

Sovereign Wealth Funds: Past, Present and Future

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Abstract

In this article, we examine the literature on Sovereign Wealth Funds (SWFs) through a meta-literature review from 2005 to 2018. This methodology consists of content analysis (using NVivo) and bibliometric citation analysis (HistCite and VOSviewer) applied to 153 articles. We provide evidence of the influential aspects of the SWF literature, such as countries, institutions, journals, authors and articles, identifying three main research streams: (i) SWFs overview and growth, (ii) SWFs governance and political concerns and (iii) SWFs investment strategies. We finally propose 20 research questions based on meta-literature review related to sovereign wealth funds, in order to set the future research agenda.

Keywords: Bibliometric co-citation analysis, bibliometric cartography analysis, meta-analysis, sovereign wealth funds, literature review, target firm performance

JEL Classification: G20, G11, H10, F55, G30

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1. Introduction

In recent years, the traditional view of states or national governments as stagnant players, whose main influence was within the boundaries of their administrative control has changed (Skocpol, 1985; Vasudeva et al., 2017). The role of the state has been redesigned into an advanced directorial and strategic model, which intercedes in the form of full ownership and control of state-owned institutional investors (Aguilera et al., 2016). This new influence of the state out of traditional box is bringing us into a new era of state capitalism (CS), where the governments provide support to private firms (Musacchio & Lazzarini, 2014). Under this “new state capitalism”, the states that are enriched with a large amount of foreign financial reserves from national resources or trade surpluses, have become symbolic institutional investors in a global economy through special purpose investment vehicles, the sovereign wealth funds (SWFs) (Vasudeva et al., 2017). Monk (2011) argues that in this era of globalization, strong financial markets threaten governments around the world. In response to these trends, the same governments have set up SWFs to safe guard their autonomy and power.

The term Sovereign Wealth Funds was coined by Rozanov (2005) in his work “Who holds the wealth of nations?” (Mehrpouya, 2015). Generally, SWFs are defined as government-owned and controlled funds (Knill et al., 2012b). They emerged as a new type of investor and caught the attention of academic scholars, policymakers and controlling authorities, due to their huge investments during subprime financial crisis. In August 2018, their total asset under management (AUM) is \$7.97 trillion and 80 SWFs are working around the world (SWFI, 2018). Over the last decade, SWFs have gained a lot of attention due to the spike in oil prices (Bloomberg, 2018), that brought more revenues to several SWF home countries, increasing overall SWF asset under management, but also leading to change in their asset allocation (Bloomberg, 2018). Moreover, the devaluation of emerging market currencies due to the tightening in some developed countries’ monetary policy has raised the issue of the foreign reserve managements by the Central Banks and the SWFs. The view on SWFs is mixed. Erel and Karasik (2018) consider SWFs as a power tool of the nations, that can cause issues in the target firms’ corporate governance, but according to the French President they can help fight climate change, given their relevant asset under management (AFP/The Local, 2018).

In the past 13 years a reasonable literature on SWFs has developed in multiple directions. Accordingly, the origin (Dewenter et al., 2010; Monk, 2009), the concept (Johan et al., 2013; Paltrinieri et al., 2010) and the types (Al-Hassan et al., 2013; Aggarwal & Goodell, 2018) of SWFs have been critically

analyzed by academic scholars. Moreover, the literature has studied the characteristics and the individual nature of several funds (Wu & Seah, 2008; Lenihan, 2014; Cazurra et al., 2014; Bostan & Ergen, 2017; Nguyen et al., 2012; Kalyuzhnova, 2011; Abdelal, 2009), their political connections with governments (Gilson & Milhaupt, 2009; Norton, 2010; Cohen, 2009; Gilson & Milhaupt, 2009; Paltrinieri et al., 2014a) and their investment strategies (Urban, 2016; Kotter & Lel, 2011; Bortolotti et al., 2015; Fotak et al., 2008).

Given the growing interest in SWFs and their literature growth (see figure 7), a scholarly examination of this body of literature is warranted. In this study, we go beyond the previous traditional review on SWFs (published in journals: Megginson & Fotak, 2015; Alhashel, 2015; and handbooks: Anderson, 2009; Truman, 2010; Blading, 2012; Cumming et al., 2017) by applying a meta-literature review. This methodology consists of “bibliometric citation analysis” coupled with “content analysis” (Kim & McMillan, 2008; Apriliyanti & Alon, 2017, Alon et al. 2018). It is important to mention here that our meta-literature review is different from meta-analysis that normally ends with regressions (for example see; Bessler, Conlon, & Huan, 2018; Białkowski & Perera, 2018; Campos, Fidrmuc, & Korhonen, 2018; Fernau & Hirsch, 2017; Geyer-Klingenberg, Hang, & Rathgeber, 2018; Papadamou, Kyriazis, & Tzeremes, 2018; Pérez-Calero, Hurtado-González, & López-Iturriaga, 2018). The implementation of bibliometric citation analysis is a burgeoning technique applied in review papers in management and social science, but in finance this type of analysis is still in its infancy (see, for example, Zamore et al., 2018; Helbing, 2018).

Indeed, most of finance review papers are based on conventional surveys on specific issues/topics, such as the survey of Islamic finance in financial stability perspective (Hassan & Aliyu, 2018), implied volatility indices review (Sensoy & Omole, 2018), review of bank excess reserves (Nguyen & Boateng, 2015), systematic review of sovereign connectedness on emerging economies (Ballester, Díaz-Mendoza, & González-Urteaga, 2018), causes and consequences of household financial strain (French & Vigne, 2018), systematic review how securitization influences bank behavior and financial stability (Deku, Kara, & Zhou, 2018), and finally the systematic analysis of cryptocurrency as a financial asset (Corbet, Lucey, Urquhart, & Yarovaya, 2018). However, recently, a paper published in *International Review of Financial Analysis* explores the literature on IPO by applying bibliometric citation technique through VOSviewer software in order to identify the relationship among citations, authors, countries and themes (Helbing, 2018). Similarly, Zamore et al. (2018) apply the same technique to review the literature on credit risk.

We would like to contribute to this relatively new methodology, reviewing 153 articles on SWFs. We explore four important research questions related to SWFs literature by following the model of Alon et al. (2018), and Zott et al. (2011): (1) What is the domain of SWF research?; (2) What are the important aspects of SWFs literature, such as top countries, institutions, journals, authors and influential and

trending's articles/topics?; (3) What are the key research streams in SWFs literature?; (4) What are the substantial future relevant research questions to further explore about SWFs? Our singular contribution is in mapping the SWF literature research landscape.

Our paper provides multiple findings. First, we explore the origin, classification, and present a broader definition of SWFs. Second, we identify and present influential aspects of SWFs literature. The top three countries and institutions belonging to SWFs research are: USA, UK, Australia and Florida State University, University of Missouri, Tsinghua University (see table 3). The top three journals based on quality (total local citation received per year TLC/t) are: (i) Journal of Financial Economics (JFE), (ii) Journal of Corporate Finance (JCF), (iii) Journal of Financial Intermediation (see table 4). The first three influential authors based on quality (TLC/t) are: Nathan Mauck, Bong-Soo Lee, April Knill out of ten (see table 5). Finally, the top three influential (based on TLC/t) and trending (TLCe) articles (see table 5) are: Kotter and Lel (2011), Dewenter et al. (2010), Knill et al. (2012b), and Cohen (2009), Dewenter et al.(2010), Kotter and Lel (2011), respectively(see table 6).

Third, we identify and thoroughly discuss the three main research streams through bibliometric co-citation analysis by applying HistCite and VOSviewer software (see figure 3 & 4). These three research streams are named out through content analysis as: (1) SWFs overview and growth; (2) SWFs governance and political concerns; (3) SWFs investment strategies. This last one is the most important and mostly related to the corporate finance field, i.e. the impact of SWFs on target firms' performance. Fourth, we identify the co-authorship network among researchers who are working on SWFs. Fifth, we search the literature with the keywords that are identified through the cartography analysis and present the growth of each stream (see figure 6 &7). Finally, we present 20 future research questions by reviewing back and forward the literature with the help of meta-literature review (content & bibliometric citation analysis). The implications and limitations are discussed in the conclusion section.

The rest of the paper is organized as follows. The section 2 explains the motivation of the study. Section 3 presents the methodology. Sections 4 and 5 address the domain of SWFs research and influential aspects of literature. And sections 6 and 7 are related to citation mapping and overview of research streams. Finally, sections 8, 9 and 10 present the growth of research streams, future research questions and the conclusion of the study.

2. Why we need a meta-literature review on SWFs

The literature on SWFs has developed in last 13 years and several factors, directions, characteristics of the SWFs have been analyzed. The previous survey papers and books have traditionally provided a SWF literature review, without following any systematic technique. Alhashel (2015) simply discusses SWFs definition, history, regulations, benefits and investment strategies. Similarly, the aim of Megginson and Fotak (2015) study is to explore SWFs state-ownerships, efficiency of assets management, founding sources, their strategic, geographical and sectoral asset allocation, and finally

their effects on target firms' performance. In a similar way, Cumming (2017) handbook covers some specific aspects of SWFs. All above-mentioned articles and books lack of a systematic methodology and a full fledge coverage of all SWFs domains. We summarize previous published review papers and books in table 1.

Our literature review tries to answer in a thorough way to the following research questions: What is the domain of SWFs? What are the key research streams in the literature? What are the influential aspects of literature, such countries, institutions, journals, authors and their network, influential and trending articles/topics? Which are potential future research directions?

Our study provides several contributions to the literature. First, the bibliometric citation analysis is already a developed methodology to identify and divided literature based on co-citations in several disciplines (see for methods of bibliometric anlysis; Noyons, 2001; Kim & McMillan, 2008; Fetscherin et al., 2010; Ferreira, Santos, Almeida, & Reis, et al., 2014; Merigó et al., 2015; Albort-Morant & Ribeiro-Soriano, 2016; Apriliyanti & Alon, 2017; Alon et al., 2018; Zarmore et al., 2018; Øyna & Alon, 2018; Dzikowski, 2018), but it's still in an early stage in finance.

Second, we follow a very systematic process of sample article search, analysis, rejection and acceptance as well, in order to reduce at the minimum, the classic biases in article selections. Third, we apply several tests under bibliometric citation analyses; (i) co-citation, (ii) co-authorship, (iii) cartography analysis by using HistCite and VOSviewer software (Fetscherin & Heinrich, 2015), in order to explore unique aspects of SWFs literature. Fourth, we apply content analysis in a systematic way by using NVivo software with manual coding option (Gaur & Kumar, 2018). Fifth, we cover the literature of the last 13 years, examining two datasets: (i) 116 articles from ISI Web of Science (WOS) from 2005 to 2016 used for bibliometric citation analyses, and (ii) 153 articles including 116 articles from WOS plus 37 influential working papers between 2005 to 2018 used for content analysis.

(Insert table 1 about here)

3. Methodology

Glass (1976) recommends applying the meta-analysis on a vast literature to extract knowledge from convoluted and critical research studies. He defines meta-analysis as “the analysis of analysis”. The bibliometric citation is a burgeoning and prevalent approach to meta-analysis (Zamore et al., 2018). The application of bibliometric citation analysis on vast literature is unique to conduct the meta-literature review (Fetscherin et al., 2010: 236). Meta-literature review is different from statistical meta-analysis that normally ends with regressions. Bibliometric methods to evaluate and map the scholarly articles are produced by Price in 1965. They explore the interconnections and sequence among articles, topics and field of studies by applying the main inference, that shows how many times an article is cited or co-cited by other articles (Gurzki & Woisetschläger, 2017; Raan, 2003). It is logical and

reliable to quantitatively analyze the various components of literature, such as topics, journals, authors, institutions and countries through bibliometric data (Noysons, 2001). Another important component of the meta-literature review is the content analysis that is widely used in literature review studies. It is a social science methodology to systematically review and confirm the validity of knowledge in a field of study (Potter & Levine-Donnerstein, 1999).

