Sovereign Development Funds: Designing High-Performance, Strategic Investment Institutions

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Abstract

In a slowing global economy with diminished confidence in the long-term prospects of public financial markets, many institutional investors are looking for innovative, alternative, and often private, investment strategies to meet expected return targets. One source of potential inspiration has, perhaps surprisingly, come from the community of sovereign development funds. SDFs are strategic, government-sponsored investment organizations that have dual objective functions: to deliver high financial performance, while fostering development. Despite expectations that this dual objective function inevitably leads to financial underperformance, SDFs have actually delivered consistently high investment returns, especially in private markets. As such, SDF strategies are increasingly being used as a model for investment strategies among non-developmental investment organizations. In this paper, we explore the rise of SDFs, account for some of their outsized performance and conceptualize models for SDF governance and management. Our intention is to provide a flexible blueprint for governments or agencies seeking to establish these funds; our insights are also intended for institutional investors looking for new ways to generate 'alpha'.

Keywords Active Management, Institutional Investment, Sovereign Development Funds

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Introduction

The global financial crisis and the economic slowdown that followed have undercut investor confidence in traditional financial products and providers (Awrey 2011). Such concerns have led long-term investors[1] ('LTIs'), such as sovereign funds, pension funds and endowments, to reflect on and reconsider their investment strategies, including the ways in which they organize themselves (Clark, Dixon and Monk 2013). Specifically, these investors have refocused their efforts, and re-oriented their organizations, towards private, and at times nascent, markets either via funds (external asset managers) or private placements (direct investment). It is hope of that these strategies will provide sufficient market outperformance to help them achieve their expected return targets. In short, the "hunt for alpha" is leading traditional investors toward more innovative strategies and operating models. And, significantly, one potential source of inspiration for LTIs has come from an unconventional place: the community of sovereign development funds ('SDFs'), which we define as publicly-sponsored commercial investment funds that combine financial performance objectives with development objectives.

Growing in number and significance, SDFs are a relatively new and noteworthy type of LTI. Governments typically create SDFs when domestic financial markets are underdeveloped or capital starved. For example, local financial markets may be 'incomplete' in that they do not have the range of financial products or intermediaries necessary to sustain economic development or the density of financial intermediaries to ensure effective competition between financial providers (see Staum 2008). The academic literature on the relationship between financial market infrastructure and economic development is unequivocal as to the important role that finance plays in economic development (see King and Levine 1993, 1995; Mayer and Vines 1993). SDFs are fundamentally aligned with and linked to their government sponsors, but they exist at arm's length given the distinctive capabilities and resources needed to be an effective LTI. In this respect, SDFs are different from, and have different responsibilities to, central banks or other, more traditional government-linked institutional investors.

The comparative advantage SDFs over traditional financial institutions is their ability to realize investment returns from proprietary knowledge of local opportunities, privileged access to those opportunities, and trusted relationships with other investors, public or private. As such, despite the dual objectives of these funds, many SDFs have been remarkably successful at generating financial returns. Examples of top performing SDFs include Singapore's Temasek[2], which has generated a 40-year total shareholder return (TSR) of 18%; Malaysia's Khazanah Nasional Berhad ('Khazanah'), which has a 10-year internal rate of return (IRR) of 13%; South Africa's Public Investment Corporation (PIC) has a 10-year IRR of 16%; and Palestine's Investment Fund (PIF) has had a 10-year IRR of 10.3%.[3] Looking to the future, we believe that traditional LTIs may want to organize and operate in ways exemplified by successful SDFs (i.e. those achieving both above market financial returns and significant social and/or environmental gains), recognizing of course that not all SDFs are created equal.

