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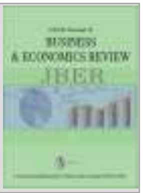

Evolving Sovereign Wealth Fund under Infrastructure Funding Scarcity: A Literature Study

Aris Wahyu Raharjo[1*], Sudarso Kaderi Wiryono[2], Raden Aswin Rahadi[3]

[1,2,3]School of Business Management Institut Teknologi Bandung, Bandung 40132, Indonesia

ABSTRACT

Objective – There are three primary focuses of this study, namely: to understand past literature on sovereign wealth fund (SWF) pattern of development, the impact of SWF investment on target firm financial performance, and how SWF fosters infrastructure development in Indonesia

Methodology/Technique – The methodologies of this study are descriptive and structured systematic reviews. Six dimensions were the focus of this literature review which are the basis for sorting and grouping the 1683 publication journals. Those six dimensions are SWF characteristics, SWF target firm characteristics, country characteristics, deal characteristics, research methods, and level of analysis

Findings –The SWF objectives and pattern of development in a country depending on the country-specific conditions which could evolve over time. There have been many past types of research on SWF development in different countries. Past research provided differing outcomes in various aspects of SWF development from one country to the others. In the case of Indonesia, INA is expected to provide global capital access in filling in the funding gap for Indonesia's infrastructure development. For that reason, this research is seeing an urgency to observe how Indonesia SWF manages its investment portfolio in unique infrastructure development and its impact on the national economic growth. Furthermore, past research findings described that the impact of institutional investors such as SWF on firm performance is still unclear. Many questions concerning the financial aspects of SWF's activities still remain relatively unanswered. The outcomes of this literature review provide multiple bases for future research with a mixed case study method.

Novelty – This research observes and compares various SWF patterns of development in different countries (multiple cases). Indonesia's SWF wealth fund was a newly established government agency and has not been widely explored in past research. How the government of Indonesia overcomes funding scarcity for infrastructure development provides a unique experience.

Type of Paper: Empirical

JEL Classification: F30, M20.

Keywords: Indonesia Sovereign Wealth Fund; Firm Value; Infrastructure Development; Structured Literature Review

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1. Introduction

SWF is a government investment body usually established from the excess of government revenues which come from commodity exports and other trade surpluses in the form of foreign exchange savings.

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* Corresponding author: Aris Wahyu Raharjo
E-mail: aris_wahyu@sbm-itb.ac.id
Affiliation: School of Business Management Institut Teknologi Bandung, Bandung, Indonesia

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The primary purposes of establishing SWF are to stabilize government revenue, foster domestic economic growth, create savings for future generations, obtain greater returns than the traditional return on foreign exchange reserve, and also to finance domestic projects (Beck & Fidora, 2008) (Butt et al., 2008) (Alhashel, 2015) (Schubert & Barenbaum, 2010).

The history of SWF started in Texas US when the state founded a permanent school fund in 1854. It was then followed by the establishment of a university fund in 1876. After almost a century after the establishment of those education funds, Kuwait founded the first sovereign wealth fund in 1953, called as Kuwait Investment Authority (KIA). The primary objective of KIA is to manage the surpluses from oil revenue (Alhashel, 2015) (Dewenter et al., 2010).

Sovereign wealth funds have undergone rapid growth since 2000. The total asset under management of global SWF year 2008-2021 can be depicted in figure 1.

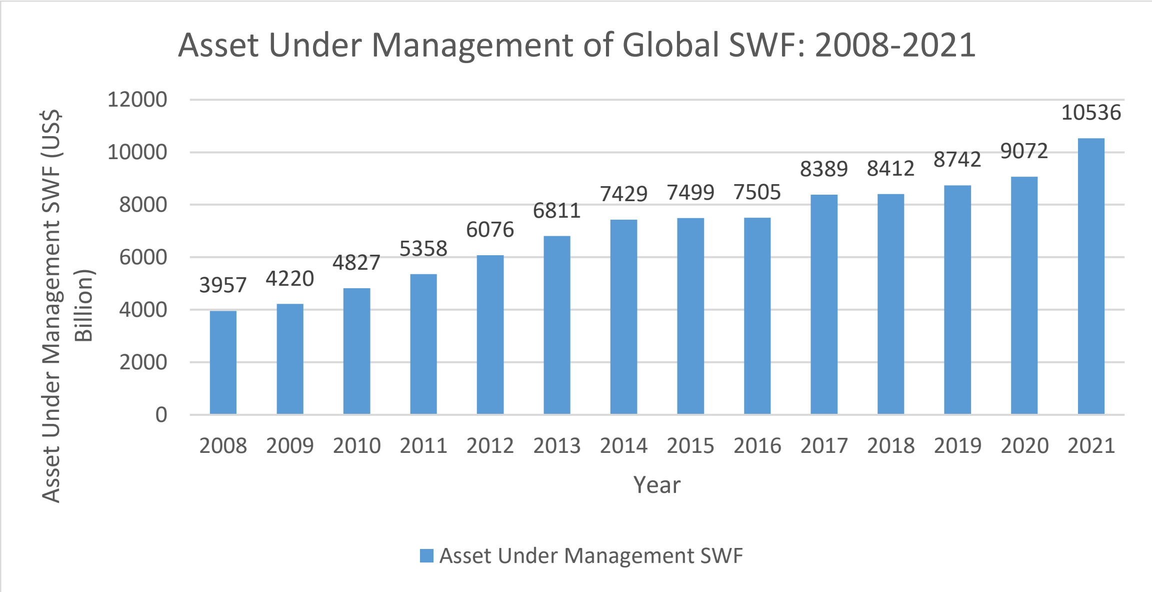

Figure-1. AUM of Global Sovereign Wealth: 2008 to 2021
(Source: www.statista.com, 2021)

In December 2021, the total assets under management of global SWFs amounted to $ 10,54 trillion (Statista, 2021). The distribution of SWF by geographical region can be presented in figure 2.

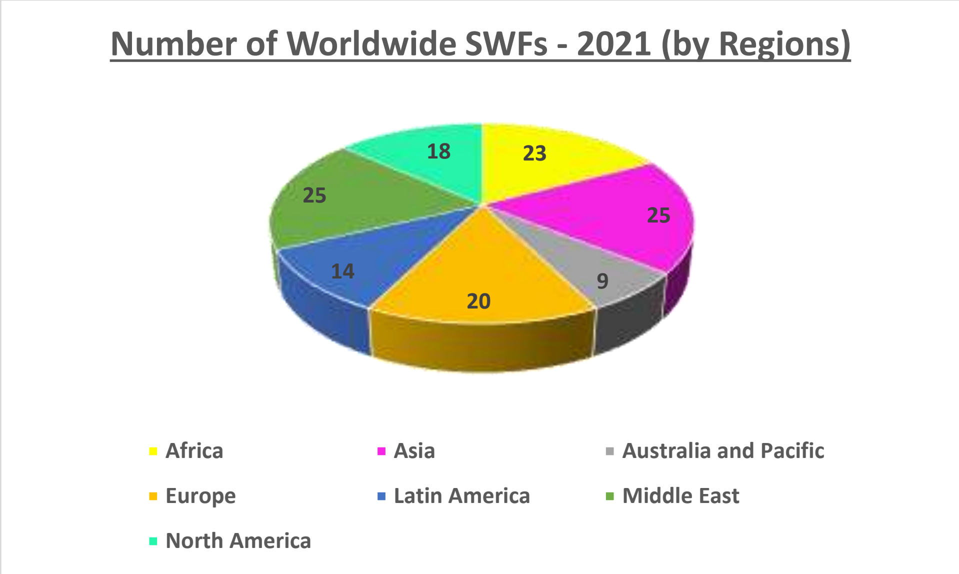

Figure 2. SWFs distribution by region
(Source: swfinstiture.org, 2021)

Sovereign wealth funds have mixed characteristics of private investors and government-controlled investors. A private investor is mainly characterized by maximizing the economic return goals of the investment for shareholder values. On the other hand, a government-control investor tends to seek public sector goals as directed by the government (Urban, 2017).