In this meta-literature review, we consider both quantitative and qualitative techniques, such as bibliometric citation and content analysis for SWFs literature (Fetscherin et al., 2010). We apply three methods under bibliometric citation analysis: (i) co-citation analysis (Apriliyanti & Alon, 2017), (ii) co-authorship analysis (Liu et al., 2005), and (iii) cartography analysis (Zamore et al., 2018). We adopt a multiple process of sample selection and techniques to fulfill the objectives of this study. Figure 1 presents the complete and detailed picture of the complex methodology.

(Insert figure 1 about here)

3.1 Sample Selection Process

The sample selection process consists of three steps under meta-literature review (see figure 1) as shown in table 2.

The first step is related to the selection of the database in order to collect the bibliometric data of scholarly articles. We selected ISI Web of Science (WOS) instead of Google Scholar and Sciece Direct (Zamore et al., 2018; Zott et al., 2011). ISI WOS is a prominent database that includes five databases, recognizing many high-quality journals and starting from 1950.

As a second step, we searched the literature on SWFs in three different levels. We first searched articles through the keywords “Sovereign Wealth Funds” or “Sovereign Wealth Fund” between the period 2005-2016 in order to collect the bibliometric data. The filters of english, published articles and topic field are applied, by following the Fetscherin and Heinrich, (2015). The selection of keywords is confirmed through the cartography analysis (see table 2 and figure 6). The confirmation about the selection of correct keywords reduces the chance of missing literature on SWFs. We initially found 191 papers, over the period of 2005-2016. The year 2005 is used as a cut-off period since the term SWFs was introduced in this year. And the year 2016 is marked as the most recent one, based on assumption that the articles published in 2017, 2018 need more time to be cited. We verified this assumption, since the 32 articles published during the period 2017-2018 had collected a total of only 11 citations (see table 2). Then, we searched in top ranked journals having ranking of 3 or above, under the categories of finance, business, management and international business as per ABS ranking, 2015. As a result, we found 40 articles. Finally, we included influential working papers on SWFs that are not available on ISI WOS. We found 18 articles under this search. The third step of sample selection process

is related to the inclusion and exclusion of articles from the initial sample of 281 articles. We established a technical criterion to review our sample, as follows:

- (1) an article must address SWFs in a nontrivial and non-marginal way (Zott et al., 2011);
- (2) an article must deal, discuss, examine or analyze SWFs as a direct content.

The sample of articles is reviewed by two independent authors to make the decision of inclusion and exclusion. This process results in a final sample of 153 articles belonging to two datasets:

The first dataset; 116 articles from ISI WOS published between 2005 to 2016 that is used for bibliometric citation analysis;

The second dataset; 153 articles that includes 116 articles plus 37 influential working papers from institutions, that are content analyzed.

(Insert table 2 about here)

3.2 Meta-Literature Review

Our meta-literature review consists of bibliometric citation (quantitative) and content (qualitative) analyses of SWFs. We perform the following tests under bibliometric citation analysis by following Liu et al. (2005), Apriliyanti and Alon (2017), Fetscherin and Heinrich (2015), and Zamore et al. (2018): (i) co-citation analysis, (ii) co-authorships and (iii) cartography analyses. The first dataset of 116 articles used for bibliometric citation analysis by following Øyna and Alon (2018) and Alon et al. (2018). And a second dataset of 153 articles is content analyzed as per general technique of literature review papers but in more systematic way.

Bibliometric citation analyses are conducted with the help of two software's HistCite and VOSviewer. These software's accept the articles as input files and provide various details as output. The HistCite software is only designed for the bibliometric citation data of ISI WOS (Fetscherin & Heinrich, 2015). The key patterns of HistCite software outcome for bibliometric analyses are the following (HistCite - Glossary, 2018): Total local citation (TLC) means how many times an article is cited by other articles in a sample of study, in our case 116 articles. Total global citation (TGC/t) represents how many times an article is cited by other articles, which are available on ISI WOS. And other terms are Total local citation per year (TLC/t), Total global citation per year (TGC/t) and Total local citation in the end (TLC_e).

The VOSviewer software works on distance-based mapping techniques in order to visualize items and it's a more powerful tool as compared to CiteSpace and Sci2 (Eck & Waltman, 2014). It also accepts the citation data from ISI WOS and Scopus as well for analysis. It projects networks and clusters in different forms and colors based on citation data. The clusters are based on the links, link strengths and strenght among articles (Eck & Waltman, 2014). The detail of analyses performed under meta-literature review will be described in the following subsections.

2.2.1 Stage 1: Identification of influential aspects of SWFs Literature

We first identify influential aspects of SWFs literature through HistCite software, such as countries, institutions (see table 3), journals (table 4), authors (table 5), and influential articles/topics (table 6). The initial analysis shows that 116 papers in the first dataset are published by 87 journals, written by 176 authors, linked with 158 institutions. These 116 articles have respectively 208 and 890 total local (TLC) and global citations (TGC).

2.2.2 Stage 2: Co-Citation analysis

We identify the commonalities and research streams in literature by applying bibliometric co-citation analysis. Co-citation means that an article is cited by other articles because they belong to same concept or topic (Kim & McMillan, 2008). HistCite software visualizes the clusters among articles based on co-citations. We identify three research streams (see figure 3) through bibliometric co-citation analysis by following Apriliyanti and Alon (2017), and Fetscherin and Heinrich (2015). Further, we use, as a robustness check, the VOSviewer software to confirm the identification of the research streams (see figure 4) by following Zamore et al. (2018).

2.2.3 Stage 3: Co-authorship analysis

We then show co-authorship networks among authors which are working on SWFs through VOSviewer software (Liu et al., 2005; Piette & Ross, 1992). The study of social network analysis has become famous in many disciplines. Social network of researchers helped a lot in promotion of research work. The identification of social network of authors related to SWFs will help the researchers to start the future research projects (see figure 5 and table 5).

2.2.4 Stage 4: Cartography analysis

We discover the keywords under each stream by applying cartography analysis through VOSviewer software (Zamore et al., 2018; Eck & Waltman, 2010). According to Ding et al. (2001) under cartography analysis the same keywords articles are clustered together because keywords describe a content. We provide evidence of three clusters (see figure 6). These keywords are used for the literature search on SWFs under each stream (see table 2 & figure 7) to analyze the growth. Further, this analysis confirms our selection of keywords to search literature on SWFs, because the coverage of full literature is very important in any quali-quantitative literature review.

2.2.5 Stage 5: Content analysis

We finally content analyzed 153 articles through the NVivo software. The purpose of content analysis is to explore, verify and organize the identified research streams through bibliometric co-

citation analysis (Potter & Levine-Donnerstein, 1999). We carried out the content analysis through the NVivo software to make more systematic and reliable (Gaur & Kumar, 2018). This software has many options like visualization of the data, text coding and text analysis. We used manual coding option in NVivo to properly divide literature in defined streams and make them error free. We explored SWFs origin, concepts, classification and current portfolio through this methodology.

4. The domain of Sovereign Wealth Funds Research

4.1 The origin of SWFs

The first objective of our study is to explore the origin, the portfolio, the concept and classification of SWFs. In the literature, the first three funds close to modern SWFs are: (i) the fund for benefit of University of Texas by U.S in 1876 (Dewenter et al., 2010); (ii) Kuwait Investment Corporation in 1953 (Boubakri et al., 2017); (iii) Kiribati Review Equalization Reserve fund by British government in 1956 (Lenihan, 2014; Mation, 2016). However, the concept of modern SWFs was introduced by Rozanov (2005) in his work “Who holds the wealth of nations ?” (Monk, 2009; Wu, 2008; Aguilera et al., 2016).

SWFs achieved the attention of researcher, policymakers and controlling bodies during subprime financial crisis after their huge investments, especially in banking sector (Vasudeva, 2013; Megginson & Fotak, 2015). The total asset under management of SWFs were \$3.9 trillion in 2008 (Cohen, 2009). In August 2018, the size of SWFs has almost doubled up to \$7.67 trillion, with 80 SWFs working around the world (SWFI, 2018). The growing rate of SWFs is faster in comparison to other institutional investors (Aizenman & Glick, 2009), such as hedge funds, that have a total asset under management of \$3.211 trillion (HFR - Pensions & Investments, 2017) in December, 2017.

4.2 The definition of SWFs

SWFs are generally considered as investment vehicles owned and controlled by the governments (Wu, 2008; Beck & Fidora, 2008; Johan et al., 2013; Paltrinieri et al., 2010). Surprisingly, SWFs are investigated in literature without any broader explicit and generally accepted definition. In our second dataset of 153 articles, only 14% (20) articles explicitly present a definition while more than 65% published articles (102) do not define SWFs at all. Further, only 31 articles (21%) used definition of SWFs as “government owned funds”. Based on our technical review, we present the following broad definition of SWFs:

“Sovereign Wealth Funds are investment funds which are directly or indirectly owned, controlled and/or monitored by a government organization or arrangement (national or sub-national) in order to stabilize macroeconomic fluctuations due to imbalance of payments. They can have multiple objectives, such as stabilization, saving, revenue generation and pension payments”

Our broader definition of SWFs is based on 5 premises: (1) the independent arrangements and ownership status, (2) the management and control status, (3) the source of funds and economic objectives, (4) the nature of exposure and liabilities, and (5) the stabilization of imbalance of payments. The key factors that differentiate SWFs from other investors are their independent arrangement, ownership, management and control system. They are directly or indirectly owned and controlled by the government or government representatives. For example, in the case of Government Pension Fund-Global, Norway the fund is managed by the government indirectly through a national bank and controlled by the Norwegian parliament.

4.3 Classification of SWFs

SWFs are classified into two main categories, based on their nature and source of funding: commodity funds and non-commodity funds, funded by foreign reserves or by public pension assets (Aggarwal & Goodell, 2018; Rozanov, 2005). Currently, 44 (55%) are oil or gas funds, 27 (33%) are non-commodity, and 9 (12%) are other funds (SWFI, 2018). SWFs can be distinguished based on IMF and Santiago Principles taxonomy into 5 groups (Al-hassan et al., 2013):

(1) Stabilization funds are established to support the budget and economy from commodity price volatility, and internal and external shocks (Russia SWFs for oil and economic). They resemble the central bank foreign reserves in their investment and liquidity goals, but they are different in attitude towards risk. (2) Saving funds are established to save wealth for future generations (Abu Dhabi Investment Authority). The main purpose of these funds is to convert non-renewable commodity assets into diversified financial assets. (3) Development funds have the core objective to finance socio-economic projects such as infrastructure (e.g., UAE Mubadala). (4) Reserve investment corporations have the goal to reduce the negative cost of carry and increase the returns of a high level of foreign reserves (China Investment Corporation, Korea Investment Corporation). They mainly invest in equities and alternatives investments. (5) Pension Reserve Funds have the purpose to fulfill the future outflow or government contingent liabilities related to pension (Australia, New Zealand, originally Norway). These above categories are not mutually exclusive. Some funds have multiple-objectives, such as Norway, Australia and Azerbaijan (Petrova et al., 2011).

5. Influential aspects of Sovereign Wealth Fund Literature

5.1 Top Influential Countries and Institutions

SWFs are mostly established by the Gulf and Asian countries. However, their establishment and investments have faced criticism around the world, especially from Western countries (Shih, 2009). Therefore, it is important to identify which countries and institutions are studying and analyzing the SWFs. Because this identification will help the future readers, researchers and controlling bodies to know the central of excellence related to SWFs research. The top 10 influential countries and

institutions are identified through HistCite software by following the established methodology of Kim & McMillan (2008) and Øyna & Alon (2018).