In studying SDFs, we hope to provide useful, generalizable insights to governments contemplating the establishment of SDFs as well as all LTIs interested in private, nascent markets. Clearly, the best SDFs have had to establish organizational capabilities, resources, and know-how to help them reap consistently high returns in opaque and complicated markets over the long term. But how, specifically, can we account for the success of certain SDFs, especially given they are public

[1] We define a long-term investor ('LTI') as an investment institution with a – or a set of – multigenerational investment horizon(s), investing in ways to achieve returns consistent with their long-term liabilities, shareholders' needs, or stakeholder interests.
[2] While the authors appreciate that, in same cases, some funds prefer to be regarded differently – for instance, as holding companies, as is the case for Temasek among others – we nonetheless group these institutions under the umbrella of SDFs on the basis of having multigenerational investment horizons, extra-financial return requirements, and the degree to which such institutions participate in significant investment in local and regional markets.
[3] All rates of return are either taken from the official websites or annual reports of each fund.

institutions with dual objective functions? How can we account for the differences in performance between institutional investors generally and SDFs specifically? What added advantages, if any, do SDFs enjoy? Can mainstream investors replicate SDFs' strategies? This paper answers these key questions about SDFs, while providing best-in-class models of SDF governance and management.

Through this paper we seek to provide readers with analytical frameworks that can assist in the establishment of SDFs. Since not one SDF or investment institution is the same, certain principles, policies and rules for SDF governance and management will be more applicable to certain LTIs than for others. While not prescriptive, the authors do hope that the organizational and operational blueprints herein will provide sound ground for the development or re-development of SDFs, and lay the foundations for future academic and industry research around the management of institutions with direct investment capabilities and complex investment mandates (see Clark and Monk 2012).

The findings in this paper are based upon primary and secondary sources. Our research includes interviews with leading SDFs and their stakeholders, as well as a series of in-depth case studies that draw upon publicly available data as well as non-public sources of information. Synoptic versions of 12 case studies are provided in the Appendix to this paper. The detailed versions must remain private due to confidentiality requirements provided in order to gain access to sensitive material. The purpose of these cases is to identify the key strategic and structural elements of each fund, thereby providing insight as to how the premier SDFs are governed and managed.

In the next section of this paper, we situate the growth and development of SDFs in the context of the rise of sovereign wealth funds (SWFs). Thereafter we explore the increasing significance of SDFs, emphasizing the factors driving the most recent wave of SDF establishment. The fourth section synthesizes our research on the governance and management of SDFs, which is then followed by a section devoted to the investment management of these funds. The penultimate section of the paper brings together insights on SDF best practice, while the last section summarizes and identifies a series of challenges that all SDFs face. The paper concludes by stressing the importance of certain baseline principles and policies of organizational design and investment management. We highlight the finding that any investment institution mandated to achieve objectives above and beyond market returns also requires innovative organizational strategies and management solutions that are tailored to sponsoring countries' idiosyncrasies.

The Emergence of Sovereign (Development) Funds

Most practitioners in the investment management world, and those academics studying the investment industry, are familiar with sovereign wealth funds (see Monk, 2011). Weighing-in at approximately $6 trillion of the $100 trillion global institutional investor community (Prequin 2015), SWFs are special-purpose investment funds or arrangements that are owned by the general government. Created by national or sub-national governments for macroeconomic purposes, SWFs hold, manage or administer assets to achieve financial objectives. SWFs generally source their capital from balance-of-payments surpluses, official foreign currency operations, the proceeds of privatizations, fiscal surpluses, and/or the receipts resulting from commodity exports. In the same way that SWFs derive their capital from a variety of sources, they also adopt different investment approaches—often related to their intended purpose.

Broadly speaking, some SWFs are risk-averse and short-term oriented (e.g., stabilization funds), whereas others will consider investing in inter-generational and long-term assets (e.g., permanent or saving funds). The International Monetary Fund categorized SWFs into five broad types according to their purpose (2008). These include: 1) Stabilization

Funds, which insulate governments' budgets against commodity price fluctuations (volatility); 2) Savings Funds, which seek to convert nonrenewable assets (such as hydrocarbons, minerals or metals) into a diversified portfolio of assets that can be held offshore to mitigate the effects of Dutch Disease (see Corden and Neary 1986); 3) Reserve Investment Corporations, which invest excess foreign exchange reserves in riskier assets to bolster the return on reserves; 4) Pension Reserve Funds, which seek to manage contingent pension liabilities on a government's balance sheet via the investment of budget surpluses in global markets; and 5) Development Funds, which finance socio-economic projects and promote industrial policies. Sorting these funds by their intended policy-related purpose is useful, as it underlines the diversity of objectives and hints at the idiosyncratic features of each sub-class of SWF. So, while most SWFs are, in effect, neo-mercantilist in operation (Clark et al. 2013), they reflect in their objectives different operating models. In this regard, SDFs are fundamentally different to the other four types of funds.

