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Research Article

Sovereign Wealth Funds Empirical Studies: A Critical View

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Abstract

Sovereign wealth funds (SWFs) is an increasing power in the global financial markets due to their large assets and growing number. They continue to make headline news and capture the attention of academics, practitioners and policymakers. The authors summarize empirical research on SWFs and conclude that researchers have focused on the relationship between SWFs investments and the target firm's value and performance. Due to the lack of a common definition of SWF, existing empirical studies are based on different sample sizes, different values of SWFs, and different values and number of their deals. In sum, studies conclude a positive response from the market to the SWFs investments in the short term. However, there is very little unanimity with respect to the long-term effects of SWFs investments. The authors also survey research on SWFs investments allocation, and find a preference for large foreign firms who confront financial difficulties and for strategic sectors, especially the financial sector. Otherwise, political, cultural and economic factors play an important role in their investment choices and capital allocation strategies. The authors also note the lack of studies testing the perception of the debt market about SWFs investments and confirm the importance of considering the heterogeneity among SWFs and their governance characteristics. Finally, they call for a common definition of SWFs.

Keywords: Sovereign Wealth Funds, Firm performance, Investments allocation.

Introduction

Over the past decade, SWFs have become a major player in the global economic landscape with their huge assets under management (Megginson and Gao, 2020; Aggarwal and Goodell, 2018). Different definitions of SWFs were proposed, and a universal agreement about the precise meanings of SWFs does not exist yet (Park, Xu, In and Ji, 2019; Amar, Candelon, Lecourt and Xun, 2019; Akyol and Çiçen, 2017;

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Rozanov, 2011, etc.). The International Monetary Fund (2008) (IMF) broadly defines SWFs as "*government-owned investment funds, set up for a variety of macroeconomic purposes*"[1]. Nevertheless, the Sovereign Wealth Fund Institute (2020) (SWFI) defines them more specifically as: "*a state-owned investment fund or entity that is commonly established from Balance of payments surpluses; official foreign currency operations; the proceeds of privatizations; governmental transfer payments; fiscal surpluses; and/or receipts resulting from resource exports. The definition of sovereign wealth fund excludes, among other things: Foreign currency reserve assets held by monetary authorities for the traditional balance of payments or monetary policy purposes; state-owned enterprises (SOEs) in the traditional sense; government-employee pension funds (funded by employee/employer contributions); or assets managed for the benefit of individuals*"[2]. SWFs are widely described as a specific and unique group of international investors reflecting the massive return of state intervention in the economy after the 1980s waves of privatization. Megginson and Fotak (2015) report that, while governments privatized about $ 1.48 trillion of their assets between 2001 and 2012, they had also acquired $ 1.52 trillion of new stocks during the same period. However, despite being a state investment vehicle, SWFs follow investment strategies similar to private funds (diversified portfolio, geographic diversification, long-term investments, etc.). Specific literature has investigated the rapid growth of SWFs, the impact of their investments, the determinants of their capital allocation, their benefits, the risks they produce, etc. However, SWFs are still widely misunderstood (Bortolotti, Fotak and Loss, 2017; Dedu and Nitescu, 2014). The main purpose of this paper is to review empirical research related to SWFs. A better understanding of this phenomenon and a profile of the state of research on the subject are provided, and some suggestions for research avenues are proposed.

The Increase in Interest for Sovereign Wealth Funds

Sovereign Investors have increasingly captured attention and exerted influence in global financial markets. They are not a passing phenomenon. Truman (2007) confirms, "*SWFs and similar governmental activities are here to stay.*" According to Factiva's statistics, the number of references about SWFs has increased from 4 in 2006 to 2, 475 in 2007, to 9, 871 in 2008, and has been steadily increasing in recent years (14, 703 in 2018 for example). Table 1 summarizes the number of press papers on SWFs in Factiva database between 2000 and 2018. The search was based on all sources, all authors, all subjects, and all regions and in both English and French languages.

Table 1: Number of Press Papers on SWFs

Year	Number of documents
2004	1
2005	1
2006	**4**
2007	**2475**
2008	9871
2009	9714
2010	11829
2011	13739
2012	13134
2013	11188

[1] IMF.(2008), 'Sovereign wealth funds –A work agenda', *IMF*.