The top 10 countries based on number of articles published (P_{SWFs}) by a country's representatives. The minimum standard of three papers is set by the authors to make results meaningful. USA (with 46 publications), UK (29) and Australia (13) are the top three countries which are studying SWFs. Furthermore, the top 10 institutions are identified based on quality of work that is examined through total local citations received (TLC). The top three institutions that are publishing quality work on SWFs are Florida State University (TLC=29), University of Missouri (29), and Tsinghua University (19). The list of countries and institutions is presented in table 3.

(Insert Table 3 about here)

5.2 Top Influential Journals and Authors

The main purpose of the presentation of influential journals and authors related to SWFs is the promotion and recognition of them. These lists of top journals and authors will be helpful for potential researchers to collaborate for future projects and publication. First, we identify the main outlets that published on SWFs in table 4. We explored the top six journals based on quantity and quality of published work. In this way, we present three categories of influential journals based on: the number of articles published ($P_{SWFs} = 3$ (output)); the total local and global citation received per year ($TLC/t > 1.6$ & $TGC/t > 5.0$ (quality)). The top three journals based on number of articles published are: Journal of the Asian Pacific Economy (5 articles), Global policy (4), and Environment and planning A (3). In terms of quality, based of criteria of total local citation received per year (TLC/t), the first three top journals are the Journal of Financial Economics ($TLC/t=5.71$), Journal of Corporate Finance (3.87), and Journal of Financial Intermediation (2.40). Further, the first three journals, as per criteria of total global citation received per year (TGC/t), are Academy of Management Annals ($TGC/t=17.57$), Journal of Financial Economics (11.29), and Journal of Corporate Finance (9.7). It is important to mention that Journal of Corporate Finance falls in both categories based on the quality of published work. It's a key publisher in term of quality work on SWFs with minimum number of 2 published articles and it could be easily considered as one of the best outlets for future research.

(Insert Table 4 about here)

We further probe the influence of 87 journals that published works on SWFs and graphically present them in four quadrants. We establish quadrants to show the highly focused and impacted journals in sample. These four quadrants (A, B, C, D) are based on two variables, the number of articles published (P_{SWFs}) and the total local citations received per year (TLC/t). The P_{SWFs} and TLC/t represents the output/focus and the impact of Journal published research. The most important quadrant is C that represent highly focused and impacted journals. This in-depth analysis of journals that are publishing

on SWFs is helpful for researchers. However, we found the contribution of business and management journals is less related to SWFs research.

(Insert Figure 2 about here)

We also explored and identified top 10 influential authors through citation analysis in table 5. This is the best way to recognize the researcher in any discipline. They are identified based on the total local citation received per year ($TLC/t > 2.5$). The top three researchers are Nathan Mauck (from University of Missouri, $TLC/t=6.1$), Bong-Soo Lee (Florida State University, $TLC/t=4.6$), April Knill (Florida State University, $TLC/t=3.7$). Since it is important to consider the time of publications by these authors, we specifically reviewed this factor and found that two authors William L. Megginson (University of Oklahoma) and Veljko Fotak (University of Buffalo) published their two papers in 2015. These both researchers have latest work on SWFs as compared to other researchers in the list.

(Insert table 5 about here)

5.3 Top Influential and Trending articles/topics

The literature on SWFs is at a growing stage and it is important to recognize and discuss influential and trending articles/topics. The influential and trending articles/topic are the indication for potential researchers to work in some specific direction, setting the research streams in literature as well. We identified 10 influential papers based on total local citation received per year (TLC/t). It basically shows the impact and quality of that article in the literature, since the hypothesis is that the more cited is the article, the more quality and impact it has. The first three papers in the ranking are Kotter and Lel (2011), Dewenter et al. (2010) and Knill et al. (2012b). The list of articles given in table 6.

The key findings of these papers mostly deal with the impact of SWFs on the target firm performance: (1) SWFs prefer to invest in poorly performing firms and have positive effect on their performance in the short run; (2) SWF investment (de-investment) has a positive (negative) effect on target firms value; (3) SWFs have positive effects on the credit risk of the firms; (4) the agency problem exists in the form of poor governance as more political leaders are on boards of SWFs, with a potential effect on investment strategies; (5) SWFs prefer to invest in countries with which they have weak political relations; (6) SWFs establishment decision is based on both economic and political objectives; (7) SWFs prefer to invest in public as compared to private firms, differently from other institutional investors.

In order to understand the trends in literature, we identify 10 trending papers based on the total local citations received in the last three years, 2014-2015-2016, (TLC_e) by the single paper (Fetscherin & Heinrich, 2015). The first three papers are Cohen (2009), Dewenter et al. (2010) and Gilson and Milhaup (2009). The key contributions of these papers are similar to those described above, with some differences: (1) SWFs are mostly established by the oil exporting countries, they have governance issues and overall the country governance level has impact on SWFs governance; (2) SWFs establishment is based on the autonomy maximization theory; (3) SWFs play a strategic role in development of country;

(4) overall SWFs are not alarming, but they raise a question on the governments which established them; (5) U.S should not impose more regulations on SWFs investment as they are performing as model investors; (6) There should not be any tax rebate for SWFs investment; 7) the Norway SWF is the most transparent SWF in term of governance and regulations; and finally; (8) the discussion of the Santiago Principles of governance implementation on SWFs.

(Insert table 6 about here)

6. Citation Mapping and Visualization of the SWFs literature

We analyze and present the citation mapping and visualization of SWFs literature through bibliometric data of our first dataset of 116 articles retrieved from ISI WOS during period of 2005 to 2016. We apply co-citation, co-authorship and cartography analysis through HistCite and VOSviewer software by following Alon et al. (2018), Pasadeos et al. (1998), Liu et al. (2005), Piette and Ross (1992), and Vassinen (2006).

6.1 Co-Citation Mapping and Visualization

We applied co-citation analysis through HistCite software to identify the research stream in SWFs literature. In figure 3, years are on the left (y-axis) and co-citation mapping on right (x-axis). Circles represent articles, lines reflect citation relationship among articles and the size of circles shows the total local citation received by an article (Small, 1999; Zamore et al., 2018). We identify 35 most cited articles (see figure 3) that create three main research streams.

(Insert figure 3 about here)

Additionally, as a robustness check, we apply co-citation analysis through VOSviewer software. We again identified three research streams by considering the minimum number of citations as 5 (Zamore et al., 2018; Apriliyanti & Alon, 2017). The articles with the same color belong to the same cluster (stream). Furthermore, we content analyzed all the identified articles representing a research stream. However, four articles (Reiche, 2010, Nilsen, 2010, Bahgat, 2010 and Kalyuzhnova, 2011) are not related to any of the three identified streams. We finally confirm the main following three research streams in the literature; (i) SWFs overview and growth (blue in figure 4), (ii) SWFs governance and political concerns (green), (iii) SWFs investment strategies (red).

(Insert figure 4 about here)

6.2 Co-authorship visualization

SWFs emerged as new phenomena in 2005 as modern investors and their growth caught the attention of several scholars and policymakers due to their huge global equity investments during financial crises of 2007-2008 (Vasudeva, 2013; Johnson, 2015; Megginson & Fotak, 2015). Still the literature on SWFs is at developing stage and the identification of researcher networking will be helpful

for future research. We explored the co-authorship network among researchers who are working on SWFs through VOSviewer software. There will be two important implications of the identification of this network: first, potential researchers can approach to these research networks for future project; second, it is a recognition of researcher who are working on these specific types of investors that is always useful for growth of any field. Our presentation of influential authors and network among them (see table 5 & figure 5) will be useful for the controlling bodies to start multiple projects as well.

(Insert figure 5 about here)

7. Review of Research Streams in SWFs Literature

7.1 SWFs overview and growth

This research stream in literature examines the characteristics, overview, objectives, benefits, drawbacks and growth of SWFs. Monk (2010) presents a stimulating logic and objective to establish SWFs by governments. He argues that this is an era of globalization and strong financial markets threatening governments around the world. In response to these trends, governments or states inclined towards state capitalism to safe-guard their autonomy and power. SWFs are energetic and special purpose vehicle for the state capitalism. He also reports that the main objective of the SWFs establishment is to preserve the state autonomy and sovereignty through the power of finance.

The objectives of SWFs creation by governments are dual. The first is political, in order to accomplish the local and international political objectives. The second is related to the economic growth and development of the country (Wu & Seah, 2008; Lenihan, 2014). Hatton and Pistor (2011) argue that the motivations behind the formation of SWFs are well explained with “autonomy-maximization” theory, especially in the case of four SWFs, Kuwait, Abdu Dhabi, Singapore and China. SWF is to be used as an investment vehicle for foreign investments under state capitalism (Cazurra et al., 2014). However, in another view is that SWFs are established to become key drivers in entrepreneurial international economy (Bostan & Ergen, 2017).

SWFs are key and prominent players in the international financial markets and their role as drivers of economic growth and stability will improve (Beck & Fidora, 2009). Currently, there are 80 SWFs working around the world, with asset under management of \$ 7.67 U.S trillions (SWFI, 2018). As a result of SWFs growth, Clarke (2016) highlights a new type of SWF investment vehicle, Sovereign Patent Funds (SPFs), which are growing in China, and Japan. SPFs are intellectual property rights of any innovation and new development. Currently SPFs are much politically biased compared to the traditional ones (Clarke, 2016).

The individual characteristics of the multiple SWFs are explored and analyzed by researchers and policymakers through case studies or ‘in depth studies’: Malaysia’s Khazanah Nasional (Lai, 2012); Vietnam’s State Capital Investment Corporation (SCIC) (Nguyen et al., 2012); Australia’s Future Fund

(Eccleston, 2012); National Fund of the Republic of Kazakhstan (NFRK) (Kalyuzhnova, 2011); Saudi Arabia's Public Investment Fund (PIF) (Seznec, 2016); Korea Investment Corporation (Paltrinieri et al., 2014b); and Abu Dhabi Investment Authority (ADIA) (Abdelal, 2009).

The main findings of these papers about multiple SWFs are very interesting and worth mentioning. Malaysia's Khazanah Nasional was established in 1994 and remained as secretive organization and wholly owned by government and made investments on decision of the prime minister. However, with the passage of time Khazanah become much more transparent, aggressive investor internationally, and also started reporting to general public due to change of democratic government (Lai, 2012). Vietnam's State Capital Investment Corporation (SCIC) was established in 2005 with main objective to support the under-market conditions and facilitate state-owned enterprises. However, the effect of Vietnam SWFs on the market-oriented economic system needs time to be evaluated (Nguyen et al., 2012). The Australian SWFs "Australia's Future Fund (FF)" is studied by Eccleston (2012), which was established in 2006 to meet the government's future public service pension liabilities. He discusses and explores the role played by the SWFs during the financial crisis, and examines the problems faced by SWFs in advances economies to implement their framework. Meanwhile, Kalyuzhnova (2011) reviews National Fund of the Republic of Kazakhstan (NFRK) which has the primary objective of stabilization and saving. The NFRK performed well during the financial crises of 2007-2009 and saved the economy with their approach to collect asset conservatively. However, funds also faced problem of governance and low transparency.

Seznec (2016) explores the operation of the Saudi Arabia's Public Investment Fund (PIF), as Saudi government wants to transfer the leading oil company Saudi Aramco to SWFs. He argues that this will be a major step in order to shift Saudi economy from oil to other sectors. Further, he explains and discusses the future problem in transferring the ownership. Abu Dhabi is an oil export economy and the country's wealth is managed through two SWFs: Abu Dhabi Investment Authority (ADIA) and Mubadala Development Company (Abdelal, 2009). The ADIA and Mubadala supports each other in terms of returns.