Although a version of SDFs existed in the late 20th century, namely the national development vehicles of communist governments in the 1970s, it was only in the 21st century that SDFs were recognized as modern development investment vehicles (Dixon and Monk, 2014). In addition to pre-existing funds, which were restructured at the turn of the century—such as Singapore's Temasek or Malaysia's Khazanah — SDF creation has significantly increased since the global financial crisis. How can we account for the recent emergence of SDFs, and why should one pay attention to their investment activity? Clearly one could point to resource over-dependency and industrial under-development, either in combination or isolation, as key drivers for countries to establish SDFs. Another explanation, however, is that Western banks and related financial institutions reined-in their global presence after the financial crisis, leading national governments to turn to SDFs as a way to fill financing gaps.

Unlike Western economies, which view themselves as 'developed', countries with existing SDFs, or those intending to establish SDFs, do so within the context of broader economic development policies (see case studies in the appendix). While Western governments continue to implement short-term austerity measures consistent with liberal economic concepts and measures, whereby the role of the government is limited and fiscally constrained, they also present themselves as unwilling to invest in their domestic economies for the long term. Against this, countries that believe in a higher level of state control and intervention, such as China, Singapore, and Malaysia, have long-term economic development agendas. These agendas are geared to realize long-term economic growth (e.g. greater employment, income, and innovation), and are set forth by pro-active policies which encourage perpetual investment in their economies. Created by way of government legislation, SDFs are evidently economic development policy tools and part and parcel of long-term economic initiatives.

A SDF that exemplifies this commitment to economic development is Malaysia's Khazanah Nasional Berhad ('Khazanah' or the 'Fund'). Established originally in 1993 to hold state-owned and structurally significant Malaysian companies, the Fund was transformed into an active development investment vehicle in 2004. Its objective was to assist in Malaysia's plan to become a developed, self-sufficient, and globally competitive country by 2020 (Khazanah website). As a strategic and tactical investor, Khazanah's goal was and is to help graduate state-owned companies into globally competitive private companies moving towards partial or full public offerings. To do this, Khazanah provides its holdings with governance and management assistance, as well as access to resources and capabilities at the Fund's disposal. In this way, Khazanah—now a $42 billion fund—is a catalytic policy tool, assisting the Malaysian economy transition from an emerging capitalist nation to a developed, globally competitive capitalist society, while also participating in the financial upside of economic development.[4]

[4] Today, the fund finances its investment activities by issuing Islamic debt instruments thereby contributing to the regional development of the "*sukuk*" finance industry, to which Malaysia contributes and through proceeds derived from the partial or full privatization of its holdings.

SDFs - Governance and Management

In this section, we consider the governance and management of some of our SDF case studies, highlighting similarities and differences on issues such as legal status, board structure, oversight, objectives, and investment management. Understanding what is distinctive about each fund, and what is shared among funds, is an essential step in producing the principles and policies of best practice SDF management as outlined below.

We expect SDFs to be sponsored by their nation-states — an obvious implication to be drawn from the "sovereign" in SDF. In most cases, the nation-state was indeed the sponsor, but there were exceptions (see Table 1 in the appendix). For example, the Russian Direct Investment Fund is wholly owned by Russia's State Development Bank. Singapore's Temasek Holdings is sponsored by the Ministry of Finance, as is South Africa's Public Investment Corporation. This is, perhaps, a subtle distinction more about form than function (Dixon and Monk 2012). However, if the Ministry of Finance is the sponsor of a fund rather than the government *per se,* it is possible that its development activities are subject to Ministry requirements rather than having a broad range of unrestricted activities.[5] Notice, as well, there are differences between SDFs in relation to their legal status; while most are state-owned companies (e.g. Bahrain, Brazil, and Venezuela), the Malaysian SDF is a public limited company that is entirely self-financing.