[2] https://www.swfinstitute.org/research/sovereign-wealth-fund

2014	11920
2015	12818
2016	13266
2017	13944
2018	14747
2018	14 747

Source: author's calculations based on Factiva data.

This rise in interest is mainly due to the rapid growth of SWFs in assets and in number (Megginson and Gao, 2020; Park et al., 2019; Boubaker, Boubakri, Grira and Guizani, 2018; Bortolotti, Fotak and Megginson, 2015; Kotter and Lel, 2011; Balin, 2008; Rozanov, 2005, among other studies). According to SWFI, the SWFs' assets increased by 59.1% during 2008-2012[3], and today there are more than a hundred funds that manage more than 8 trillion US dollars, a very rapid growth if we consider that their size did not exceed one trillion in 2005 according to Rozanov's (2005) estimation. Table 2 describes the largest SWFs by assets under management according to SWFI estimation data updated in July 2020 (Sovereign Wealth Fund Name, their country, The Linaburg-Maduell transparency index, their assets under management, their region, their funding sources and the year of inception).

Table 2: Sovereign Wealth Fund Rankings by Total Assets

Sovereign Wealth Fund Name	Country	Assets ($US billion)	Region	Year of inception
Norway Government Pension Fund Global	Norway	1187	Europe	1990
China Investment Corporation	China	940,6	Asia	2007
Abu Dhabi Investment Authority	United Arab Emirates	579,6	Middle East	1976
Kuwait Investment Authority	Kuwait	533,65	Middle East	1953
Hong Kong Monetary Authority Investment Portfolio	Hong Kong	528,05	Asia	1993
Saudi Arabian Monetary Agency	Saudi Arabia	494	Middle East	1952
GIC Private Limited	Singapore	440	Asia	1981
SAFE Investment Company	China	417,8	Asia	1997
Temasek Holdings	Singapore	376	Asia	1974
Public Investment Fund	Saudi Arabia	360	Middle East	2008
National Council for Social Security Fund	China	325	Asia	2000
Qatar Investment Authority	Qatar	295,2	Middle East	2005
Investment Corporation of Dubai	United Arab Emirates	239,3	Middle East	2006
Mubadala Investment Company	United Arab Emirates	232,2	Middle East	2002
Turkey Wealth Fund	Turkey	222,2	Middle East	2016
National Welfare Fund	Russia	165,3	Europe	2008
Korea Investment Corporation	South Korea	157,3	Asia	2005
Abu Dhabi Investment Council	United Arab Emirates	123	Middle East	2007
Dubai World	United Arab Emirates	100	Middle East	2006
Future Fund	Australia	99,7	Australia and Pacific	2006

[3] Source : http://www.swfinstitute.org/sovereign-wealth-fund/.

National Development Fund of Iran	Iran	91	Middle East	2011
Alberta Investment Management Corporation	Canada	86,2	North America	1976
Samruk-Kazyna	Kazakhstan	68,2	Asia	2008
Alaska Permanent Fund Corporation	United States	67,2	North America	1976
Kazakhstan National Fund	Kazakhstan	61,11	Asia	2000
Brunei Investment Agency	Brunei	60	Asia	1983
Libyan Investment Authority	Libya	60	Africa	2006
International Petroleum Investment Company	United Arab Emirates	54,5	Middle East	1981
University of Texas Investment Management Company	United States	48,4	North America	1876
Texas Permanent School Fund	United States	46,5	North America	1854
Emirates Investment Authority	United Arab Emirates	45	Middle East	2007
State Oil Fund of Azerbaijan	Azerbaijan	42,5	Asia	1999
CNIC Corporation Limited	Hong Kong	33,3	Asia	2012
New Zealand Superannuation Fund	New Zealand	31,3	Australia and Pacific	2002
Hong Kong Future Fund	Hong Kong	28,82	Asia	2016
Nuclear Waste Disposal Fund	Germany	26,9	Europe	2017
Austrian State and Industrial Holding Limited	Austria	25,8	Europe	2015
New Mexico State Investment Council	United States	23,2	North America	1958
Khazanah nasional Berhad	Malaysia	20,2	Asia	1993
Fund for Reconstruction and Development of Uzbekistan	Uzbekistan	20	Asia	2006
Mumtalakat Holding	Bahrain	18,6	Middle East	2006
State General Reserve Fund	Oman	18	Middle East	1980
Ireland Strategic Investment Fund	Ireland	16,9	Europe	2001
Timor-Leste Petroleum Fund	East Timor	15,8	Australia and Pacific	2005
Economic and Social Stabilization Fund	Chile	14,2	Latin America	NA
Social and Economic Stabilization Fund	Chile	14,2	Latin America	2007
Russian Direct Investment Fund	Russia	13	Europe	2011
Sovereign Fund Of Egypt	Egypt	11,9	Africa	2018
Chile Pension Reserve Fund	Chile	10,1	Latin America	2006
National Pensions Reserve Fund	Ireland	10	Europe	2009
Solidium	Finland	9,3	Europe	1991
Mexico Budgetary Income Stabilization Fund	Mexico	8,4	Latin America	NA
Revenue Regulation Fund	Algeria	8	Africa	2000
Permanent Wyoming Mineral Trust Fund	United States	7,9	North America	1974
NSW Generations Fund	Australia	7,6	Australia and Pacific	2018
Fundo Soberano do Brasil (FSB)	Brazil	7	Latin America	2008
CDP Equity	Italy	6,7	Europe	2011
North Dakota Legacy Fund	United States	6,5	North America	2011
Heritage and Stabilization Fund	Trinidad & Tobago	6,2	North America	2000