Finally, the Korea Investment Corporation (KIC), a non-commodity SWF, is reviewed by Paltrinieri et al. (2014b). They conclude that internal political bias affects the investment process of the KIC and that financial and political objectives co-exist.

The world second largest fund, China's SWFs named "China Investment Corporation (CIC)", is examined by Wu and Seah (2008). This fund was established in 2007 by Chinese government with their huge foreign exchange reserves and an initial working capital of US \$ 200 billion. The establishment of China SWFs heated debate about SWFs governance, overview and objectives. The U.S policymakers are concerned about SWFs. In the U.S. there are two views about SWFs investments (Wu & Seah, 2008). First, they should establish rules and regulations related to their governance and improve the

accountability and transparency. Second, there should be a voluntary defined code of conduct for the governance behavior. Meanwhile, the weakness and challenges of CIC are explored by Zhang and He (2009). They point out several challenges, such as vague orientation, mixed investment strategies, inefficient bureaucratic style and CIC competition with other Chinese investment institutions.

The world largest and most transparent SWFs is from Norway, the Government Pension Fund-Global, which was established in the oil-rich country in 1990 for dual objective of stabilization and savings (Fini & Rethel, 2013). Fini and Rethel (2013) examine the governance mechanism of this fund. Norway SWF is managed by Norges Bank Investment Management (NBIM) since 1997. The good governance mechanism of this SWFs builds a pressure on firms to follow ethical and governance principles regarding investment choice.

The costs of SWF were examined by a number of researchers. Bahgat (2010) reports the number of SWF shortcomings, such as the poor disclosure, lack of proper management, the poor performance of public assets, and the lack of integration with country's fiscal policy. Meanwhile, Kirshner (2009) discusses some major drawbacks and points out that these funds are political biased and resulted as geopolitics problem due to shifting of wealth in international financial systems.

But there are several benefits of SWFs: the role of state in global economic policy has deepened particularly due to SWFs, and they are established to boost the national economy but now their role has increased (Bostan & Ergen, 2017). These SWFs have become the driver of the entrepreneurial economy. SWFs are long-term investors with a low leverage having stabilizing effect on liquidity and growth of financial markets (Butt et al., 2007; Keller, 2008), and resulted as reduction in risk of financial crises (In et al., 2013).

7.2 SWFs Governance and Political Concerns

SWFs governance and political concerns is the second identified research stream in the literature. Primarily, the focus of this research stream is on poor governance mechanism of SWFs and political biases, especially in the cases where these funds are established by undemocratic governments. In 1993, Keynes argued that international cash flows are political. A prime issue is that SWFs are politically biased, having low standard of governance and typically being established by undemocratic governments (Cohen, 2009; Gilson & Milhaupt, 2009; Paltrinieri et al., 2014a). The policymakers from Western countries are concerned about high investments by SWFs and other state-owned organizations, due to their non-economic objectives (Gilson & Milhaupt, 2009).

In response to Western-Countries generated global financial crises (GFC) the G-20 Summit was called in November 2008 and was hosted by the then President Bush. The main purpose of the summit was to bond these countries on some pre-defined principles, such as transparency, regulations, financial markets integrity, international cooperation and reforming of international financial institutions

(Norton, 2010). Under this G-20 summit the “new international financial architecture” (NIFA-1) which was established in G-7 summit is revamped in the form of NIFA-II. One of important agenda under NIFA-II was the adoption of “international, regulatory financial standard-setting” (IRFSS), a multi-level governance mechanism. In specific context of SWFs, IRFSS includes the formation of Santiago Principles (October 2008) and establishment of International forum of Sovereign Wealth Funds (ISWF Forum). Norton (2010) explores the multi-level governance of SWFs as results of Santiago Principles implementation and its impact on global financial markets. He argues that these principles will lead to purification of financial system and improve connection between International Monetary Fund, World Bank and Organization of Economic Corporation and Development.

In the context of governance, a leading expert on SWFs, Truman (2007b), argues that international standard on SWFs should be based on four topics: (1) objectives and investment strategy, (2) governance, (3) transparency, and (4) behavior. He proposes that investments from governments through SWFs should have clear economic strategies and objectives. There should be clear rules and regulations for SWFs, governments and fund managers, to improve accountability and transparency. He also identifies basic concerns and tensions about SWFs activities in international financial system, such as: miss-management of investments, political objectives, the rise of financial protectionism, the creation of uncertainty with poor management, and the rise of conflicts of governments with host country and fund managers (Truman, 2008).

Further, he presents SWFs governance scoreboard by considering “Santiago Principles” and correctly outline realistic and operational context of best practices and code of governance. The scorecard is based on 33 points divided into 4 categories; (1) overview of fund (structure, objective and separation from country foreign reserves); (2) governance of fund (role and responsibilities of government and fund managers); (3) accountability and transparency of fund (investment objectives, methods, operations and strategies); and (4) behavior of fund (managing the portfolio and operations). Based on the scorecard, he categorizes 54 SWFs, including 10 public pension funds. Truman governance scorecard has a prominent position in SWFs governance and political literature.

In the same direction, Truman, (2013) evaluates the implementation of “Santiago Principles”. The evaluation was based on the scoreboard established by Truman and updated by Bagnall & Truman (2013). In this study, he compares the scorecard used by International Form of Sovereign Wealth Funds (IFSWF) for a survey with his owned designed scorecard. If SWFs report presents an improvement in accountability and transparency that is the most important ingredient of corporate governance. But none of the funds achieves a full score in both scorecards and some of the funds even not following the principles. However, no information and reason are presented in report that why these funds are not fulfilling the required principles.

In U.S context, Truman (2007a) examines the SWFs investments and their governance aspects. He argues that currently SWF investments are not a threat and U.S government should encourage foreign government's investments with emphases on best practices (corporate governance). Meanwhile, Gilson and Milhaupt (2009) present a proposal in U.S context by applying a corporate governance fix, which means that there will be some restrictions on SWFs after their investment in U.S companies, to overcome the tensions and political image of SWFs. They present a protectionist view, proposing that any acquisition by government-owned foreign investors would imply losing voting right in U.S companies. But this right will be active again, in case the ownership will transfer to non-government owned investors.

The political concerns related to SWFs establishment (Braunstein, 2016; Chwiero, 2014), governance (Wang & Li, 2016; Truman, 2008; Bagnall & Truman, 2013; Truman, 2007b) and investments (Knill et al., 2012a; Calluzzo et al., 2017; Grira, Labidi, & Rouatbi, 2018) are critically reviewed by researchers. The political drivers behind the establishment of the SWFs are vital to explore and discuss as some countries through SWFs (Braunstein, 2016). Braunstein (2016) explores the reason behind the establishment of SWFs by different from nation to nation. He argues that there is role of political strategies in economic policy. The argument of the Braunstein (2016) has the support of the empirical work by Chwiero (2014), in which he provides a cross-national political-economy statistical analysis of SWFs creation. He argues that most of SWFs are established by the government which has surplus of foreign exchange reserve as fashion to see other countries.

In another empirical study, Wang and Li (2016) explored the relationship among SWFs governance, democracy and veto player across 46 SWFs from 30 countries from 2007 to 2009. They argue that SWFs institutionalization depends on the political regime of nation and number of veto players in policymaking. They found that democracy promotes SWF institutionalization and moderate number of veto players is supportive to SWFs good governance. In term of investment strategies and Knill et al. (2012a) elaborate the effects of political relationships among home and host countries. They examine the effects of political relations on SWF investment decisions at cross-sectional and dynamic casual framework. Their empirical research suggests that SWF investment decisions are dependent on political relations with host countries. However, there is no association between political relations and the amount to invest in that country. Therefore, they concluded that SWF investment decisions are least partially political biased. Regarding host countries, Calluzzo et al. (2017) argue that SWFs target those firms involved in election finance campaign and they conclude that the investment by these firms increases after acquisition of SWFs. Hatton and Pistor (2011) argue that SWFs are deeply embedded in political economy of their representative countries and there is elite which want to maintain their autonomy through SWFs based on autonomy-maximization theory. The relationship between the political risk and SWFs investment is examined by Grira et al. (2018). They analyzed 475 deals on

SWFs and concluded that among their four measures of political risk the conflicts and democratic tendencies is component that effect investment decision and choice of SWFs.

Particularly, the second largest SWFs around the world is China Investment Corporation (CIC). The U.S and other developed countries banned or discourage the investment from CIC (Wu & Seah, 2008). There are several political concerns that are reported by developed countries (Wu & Seah, 2008). In general, we can conclude from this discussion that SWFs and their investment in U.S and Western Countries are not considered economical and safe. The view of SWFs as politically biased with poor governance ethics and established by undemocratic governments is dominant.

Contrary to this, Norway SWFs (Government Pension Fund-Global (GPF)) is the world largest SWFs and it appears as the most transparent institution. According to assessment by Truman (2007b) that Norway SWFs got 72 point out of 100 and shown fund best practice. The fund generated 13.66% return or 1028 billion NOK, in 2017 and fund also crossed another millstone of \$ 1 trillion in 2017 (SWFI, 2018). The operations of the fund managed by Norges Bank through Norges Bank Investment Management (NBIM) (manager) but further controlled by ministry of finance (principal) and parliament (legislators). There is a Council of Ethics and Ministry of Finance, Norway, which guides the NBIM on the management of the fund. Clark and Monk (2010) explain the following governance ethics of GPF: (i) at the first stage, the adoption of the international governance principles (Santiago Principles/GAAP) by GPF; (ii) at the second stage, the adoption and implementation of the governance, management and ethical principles established by Norwegian Ministry of Finance and Parliament are required; (iii) According to the Ministry of Finance, the SWF can hold less than 10% of the target firm; (iv) The controversial investment issues are managed by the council of ethics. The council is comprised on members of multiple political parties; (v) The fund should invest in those companies which are following the global principles of governance. Fund should also publish a report with the title “Responsible Investment”.

The normative and regulative impact of Norway funds governance on targeted firms is also considerable and positive (Vasudeva, 2013). Overall, SWFs are under great criticism of poor governance and political motivations (Shih, 2009) regarding their operations (Cohen, 2009; Kratsas & Truby, 2015) and investment strategies (Knill et al., 2012b; Kamiński, 2017). However, there is the need to extend this research stream in order to improve the governance of SWFs by minimizing political concerns.

7.3 SWFs Investment Strategies

SWFs investment strategies is the leading research stream in literature. The dominant and imperative research areas examined and discussed under this stream are mainly related to corporate finance and portfolio management: the effect of SWFs investment (de-investment) on target firm's value, performance and risk; the evaluation and analysis of SWFs portfolios and returns; the role of SWFs in

economic stabilization and growth for home (own SWFs) and host (receiving SWFs investments) countries; and finally, SWFs acquisitions are examined and explored in several innovative directions and ideas.

Overall, the academic literature shows that there is a positive association between SWF acquisition and target firms value, performance and risk (Urban, 2016; Kotter & Lel, 2011; Bortolotti et al., 2015; Fotak et al., 2008). The role and effect of large shareholdings by private, public or institutional investors on targeted firms is extensively studied in governance and finance literature. SWFs are considered as large shareholders when they take a long position in targeted companies (Dewenter et al., 2010). The SWFs and state-owned enterprises (SOEs) are associated with higher returns for targeted firms (Karolyi & Liao, 2017). Specifically, the impact of SWF investment and divestment on firms value is studied by Dewenter et al. (2010) on a sample of U.S firms between 1987 to 2008, through the analysis of 227 acquisition transactions of SWFs. They conclude that a SWFs acquisition produces on average 1.5 % increase and -1.4% decrease in abnormal returns of targeted firms on an event of investment and divestment. For robustness of findings, they review this effect of SWFs investment for longer period and they derive the same outcome. Their findings support the theory that large shareholders, such as SWFs, have significant effects on targeted firms' value.