Rapid growth of sovereign wealth funds sharpens the concentration of equity ownership toward institutional investors. In the broader view, institutional investors can be classified into three categories, namely: traditional institutional investors, alternative institutional investors, and asset managers. Pension funds, investment funds, and insurance funds are often classified as the traditional institutional investors. Sovereign wealth funds together with other investors such as hedge funds, private equity funds, and exchange traded funds are included in the alternative institutional investors. Asset managers perform investments on behalf of clients (Çelik & Isaksson, 2014)

IMF and Santiago Principles taxonomy categorize sovereign wealth funds into five different types according to the stated objective and asset allocation consequents, which are: stabilization funds, saving funds, development funds, pension reserve funds, and reserve investment funds (Al-Hasan et.al, 2013).

Stabilization funds are established to protect state budget and domestic economy from commodity price volatility and external surges. The roles of stabilization funds are countercyclical fiscal policies to absorb shocks and to smoothen economics cycles. The investment characteristics and liquidity objectives of stabilization funds are similar to central banks as part of reserve management. They are holding most of investment portfolios in highly liquid assets such as: fixed income assets and government securities. Saving funds are founded to obtain greater savings for future generation. Saving funds transfer the wealth across generations by converting non-renewable assets into diversified investment portfolios. Their investment characteristics is focusing on high risk-return assets which are mostly equity and other similar profile assets. Development funds are intended to provide resources for socio-economics development projects, which are mostly infrastructure projects. Pension reserve funds are formed to fulfil future outflows for pension payment liabilities. Reserve investment funds are set up to minimize the cost of holding reserves or to obtain return beyond traditional return at adequate level of reserves while keeping the investment assets as reserves.

The government of Indonesia founded an investment body - namely: Indonesia Investment Authority (INA) - under government decree (PP) No.74/2020. This regulation was derived from Act No.11/2020 regarding employment creation. INA is often considered Indonesia’s sovereign wealth with various objectives, namely: to build wealth for future generations and contribute to Indonesia’s sustainable economic development. INA is also expected to support national economic recovery by attracting foreign investment in providing funding for various key sector projects. INA offers 8 key investment sectors, which are: Infrastructure, Supply Chain and logistics, Digital Infrastructure, Green Investing, Healthcare, Financial Service, Consumer and Technology, and Tourism. From those stated objectives, INA was founded to assume multiple objectives as being saving funds, stabilization funds, and development funds.

Prior to establishing the Indonesian Investment Authority (INA), the Government of Indonesia has formed various different kinds of investment agencies, namely: Pengelola Investasi Pemerintah (PIP) established in 2007, PT. Sarana Multi Infrastruktur (Persero) was established in 2009, and Indonesia Infrastructure Finance (IIF) was established in 2010. They were primarily devoted to fostering infrastructure development in Indonesia.

Indonesia Investment Authority (INA) was established during a unique period compared to most other SWFs' establishment period. INA was founded when the country was in an urgent need to fulfil infrastructure development requirements and the state budget deficit widened. The Indonesia state budget deficit was worsened by the covid-19 global pandemic in 2020-2021. The intensity of Indonesia's state deficit can be seen from the primary balance as shown below in figure 3.

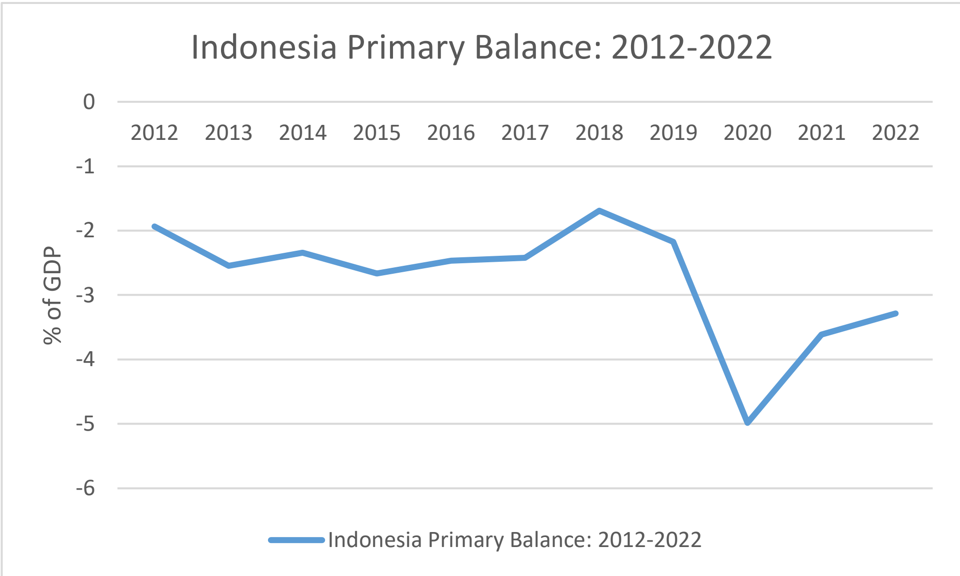

Figure 3. Indonesia Primary Balance 2012-2022
(Source: IMF, 2022)

The growing state budget deficit narrows fiscal space for government investment. Therefore, the capacity of the government to finance INA equity is also limited. The government disbursed the state budget (APBN) to establish initial equity of INA in 2020 as much as Rp. 15 trillion (US$ 1.05 billion). Furthermore, INA relied on state-owned enterprises' equity contribution (BRI and Mandiri Bank) of as much as Rp. 60 trillion (US$ 4.5 billion). It is expected that INA will continue its growth through investor partnerships to reach an agreement on an additional US$ 20 billion in funds in the near future. The government equity portion will drop to 4% of total INA equity when the growth plan is reached (INA, 2021).

In addition to the Indonesian government funding challenges, infrastructure development is challenged by global funding scarcity. There is an increasing gap between funding requirements (investment need) and available funds (current trend of infrastructure investment capacity) at the global level. The 40 years trend of the global infrastructure funding gap can be seen below in figure-4.

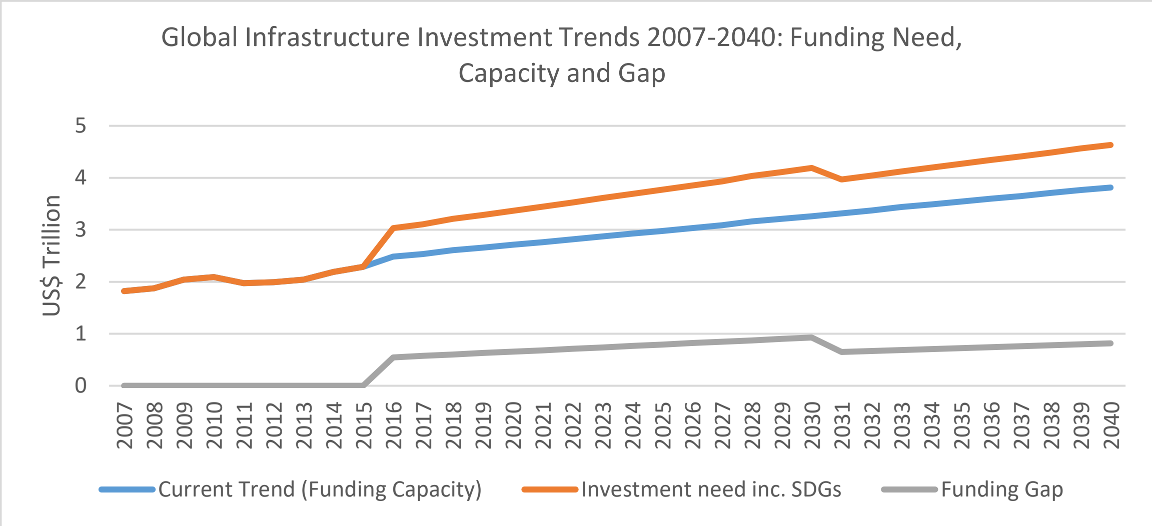

Figure 4. Global Infrastructure Funding Gap: 2007-2047
(Source: outlook.gihub.org)

The development of infrastructure in Indonesia is aiming to improve the standard of living as stipulated by the social development goal (SDG), to improve infrastructure competitiveness as one of the main components of national competitiveness, and also to promote national economic growth. The funding requirement and gap for 5-year infrastructure development in Indonesia can be seen below table-1.