Oil Revenues Stabilisation Fund	Mexico	6	Latin America	2000
Oman Investment Fund	Oman	6	Middle East	2006
Fiscal Stabilization Fund	Peru	5,76	Latin America	1999
China-Africa Development Fund	China	5	Asia	2007
Pula Fund	Botswana	4,9	Africa	1994
Colombia Savings and Stabilization Fund	Colombia	3,5	Latin America	2011
Alabama Trust Fund	United States	3,1	North America	1985
SFPI-FPIM	Belgium	2,6	Europe	2006
Utah SITFO	United States	2,5	North America	1896
Fundo Soberano de Angola	Angola	2,27	Africa	2012
Ras Al Khaimah Investment Authority	United Arab Emirates	2	Middle East	2000
Idaho Endowment Fund Investment Board	United States	1,8	North America	1969
Nigeria Sovereign Investment Authority	Nigeria	1,6	Africa	2012
Bayelsa Development and Investment Corporation	Nigeria	1,5	Africa	2012
Fondo de Ahorro de Panama	Panama	1,5	Latin America	2012
Hellenic Corporation of Assets and Participations	Greece	1,5	Europe	2011
Taiwan national Stabilization Fund	Taiwan	1,5	Asia	2000
Louisiana Education Quality Trust Fund	United States	1,4	North America	1986
Oklahoma Tobacco Settlement Endowment Trust	United States	1,3	North America	2001
Fund for Productive Industrial Revolution	Bolivia	1,2	Latin America	2012
Senegal FONSIS	Senegal	1	Africa	2012
Development Fund for Iraq	Iraq	0,9	Middle East	2003
Palestine Investment Fund	Palestine	0,9	Middle East	2003
Colorado Public School Fund Investment Board	United States	0,82	North America	NA
Sharjah Asset Management	United Arab Emirates	0,79	Middle East	2008
Kiribati Revenue Equalization Reserve Fund	Kiribati	0,6	Australia and Pacific	1956
National Development and Social Fund	Malta	0,6	Europe	2015
State Capital Investment Corporation	Vietnam	0,5	Asia	2005
Ghana Heritage Fund	Ghana	0,45	Africa	2011
Ghana Stabilisation Fund	Ghana	0,45	Africa	2011
Native Hawaiian Trust Fund	United States	0,4	North America	NA
Fiscal Stability Fund	Mongolia	0,3	Asia	2011
National Fund for Hydrocarbon Reserves	Mauritania	0,3	Africa	2006
Western Australian Future Fund	Australia	0,3	Australia and Pacific	2012
Luxembourg Intergenerational Sovereign Fund	Luxembourg	0,27	Europe	2014
Iran Oil Stabilization Fund	Iran	0,24	Middle East	2011
Ontario First nations Sovereign Wealth	Canada	0,22	North America	2018
Agaciro Development Fund	Rwanda	0,2	Africa	2012

