their government's money in trust and transfer it to future generations. This feature makes SWFs a special type of investor, as it concentrates their assets and power in the hands of a few actors.

“Sovereign fund is a fund established for the purpose of realizing the basic constitutional rights of citizens, forming investment projects with important social aspects, based on experience and potential, with high financial and economic efficiency, and financing the budget deficit” (Jumaniyazov, I. T., & Abdurahmonov, Q. (2023)). Based on the research, it can be said that special attention is paid to the wider coverage of the stabilization of economic processes of sovereign funds. “Sovereign funds are a financial and economic institution and one of the structures implementing the policy set by the government. Sovereign funds serve to implement social and economic functions of the country. Also, the term “sovereign funds” is used in relation to financial funds established by the state for the purpose of developing the economy over many years” (Jumaniyazov, I. T., & Islomov, A. (2023)).

“The operation of sovereign funds should be directed towards achieving the objectives and tasks of the anti-cyclical budget policy, in which the formation and use of funds is a monetary policy conducted by the state should be connected with it” (Asror, A., & Inomjon, J. (2023)). It can be said that the effective use of financial resources is important in the activity of sovereign funds.

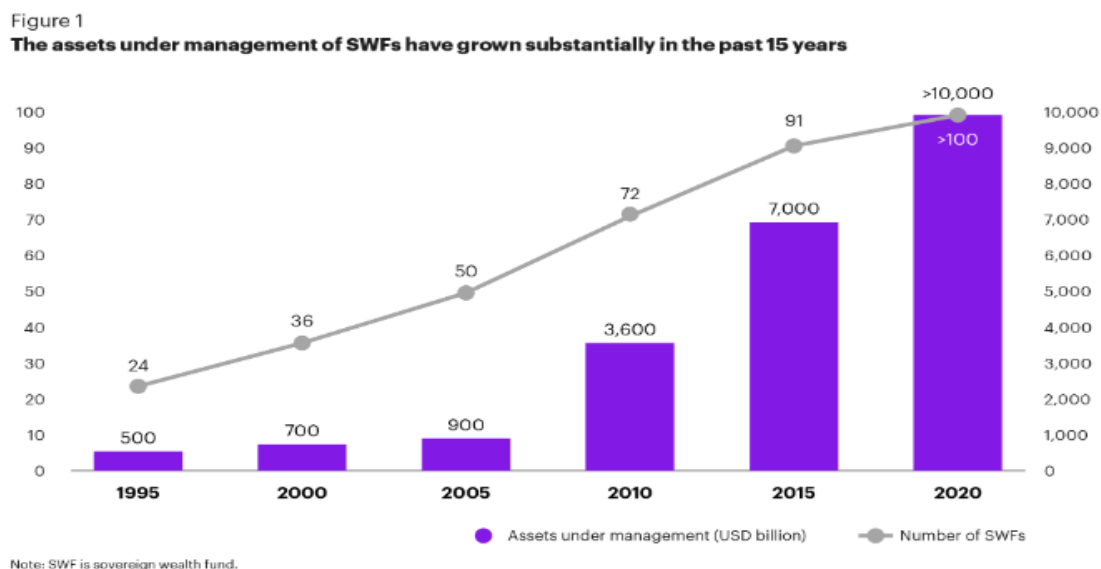
E.H. Hansen considered sovereign funds as a tool for regulating the money supply in the country. According to the approach of this researcher, one of the important tasks of sovereign funds is to prevent the depreciation of the country's currency, thereby increasing the purchasing power of the national currency. By paying attention to these issues, there will be an opportunity to increase the income of the population. As a result, the initial and main influence of sovereign funds is the purchase price of the currency (Хансен, Э.Х. 2006).

According to I. Jumaniyazov, “sovereign fund is a centralized fund that is formed by the state and ensures its effective use by attracting a part of the income from the export of goods, budget surplus, gold currency and other reserves in order to ensure the development of the national economy and international competitiveness. is a fund” (I. T. Jumaniyazov, & A. Khaydarov. (2023)).

“According to the approach of the Institute of Sovereign Funds, the main criteria for evaluating the activity of sovereign funds are the level of openness, the level of profitability of the investment portfolio and the size of assets” (Jumaniyazov, I. T. (2019)).