Table-1. Indonesia 5-Years Infrastructure Development Funding Requirement (2020-2024).
Source: World Bank, 2021

Source of Infrastructure Fund	2020-2024		Average Annual Need		Percentage	Available Fund	Gap (IDR Trillion)
	IDR (Trillion)	US$ (Billion)	IDR (Trillion)	US$ (Billion)			
State Budget (APBN)	IDR 2,384.65	$ 170.33	IDR 476.93	$ 34.07	37.0%	IDR 2,384.65	IDR -
State Owned Enterprise	IDR 1,353.45	$ 96.68	IDR 270.69	$ 19.34	21.0%	IDR 1,353.45	IDR -
Private Investment	IDR 2,706.90	$ 193.35	IDR 541.38	$ 38.67	42.0%	IDR 2,000.00	IDR 706.90
	IDR 6,445.00	$ 460.36	IDR 1,289.00	$ 92.07			

INA which is considered the Indonesia SWF adopts the characteristics of institutional investors. INA is owned, managed, and controlled by sovereign states of Indonesia, has limited liquidity needs, a lower-than-market-average level of redemption risk, a long-term, intergenerational investment horizon, and relatively high-risk tolerance (Urban, 2017). With the increasing global equity concentration toward institutional investors, INA is expected to provide access channels to the global capital sources in overcoming the fund shortages of infrastructure development.

Previous researches on sovereign wealth fund were performed in various regions and countries with different research areas of focus, different variables and provides differing results. Most of the past research was done in developed countries and fewer researches were conducted in emerging countries. Yet, there is also limited research performed during pandemic challenges. Moreover, none of those researches was specifically performed on Indonesia's sovereign wealth fund as Indonesia SWF was just founded in 2020.

This research will provide a literature review on understanding Indonesia's SWF pattern of development, how SWF investment can foster Indonesia's infrastructure development and how SWF investment affects target firm performance with additional novelty on an enhanced model that includes fiscal deficit, population, and inflation.

2. Literature Review

The SWF objectives and pattern of development in a country depending on the country-specific condition which could evolve over time. There have been many past type of researches on SWF development in various countries. The past research outcomes differ in various aspects of SWF development from one country to the others and have similarities in other aspects among them.

Temasek Holdings (Temasek) is Singapore's SWF which was established in 1974 with its original main objective as a saving fund to preserve national wealth. Temasek was registered as a private company fully owned by the Government of Singapore. In 2002, Temasek underwent transformation processes. The initial Temasek's objective of preserving the nation's wealth was revamped to boost corporate profits by seeking investments in new wealth sources around the world. Temasek investment portfolios were shifted from domestic investment to international investment. The governance system was also reformed by replacing the civil service CEO with professional CEO. Temasek also switched its investment strategy from passive to the active investor. These transformation processes boosted the asset portfolio of Temasek from US$ 345 million in 1974 to US$ 185 billion in 2009 and further growth to US$ 484.4 billion in 2021. The rapid increase in asset portfolio started after the transformation program was introduced (Ng, 2010).

Malaysia's Khazanah National (Khazanah) is Malaysia's SWF which was founded in 1994 with its mixed objectives to manage commercial assets owned by the federal government and to make strategic investments on behalf of the government that would contribute toward nation-building (non-commercial aspect). Khazanah initially focused on domestic investment in three major areas, namely: utilities, toll roads, and financial services. During the 1997 Asian financial crisis, Khazanah was assigned by the Malaysia government to assume three major tasks, namely: to contain poor-quality debt and remove them from the financial institution books, to infuse capital for the ailing companies in exchange for their equity (bailout effort) and to assume a role as a government vehicle to mobilize funds to overcome the financial crisis. In 2004, Khazanah was undergoing a transformation program. The program focused on revamping corporate objectives, and governance, improving corporate culture, reforming management practices, and strengthening financial performance. It also promoted greater transparency and accountability by presenting its reports to the media. Strengthening Malaysia's international competitiveness was augmented into Khazanah's strategic objective. Khazanah appointed an investment and financial professional as the new CEO of Khazanah in June 2004. Khazanah's investment strategies were extended to include active international investment. Four industry sectors were also added into the original investment targets, namely: infrastructure and construction, property, media and communication, and high-tech industries. The transformation program shifted the investment governance strategy from passive to the active investor. These transformation processes successfully grew the asset portfolio of Temasek from MYR 7 billion in 1994 to MYR 51 billion in 2004 and further growth to MYR 113 billion in 2011. As of 2021, the total managed assets of Khazanah stood at MYR 132.6 billion (Lai, 2012).

Past research in resources-rich countries' SWFs such as Azerbaijan and Gulf countries provided different patterns of development. Azerbaijan decided to establish the State Oil Fund of the Azerbaijan Republic (SOFAZ) which is considered the country's SWF in 1999. The originally stated objectives of SOFAZ were to achieve multiple objectives, which are: to avoid income volatility (stabilization fund), achieve intergenerational equity, and transform resource wealth into more productive assets (saving funds). Moreover, SOFAZ was tasked to support the state's long-run economic development (development fund). It was gradually becoming an essential part of Azerbaijan's public finance system. Although SOFAZ was the first country to achieve all requirements of the Extractive Industries Transparency Initiative (EITI), however, the unlimited and unconditional transfers of SOFAZ to the state budget have threatened fiscal sustainability and overall macro-economic equilibrium. This practice also violates the good corporate governance principle (Aslanli, 2015). The Middle East and Gulf countries have long-time been depending on oil production as their main state revenue source. The countries are also recognized as the home of the world's top SWFs such as Kuwait Investment Authority, Abu Dhabi Investment Authority, Investment Corporation of Dubai, and Qatar Investment Authority. However, a decade-long high oil price era seemed to end in 2020. Therefore, Gulf Cooperation Council (GCC) initiated transformation programs across countries to respond to challenges from the drop in oil prices. One of the programs was to transform SWFs from their initial objectives as the state wealth management across generations (saving funds) and stabilizing state income under oil price volatility (stabilizing fund) to include a stronger role in transforming state economically, social, and development (development fund). SWFs were tasked to reshape state-society relations (Young, 2020).

The world's largest SWF – the Government Pension Fund Global (GPFG) of Norway with a total managed asset of US$ 1.36 trillion - provides differing development paths and investment strategies. GPFG was established in 1990 with the initial name of Petroleum Fund as a fiscal instrument to support the long-term management of Norway's petroleum revenue (stabilization fund). Norges Bank Investment Management (NBIM) manages and administers the fund on behalf of the Norwegian people. The ministry determines the fund's investment strategy based on the advice of NBIM and the parliamentary forum. International equity, fixed income markets, and real estate were the original focus of investment areas. In 2006, the fund underwent a transformation program marked by changing its name from Petroleum Fund to Government Pension Fund Global. GPFG also increased the equity share from 40 percent to 60 percent in June 2007. The decision was made based on a long-term view of how it would impact the return-risk expectation (Papaioannou & Rentsendorj, 2015). The fund continues its transformation by establishing a corporate governance advisory board to support long-term active ownership (Kumar, 2004).

The above cases with Temasek and Khazanah provide a reference for the development and transformation pattern in emerging countries' SWFs. These SWFs were grown during the industrialization process. SOFAZ and Gulf SWF have the privilege of abundant natural resources. They underwent a transformation process to overcome the non-renewable resources dependency. GPFG is an example of mature SWF from successful rapid growth. Its investment strategy and governance provide good references for other SWFs. INA – the Indonesia SWF – needs to take lessons learned from those SWF cases in order to make jump-start strategies.

The second literature review area for this research is related to how SWF investment affects infrastructure development. The solow-Swan development model is an economics model for long-run economic growth. It intends to explain long-run economic growth by taking capital accumulation, labor or population growth, and increases in productivity (technological progress) into account. Since infrastructure development is considered as part of capital investment, therefore it will foster economic growth.