Being a public limited company, the Malaysian SDF has an unconventional eleven-member Board of Directors comprised of representatives from public and private sectors, the Minister of Finance, and is chaired by the Prime Minister. However, oversight is subject to company law rather than to a government department or even the assembly. In many cases, the sponsor (government) appoints board members—sometimes directly by the Prime Minister (as in Vietnam)—with a mix of government officials and independent board members. Often, the executive directors of a fund cannot claim a place on the board. Boards routinely have nine members, mimicking best practice in the private sector around the world (see Clark and Urwin 2008 for more details). But there are exceptions outside of Khazanah, too. For example, the Palestine Investment Fund ('PIF'), which is sponsored by the Ministry of Finance and has a board with 11 members appointed by the President, reports to the General Assembly. Here, it is reasonable to suppose that the governance structure of the PIF is tilted towards representation as opposed to expertise (Clark 2008). In some cases, the board is accountable to a government audit office (as in Bahrain), or is subject to a government agency (as is the case with South Africa's Financial Services Board).

Among SDFs, management of teams tends to follow global best practice (Clark and Urwin 2008), with a few exceptions. In some cases, the Managing Director is the fund official charged with overseeing and directing the activities of other senior fund officials, including investment managers and operations employees. A case in point is Malaysia's Khazanah, where the Managing Director of the fund has a place on the Board and is responsible for 18 executive directors over a wide range of responsibilities. In other cases, the Managing Director reports directly to the Board. It is more common, however, for the Managing Director to chair a small Management Executive Committee, which is responsible for the day-to-day activities of the fund, including the framing and implementation of investment strategy, management of the investment team and its external partners, and sustaining the operational services of the fund consistent with its objectives. Notice, as in other investment institutions, clarity as to the responsibilities of boards in relation to senior managers and the delegated authorities is essential for a well-managed fund.

Another key component of a well-managed investment fund is clarity about objectives and performance targets (Clark and Urwin 2008). For SDFs, however, a simple performance target, such as a rate of return on investment, is perhaps less

[5] This said, note that the Minister of Finance in Singapore is also the prime minister and, in Malaysia, the prime minister is Chairman of Khazanah as well as a significant force in the Ministry of Finance. Consequently, it is clear that mere independence from formal government does not necessarily mean absolute independence.

important than a set of coherent development objectives that can be translated into clear investment policies and strategies. With respect to our case studies, it was found that SDFs tend to have three types of objectives: those that can be best understood as representing the "mandate" of the fund; those that have a sectorial or regional focus, and; those that emphasize certain functional objectives in realizing the fund's mandate.

For instance, the mandate of a fund can be conceived as its overarching charter (top tier), the focus of the fund can be conceived of as its domain of operation (middle tier), and its functional performance can be conceived of in terms of how it goes about realizing its charter in accordance with its domain of operation (lowest tier). To provide an example, the Brazilian development fund's mandate is to foster sustainable development (top-tier), in part by stimulating the export of locally produced goods and services (middle-tier), while reducing domestic inequality by generating higher income and employment (lowest-tier). In a similar manner, Bahrain's Mumtalakat has a mandate to sustain economic growth and national wealth, in part by diversifying the economy, and facilitating the socio-economic development of younger generations.

It is arguable that this tiered mode of setting objectives, along with encouraging investments in certain types of activities and/or sectors, adds considerable complexity.[6] One would also naturally expect these tiers to create difficulties in reconciling the types of objectives, even if they were all equally desirable. We return to this issue in the section devoted to best practice SDFs. Note, however, these objectives need not add complexity or confusion if their articulation is deliberately conceived so as to ensure there is a recognized hierarchy or priority attached to each. Moreover, the addition of a secondary or even tertiary mandate affords a well-governed and managed investment organization with room to be innovative and dynamic in pursuit of the additional objectives. Given the importance of innovation in long-term investment outperformance, this seems to be — with the right governance — an important competitive advantage for SDFs.

As an example, Singapore's Temasek Holdings combines commitment to wealth creation over wealth preservation with the explicit goal of deepening Singapore's competitive advantage in the international economy. A by-product of success, in this respect, would be the realization of the government's objectives of sustaining the real income growth of the nation-state's population. Perhaps the strongest fund mandate is to be found in the Russian Direct Investment Fund, which emphasizes maximizing the rate of return while modernizing Russia's economy. There are few SDFs that have objectives as clear and simple as pension funds or endowments, but, again, we see this flexibility as a potential source of strength. Less narrowly defined objectives actually serve to empower SDFs to take a path less travelled in the pursuit of returns <u>and</u> development. And it is precisely on that path that is less travelled that innovative and profitable strategies are developed and implemented.