Heaney et al. (2011) investigate the SWF acquisition effect on home country's firms. They present significant findings related to the domestic investments of Singapore's SWFs-Temasek. First, the fund prefers to invest in those firms which have small number of directors and block-holders. Second, the fund provides reasonable compensation schemes to directors in order to promote the firm performance and third, it provides incentives to the firms by reducing their systematic risk through investments. Bortolotti et al. (2015) study the effect of SWFs investment announcements on public firms, while comparing them with private firms. They provide evidence that SWFs investments have positive effect on public firms but less than private firms. There are also studies showing that SWFs may have negative effects on targeted firms as large shareholders, since they can expropriate funds of minority shareholders by using their voting power, to transfer firms assets to foreign countries (Kotter & Lel, 2011).

Bertoni and Lugo (2014) explore the relationship between SWFs investments and target firm credit risk through credit default spreads, showing that SWF investments reduce credit risk. The SWF investment effect is also examined on firm valuation and how both of these are related to SWFs transparency. The results show that SWFs prefer to invest in large and poor performing firms and their investments have positive effect on valuation in the short run (Kotter & Lel, 2011). The authors also conclude that transparent SWFs prefer to invest in financial constrained firms compared to opaque SWFs. Contrary to the above discussion, Gasparro and Pagano (2010) argue that financial crises and investments from SWFs have negative effects on returns of European and U.S firms. Moreover, these SWFs negatively impact the U.S and Canadian market returns, and firm's equity returns as well.

The vast majority of studies argue that SWFs investments are associated with political connections (Kamiński, 2017; Calluzzo et al., 2017; Bernstein et al., 2013). Recently, Kamiński (2017) investigates the acquisition of European energy companies by China's SWFs. He argues that China SWF investments are a security threat for stability and growth of energy industry as Chinese officials are placed on board of directors of these companies. That will result in a leakage of sensitive and important business information.

The SWF investments in United State of America are examined and analyzed in the context of finance campaign during political election process. The first empirical evidence that SWFs play a political role in host countries is provided by Calluzzo et al. (2017). They present that SWFs target those firms involved in election finance campaign and they conclude that the market performance of these firms has increased after the acquisition by SWFs. The political objectives, such as creating local autonomy and influencing the host country through SWF investments, are highly associated with their corporate governance mechanism. Because where SWFs governance and accountability are weak, the political leaders of that country are directly involved in management process and investment decisions. As a results these SWFs lose their long-term benefits for the short-term goal and tend to invest domestically (Bernstein et al., 2013). Sun et al. (2014) generally endorse this point, especially for China's SWFs.

The spectrum of discussion is very wide in term SWF investment effects on targeted firms and, political and economic motives behind their investment. Multiple studies (Johan et al., 2013; Fotak et al., 2008; Urban, 2016) conclude that SWFs have positive effect on targeted firms as long-term investors and their investment motivations are at least partially politically biased. However, some researchers, such as Johan et al. (2013) consider SWFs as activist and genuine investors like private or public pension and mutual funds. Truman (2007a) recommends that the U.S government should continue to allow the cross-border investments through SWFs with proper control and management through requirement that SWFs should follow global corporate governance principles plus voluntary governance rules and regulations.

Broadly, the view that SWFs play a role of stabilization, growth and development for economy is widely accepted (Benedictow & Boug, 2017; Ciarlone & Miceli, 2016; Truman, 2007a). Balding (2008) carries out one of the first study that examines the portfolio choices of seven SWFs and draw multiple conclusions. First, SWF portfolios are made of low-risk bonds in line with their objectives of national wealth guardians. Second, SWFs prefer to invest in low-risk shares while making investments in equity. Third, in terms of equity portion of portfolio, SWFs prefer to invest in domestic shares. Both a home country bias and risk averseness are shown in their investments. An IMF study (Al-hassan et al., 2013) shows that SWF portfolios are well diversified and include cash, fixed income, sovereign fixed income, equities, and other financial instruments such as reserves and pension funds.

Historically, SWFs prefer to allocate their portfolios in fixed income securities. However, the economic conditions and falling interest-rates in developing countries have reduced fixed incomes and SWFs have started to adjust their investment portfolios in term of asset allocation, geography and sectors. According to a report of PWC (2016), SWFs have increased the equity and alternatives' allocation after the strong recovery of stock markets in 2009. The report shows that SWF allocation in alternatives has increased from 19% of the total asset under management (AUM) in 2010 to 23% in 2016. Further, the fixed income securities have decreased to 30% of the total AUM in 2016 from 40% in 2010.

The SWF portfolio analysis is conducted by several researchers (Caner & Grennes, 2010; Benedictow & Boug, 2017; Ciarlone & Miceli, 2016; Petrova et al., 2011). Caner and Grennes (2010) carry out a portfolio analysis of Norwegian Government Pension Fund- Global. They find that SWF portfolio returns are higher than the benchmark of average world stock market return, but the risk of portfolio is also higher during the period of study 1998-2005. In another study, Ciarlone and Miceli (2016) examine SWFs investment behaviors and effect of their portfolio on host countries (foreign country receiving SWFs investment) economy during financial crises. They show that capital flows from acquisition of SWFs normally have stabilization effects on economy of foreign target countries and during financial crises as well.

Meanwhile, Benedictow and Boug (2017) examine and modify the model of calculating portfolio return of SWFs. They show that their new approach excludes method of deflating nominal returns and as a result Norwegian SWF returns increased from 3.1% to 4.9%, implying positive results related to SWFs portfolios. The portfolio management and diversification of SWFs is also explored and compared with central banks (Aizenman & Glick, 2010). They find that Central Banks manage their foreign assets by placing high weight to safer foreign assets, while SWFs place their foreign asset in high risky portfolios. In contrast, Petrova et al. (2011) argue that the portfolio performance of SWFs is highly dependent and change when financial crises happen.

The SWFs investment strategies are explored in multiple innovative and heterogeneous directions and ideas. For example, Miceli (2013) examines the concept of herding across industries for SWFs asset allocation. Herding means that investors follow each other while making investment decisions and choose those industries whose equity (shares) demand is higher. He shows that SWFs are almost not affected by the herding behavior. Debarsy et al. (2017) investigate SWFs investment behavior and the trend of spatial dependence, i.e. making investment decision in one country at expense of another country. They report that SWFs do not follow the trend of spatial dependence in asset allocation decision. Boubakri et al. (2017) explore the effect of SWFs acquisition on intra-industry of the targeted firms, considering the competitors of targeted firms with an event study framework. They conclude that

SWF investments have positive effect on risk adjusted average cumulative abnormal returns (CAR) of the competitors of target firms.

The research on SWF investment strategies and specifically the asset allocation depends on the choice of the vehicle like other investors. This important dimension of SWFs investment strategies is examined by Murtinu and Scalera (2016) who explore the SWFs choice of investment vehicles as passive investors. The authors show that fund opacity, politicization, strategic industry targets, and majority ownership choices lead to a more likely use of vehicles, while bilateral trade agreements negatively affect this strategy. The authors also show that politicized foreign SWFs are more likely to invest through vehicles located in third countries.

Furthermore, Johan et al. (2013) explore the choice of public or private firms by SWFs in case of cross-border investments. They conclude that SWFs are less likely prefer to invest in private firms while making cross-border investments without any cultural bias and especially where political relations are weak with targeting (firm's home) country.

Megginson et al. (2013) extend this research question about the characteristic of targeting firms' country, in order to explore country characteristics of both SWFs and targeted firms. They find that if SWFs belong to countries which have less developed local markets, but they are open toward trade and have strong economic performance, they intend to make more cross-border investments. And targeted firms, that belong to countries with developed capital markets and investor protection, have more attraction for SWFs investments. Recently, Boubaker et al. (2018) analyzed the impact of SWFs investment on the ex-ante (implied) cost of equity capital of target firms. They examined 310 investment by SWFs and concluded that firms which SWFs investment have higher cost of financing after announcement of acquisitions.

8. The growth of SWFs Research Streams through Cartography Analysis

The presentation and analysis of SWFs research stream growth is important. We identify the keywords under each stream through cartography analysis (Zamore et al., 2018; Apriliyanti & Alon, 2017). The cartography analysis is done through VOSviewer software by considering first dataset of 116 articles as input. We identify the keywords as given in figure 6 and also presented them in table 2 under each stream.

(Insert figure 6 about here)

These identified keywords are used for the literature research for each stream year in order to identify the growth between 2005 to 2018. We present the growth of SWFs literature in figure 7, under each stream. Our analysis shows that 52 (first), 37 (second) and 64 (third) articles belongs to three streams. Further, the keyword SWFs represents all three streams, and which also confirms our selection of keywords for literature.

(Insert figure 7 about here)

9. Future Research Questions

The existing literature is much focused on SWF objectives, governance, political issues, investment strategies and the role in global financial system. We identify future research direction under each stream by applying meta-literature review on 153 articles published between 2005 to 2018.

9.1 SWFs Overview and growth

Little is known about the emerging type of SWFs called “Sovereign Patient Funds” which are currently used by advanced economics, such as France, South Korea and Japan (Clarke, 2016). It will be interesting to review and explore the characteristics, functionality, merits and demerits of these investment vehicles. We also endorse to identify the main country level characteristics that lead a nation to establish SWFs like China approached towards the food security governance SWFs (Lin, 2017). A comparison is recommended to identify the best approach to be utilized between the state capitalism (SC) or varieties of capitalism (VOC) for food security governance.

9.2 SWFs Governance and Political Concerns

The policymakers in host countries and controlling bodies feel SWFs investment as a threat to security. In the literature, there is no defined minimum standard of tradeoff between economic and political goals of SWFs. The review of SWFs management is also questionable that with government control they can achieve their economic targets. The analysis of principle-agent relationship between the government (owner) and managers who managing the SWFs is necessary. Further, a debate is required that there should be some compulsory minimum standard of disclosure for SWFs, like other private mutual or hedge funds.

On the other hand, SWFs become part of board of directors in targeted firms and can access the highly secret information. It is highly recommended that European policy makers establish standards regarding the involvement of foreign investors like SWFs in decision making of target companies and identify some legal body or institute which will control and monitor these standards. We also identify the entire political variables used in SWFs literature in table 7 and endorse to explore the association between political risk (variables) and SWFs governance, theoretically and empirically.

(Insert table 7 about here)

9.3 SWFs Investment Strategies

There is no full consensus regarding the effect of SWFs investment on performance, value, risk and governance of target firms. It will be very interesting to explore the effect of SWF investments effect

in such directions in short and long run. The SWFs investment effect should check in country to country basis before generalizing. It will be useful to compare the effect of SWFs investment with other institutions investors, such as pension and mutual funds. The review of the role of SWFs in economic stability of home (owned SWFs) and host country (receive investment) is essential. SWFs are used as a bailout tool by the home countries, especially during financial crises. It is required to explore that association between the bailout policy and availability of deposit insurance schemes at country level.

Regarding SWFs portfolio, we suggest another stream of literature to analyze the theoretical portfolio construction for different type of the SWFs, in relation to their funding sources and objectives. We highly endorse to examine and critically analyze the performance (risk and return) of SWFs portfolios, while considering their investment strategies in multiple industries (such as farmland, timberland, energy and real estate) and geographic regions (Asia, Europe and America). SWFs investment decisions of foreign direct investment and choice of investment vehicles, whether, direct or indirect through private firms is an important area of study. The investment strategy of SWFs as active or passive investors and their source of capital is essential future research direction. The review and comparison of investment strategies of two main type of SWFs; sovereign pension reserve funds (SPRFs) and social security reserve funds (SSRFs) with institutional investors, such as public or private pension funds, mutual and hedge funds will be a knowledgeable addition in SWFs literature (Dreassi et al., 2017). Finally, the debate about political risk and SWFs is burgeoning in literature and it is significant to examine the role/effect of political risk on SWFs investment strategies and asset allocation of SWFs portfolio. We present all these gaps among three identified streams in the form of 20 future research questions in table 8.