Many less developed countries suffer from an infrastructure gap. Infrastructure investment requirement exceeds the actual investment (Global Infrastructure Outlook, 2022). Governments in less developed countries are facing a rising demand for infrastructure, nevertheless, they don't have adequate financing capacity to invest in infrastructure. Since infrastructure is critical for economic growth, many countries chose to liberalize investment in infrastructure and have invited private foreign investment to fill in the infrastructure gap. This approach brings positive results with foreign direct investment (FDI) in some infrastructure sectors such as transport, energy, and telecommunications has increased rapidly, while other areas dealing with essential infrastructures, such as water supply, are still left within the government control (Dewit & Leahy, 2018).

The characteristic of an infrastructure investment matches long-term institutional investors. Infrastructure assets have return profiles for decades. This asset type is not an issue for funds with intergenerational objectives. Moreover, liquidity is generally not a concern for a fund that can hold an investment for the life of the asset. In summary, the characteristics of infrastructure investment do not appear to be problems for long-term investors. In fact, the benefits of these investments meet the funds' interests. For example, infrastructure assets offer economies of scale, inelastic demand and stable cash flows and can generate uncorrelated returns, inflation linkage and downside protection (Clark et al., 2012).

In the case of Indonesia, INA is expected to provide global capital access in filling in the funding gap for Indonesia infrastructure development. For that reason, this research is seeing an urgency to observe how Indonesia SWF manages its investment portfolio in a unique infrastructure development and its impact to the national economic growth.

The last literature review area of this research is related to how SWF investment affects the target firms' financial performance. On one hand, past research revealed an SWF premium of 10%-15% higher in the target firm's value and a drop in credit default spread (CDS) of target firms (Bertoni & Lugo, 2014; Fernadez, 2011). The relationship between SWF investment and stock prices was observed in past research with mixed zero and positive results (Fotak et al., 2008) (Dewenter et al., 2010) (Kotter & Lel, 2011) (Raymond, 2010).

On the other hand, past research - which examined the risk-reward performance of target companies – concluded that SWFs do not bring benefits to the companies they invested in, like other institutional investors (Knill et al., 2012). Moreover, the institutional investment provides a significant negative impact on firm performance using a proxy for Tobin's Q (Charfreddine, L., & Elmarzougui, 2010). Other research also suggests that institutional shareholdings negatively affect firm performance (Liang et al., 2011). In terms of SWFs governance strategy, companies targeted by active SWFs tend to achieve an abnormal return over the long term, while companies targeted by passive SWFs tend to underperform (Bortolotti et al., 2015) (Bortolotti et al., 2009).

In summary, past research findings described that the impact of institutional investors such as SWF on firm performance is still unclear. Many questions concerning the financial aspects of SWF's activities still remain relatively unanswered (Al-Hassan et al., 2013).

3. Research Methodology

Searching and reviewing literature documents are the main activities for literature review processes. Literature document includes publications journal, article journal, and article magazine from financial organization and institution. There are several primary literature areas that were searched in order to fulfill the requirement for this research study, namely: underlying grand theories, past theories, construct, variables and research streams of SWF, the development of Indonesia investment agencies, infrastructure development literature, research methodologies and level of analysis.

Three grand theories have been chosen to be the main under layers for this research, namely: Modern Portfolio Theory, Agency Theory, and Solow-Swan Growth Theory. All of those theories are stable theories that could be found in the textbook and also various online web resources.

The literature material for past theories, constructs, variables, findings, and research streams on global sovereign wealth funds material was obtained from the Scopus publication journal. The latest development and trend on sovereign wealth funds were searched on the prominent SWF website, which is swfinstitute.org. Specific information and data on sovereign wealth funds were other global online data providers, such as www.statista.com. The information search for SWF is devoted to collecting relevant topics for the research focus, namely: the evolution of Indonesia investment agencies and SWF pattern of development in other countries (emerging and developed countries) and its impacts on target firms' financial performance.

The information search on infrastructure development comprises 2 major areas, which are: infrastructure development at the global level and infrastructure development in Indonesia. Trends, models, and relevant findings/information from previous research on global infrastructure development were acquired through Scopus publication journal. Specific information and data on global infrastructure development were searched from global online data providers, such as outlook.gihub.org, IMF, and World Bank. Trends, models, and relevant findings/information from previous research on Indonesia's infrastructure development were rarely available in Scopus publication journals. Therefore, search processes relied on available website material from the Indonesia Ministry of Finance, Bank Indonesia, and other online media information sources such as IMF, World Bank.

Past information, trends, model, and relevant findings/information from previous research on Indonesia investment agencies' development were rarely available in Scopus publication journals. Therefore, search processes relied on available website material from the Indonesia Ministry of Finance, Bank Indonesia, the website of Indonesia investment agencies, and other online media information sources.

Scopus is the primary source of publication journal to search past theories, constructs, variables, findings, and research streams on global sovereign wealth funds as part of the literature review of this research. Selection criteria for the Scopus publication journal are applied, namely: the publication journals are Q1-Q4 rated journals that were published within the last 15 years (2006-2021).

Hence, nineteen (19) pairs of keyword combinations are being used to search for relevant information for the literature search of this research. Keyword pairs all consisted of "Sovereign Wealth Fund" as the first keyword and 1 other keyword which represents a relevant topic within SWF for this research. The search process is conducted through the "Publish or Perish" application software. The search process using those 19 keyword pairs obtained 1683 publication journals as shown in table-2.

Table 2. Literature Searches from Scopus Publication Journal

Source	Pairing	Keywords 1	Keywords 2	Number of Journals	Research Variables Grouping
SCOPUS 2006-2021 Q1-Q3	1	Sovereign Wealth Fund	Objective	58	SWF Characteristics
	2		Welfare	32	
	3		Capital	145	
	4		Fiscal	43	
	5		Deficit	12	SWF Target Firm Charatterictics
	6		Economics	42	
	7		Development	192	
	8		Commodity	43	Country Characteristics
	9		Surplus	25	
	10		Growth	95	
	11		Investment	147	Deal Characteristics
	12		Domestic	79	
	13		Foreign	167	
	14		Infrastructure	34	Research Methods
	15		National	133	
	16		Risk	107	
	17		Financial	200	Level of Analysis
	18		Emerging	72	
	19		Developed	57	

The analysis method for this research is a systematic paper review. There are several types of systematic review such as a framework-based (Paul and Benito, 2018), theory-based review, meta-analysis (Knoll and Matthes, 2017), and structured review focusing on widely used methods in theories and constructs development (Serano, Paul, and Dikova 2018), review model or framework development (Paul and Mas, 2019), etc. A systematic literature review is used to synthesize the literature's contents and identify possible research gaps (Talan and Sharma, 2019). This research adopts a structured, systematic review framework based. This literature review objective is to find what kind of dimensions correlated to the research topic from previous research will be used as the research foundation (Putri et al., 2022).

As part of the structured, systematic review process, six dimensions were defined for this research in order to sort and group the 1683 publication journals. Those six dimensions are SWF characteristics, SWF target firm characteristics, country characteristics, deal characteristics, research methods, and level of analysis.

SWF characteristics (such as objectives, assets under management) and country characteristics (emerging and developed countries) will be the basis to define samples for the pattern of development. Three SWF literature from the emerging countries and three other SWF from the developed countries will be selected.

The literature samples for SWF impacts on target firms' financial performance and the associated data will be chosen from target firms outside of Indonesia and target firms within Indonesia. The literature search for financial performance focuses on three areas, namely: the literature on risk-to-return performance, the literature on profitability performance, and the literature on growth performance. The literature information on SWF target firms in Indonesia will be obtained from the official corporate publication or periodic financial reports. Five SWF target firm companies in Indonesia's infrastructure sectors are selected for this research.

The literature sample searches for infrastructure development will be devoted to infrastructure requirements and challenges in developing countries, how SWF investment goals meet infrastructure project characteristics and fill in the funding gap for infrastructure development financing. The literature review will also focus on the 6 sustainable development goals (SDG) infrastructure sectors.