SDFs - Investment Strategy and Management

In the previous section, we provided a comparative assessment of the governance and management of certain SDFs, emphasizing both the formal arrangements of these financial institutions and the ways in which responsibilities are distributed within these organizations. There are roughly three groups of SDFs; those that were established in the 1970s and earlier, those that were brought into being through the 1980s and 1990s, and those that were established more

[6] Here we must make a distinction between Bahrain's SDF, and the principles of best practice. These principles rely upon a hierarchy as opposed to a jumble of apparently equal objectives, some consistent with one another whereas other sampling adding to confusion and complexity. This issue – multiple objectives and the resulting complexity resulting – is widely discussed in the economics and management literature on the theory of the firm. For instance, see Michael Jensen's (2000) A Theory of the Firm and Daniel Spulber's (2009) The Theory of the Firm.

recently. We should also acknowledge that SDFs come from countries that vary by their level of development, their reliance on resource wealth, and their objectives for growth. In these ways, SDFs inevitably reflect the development trajectories of their host countries and government sponsors. In this section, we look more closely at SDFs' investment strategies and management, emphasizing commonalities and differences.

To summarize the findings from our case studies, Table 2 provides an overview of SDFs' investment strategies and management (see appendix). Where possible, we have provided a summary of the strategy, the intended development effect, the reliance on public and/or private markets, and the nature and scope of the underlying (for instance, infrastructure or venture capital). We have also sought data on investment performance and rate of return targets. In some cases, the former is provided albeit in limited detail. The latter is more difficult to determine, in part because a summary rate of return target could be quite misleading in terms of the various goals and objectives of an SDF as well as the short-run volatility of long-term returns. As we indicated above, some SDFs have a set of goals and objectives not easily reducible to a single number or, indeed, a specific time horizon. This is one way of distinguishing a traditional institutional investor from an SDF.

For example, the South African PIC operates in a relatively sophisticated financial environment, combining portfolio investment with direct placements, and a mix of internal and external management of the investment process. Here, though, the PIC has an explicit development mandate with investments in the energy, transportation, and logistics sectors; all investments are aimed at enriching the infrastructure of the South African economy. Furthermore, with a mandate to sustain black economic empowerment, direct placements and infrastructure investments are evaluated at two levels: for their financial returns and for their social returns (particularly job creation).

At the other end of the spectrum, both Bahrain's Mumtalakat and Abu Dhabi's Mubadala have the structural transformation of their host economies as a key objective. Being resource rich, resource dependent, and vulnerable to resource depletion over the long term, it is not surprising that the sponsors of SDFs, in these circumstances, often frame their investment strategies in terms of industrial diversification. Having the advantage of significant capital inflows in exchange for resource exports, which is unusual by contrast to developing countries, these financial institutions are charged with translating export earnings into sustainable development. This may include catalyzing new industries (for instance, from oil and gas to tourism and intellectual capital) and investment in key assets, whether infrastructure, transport, or related facilities. In doing so, these types of institutions tend to take large stakes in such ventures (public, private or something in-between). For example, Mumtalakat has a significant stake in Gulf Air and in the transport network that links Bahrain with Europe.

It seems clear based on our research that SDFs are much more likely to think about sustainability and indeed the connection of their fund to the underlying economy it reaps returns from and catalyzes returns within. Most institutional investors fail to link their wellbeing to that of their ecosystem; SDFs, for most part, have this as a core objective. To be sure, sustainability can be conceived in a variety of ways. For illustration, it could refer to economic development that provides a steady flow of jobs for younger citizens. Alternatively, it could also refer to the type of development that bridges resource dependency with the industrial exploitation of resource endowments. Moreover, it could also refer to economic development that sustains the local environment and the lives of indigenous people (e.g. the Brazilian Development Bank). For the Gulf States, sustainable economic development often implies long-term investment in alternative sources of energy. In the Russian case, RDIF's investment strategy is framed in terms of facilitating foreign direct investment in Russian resources via co-investment deals with large global investors. Here, of course, the Russian state is very close to any significant deal with a foreign investor. Not surprisingly, the governance

and management of the RDIF is intimately related to its investment strategy and the management of investment projects with foreign partners.