Mongolia Future Heritage Fund	Mongolia	0,2	Asia	NA
Sovereign Fund of the Gabonese Republic	Gabon	0,14	Africa	1998
Tuvalu Trust Fund	Australia	0,13	Australia and Pacific	1987
Petroleum Investment Fund Uganda	Uganda	0,12	Africa	2015
National Investment Corporation	Kazakhstan	0,1	Asia	2012
Fund for Future Generations	Equatorial Guinea	0,08	Africa	2002
Bhutan Economic Stabilization Fund	Bhutan	0,01	Asia	NA
Fondo Mexicanao del Petroleo	Mexico	0,0034	Latin America	2014
Cyprus National Investment Fund	Cyprus		Middle East	NA
Israeli Citizens Fund	Israel		Middle East	NA
Mubadala Development Company PJSC	United Arab Emirates		Middle East	NA
Qatar Investment Office	Qatar		Middle East	NA
Saudi Technology Development and Investment Company (Taqnia)	Saudi Arabia		Middle East	NA
Sentosa Development Corporation	Singapore		Asia	1972
Total commodity		**$4781**		
Total non-commodity		**$4186**		
Total		**$8967**		

Source: *SWF Institue (Updated July 2020)*

The rapid growth of SWFs is due to high oil prices and current account surpluses, specifically in the Middle East and Asia, as well as the privatization movements of national champions (Jen and Andreopoulos, 2008). In fact, China, which has the largest foreign currency reserve, has the largest non-commodity SWF (940 billion). According to Bortolotti et al. (2017), the aggregated size of all SWFs is almost twice the size of the hedge funds and triple the size of the private equity funds. In terms of numbers, more than 70% of all the existing SWFs have been established in the 2000s (see Fig 1).

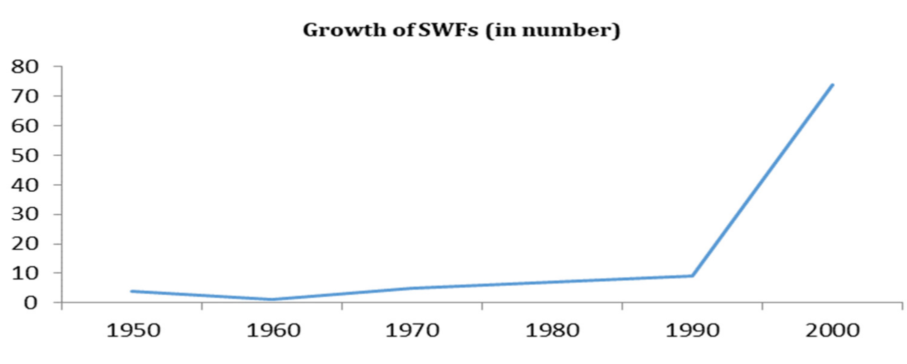

Fig. 1: SWFs evolution (in number of creation)

Source: author's calculations based on SWFI database (July 2020).

Otherwise, the increasing interest in SWFs is due to:

(1) *The rise of the role of SWFs in the international financial markets* particularly during and after the *subprime* financial crisis. SWFs were first mentioned in the financial press in early 2007 when the *China Investment Corporation* bought a 3 billion $US non-voting stake in the Blackstone group immediately before its IPO. The presence of SWFs in the ownership of international firms was amplified during the 2008 financial crisis when SWFs, mainly those from the Gulf countries, injected more than $ 90 billion to save several Western and American institutions from bankruptcy. According to Fernandes (2011), SWFs hold shares in almost one in five companies worldwide. Norway's fund, the largest SWFs in the world, is present in over than 9000 companies and alone controls the equivalent of 1.4% of the global market capitalization;

(2) *The governmental nature of SWFs.* Despite multiple worldwide privatization waves since the 1980s, a recent research highlights the growing role of governments in the economy. SWFs are one of the most powerful arms of government. Their government nature raises fears about potential political and strategic goals with regard to their activities. For example, the confidential agreement between China and Costa Rica. According to this agreement, Costa Rica is looking to cut off its political relationship with Taiwan. In return, China pledges to provide Costa Rica with financial assistance, a free-trade agreement and support for a non-permanent seat on the UN Security Council. China's financial assistance has been through its SWF *SAFE Investment Company Limited*;

(3) *South-North capital transfers*: The capital transmission vector is no longer north to south, but south to north. This change is due, in part, to the balance of power and reveals weaknesses in developed countries (Truman, 2008a);