The literature searches for research methodology will focus on qualitative research methodology for SWF pattern of development and quantitative research methodology for target firms' financial performance. Statistical reference on panel regression model is also searched to support the financial performance regression model development. The level of analysis literature will primarily look at hard system modeling through system dynamics for SWF roles in fostering infrastructure development. The literature is expected to provide interaction among variables for policy and strategy simulation purposes. The structured systematic literature review process from those major search areas can be described below figure-5.

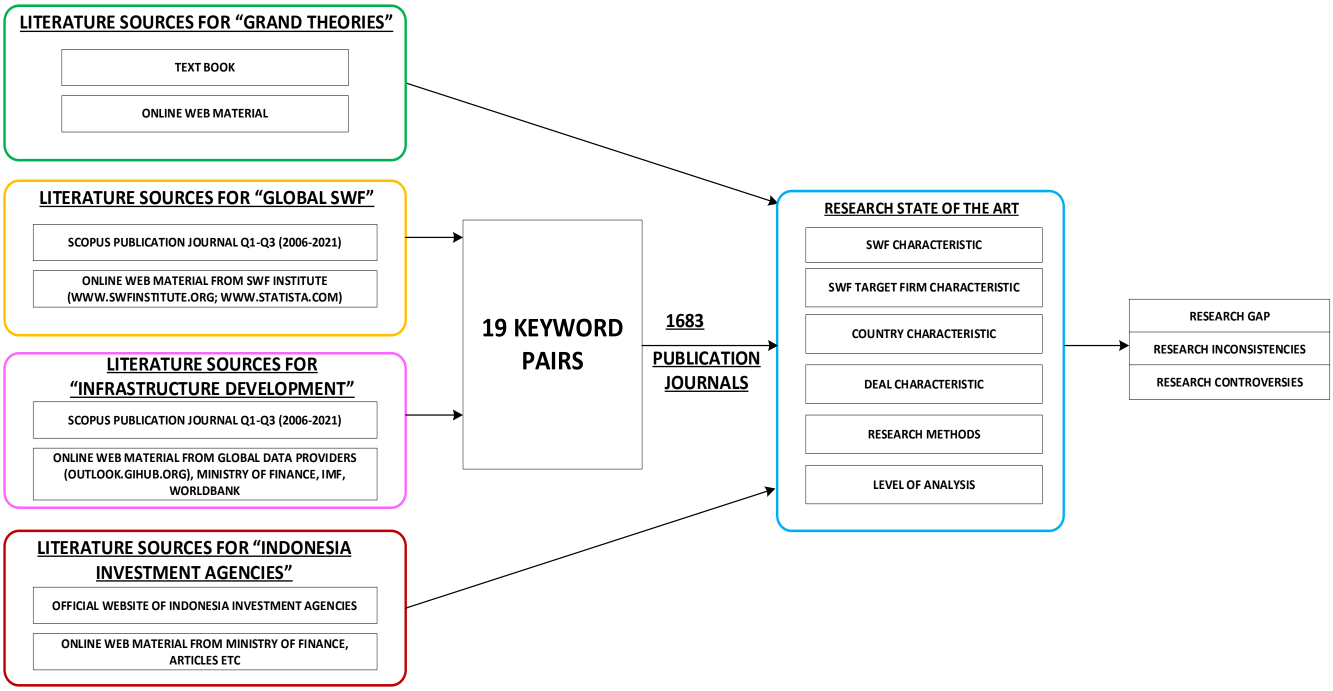

Figure 5. Structured Systematic Literature Model
(Source: Author's Concept)

4. Results

Previous SWF researches encompass the following major streams, which are: a) overview and growth of SWFs, b) SWFs governance and political concerns, and c) SWFs investment strategies (Bahoo et al., 2020). Past research variables are being assessed and grouped in this literature process. Those past research variables may have not included certain variables which are actually critical in current days (although they were less critical in the past). This phenomenon is considered a research gap. Those past research variables may also come from different researches with different results. Those are often called research inconsistencies. Some past variables may have also triggered controversies and conflicts from various groups of scholars or communities. This phenomenon is called research controversies.

Therefore, this research adds more streams to the previous research map, namely: the objective of SWF establishment, source of capital, financial performance, country characteristics, and deal characteristics to enhance the identifying process of past research findings (research gap, research inconsistencies, and research controversies). Past research gaps will drive the development of research state of the art where this research is going to contribute in various areas, such as academic contribution, practical contribution, policy analysis, and also literature contribution. The past research streams and an additional areas of focus from this research are building a revised research map as shown in figure 6.

State of the art in areas where this research will contribute to the current body of knowledge, namely: 1) research location (Indonesia), 2) dependent variable (infrastructure competitiveness), 3) independent variable from country characteristics dimension (fiscal deficit and population growth), 4) independent variable from deal characteristics (partnership), 5) control variable (infrastructure/non-infrastructure industries), 6) research methodology (serial mixed methods) and 7) level of analysis (system dynamics modeling).

Three SWFs from emerging countries – namely: Temasek Holding Private Limited, Khazanah National Berhad, and State Oil Fund of Azerbaijan Republic (SOFAZ) – are chosen to be the samples for this research. Three other SWFs from developed countries – which are: Abu Dhabi Investment Authority from one of the Gulf countries, Norway Government Pension Fund Global (GPFG), and China Investment Corporation (CIC) are selected as the samples for the future research in understanding the pattern of SWF development.

The literature review also collected information from various sources on how Indonesian investment agencies evolved over time. The first investment agency was the “Government Investment Center (PIP)” which was founded under Ministry of Finance Decree Nomor 52/PMK.01/2007 dated 16 Mei 2007. It was a public service entity that engaged in the non-commercial passive investment scheme. PIP provided financing for portfolio investment which focuses on micro business. The role of PIP was to manage the state budget and didn’t mobilize any external funds. Therefore, it was fully funded by the state budget (APBN). PIP was bounded by state finance and treasury law. In 2015, PIP was dissolved and integrated with PT.Sarana Multi Infrastruktur (Persero).

The second Indonesian investment agency is PT Sarana Multi Infrastruktur (Persero) which is a State-Owned Enterprise (SOE). The entire capital of PT.SMI is owned solely by the Republic of Indonesia under the Ministry of Finance. PT.SMI was formed under Minister of Finance Regulation No. 100/PMK.010/2009 which established Infrastructure Financing Companies. There are 8 (eight) operational sectors financeable by PT SMI, namely; roads and bridges, transportation, oil and gas, telecommunications, waste management, electricity, irrigation, and drinking water supply. PT SMI's holds two primary mandates, namely: 1) provide benefits and contribute to communities through social and economic conscious actions and 2) promote sustainability through Sustainable Development Goals (SDGs) and mitigating climate change.