(Insert Table 8 about here)

10. Conclusion

To the best of our knowledge, this is the first study to apply meta-literature consisting on qualitative (content analysis) and quantitative (bibliometric citation analysis) techniques on SWFs literature. Our meta-literature review is different from statistical meta-analysis. The bibliometric citation analysis is common in management and social research but very rare in financial literature. We carry out a meta-literature review of the last 13 years between period of 2005 to 2018. We analyze two datasets: (i) 116 articles from ISI Web of Science between 2005 to 2016 used for bibliometric analysis by using HistCite and VOSviewer software; (ii) 153 articles published during period of 2005 to 2018 including 116 from ISI WOS plus 37 influential papers that are content analyzed through NVivo software. We apply the following analyses in our meta-literature review: (i) identification of influential aspects of literature, (ii) co-citation analysis, (iii) co-authorship analysis, (iv) cartography analysis, and (v) content analysis.

This study has multiple implications related to the literature. First, we discuss the origin, classification and present a broader definition of SWFs. Second, we identify top countries, institutions,

journals, authors and influential & trending articles/topic related to SWFs research. Third, we identify three main research streams in the literature; (i) SWFs overview and growth, (ii) SWFs governance and political concerns, and (iii) SWFs investment strategies. The identification of these streams will help to further explore these areas related to SWFs. Fourth, we present the co-authorship network among researchers and recognize influential authors as well, which is essential for growth of any field. The prospective researchers can start multiple future projects with these influential authors, targeting JCF as a potential impactful outlet. Fifth, we present the growth of literature under each stream and also identify 20 future research directions. These future research directions will help the literature to grow in right direction under each stream.

We also present some policy recommendations and concluding remarks based on our in-depth meta-literature review of 153 papers between 2005 to 2013. First, the overall literature discusses that SWFs work as true active investors to increase their portfolio returns, instead of political. Second, many scholars recommend establishing a tradeoff level between the economic/market versus political objectives of SWFs by the controlling bodies. Third, we find several scholars reporting that SWFs governance mechanism level has improved. Therefore, policymakers should encourage SWFs to make more investments. Fourth, one of the main reasons of low growth in SWFs research is the non-availability of published data. At this stage, the policymakers and controlling bodies should establish some minimum standard of international financial reporting for SWFs in order to publish financial data in the form of annual reports.

The possible limitations of the study are related bibliometric citation analysis. The analysis assumes highly cited articles and it is possible that some quality research articles are ignored by software's due to zero or less citations (Apriliyanti & Alon, 2017). We covered this limitation through content analysis of 153 articles. We also unable to cover year 2017 and 2018 in bibliometric citation analysis because recent publish articles need time to be cited. So, we recommend applying this technique again on SWFs after some time. This study only covers one database for bibliometric citation analysis because HistCite software establish to deal only with ISI WOS. We tried to cover this limitation by searching influential articles and working papers through different techniques. However, we recommend applying bibliometric citation analysis on SWFs by considering other databases like Google Scholar, and Scopus, subject to availability of software.

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List of Figures

A-Research Objectives

1. What is the domain of SWF research?
2. What are important aspects of SWFs literature, such as top, countries, Institutions, journals, influential and trending articles/topics?
3. What are the key research streams in SWFs literature?
4. What are the substantial future relevant research questions to further explore about SWFs?

Sample Selection

Step 1. Selection

Step 2. Articles Searched: at

Step 3. Final Sample: after review and exclusion by two independent authors, based on

Figure 1. Methodological Framework, author contribution.

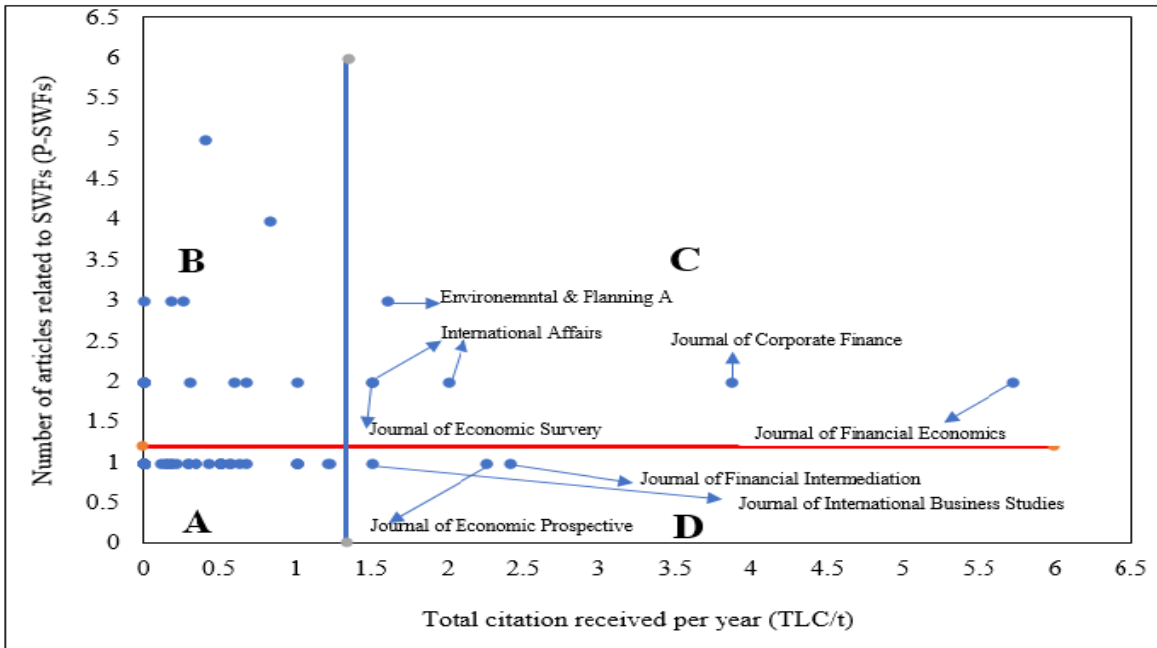


Figure 2. The figure presents the quadrant analysis of 87 journals in the sample, four quadrants are defined A (low focus and impact), B (low focus and high impact), C (high focus and impact), D (high focus and low impact) based on the standard of output (focus) ($P_{SWFs} = 1.2^*$) and impact ($TLC/t = 1.34$), author's calculation. *the average value of $TLC/t = 0.45$ but number of times the publications is not meaningful, so minimum standard of 1.2 is considered.

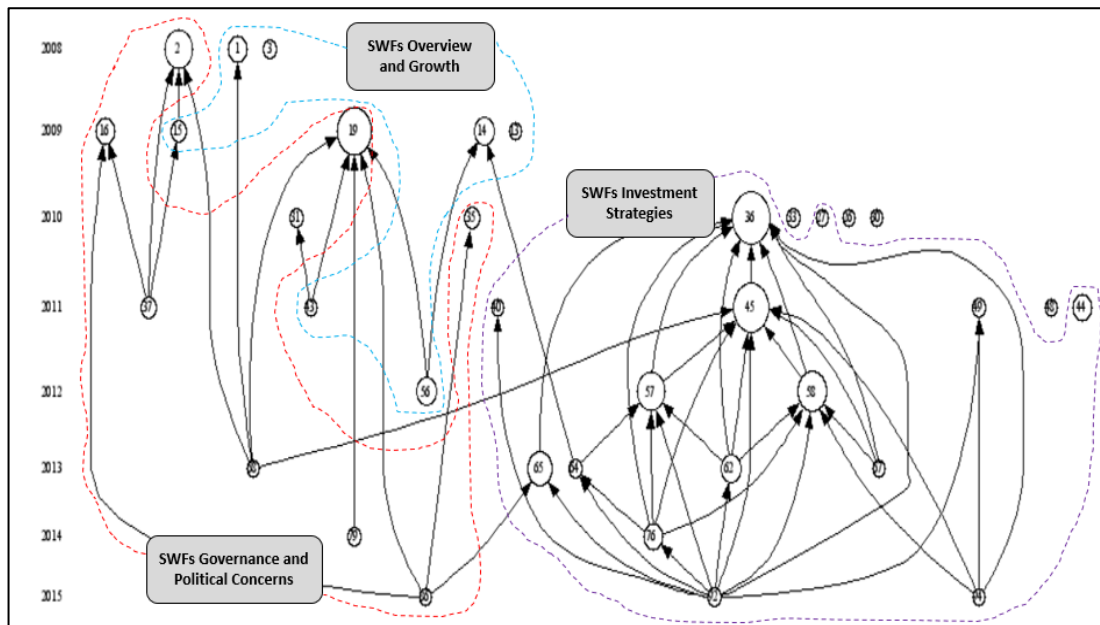


Figure 3. Citation Mapping by HistCite software over period of 2005 to 2016, in SWFs literature. The co-citation analysis is conducted on first database of 116 articles from ISI WOS. The citation mapping is based on the total local citation with minimum value $TLC > 1$ and three major research streams are identified, authors calculation.

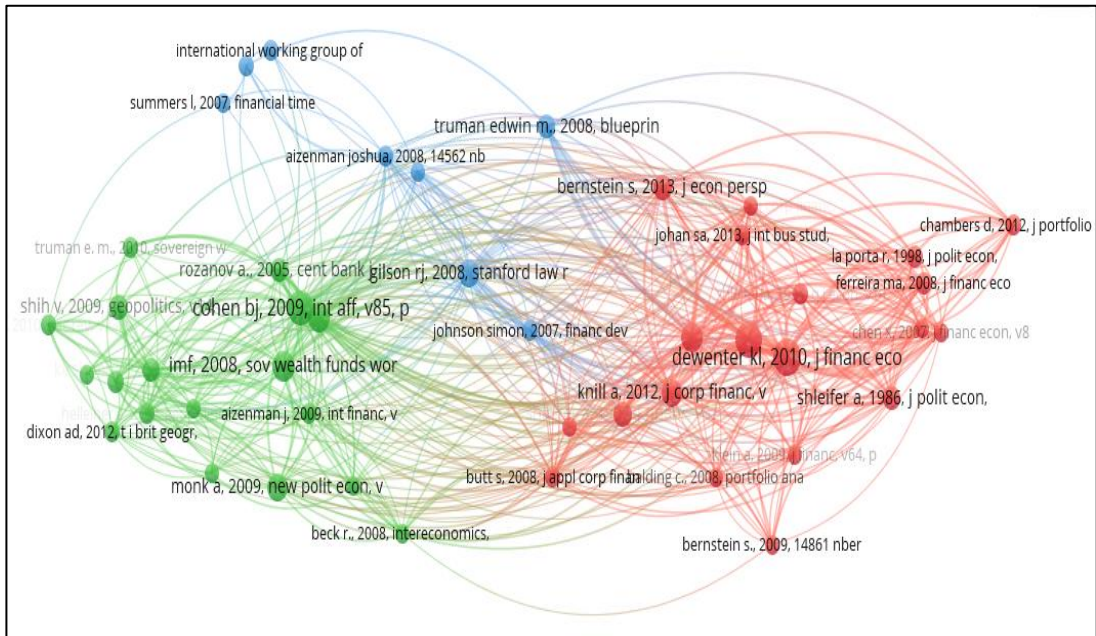


Figure 4. Clusters Visualization through VOSviewer software over period of 2005 to 2016 in SWFs literature. The co-citation analysis is conducted on first database of 116 articles from ISI WOS. The minimum number of citations of a cited reference are kept at 5 to make result meaningful, authors calculation.