(4) *The lack of transparency and information disclosure of the majority of SWFs:* Despite the improvement in the level of transparency of SWFs in the last few years (Megginson and Gao, 2020), several SWFs, especially those from non-democratic countries and emerging markets, still lack transparency (Bortolotti et al., 2017; Truman, 2007, Truman, 2008a, b, Kambayashi, 2007, among others); (see Linaburg-Maduell's transparency index; table 2);

(5) *The break with the traditional investment strategy (treasury bonds) and the move towards riskier and higher asset classes.* Indeed, SWFs no longer hide their desire and interest to become direct shareholders in the largest Western and American companies. They invest mainly abroad and follow diversified investment strategies (listed and unlisted equity, real states, etc.). Recently, SWFs are targeting more high-tech industries (Megginson and Gao, 2020). This orientation is probably a strategic choice to facilitate the transfer of technology particularly from countries such as Singapore and South Korea.

For all these reasons, host countries remain concerned and suspicious of SWF investments. These fears were amplified by the negative image conveyed by the financial press and by politicians' speeches who trigger the alarm against SWFs. Barak Obama, the 44th president of the United States (2008) declared, "*I am concerned if these ... sovereign wealth funds are motivated by more than just market considerations, and that's obviously a possibility*..."[4]. In the same context, Nicolas Sarkozy, president of France between 2007 and 2012, announced in a speech to business leaders near Annecy, eastern France, "*I will not be the French president who wakes up in six months' time to see that French industrial groups have passed into other hands*"[5].

Consequences and Determinants of SWFs Activities: Analysis of Empirical Studies

The question of the implications of SWFs's investments is highly controversial. For some, SWFs are beneficial. They have a stabilizing effect on the financial markets by following a private investment strategy in the long-term without having short-term financial liabilities. In addition, SWFs as large institutional and state investors may provide an implicit guarantee to the target

[4] http://www.reuters.com/article/us-usa-sovereignwealth-obama-idUSN0742347120080208

[5] https://www.ft.com/content/e1f97c38-a10d-11dd-82fd-000077b07658

firms, particularly in times of financial distress (Borisova, Fotak, Holland and Megginson, 2015). For others, SWFs pose a serious threat to the global economic stability and host country national security because their activities are politically motivated (Summers, 2007). Still, others oscillate between the two opinions, confirming the benefits of SWFs and their benign nature while recommending vigilance for their transactions (Balin, 2008; Moshirian, 2008; Mattoo and Subramanian, 2008, etc.). These concerns were mainly based on anecdotal evidence. Indeed, the specific academic research on SWFs is still limited because of their opacity and data availability problems (Fernandes, 2014; In, Park, Ji and Lee, 2013). They focused on the determinants of the investment choices of SWFs and their impact on the performance and value of the targeted firms. The results of these studies are mixed and inconsistent. This can be explained by the use of different definitions of SWFs (broadly versus restricted definition), different methodologies and different sample sizes and SWFs values. An overview of the empirical literature on SWFs's investments is presented in the following paragraphs.

The Impact of SWFs's Investments on the Performance of the Target Companies

The impact of SWFs's investments on the value of the target firms were the most studied relationships in the empirical tests. In general, the research question studied in these studies is as follows: Do sovereign wealth funds as large institutional investors controlled by the state affect the value of the target firms? If yes, positively or negatively? To borrow the terminology of Truman (2010), are SWFs a threat or salvation?