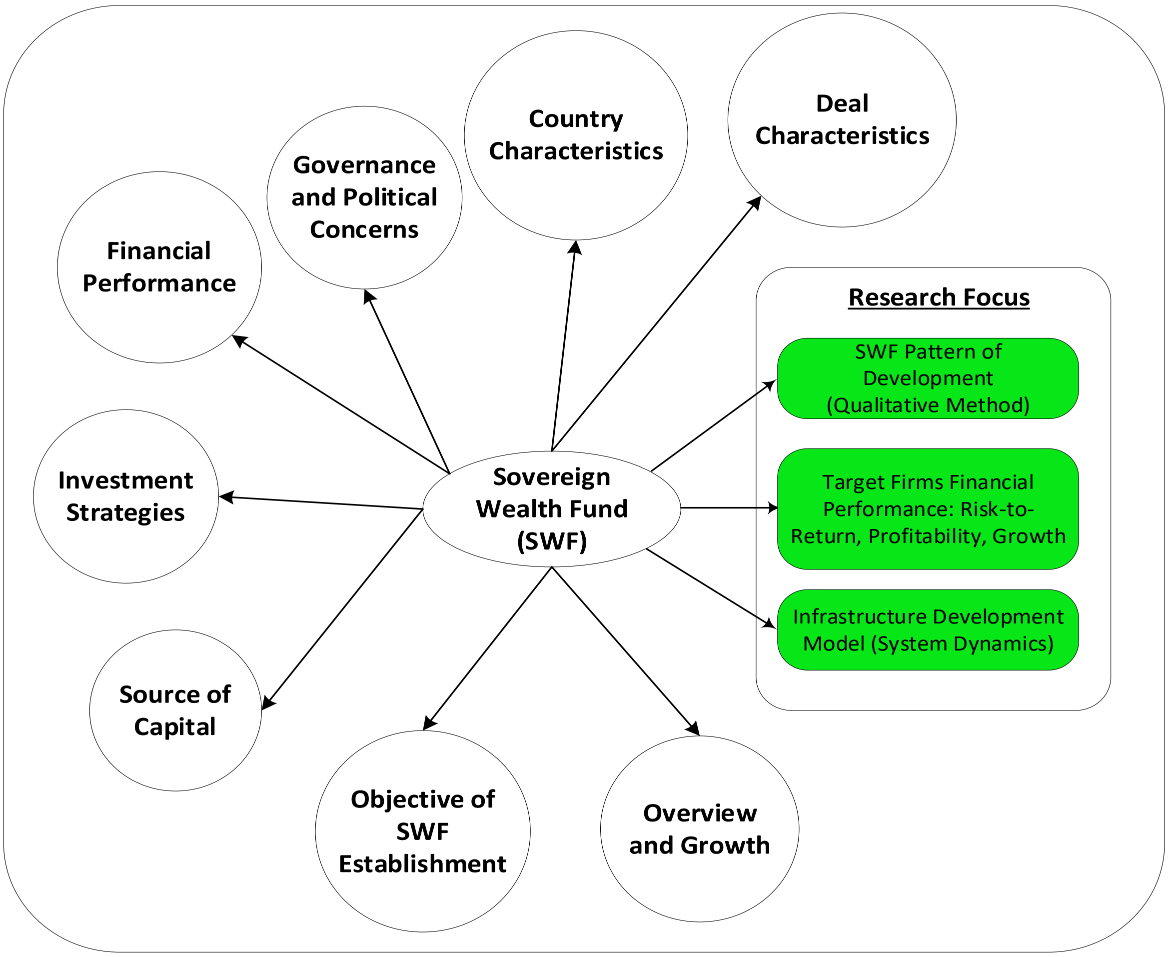

Figure 6. Research Map
(Source: Author's Analysis)

The third Indonesian investment agency is Indonesia Infrastructure Finance (IIF) which was established on January 15, 2010, under the Ministry of Finance Decree (PMK): No.100/2009 (Infrastructure financing company). IIF is founded as a multilateral institution joining with other international institutions. It is acting as a private national company that provides infrastructure financing and advisory services. This company is professionally managed and focuses on commercially viable infrastructure projects.

The latest Indonesian investment agency is the Indonesian Investment Authority (INA) which is considered Indonesia's sovereign wealth fund and was established under government regulation (PP) No.74/2020. This regulation is derived from Act No.11/2020 regarding employment creation. INA is formed to build wealth for future generations and contribute to Indonesia's sustainable economic development. The objective of INA is to support national economic recovery by attracting foreign investment in providing funding for various key sector projects. INA offers 8 key investment sectors, namely: Infrastructure, Supply Chain and Logistic, Digital Infrastructure, Green Investing, Healthcare, Financial Service, Consumer and Technology, Tourism.

The capital sources of INA are formed from the state budget (APBN) in 2020 as much as Rp. 15Trillion (US$ 1.05 billion), state-owned enterprises (BRI and Mandiri Bank) as much as Rp. 60 trillion (US$ 4.5 billion). It is expected that INA will continue its growth through investor partnerships to reach an agreement on an additional US$ 20 billion fund in the near future (http://www.ina.go.id). INA growth is expected through investor partnership in the form of the master fund and thematic fund (such as tool road, port, etc.). In the near, INA is expecting to obtain US$ 20billion of foreign investment. The summarized development of Indonesia's investment agencies can be depicted in figure 7.

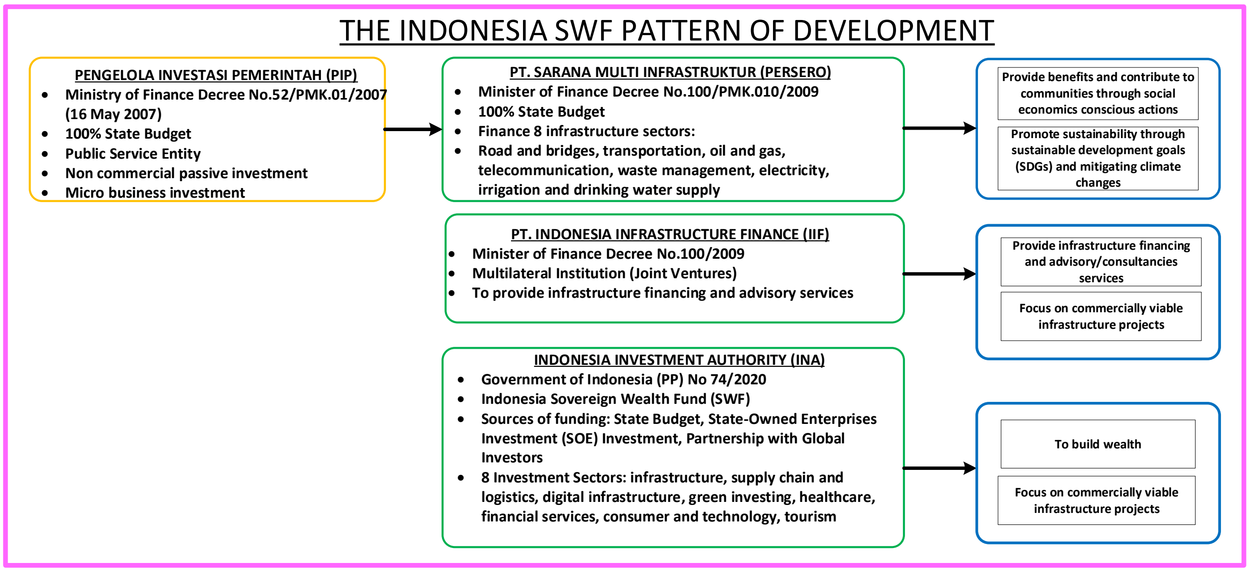

Figure-7: The Summarized Development of Indonesia Investment Agencies
(Source: Author's Concept)

The second area of the literature review is related to the SWF investment impact on the financial performance of target firms. Five Indonesian companies in the infrastructure sector are taken as samples for the research in assessing the SWF investment impact. Those companies are PT.Jasa Marga, PT. Pelabuhan Indonesia (Pelindo), PT. Perusahaan Listrik Negara (PLN), PT.Kereta Api Indonesia (KAI) and PT.Angkasa Pura. Although all of those five are open companies, however they are not publicly listed on the stock exchange. Other firms with SWFs investment in other emerging and developed countries will be defined in the future research to see and compare with those five Indonesia target firms.

The third area for literature review is how SWFs foster country infrastructure development. In the case of Indonesia, INA is expected to provide global capital access in filling in the funding gap for Indonesia's infrastructure development. For that reason, this research is seeing an urgency to observe how Indonesia SWF manages its investment portfolio in unique infrastructure development and its impact on the national economic growth. The system dynamics model has been chosen as the platform to assess and simulate various macroeconomics variables (such as the country deficit, inflation, population growth, and infrastructure quality) which will interface with SWF firms' variables (such as SWF investment portion, ROI, etc.).

5. Discussion

Scattered information from past research and studies in the form of publications journals, article journals, and article magazines from financial organizations and institutions are collected and organized in a structured and systematic manner. The information is acquired by certain search criteria which can be in the form of keyword pairing. Variables from past research contained in the information are then assessed and grouped according to major areas of focus. The grouping of past research variables is expected to better identify previous research gaps, research inconsistencies, and research controversies. Previous research findings (research gap, research inconsistencies, and research controversies) from literature studies will drive the discovery of research state of the art. Research state of the art is an area where new research will contribute to the existing building block of knowledge and also foster practical contribution for the policymakers in the corporate and/or government institutions. The research state of the art can be generated from the literature review. The process can be shown below in figure 8.