Analysis and Results

In today’s global financial ecosystem, few players wield the same degree of power and influence as sovereign wealth funds (SWFs). The financial firepower of SWFs is hard to underestimate: currently, the assets under management (AUM) of the largest funds represent as much as twice the GDP of their respective countries. As of 2020, there were more than 100 SWFs globally, with AUM totaling over \$10 trillion.¹



The largest SWF in the world—Norges Bank Investment Management (NBIM) of Norway—registered AUM to the tune of \$1.3 trillion and effectively controlled the equivalent of about 1.5 percent of every publicly listed company in the world in 2021 (see figure 2)². In absolute terms, some 30 percent of SWFs were concentrated in the Middle East and Asia.

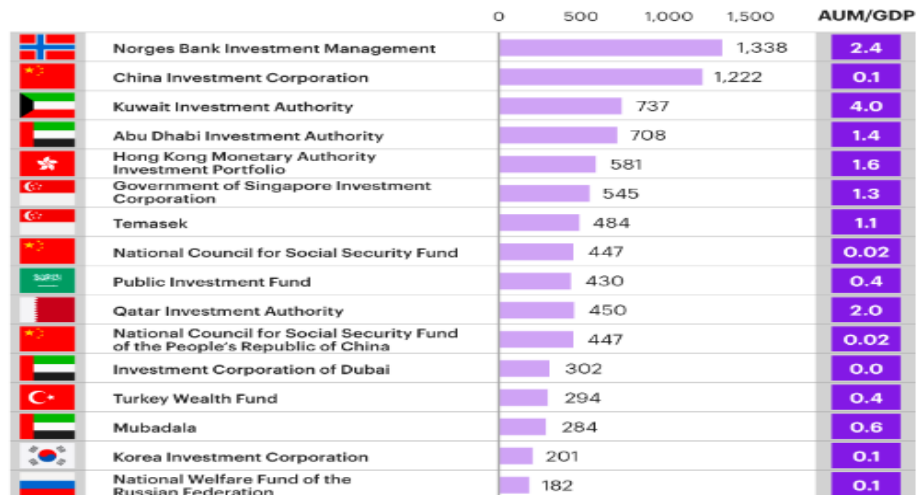
So what are SWFs and what do they do? SWF Institute—a global corporation analyzing public asset owners—defines a SWF as a “state-owned investment fund or entity that is established from privatization proceeds, governmental transfer payments, fiscal surpluses, and/or revenues resulting from natural resource extraction.” Recently, SWFs have been increasingly tapping into other pools of funding such as the bond market.

¹ Kaernay anylasis

² Kaernay anylasis

Figure 2

The largest SWFs in the world by assets under management (USD billion)



Notes: SWF is sovereign wealth fund.
AUM is assets under management.

SWFs differ from other principal investors in four fundamental ways. First, unlike most principal investors which are privately owned, SWFs are government-backed investment vehicles controlled by their respective state governments. Second, SWFs typically have a very limited need for liquidity due to relatively stable sources of funding—SWFs can assemble a large pool of stable capital that otherwise would require a consortium of private entities. Third, SWFs typically have long-term investment horizons which oftentimes exceed decades (for example, Norway's NBIM has a 30-year investment window), which is usually not the case with other principal investors that have much shorter investment horizons (for example, a normal investment horizon of a private equity firm is around five to seven years). Fourth, SWFs' risk tolerance is aligned with their vision and mandate, and they can typically withstand cyclical pressures.

The strategic focus of SWFs is usually defined by the country's profile, national priorities, developmental agenda, and sometimes even its political agenda. In the case of developing countries, SWFs generally play a crucial role in helping governments deliver their national visions and transformational agendas.

These SWFs act as catalysts to develop and diversify their national economies away from dependency on income generated from finite natural resources. SWFs that act as development funds tend to have vast industrial expertise and capabilities to drive national agendas. On the other hand, SWFs in developed countries take a more passive approach by investing in established and less risky opportunities. Globally, such SWFs usually own minority stakes across a diversified set of asset classes—either directly or through fund managers, although many SWFs have become quite sophisticated and built solid investment and portfolio optimization capabilities internally.