SWFs as institutional investors could affect stock prices by : i) intensive purchases or sales of shares; ii) transactions motivated by non-financial objectives; iii) the exercise of a stabilizing effect; iv) increasing liquidity; v) Improving the governance of the target companies; and vi) increasing agency costs of the target firms (managerial opportunism or control costs). In sum, the studies examined the short-term and long-term effects of SWF investments on the performance of the target firms. Researchers conducted event studies to examine the impact of SWF investments on the short-term performance of the target firms. The results are mainly coherent and consistent. Studies by Bortolotti et al. (2015), Knill, Lee and Mauck (2012a), Kotter and Lel (2011), Dewenter, Han and Malatesta (2010), Sojli and Wah Tham (2011), Fotak, Bortolotti and Megginson (2008), Megginson, Bortolotti, Fotak and Miracky (2009), Bortolotti, Fotak, Megginson and Miracky (2010), Sun and Hesse (2009) and Chhaochharia and Laeven (2010) confirm that the target firms report a significant positive abnormal return as a result of SWF investment announcements. Dewenter et al. (2010) examine the impact of SWF investments and disinvestments on the value of the target firms by analyzing the cumulative abnormal returns. They report that in the short-term, the market reacts positively (negatively) to the investments (divestments) of SWFs. They add that the relationship between SWF investments and the value of firms is a function of the size of the equity investment. This confirms a trade-off between the signalling and monitoring effect and the expropriation effect by SWFs. They also find that the positive market reaction is determined by the degree of transparency of SWFs. Megginson et al. (2009) assess the financial impact of SWF investments on equity markets. By highlighting some similarities between SWFs and other international investment vehicles such as pension funds and mutual funds, these authors confirm that the market is responding positively to the announcements of SWF investments. Chhaochharia and Laeven (2010) argue that for a window of -20 to +10 days around the announcement of the acquisition of SWFs, the cumulative average abnormal return is positively significant (1.6%). Similarly, Kotter and Lel (2011) find that the average cumulative abnormal yield is in the range of 1.95%, 2.15% and 2.45% for windows from 0 to +1, from -1 to + 1 and -2 to +2 days respectively around the date of the investment. The relationship is stronger for firms with financial constraints and for the most transparent SWFs. Sun and Hesse (2009) also support a positive short-term effect of SWF investments on the abnormal returns from the target firms. These confirm that SWFs have a stabilizing effect on the stock markets. Bortolotti et al. (2015) find a positive abnormal return of publicly traded firms as a result of SWF investments, but are lower than comparable private investments (SWF equity discount). However, Beck and Fidora (2008) state that there is no effect on corporate asset prices as a result of block sales of shares by the Government Pension Fund-Global of Norway.

Otherwise, the results of the tests that examine the long-term impact of SWF investments on the value of the target firms are not consistent and are inconclusive. Park et al. (2019), Chhaochharia and Laeven (2010), Fotak et al. (2008), Megginson et al., Bortolotti et al. (2010) and Bortolotti et al. (2015) observe the abnormal negative returns during the post-investment period of SWFs. By calculating the abnormal returns, Fotak et al. (2008) find that the target firms achieve a significantly negative average return of around 41% within two years of investing. Chhaochharia and Laeven (2010) have also found a negative abnormal return in the five years following the investment. Bernstein, Lerner and Schoar (2013), for their part, conclude that the value of firms targeted by SWFs is deteriorating, especially when politicians are involved in the decision-making process. Unlike previous studies, Knill et al. (2012a) have examined the return-to-risk performance of the target firms and found that SWF investment is associated with a reduction in the compensation of risk over the five years following the acquisition. These results partly confirm the concerns about the adverse effects of SWFs on the financial markets.

In contrast, Fernandes (2011) and Fernandes (2014) conclude that the long-term performance of the target firms is improving. They confirm that, contrary to arguments, SWFs expropriate investors and pursue political objectives, the ownership of SWFs appears to contribute to the long-term value of shareholders. They added that the target firms benefit from better monitoring, better access to capital and easier access to foreign product markets. On the other hand, Dewenter et al. (2010) and Sojli and Tham (2011) find no significant effect of SWFs on the long-term performance of the target firms. Also, Kotter and Lel (2011) did not detect any significant change between the operational performance of the target companies and the control sample within three years of the date of the investment. The authors explained these results by the inefficiency of government investments, the passivity of SWFs and the likelihood that they will further entrench managers in the target companies.

These diverging results may reflect the definitional challenges of dealing with SWFs (Rozanov, 2001). The studies do not consider the same definition for SWFs. Therefore, the sample sizes, the value of SWFs, and the number and size of transactions are different. In addition, major studies consider SWFs as homogeneous entities while they are very heterogeneous. They present a different background, different sources of funding, different objectives and different structures. Indeed, according to Table 2, a disparity in the level of transparency of SWFs can be noted. Therefore, it is important to consider a common definition of SWFs and to take into consideration their high heterogeneity in the studies.