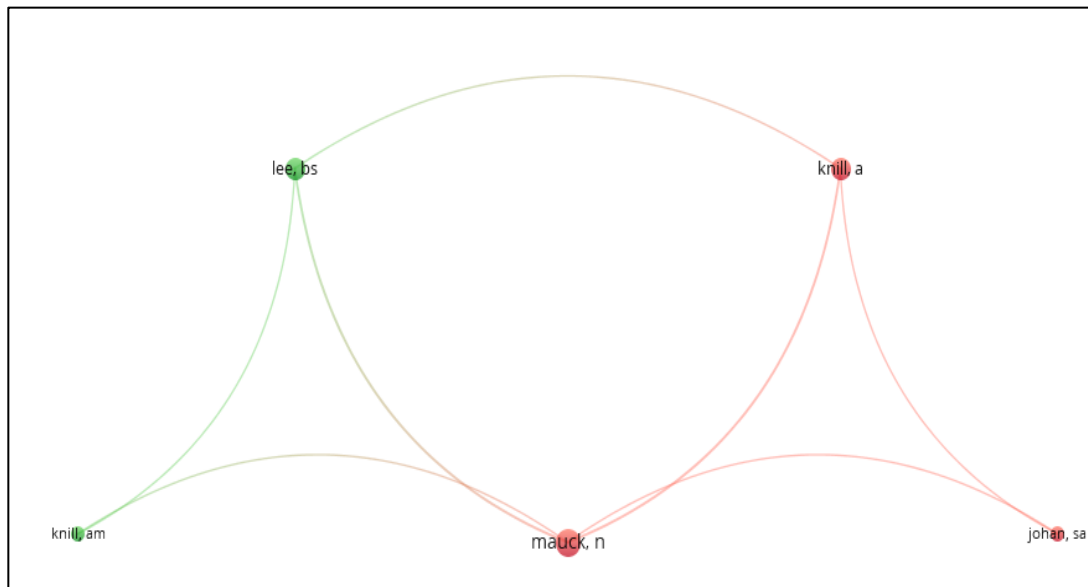


Figure 5. Co-authorship network presentation through VOSviewer software. The co-authorship analysis is conducted on first database of 116 articles from ISI WOS. We found network in two streams only, Red and Green, Authors calculations.

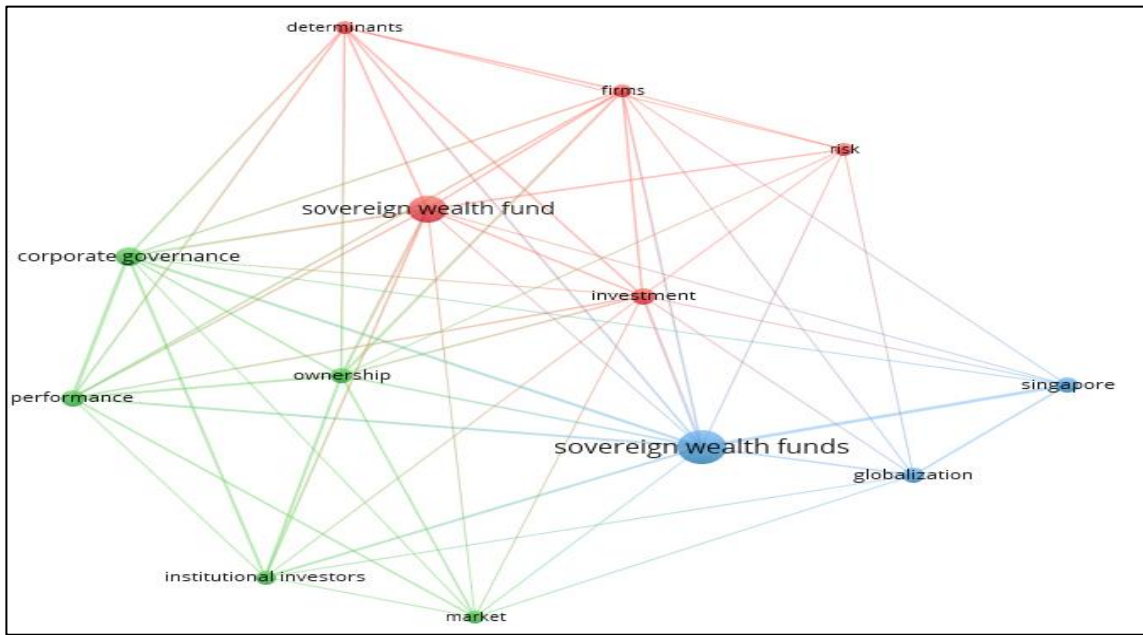


Figure 6. Identification of keywords in SWFs literature through bibliometric cartography analysis applied with VOSviewer software over period of 2005 to 2016. The cartography analysis is conducted on first database of 116 articles from ISI WOS. The minimum criteria of keywords co-occurrence are set as 5, author's calculation.

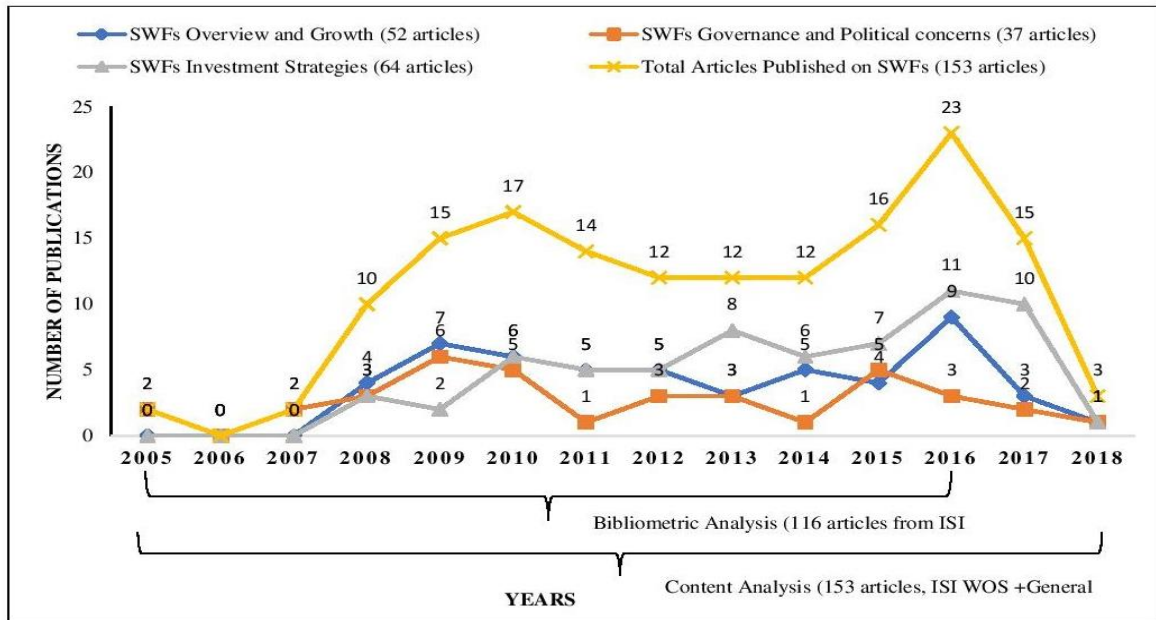


Figure 7. Growth under each stream identified through keywords search in literature. The keywords are identified through cartography analysis. The cartography analysis is conducted on first database of 116 articles from ISI WOS. The graph is based on per year publication under each stream, author's calculation.

List of Tables

Table 1

Previous Review papers and books on SWFs

Tile/Authors/Years	Research Objectives (Survey Explores)	Scope	Methodology (sample, technique, database, period)
Rise of the fiduciary state: A survey of sovereign wealth fund research Megginson and Fotak, (2015)	(i) SWFs state-ownership and link with efficiency of SWFs assets, (ii) funding sources of SWFs (oil or foreign reserves), (iii) strategic, geographical and sectoral asset allocation of SWFs, (iv) effect of SWFs on target firm's performance.	Survey of few specific characteristics or factors of SWFs.	Review of randomly selected articles related to topic upto 2015.
Sovereign wealth funds: A literature review (Alhashel, 2015)	(i) SWFs definition, history, regulations, (ii) investment strategies of SWFs	Survey of few specific characteristics or factors of SWFs.	Review of randomly selected articles related to topic upto 2015.
Important Books			
Take the Money and Run: Sovereign Wealth Funds and the Demise of American Prosperity Anderson (2009)	(i) SWFs and national security and economic interest, (ii) SWFs investment in USA by Persian Gulf States.	SWFs investment strategies	Review of specific topic
Sovereign Wealth Funds: Threat or Salvation? Truman (2010)	(i) overview, characteristics of SWFs, (ii) role of SWFs on economy, (iii) list of 50 SWFs and their characteristics	Practical view of SWFs	Review of specific topic
Sovereign Wealth Funds: The New Intersection of Money and Politics Blading (2012)	(i) Book that review the history of SWFs from Abu Dhabi Investment Authority involvement with the scandal-plagued BCCI bank, (ii) overview and growth of SWFs	SWFs history and Abu Dhabi Investment Authority	Review of specific topic
The Oxford Handbook of Sovereign Wealth Funds Cumming et al (2017)	(i)SWFs overview and consolidation of literature, (ii) review multiple aspects like governance, political concerns, and country regional analysis of SWFs by dividing it in multiple parts.	Compiled literature	Random selected articles and authors choice and decision to selection articles in any part.
<i>Note: The table summarizes the existing review papers and books published on SWFs. Their key research questions, theme, and methodology. Author's contribution.</i>			

Table 2

Sample Selection and Keywords identification through Cartography analysis

Search Word	Period	Search Technique	Initial Search Results No. of Articles	Citations (ISI WOS)	Final Sample (After Exclusion)	Analyses	Identification of Research Streams (Co-Citation analysis)	Keywords Under Each Stream (Cartography analysis)
"Sovereign Wealth Funds" OR "Sovereign Wealth Fund"	2005 to 2016	ISI WOS	191	1130	116 ¹	Meta-Literature Review (i. bibliometric citation analysis, ii. Content analysis)	1.SWFs overview and growth	Sovereign Wealth Funds
	2017 to 2018	ISI WOS	32	11	17			2. SWFs governance and political concerns
	2005 to 2018	ABS 2015, UK ranking, to Journals	40		19			

2005 to 2018	Most Influential Papers in literature	18	18	3.SWFs investment strategies	Sovereign Wealth Funds, Determinants, Firms, Investment, Risk
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Total number of articles and citations **281** **1141** **153²**

Note: The table presents the sample selection process and final sample size of articles that is used for Meta-literature review. 1. First dataset of 116 articles consist of 116 articles from ISI WOS. 2. Second dataset consist of 153 articles including 116 articles from ISI WOS and plus 37 influential working papers. It also shows the keywords under each stream that are identified through the cartography analysis.

Table 3
Most Influential Countries and Institutions

Influential Countries		Influential Institutions		
Rank*	Country	P _{SWFs}	Institutions	TLC
1	USA	46	Florida State University	29
2	UK	29	University of Missouri	29
3	Australia	13	Tsinghua University	19
4	Canada	9	University of Washington	19
5	China	7	University of Michigan	18
6	Singapore	7	Virginia Tech	18
7	Germany	6	Columbia Law School	16
8	Italy	5	University of California Santa Barbara	16
9	Netherlands	5	University of Oxford	12
10	France	3	Stanford University	11

Note: This table shows the top ten influential countries and institutions. These are sorted based on number of papers published by country authors, P_{SWFs}=3 and total local citations received TLC>10 by institutions, respectively.