Conceptually, SWFs can be grouped into three archetypes, each with a different degree of focus on economic development and financial return objectives (see figure 3):³

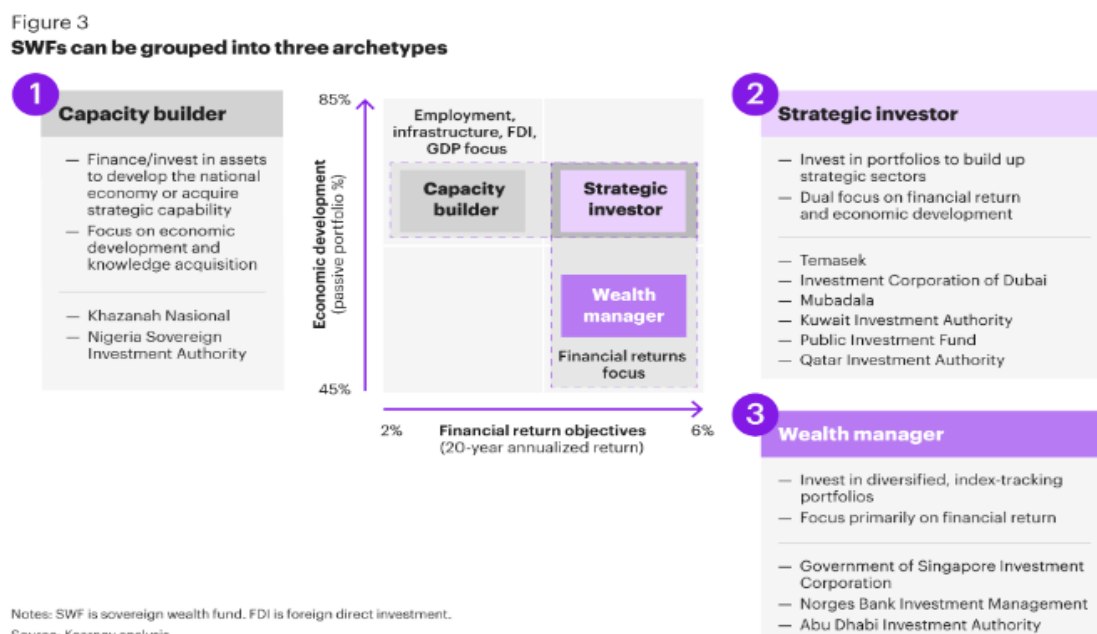
1. **Capacity-builder SWFs** focus on economic development and strategic capability acquisition. Capacity-builder SWFs typically operate in developing countries, where they play a crucial role in helping governments deliver their national visions and transformational agendas. Good examples of a capacity-builder SWF are Khazanah Nasional in Malaysia and Nigeria Sovereign Investment Authority (NSIA) in Nigeria.

³ Kaernay anylasis

2. **Strategic investor SWFs** have a dual focus on financial returns and economic development. Strategic investor SWFs invest in portfolios to build up strategic sectors. Prominent examples here include the Public Investment Fund (PIF) in Saudi Arabia, Temasek in Singapore, Mubadala in the UAE, and the Qatar Investment Authority (QIA) in Qatar.

3. **Wealth manager SWFs** focus primarily on financial returns and invest mostly in international assets. Wealth manager SWFs aim to create and preserve wealth for future generations to come. Examples of such SWFs include the Government of Singapore Investment Corporation (GIC) in Singapore, NBIM in Norway, and the Abu Dhabi Investment Authority (ADIA) in the UAE.

While there is no clear “winner” among these models, the success of any SWF depends on having a clearly defined vision and mandate that are fully aligned to the national aspirations and ultimately realized through meticulous execution.



Investment Fund (PIF) raised \$3 billion via its first green bond sale—the first SWF globally to do so. Subsequently, in February 2023, PIF announced its plan to raise an additional \$5.5 billion through its second green bond sale. To support its target of reaching net zero emissions by 2060, PIF expects to invest more than \$10 billion by 2026 in eligible green projects, including renewable energy, clean transport, and sustainable water management. Most recently, PIF teamed up with Global Infrastructure Partners to acquire a 9.5 percent stake in Skyborn Renewables—an offshore wind developer and operator headquartered in Germany. This growing trend toward investment in green projects is echoed by Heenam Choi, chief executive of the Korea Investment Corporation (KIC): "Over the next 10 years, the best investment opportunities will be in climate change and related technologies." This sentiment has only been strengthened by the ongoing energy crisis.