Determinants of SWFs Asset Allocation

Chhaochharia and Laeven (2010) appear to be the first to be interested in the empirical analysis of the determinants of the investment choices of SWFs. They used a multiple regression model whose dependent variable is foreign biases. The explanatory variables used represent bilateral differences and similarities between SWFs countries and the target countries, such as i) geographic proximity; ii) cultural proximity (linguistic, religious and ethnic proximity); iii) commercial proximity; iv) industrial proximity, and v) measures of the economic, financial and legal development of the host country (financial market development, judicial efficiency, risk of expropriation, accounting standards, GDP per capita). Based on a sample of 67 SWFs investments, Chhaochharia and Laeven (2010) documented that SWFs invest more in countries with which they have cultural affinities (significant positive relationship between foreign investment and ethnic, religious and linguistic proximity). This result suggests that foreign investments by SWFs seem guided by non-economic objectives that do not coincide with profit maximization. In addition, SWFs seem to be present more in the countries with which they have a commercial partnership and industrial proximity. On the one hand, this suggests that SWFs diversify their investments into industries different from domestic industries. The other variables appear to be insignificant.

On the other hand, researchers have shown that the quality of SWFs's governance is a factor that affects their geographic diversification strategies. Indeed, the impact of industrial diversification only exists for SWFs whose governance score exceeds the median of Truman's governance score (2008). Thus, the religious bias exists only for SWFs whose governance score is lower than the median of Truman's governance score (2008). Kotter and Lel (2011) argue that SWFs are similar to passive institutional investors in their investment choices. Using multivariate logistic analysis, the authors show that transparent SWFs prefer to invest in large firms that perform less well and have financial difficulties. In addition, SWFs target developed countries during periods of crisis. Similarly, Fernandes (2011) finds that SWFs are more likely to target larger firms with significant external visibility. Chhaochharia and Laeven (2010) show that SWFs are attracted to strategic sectors (oil sector, for example) and to countries with strong legal institutions to mitigate concerns about politic objectives and wealth expropriation. Knill, Lee and Mauck (2012b) raise the issue of political relations in the SWFs's asset allocation strategies. These authors find that political relations are an important factor in deciding where SWFs invest, but they are less important in determining the size of the investment. Also, SWFs prefer to invest in countries with which they have weaker political relations, which goes against the theory of foreign investment. These results confirm that the investment objectives of SWFs are not only economic. Dyck and Morse (2011) confirm that political motivations explain the investment profile of SWFs. Bernstein et al. (2013) announce that SWFs are more focused on their country of origin when politicians are more involved in the decision-making process. Ciarlone and Miceli (2014) conclude that SWFs, like the majority of rational investors, prefer to invest in countries with a stable economic environment with developed and liquid financial markets, as well as in countries whose institutions offer investors better protection of legal rights. However, SWFs seem to target countries that are most affected by economic crisis. This type of behaviour may suggest non-economic investment motives.

For Johan, Knill and Mauck (2013), SWFs act differently from other traditional institutional investors when investing in private firms. In fact, when it comes to investing in private firms, SWFs are more likely to invest in countries where the investor protection is low and the bilateral political relations between the two countries are weak. Megginson, You and Han (2013) argue that countries with developed capital markets and a high level of investor protection are more attractive for SWFs. In addition, SWFs countries with high levels of openness and economic development, but with less developed capital markets, are investing more abroad. Boubakri, Cosset and Grira (2016) compared the capital allocation of SWFs with pension funds. They showed that SWFs prefer firms that operate in strategic sectors and have high performance, and firms originating from countries with weaker legal and institutional environments and greater economic growth. Finally, Amar et al. (2019) find that SWFs prefer to invest in countries with a higher political stability.

Conclusion

This study on SWFs provides empirical evidence of the impact of their investments on the performance of their target firms and the determinants of their assets allocation. In sum, the results of the studies are generally consistent when it comes to the effect of SWF ownership in the short-term, but are divergent when it comes to the long-term effect. This indicates that the literature is still mixed and inconsistent regarding the motives (political or economic) and implications of SWF investments. Researchers have been cautious in interpreting results and confirming relationships. The authors noticed that research does not use a common definition of SWFs as a reference, which could partly explain the divergence of the results. Otherwise, studies have largely considered SWFs as homogeneous entities when they are not. SWFs present several differences such as the sources of funding, their origin, their goal for creation, their organizational structure, their degree of dependence on governments, their quality of governance, their level of transparency, etc. Further studies are needed, and it is important to vary research contexts and analytical frameworks. Some research ideas are proposed such as the impact of SWF ownership on acquisition premiums, the quality of information disclosure, the cost debt of the target firms, etc. Similarly, an empirical analysis that discusses investment choices related to the level of political connection of the target firms could also add to the understanding of the determinants of the investment choices of SWFs.

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