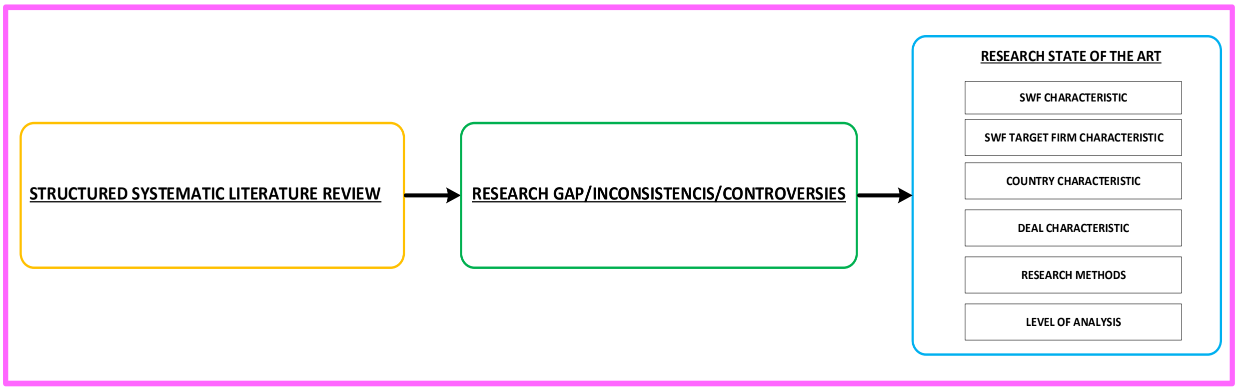

Figure-8: Research State of the Art Generating Process from Literature Review
(Source: Author's Concept)

This literature review provides concepts and information to be the basis for further research. A case-study research method may be a suitable research methodology for future research to answer research questions and deliver the intended objective of the research. A case-study research method allows the case and cross-cases analysis from the research samples.

Cross cases can be employed to assess and compare SWF patterns of development among different countries in future research. The Indonesia SWF pattern of development can be compared against other countries' SWF in six areas, namely: 1) SWF characteristics dimension (objective, source of fund, governance), 2) country characteristics dimension (fiscal deficit, inflation, and population growth), 3) contribution to country infrastructure development (a portion of investment in infrastructure sectors), 4) deal characteristics (type of partnership, business agreement/deal, etc.). The samples of other countries' SWF will be mixed between emerging countries' SWF (such as Khazanah National Berhad, Temasek Holding Private Limited, and State Oil Fund of Azerbaijan Republic (SOFAZ)) and developed countries' SWF (such as Norway Government Pension Fund Global and Abu Dhabi Investment Authority). The cross-cases can adopt the qualitative research method. The cross cases for SWF pattern of development can be described in figure 9.

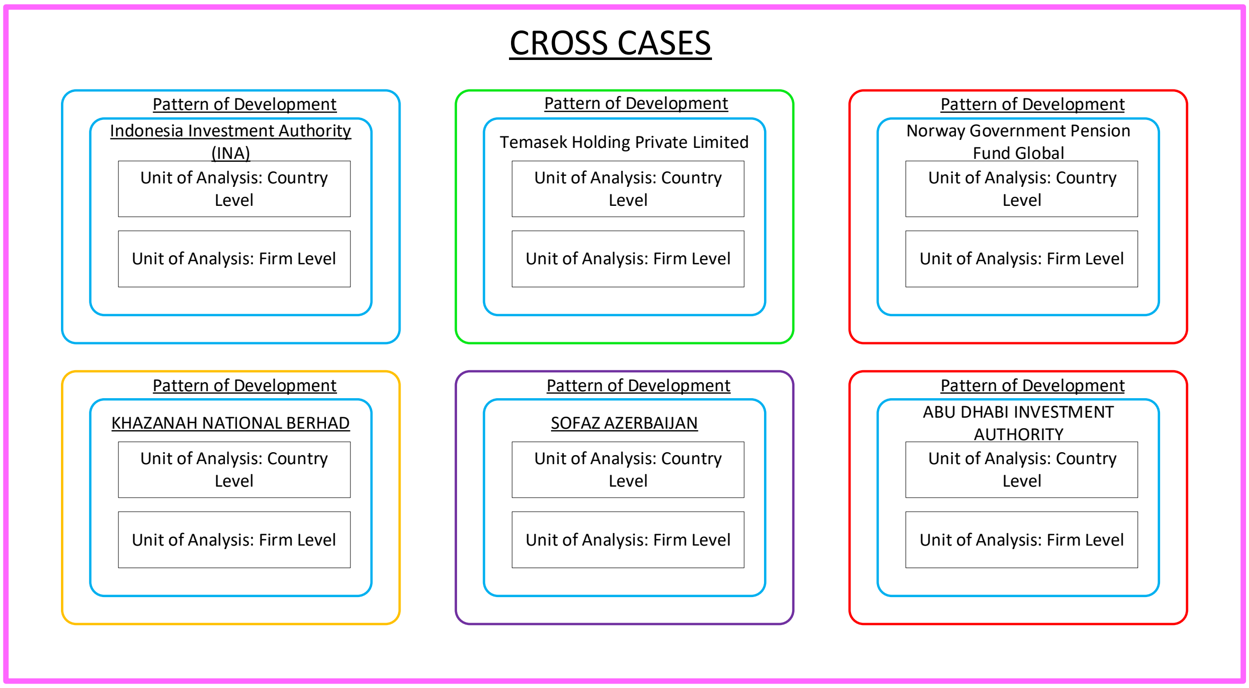

Figure-9: Cross Cases for SWF Pattern of Development
(Source: Author's Concept Adopted from Yin, RK, 2002)

Within case can be applied in future research to assess target firms' financial performance under Indonesia SWF. Five Indonesian companies in infrastructure sectors can be chosen to be the samples for within case assessment. Those companies are investments, namely: PT.Jasa Marga, PT. Pelabuhan Indonesia (Pelindo), PT. Perusahaan Listrik Negara (PLN), PT.Kereta Api Indonesia (KAI) and PT.Angkasa Pura. The within-case will be adopted to evaluate target firms' financial performance. There will be three areas of financial performance to be included in the within-case assessment, namely: risk-to-return performance, profitability performance, and growth performance of target firms. The within-case can adopt a quantitative research method using a statistical panel regression model. The future of case assessment can be shown in figure 10.

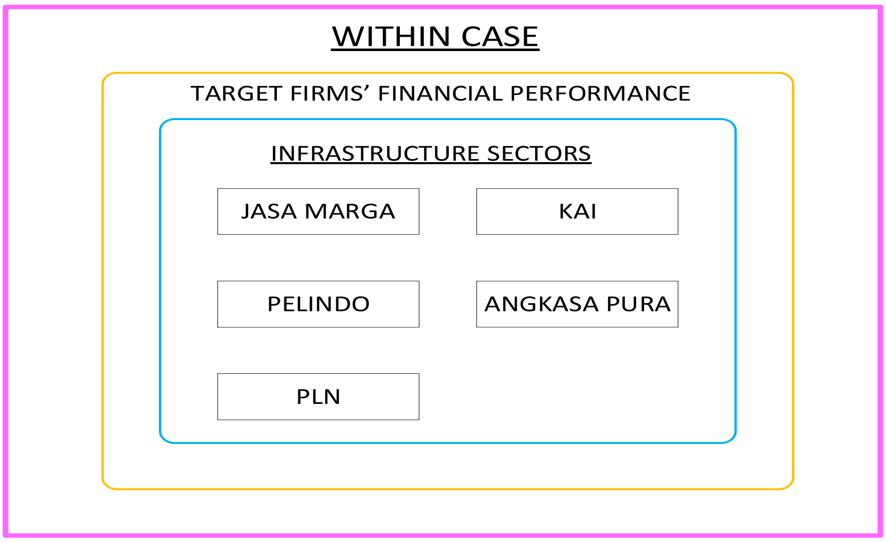

Figure-10: Within Case for SWF Target Firms' Financial Performance

(Source: Author's Concept Adopted from Yin, RK, 2002)

A literature review on system dynamics will also be useful in establishing a model for strategy and policy simulation prior to being deployed. The system dynamic model provides variables, structure, and interrelationships among them. The causal-loop and stock-flow diagrams will be the main element of the model.