All SWFs that take ESG considerations into account when making investment decisions (‘ESG SWFs’) have several types of guidelines at their disposal. A well-known and widely-used principle is a negative or positive investment screen. A non-financial negative investment screen means that

specific equity stocks or industries are excluded from an investment fund's portfolio based on social, environmental and ethical criteria (Renneboog, Ter Horst & Zhang, 2007). A common-used negative screen is for example the exclusion of alcohol, tobacco, defense and gambling industries, or companies with poor labor conditions, little environmental protection, violation of human rights or animal testing (Renneboog, Ter Horst & Zhang, 2007). Other practices related to negative screens vary for each investment fund. For instance, the fund can only exclude companies if their revenues derived from an undesirable sector exceeds a specific threshold. A non-financial positive investment screen concerns the practice that a fund selects those shares that meet superior CSR standards and/or are 'best in class'. These screens often use criteria such as corporate governance, environment, sustainability and labor conditions. Negative and positive investment screens are often referred to as the first and second generation of screens (Renneboog, Ter Horst & Zhang, 2007). Next to these two socially responsible investment guidelines, a third approach combines negative and positive screens and results in a selection of companies based on their economic, environmental and social (ESG) criteria. The fourth and last approach combines the third approach with shareholder activism, which means that the portfolio manager(s) try to influence a target company's decisions and actions by direct conversation with management or usage of voting rights. The effect of using investment screens on fund performance can be twofold.

Negative screens (first generation). There are multiple SWFs that use negative screening criteria. First, the CIC uses a negative screen to exclude undesirable industries, such as tobacco and gaming (Liew & He, 2012). Furthermore, the KIA states that it uses negative screens to exclude alcohol-related and gaming businesses. Positive screens (second generation). Currently, there are no SWFs known that use positive screens only. Third generation. The third generation combines negative and positive screens, which yields sustainable or 'people, planet and profit' screens. All SWFs considered under the fourth generation are also believed to fall into the third generation. Activism (fourth generation). The fourth generation of socially responsible investing combines the third generation with shareholder activism. This approach means that portfolio managers attempt to influence their portfolio companies' policies through engagement with the management or board of directors and/or through using voting rights. Currently, there are multiple SWFs that fall into this category. First, the GPFC uses a negative screen to exclude certain companies from its investing universe. The Ministry is involved in the screening. A government commission recommended ethical guidelines in 2004 that the fund acts upon to date. These guidelines are enforced by an independent advisory body by royal decree. This council can be asked by the ministry of finance for its opinion or may give an autonomous recommendation not to invest in a certain company. Furthermore, the commission regularly review whether a company's exclusion is still valid. In 2018, the GPFG excluded 13 companies and placed 4 companies under observation. Furthermore, it divested in 30 companies due to climate (15), corruption (9), human rights (4) and other (2) issues. Second, the CPP uses a combination of negative and positive ('best in class') screens and activist activities. It monitors the ESG factors of their targets and actively engages with companies to promote improved management of ESG. Furthermore, it exercises voting rights and collaborates with organizations to engage companies and encourage better ESG-related practices. In addition, it established a power and renewables group that expands the fund's renewables portfolio. Third, the AFF integrates ESG concerns into its processes for considering investment proposals and

investment manager appointment. It exercises ownership rights and goes into dialogue and engagement activities to establish a climate of long-term asset stewardship. The fund designed its own ESG policy, which provides a framework for which entities and sectors to exclude. The fund also lists explicit corporate governance principles in this policy.