Table 4
Most Influential Journals in literature

Rank	Name of Journal ¹	P _{SWFs}	Name of Journal ²	TLC/t	Name of Journal ³	TGC/t
1	Journal of the Asia Pacific Economy	5	Journal of Financial Economics	5.71	Academy of Management Annals	17.57
2	Global Policy	4	Journal of Corporate Finance	3.87	Journal of Financial Economics	11.29
3	Environment and Planning A	3	Journal of Financial Intermediation	2.40	Journal of Corporate Finance	9.07
4	Europe Business Organization Law Review	3	Journal of Economic Perspectives	2.25	Academy of Management Perspectives	8.00
5	Geopolitics	3	International Affairs	2.00	Journal of International Money and Finance	7.00
6	Pacific Review	3	Environment and Planning A	1.60	Journal of Economic Perspectives	6.00

Note: This table is sorted based on three criteria; P_{SWFs}, TLC/t and TGC/t. P_{SWFs}: number of articles published by country authors or institutions on SWFs, TLC/t: total local citations received per year, TGC/t: total global citations received per year. Sorted based on minimum standard of ¹P_{SWFs} =03, ²TGC/t >1.6, and ³TGC/t >5.0

Table 5
Most Influential Authors and Co-authorship network.

Network (red=A and green=B)	Rank*	Name of Author/Professor	Name of University/Institution	P _{SUK}	TLC	TLC/t
A & B	1	Nathan Mauck	University of Missouri-Kansas City	3	29	6.1
B	2	Bong-Soo Lee	Florida State University	2	23	4.6
A & B	3	April Knill	Florida State University	2	17	3.7
	4	Jason Kotter	University of Michigan	1	18	3
	5	Ugur Lel	University of Georgia	1	18	3
	6	Kathryn L. Dewenter	University of Washington	1	19	2.71
	7	Xi Han	San Francisco State University	1	19	2.71
	8	Paul H. Malatesta	Foster School of Business	1	19	2.71
	9	William L. Megginson	University of Oklahoma	2	5	2.5
	10	Veljko Fotak	University of Buffalo	2	5	2.5
A		Sofia Johans	Florida Atlantic University			

Note: This table represents the top ten influential authors which published on SWFs. The ranking is done based on the total local citations received per year (TLC/t=2.5). Further, the authorship network among authors is also highlighted.

Table 6
Ranking of top influential and trending articles/topics in literature

Influential Articles/Topics					Trending Articles/Topics			
Rank*	Author (s) and Year	Journal*	TLC	TLC/t	Author (s) and Year	Journal*	TLCe	TLC/t
1	Kotter and Lel (2011)	JFE	18	3	Cohen (2009)	IA	13	2
2	Dewenter et al. (2010)	JFE	19	2.71	Dewenter et al. (2010)	JFE	13	2.71
3	Knill et al. (2012b)	JFI	12	2.4	Kotter and Lel (2011)	JFE	13	3
4	Bernstein et al. (2013)	JEP	9	2.25	Gilson and Milhaupt (2009)	SLR	5	1.22
5	Knill et al. (2012a)	JCF	11	2.2	Aizenman and Glick, (2009)	IF	4	0.75
6	Cohen (2009)	IA	16	2	Hatton and Pistor (2011)	CJTL	4	0.67
7	Bertoni and Lugo (2014)	JCF	5	1.67	Haberly (2011)	EAPA	4	0.83
8	Johan et al. (2013)	JIBS	6	1.5	Kimmitt (2008)	FA	3	0.56
9	Megginson and Fotak (2015)	JES	3	1.5	Epstein and Rose (2010)	UCLR	3	0.5
10	Gilson and Milhaupt (2009)	SLR	11	1.22	Fleischer (2009)	NYULR	3	0.63
11	Dixon and Monk (2012)	TIBG	6	1.20	Reiche (2010)	EN	3	0.43
12	Chweroth (2014)	ISQ	3	1.00	Norton (2010)	JIEL	3	0.57
13	Kratsas and Truby (2015)	JFR	2	1.00	Truman (2011)	AEPR	3	0.5

Note: This table represents the 13 most influential and trending articles/topics. The influential articles/topics are sorted based TLC/t having minimum TLC/t >1. And trending based on criteria of minimum TLCe =3. *the list of journals is given in appendix A, table A1.

Table 7
Political variables and measurement in literature

Political Variables	Measurements	Key findings	Source of Data	Author (s)
Political Stability	“Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism”	Political Stability of the country is factor that attracts SWFs to make investment in host country.	World Governance Indicators	Debarsy et al. (2017)
Polity IV democracy index	“Index based on number of values and higher difference between the home and host country will lead to lowest acquisition by government”	There is negative relationship between Polity IV democracy index and SWFs acquisition.	World Governance Indicators	Karolyi and Liao (2017)
Opaque	“Dummy that equals 1 if the focal SWF has a scoreboard lower than (or equal to) 59”	The result shows that the opaque and politicized SWFs use investment vehicle.	Bagnall and Truman (2013)	Murtinu and Scalera (2016)
Politicized	“Dummy that equals 1 if politicians are present in the managing bodies of the SWFs”	The opaque funds more use SWFs-controlled vehicles. While the politicized SWFs use corporate vehicles.	Bernstein et al. (2013), Fernandez and Eschweiler (2008)	
Political rights index	“Index of political rights in 1996 (on a scale from 1 to 7). Higher ratings indicate countries that come closer to the ideals suggested by the checklist questions of: (1) free and fair elections; (2) those elected rule; (3) there are competitive parties or other competitive political groupings; (4) the opposition has an important role and power; and (5) the entities have self-determination or an extremely high degree of autonomy”	There is negative relationship between the Political rights index and likelihood of being acquired by SWFs.	La Porta et al. (2004)	Boubakri et al. (2016)
Democracy-proxied with Polity2	“If polity2 variable has value greater than or equal to +6, a country is coded as a democratic otherwise, it is coded as an autocracy”	SWFs in democratic countries are more institutionalized as compared to autocratic countries.	Dixon (1994)	Wang and Li (2016)
Democracy-proxied with Polity IV	Policy IV measures run from -10 to +10	The least democratic countries are more inclined to establish SWFs.	World Governance Indicators	Chweroth (2014)
Democracy	Degree of democracy between 1 (minimum) to 10 (maximum)	The credit risk reduction is higher in countries when SWFs is established by the politically stable non-democratic governments.	Economist Intelligence Unit (2010)	Bertoni and Lugo (2014)
Political relationship	“Bilateral political relationship between host and home countries measured through strength		Strezhnev and Voeten (2013)	

Bilateral Political relations	of -1 (weakest) to +1 (strongest), between the home and host country” United Nation voting records and measured through voting distance. If both nations voted zero means, there is no distance. Range from -1 (all votes are different) and +1 (all votes are same)	The SWFs invest in private equity as compared to public where the bilateral political relationship is weak.	Gartzke (1998)	Knill et al. (2012a)
Political stability and the absence of violence	This is perception that government will be destabilized by unconstitutional or violent means.	Measured as part of national governance mechanism, and results shows that countries which are good in national governance have good governance mechanism.	World Governance Indicators	Aizenman and Glick (2009)
SWFs Political Dumay	Based on Truman (2008) scorecard that, if investment decision made by manager, equals 1	The political influence of the SWFs is negatively affect the firm value.	Truman (2008)	Bortolotti et al.(2015)
SWFs Political Index	The political interference degree, based on the Truman (2008) questions, 9, 10 and 11.			

Note: The table presents all political variables used by several authors in SWFs literature to review and examine the relationship between the political concerns and SWFs governance & investment strategies.

Table 8
Future research questions

Research Streams	Future Research Questions
SWFs overview and growth	1 What are the key activities, and characteristics of new type of Sovereign Patent Funds (SPFs) in comparison to conventional SWFs?
	2 Which is a better approach, state capitalism (SC) or varieties of capitalism (VOC) for food security governance under state capitalism evaluation?
	3 What role SWFs could play for food security governance in developing countries facing food scarcity issues?
	4 What characteristics of country (such as high foreign reserve, commodity based, and aging people) lead towards the establishment of the SWFs by that nation?
SWFs governance and political concerns	5 What should be the standard mechanism to establish tradeoff level between political and economic objectives of SWFs?
	6 Are state-owned SWFs management practices being well enough to achieve their goals, and will be helpful to improve their governance?
	7 What should be standard of fair rules & regulations regarding the involvement in decision making process and access to secret information of target companies to foreign investors like SWFs and who will monitor these rules & regulations? in case the companies belong to sensitive and important industries, such as European energy market and nuclear energy.
	8 What should be appropriate optional and mandatory level of disclosure for the SWFs, like other private mutual funds or hedge funds?
	9 What is agent-principle relationship in term of governance mechanism between the managers (the people of country managing the funds) and owners (the governments or states) of SWFs?
	10 What is the effect of political risk (variables) on the internal governance system of SWFs?
SWFs investment strategies	11 What is effect of SWFs investments on target firm’s financial performance, and credit risk? What is the role of country and firm level factors in this association?
	12 What is effect of SWFs investments on target firm’s stock price in short and long run?
	13 What is magnitude of effect of SWFs investments in comparison to other diverse investors such as private and public institutional investors on target firm’s performance and credit risk?
	14 What is role of SWFs in economic stability and growth of home (own SWFs) and host (receive SWFs investment) countries, and overall in global financial system?
	15 Does the nexus exist between SWFs bailout investments and deposit-insurance system schemes, and is there any pressure on governments of SWFs to use them as bailout policy in case of non-availability of deposit insurance schemes, especially during financial crises?

-
- 16 What is the effect of investments strategies on SWFs portfolio performance (risk and return) while considering multiple industries (timberland, farmland, real estate and energy) and geographical regions (Asia, Europe and America)?
- 17 What are the factors that lead to SWFs foreign direct investment and choice of investment vehicle decisions, wheatear, to direct investment by SWFs or through private firms, and what is effect of these two options on their portfolios?
- 18 What type of investment strategy SWFs used, such as active vs passive investor and source of their capital, and what type of SWFs (like commodity or non-commodity) follow which specific policy?
- 19 Does sovereign pension reserve funds (SPRFs) and social security reserve funds (SSRFs) have same investments strategies in comparison to other institutional investors such as public or private pension funds, mutual and hedge funds?
- 20 What is the role/effect of political risk (variables) on SWFs investment strategies, and what is overall effect of political influence; externally or internally (governance) in SWFs asset allocation?
-

Note: Table shows 20 future research directions, identified by the authors through meta-literature review.

Appendix A

Table A1

Abbreviations used for journals

Abbreviations	Name of Journals	Abbreviations	Name of Journals
JFE	Journal of financial economics	CJTL	Columbia journal of transnational law
IF	International affairs	CWE	China & world economy
JFI	Journal of financial intermediation	EN	Energy
SLR	Stanford law review	AEPR	Asian economic policy review
JCF	Journal of corporate finance	ISQ	International studies quarterly
JEP	Journal of economic perspectives	JES	Journal of economic surveys
IF	International finance	ESP	Environmental science & policy
TTIBG	Transactions of the institute of british geographers	WE	World economy
JIBS	Journal of international business studies	GP	Global policy
FA	Foreign affairs	AJM	Australian journal of management
NYULR	New york university law review	EP	Energy policy
EAPA	Environment and planning a	QF	Quantitative finance
UCLR	University of chicago law review	OS	Organization science
JIEL	Journal of international economic law	JFR	Journal of financial regulation
TIBG	Transactions of the institute of british geographers	RFS	Review of financial studies

Note: List of journals with abbreviations and full title.