6. Conclusion

There are four primary literature areas that were searched in order to fulfill the requirement for this research study, namely: literature on grand theories, literature on past global SWF researches, literature review on SWF impact on target firms' financial performance, literature on infrastructure development (global and national level) and Indonesia investment agencies development. Past research has been mapped and augmented with additional focus from this literature review.

This literature review provides a fresh outlook and literature reference for Indonesia SWF which was just founded in 2020. There is still a limited number of literature written to describe this infant SWF. The evolution of Indonesia's investment since 2007 prior to the formation of INA (Indonesian Investment Authority) provides a unique pattern of development that is deemed for cross cases compared with other countries' SWF. In addition to that, this paper is expected to become a reference for future research in understanding SWF pattern of development, infrastructure competitiveness model, and statistical model to assess SWF impact on target firms' performance with additional novelty on the enhanced model that includes fiscal deficit, population, and inflation.

A mixed qualitative and quantitative case-study research method can be chosen as the future research methodology to deliver the above focus from the literature review. The case study provides the necessary approach for within-case and cross cases assessment among various SWFs from different countries and among target firms' financial performance. The quantitative method using statistical and system dynamics models allows deeper analytical functionality to correlate and interrelate among variables. These become strategy and policy simulation tools for SWF management and government officers in order to produce a sound decision with minimum side impact on stakeholders.

References

Al-Hassan, A., Papaioannou, M. M. G., Skancke, M., & Sung, C. C. (2013). *Sovereign wealth funds: Aspects of governance structures and investment management*. International Monetary Fund.

Alhashel, B. (2015). Sovereign wealth funds: A literature review. *Journal of Economics and Business*, *78*, 1–13.

Aslanli, K. (2015). Fiscal sustainability and the state oil fund in Azerbaijan. *Journal of Eurasian Studies*, *6*(2), 114–121.

Bahoo, S., Alon, I., & Paltrinieri, A. (2020). Sovereign wealth funds: Past, present and future. *International Review of Financial Analysis*, *67*, 101418.

Beck, R., & Fidora, M. (2008). The impact of sovereign wealth funds on global financial markets. *Intereconomics*, *43*(6), 349–358.

Bortolotti, B., Fotak, V., & Megginson, W. L. B. (2015). The rise of sovereign wealth funds: definition, organization, and governance. In *Public Private Partnerships for Infrastructure and Business Development* (pp. 295–318). Springer.

Bortolotti, B., Fotak, V., Megginson, W. L., & Miracky, W. (2009). *Sovereign wealth fund investment patterns and performance*. Nota di Lavoro.

Butt, S., Shivdasani, A., Stendevad, C., & Wyman, A. (2008). Sovereign wealth funds: A growing global force in corporate finance. *Journal of Applied Corporate Finance*, *20*(1), 73–83.

Çelik, S., & Isaksson, M. (2014). Institutional investors and ownership engagement. *OECD Journal: Financial Market Trends*, *2013*(2), 93–114.

Charfreddine, L., & Elmarzougui, A. (2010). Institutional Ownership and Firm Performance: Evidence from France. *The IUP Journal of Behavioral Finance*, *7*(4), 35–46.

Clark, G. L., Monk, A. H. B., Orr, R., & Scott, W. (2012). The new era of infrastructure investing. *Pensions: An International Journal*, *17*(2), 103–111.

Dewenter, K. L., Han, X., & Malatesta, P. H. (2010). Firm values and sovereign wealth fund investments. *Journal of Financial Economics*, *98*(2), 256–278.

Dewit, G., & Leahy, D. (2018). *Attracting Foreign Direct Investment in Infrastructure*.

Fotak, V., Bortolotti, B., Megginson, W., & Miracky, W. (2008). The financial impact of sovereign wealth fund investments in listed companies. *Unpublished Working Paper, University of Oklahoma and Università Di Torino*.

Fotak, V., Bortolotti, B., & Megginson, W. (2013). The Sovereign Wealth Fund Discount: Evidence from Public Equity Investment. PaoloBaffi Centre Research Paper Series, *140*, 1-57.

Gujarati, D. N. (2021). *Essentials of econometrics*. SAGE Publications.

Iordanis Petsas, Sofia M. Vidalis (2020). The role of foreign investment in US infrastructure: opportunities and challenges ahead. *Journal of Economics and Business Letter*

Knill, A. M., Lee, B. S., & Mauck, N. (2012). Sovereign wealth fund investment and the return-to-risk performance of target firms. *Journal of Financial Intermediation*, *21*(2), 315–340.

Kotter, J., & Lel, U. (2011). Friends or foes? Target selection decisions of sovereign wealth funds and their consequences. *Journal of Financial Economics*, *101*(2), 360–381.

Kumar, J. (2004). Does ownership structure influence firm value? Evidence from India. *The Journal of Entrepreneurial Finance and Business Ventures*, *9*(2), 61–93.

Lai, J. (2012). Khazanah Nasional: Malaysia's treasure trove. *Journal of the Asia Pacific Economy*, *17*(2), 236–252.

Liang, C.-J., Lin, Y.-L., & Huang, T.-T. (2011). Does endogenously determined ownership matter on performance? Dynamic evidence from the emerging Taiwan market. *Emerging Markets Finance and Trade*, *47*(6), 120–133.

Megginson, W. L., & Gao, X. (2020). The state of research on sovereign wealth funds. *Global Finance Journal*, *44*, 100466.

Ng, W. (2010). The evolution of sovereign wealth funds: Singapore's Temasek Holdings. *Journal of Financial Regulation and Compliance*.

Online web resources: https://en.wikipedia.org/wiki/Sovereign_wealth_fund

Online web resources: (https://www.statista.com/statistics/276618/volume-of-managed-assets-in-sovereign-wealth-funds-worldwide/).

Online web resources: (http://www.ina.go.id).

Online web resources: https://www.statista.com/statistics/276618/volume-of managed -assets-in-sovereign-wealth-funds-worldwide

Papaioannou, M. G., & Rentsendorj, B. (2015). Sovereign wealth fund asset allocations—Some stylized facts on the Norway pension fund global. *Procedia Economics and Finance*, *29*, 195–199.

Putri, A. M., Damayanti, S. M., & Rahadi, R. A. (2022). Digital Financial Literacy In Indonesia: A Literature Review. *Central Asia And The Caucasus*, *23*(1).

Raymond, H. (2010). Sovereign Wealth Funds as domestic investors of last resort during crises. *International Economics*, *123*, 121–159.

Roozanov, A (2005). Who hold the wealth of nations? SSGA working paper. Tetrieved from State Street Global Advisors.

Schubert, W., & Barenbaum, L. (2010). The Sovereign Wealth Fund controversy: the issues and suggestions. *The Journal of Applied Business and Economics*, *11*(2), 11.

"Sovereign Wealth Fund Rankings. Retrieved 2020-12-24". *www.wfinstitute.org*. Retrieved 24 December 2020.

Sterman, John D. (2000). Business dynamics: system thinking and modelling for a complex world. McGraw-Hill Irwin (Fourth Edition)

Torres, Juan P (2019). System Dynamics Review and publications 1985-2017: analysis, synthesis and contributions. Journal of System Dynamics Review

Truman, E. M. (2008). A blueprint for sovereign wealth best practices (PIIE policy brief no. 08- 3). Peterson Institute for International Economics.

Urban, D. (2017). The impact of sovereign wealth fund ownership on the financial performance of firms: the evidence from emerging markets. *Economics and Management*.

"Who holds the wealth of nations?" (PDF). Central Banking Journal. *15 (4)). May 2005. Archived from* the original *(PDF) on 29 May 2008.* Retrieved 2 September 2008.

Young, K. E. (2020). Sovereign risk: Gulf sovereign wealth funds as engines of growth and political resource. *British Journal of Middle Eastern Studies*, *47*(1), 96–116.