Table 1 Overview of SWFs that use ESG criteria in their investment process

Name	Country	Main CSR goal	Screening criteria	Main CSR/SRI activities reported	Exclusions, voting and engagement publications in 2018
Government's Pension Fund – Global	Norway	To contribute to well-functioning markets and good corporate governance.	Follows UN international principles and OECD principles of corporate governance. <i>Negative:</i> Publish own expectations regarding several CSR areas. <i>Positive:</i> Invest specially in climate solutions.	Attendance of meetings on responsible investment. Active contribution to development of climate-change and water-management principles. Support and initiate research projects on ESG-related topics. Publish position papers on corporate governance issues.	Dialogue with 1000 companies that represent 2/3 of equity portfolio value. Publish strategic subjects of dialogue. Divested in 30 companies: 15 companies (climate), 9 (corruption), 4 (human rights), 2 (other). Published voting activity at all shareholder meetings.
Canada Pension Plan	Canada	Sustainable investing.	<i>Negative:</i> Publish and follow own principles. <i>Positive:</i> Select 'best in class' firms for active investment.	Establishment of climate change steering committee. Design and implementation of toolkit that investment teams will use for investment evaluation. Expansion of fund's renewables portfolio.	Actively engaged with target companies to promote improved management of ESG. Exercised voting rights and publish proxy voting principles and guidelines. Issuance of green bonds.
Australian Future Fund	Australia		Designed own ESG policy with principles. <i>Negative:</i> Certain traditional screens (tobacco, mines, munitions) and other exclusions based on ESG policy.	Exercise ownership rights associated with investment according to corporate governance voting principles.	Published proxy voting summary, provide voting principles in annual report and provide own report on implementation of Santiago Principles. Dialogue and engagement activities with portfolio companies to establish a climate of long-term asset stewardship.
New Zealand Superannuation Fund	New Zealand		Designed RI framework to integrate ESG considerations into investment process. <i>Negative:</i> eight screens related to munition, tobacco and other topics.	Active investment, engagement, voting, exclusion and/or divestment from companies.	Conducted work on climate change scenarios to understand their investment implications. Updated exclusion list: approx. 280 companies from 15 countries are excluded.
Ontario Teachers' Pension Plan	USA	Integrate, engage, influence and evolve.	<i>Negative and positive:</i> environmental, social and governance	Integrate ESG considerations into investment process, build relationships with target companies, use influence to make expectations regarding ESG clear.	Developed plan for climate change policy advocacy. Developed long-term tailored engagement plans for public and private target companies. Developed customized governance guidelines and expectations for specific markets and countries.
Fonds de Reserve pour les Retraites	France		Incorporate ESG criteria into portfolio management.	Convict businesses to adopt necessary measures to reduce their impact on climate.	Developed active policy of voting proxies at shareholder meetings.

The responsible investment actions include investment, engagement, voting, exclusion and/or divestment. Fifth, the Ontario Teachers' Pension Plan integrates ESG considerations into its investment process, build relationships with targets and use its influence to make expectations clear. It uses environmental, social and governance criteria. Last, the Fonds de Reserve pour les Retraites uses negative screens and is particularly focused on reducing the carbon footprint of its equities investment portfolio. It also incorporate ESG criteria into its portfolio management process and investment decisions. It has an active policy of voting proxies and tries to convict businesses to adopt necessary measures to reduce their impact on climate.

The other ways of how SWFs use using CSR and ESG criterions when making investment decisions are shown in Table 5. This table summarizes the main CSR goal, screening criteria and main CSR or SRI activities reported by the SWF themselves in their annual report or responsible investment reports, if available. The main conclusion that can be drawn from this table is that the majority of

the SWFs do not have an (explicit) ESG strategy or criteria. Even though the most SWFs do not have a strategic approach to ESG investments, those who do have this integrate the considerations in a transparent manner and document it extensively (see Table 5). The six SWFs that do have an explicit ESG strategy are the GPFG, Canada Pension Plan, Australia's Future Fund, New Zealand Superannuation Fund, Ontario Teachers' Pension Plan and the Fonds de Reserve pour les Retraites. Some SWFs without ESG strategy still signed the United Nations Principles of Responsible Investment (UN PRI), such as the GPFG and the South African Public Investment Corporation.

Conclusions

This research aims to provide a new step towards understanding the motives and consequences of SWF investments, especially for SWFs that incorporate ESG considerations into their investment processes and decisions. The conclusions provide information for (professional) investors and leaders in politics, governments and business, and can be used as a source of knowledge for decision making on how to deal with (foreign) SWFs. Nevertheless, future academic research is needed to further unravel the objectives and effects of investments from SWFs, how SWF characteristics affect the performance of target firms, and how firm characteristics affect the investment choices of SWFs. The most important recommendations for further research are the following:

- **Additional coverage of SWFs:** Almost every empirical study on the influence of SWF investments on target firms is conducted with a subsample of SWFs, even though there are many more SWFs that actively invest on a large scale (SWFI, 2019). This study contributes by collecting ownership data on all SWFs available in FactSet. Still, far too little is known about the details of (other) SWF investments, and the current data reveals that the largest SWFs in this sample are usually the most transparent and autonomous SWFs. Hence, inclusion of additional SWFs, and especially those with a high degree of opaqueness and a high AUM, would allow interesting replications of the research that already has been done for the lower number of (relatively transparent and autonomous) SWFs. Furthermore, adding large, politically dependent and opaque SWFs to the sample gives opportunities to further examine whether SWF and firm characteristics influence target firm performance and SWF investment decisions, respectively.
- **Transparency and autonomy classifications:** Related to the additional coverage of SWFs is the recommendation to incorporate data on these SWFs into scoreboards such as those designed by Truman (2015) and Linaburg and Maduell (2018). This way, it is likely that the number of SWFs that is classified as either transparent or opaque and either autonomous or politically dependent increases, which helps to conduct analyses with balanced sample sizes and increased statistical power. Furthermore, increased coverage of transparency data might help to answer the question for policymakers whether the benefit of cross-border SWF investments is greater than the benefit provided by SWF investments (Megginson & Gao, 2019). Moreover, Stone and Truman (2016) recently found that SWFs are making progress to improve their transparency, which could also future results regarding the impact of opaqueness of SWFs on target firms and investment decisions. In addition, another valuable link to study is how political pressure from domestic governments will affect an SWF's autonomy, transparency and subsequently, its investment strategy.
- **Endogeneity:** Endogeneity is a central concern to research that investigates the motives and implications of investments, whether they are made by institutional investors, governments, hedge

funds, SWFs or any other financial agent. In the case of firm performance, the main strategy has been to use matched subsamples. In the case of ESG scores, a Granger causality test is reported. The Granger test executed here confirmed the bidirectionality of the relationship between ESG score and SWF ownership (see section 5.4). It could be very well possible that other firm characteristics other than ESG score influence an SWF's investment decision, but those characteristics are also affected by the SWF's influence after an SWF takes a stake in the firm. To test the validity of the results put forth, more work is required, for instance by using inclusions into the MSCI index and treating these a shock for target firms. This can help to further test assumptions about exogeneity. For example, it would be possible to use the index inclusion of MSCI ACWI (which covers 80% of the market capitalization of all companies in the world) to execute a Regression Discontinuity Design (RDD) setting (following a method such as Bena, Ferreira, Matos & Pires, 2017).

- **Source of funding:** Even though their sources of funding is arguably one of the best documented features of SWFs (see Ang, 2010; Truman, 2010; Curzio and Miceli, 2010) and the importance of the type of funding is already documented by Fotak, Gao and Megginson (2016), this characteristic is often not taken into account when formulating predictions and empirically testing hypotheses about SWF activities. Nevertheless, the source of funding could prove to be a significant determinant of SWF's asset allocation and target choice. For instance, Megginson and Gao (2019) report that the rise of protectionism and escalating international trade frictions may potentially pose financial pressure on emerging economic with trade surpluses. Furthermore, SWFs from traditional resource exporting or trade surplus countries may receive reduced financial support from home country governments, or may be required to invest in their home countries to help the domestic budgets and economy. The decline in oil export revenues of the last five years is very likely to impact SWFs funded by oil export revenues, such as the GPFG, ADIA and KIA (Fotak, Gao & Megginson, 2016). Hence, new circumstances due to these political and economic developments of the last years might force SWFs to shift their focus from traditional target countries, such as the US and UK, to other attractive countries, and will likely alter SWF investment levels.
- **SWF's objective and size:** Another interesting direction for future research would be paying attention to two possible determinants of an SWF's investment strategy: its objective and size. One way in which an SWF's objective may impact its target, industry and country choice is that SWFs that have formulated relatively short-term objectives (for instance, financing state budget expenditures and reduce inflationary pressure, such as the RRF) invest with more short-termism than SWFs that have formulated relatively long-term objectives (such as the NZSA, that exists to pre-fund the future cost of universal superannuation). Another determinant of investment allocation could be the size of the SWF, or, in other words, its diseconomies of scale (as already touched upon by Bernstein, Lerner and Schoar (2013)). A sovereign fund with the size of the GPFG, CIC or ADIA is likely unable to find enough attractive investments and suffers from the fact that its strategy is less profitable when buying larger blocks of stock, as this usually affects the target's market price. In sum, future research should be geared towards gathering more and in-depth (quantitative) information about the structure, governance and investment activities of SWFs, thereby providing a comprehensive framework for assessing both the antecedents and outcomes of SWF investments.

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