In between, there are SDFs like the Malaysian and Singaporean funds, which are the investment and development agencies of government, largely focused on portfolios of investments where they are able to give effect to long-term strategic goals. Indeed, in the Malaysian case, Khazanah is deeply embedded in the national economy with significant stakes in key sectors, including media and communications, energy, financial services and health services. This fund has a broad range of activities, such as underwriting the competitiveness of Malaysian companies, investing in crucial infrastructure (including public education and transportation), and facilitating the development of the local venture capital industry along with positioning Malaysia as a globally significant Islamic finance hub. In a similar manner, Temasek Holdings has sought to underwrite the economic development of Singapore by seeding enterprise, seeding new industries and sectors, investing in infrastructure, and providing platforms for new ventures. That said, Temasek is also an international investor, with a broad portfolio of holdings by sectors and countries designed to enhance returns, encourage the regional or global extension of their holdings, or a combination of both.

Models for SDF Operation and Investment

The difference between SWFs and SDFs mirrors the distinction between adopting a portfolio or 'wealth appreciation' investment strategy as opposed to a 'wealth creation' strategy. A wealth appreciation investment strategy is where an investor holds many small stakes in a diversified portfolio of public and private assets characterized by varying degrees of risk and return expectations. This type of strategy is predicated on the belief that holding fairly liquid assets, with a high level of portfolio diversification, will generate financial performance in line with long-term expectations (Litterman et al. 2004). Whether these strategies generate returns above market benchmarks over the long run remains doubtful, as most liquid assets tend to be situated in public markets and are easily accessible to a wide range of investors. Nonetheless, stabilization and savings funds, reserve investment corporations, and most pension reserve funds tend to invest in this way, with modest allocations to private equity and private infrastructure placements.

By contrast, the best performing and well-managed SDFs behave more like wealth creators than wealth appreciators. A wealth creation strategy is exemplified by private agents helping to catalyze new enterprises or projects, such as is the case for private equity, infrastructure and real estate developers or high-risk, high-reward venture capital. These investors tend to take relatively large, direct, strategic stakes in projects. By using their internal capabilities and resources in conjunction with selected partners, these types of investors seek higher returns on their holdings. Wealth creators also "manage" returns by involving themselves in the operations of their investments, taking, for example, significant board-level positions so as to provide governance and management oversight. In comparison to a traditional portfolio approach, a 'wealth creating' strategy necessitates large stakes in a concentrated set of investments for which the investor can pro-actively add value over the long run and, as such, engender more sustainable and, indeed, superior-market returns.

Most successful SDFs function in a way similar to private market funds and partnerships. However, SDFs differ from their private market cousins and traditional LTIs on a fundamental level: the former are driven by the mandate to generate financial returns from their investments <u>and</u> contribute to a country's or region's economic development. In this manner, SDFs are required to deliver on two — or "double" — bottom lines: the first bottom line is to generate financial returns consistent with risk-based expectations, and the second bottom line is to drive national economic development

policy through these same investments. As noted above, these imperatives are normally expressed in legal, governance, and management frameworks. Where SDFs operate as wealth creators, actively participating in the economic development of their countries through the direct investment in and growth of national assets, their operations are designed to match their ambitions.

As such, SDFs differ significantly in their investment operations when compared to conventional SWFs and institutional investors more generally. It appears the best SDFs essentially seek to harness economic forces to maximize certain impacts beyond financial markets (in this case, development objectives). In this regard, high returns on investment are actually a key input in driving successful developmental outcomes. However, since development objectives change as the economies in which SDFs are situated grow and mature, the role of SDFs may also change over time. The implication of dynamically changing developmental landscapes and objectives means that SDFs must be necessarily built for innovation and evolution. In other words, the way an SDF operates - organizationally in and through the investment process - should be dependent on the state of the economy and industrial base within which it participates.

Given that SDFs are often strategic and tactical investors driven by the imperative to create wealth, it is clear that to do so relies on more than conventional portfolio management tools. Indeed, it appears that best-in-class SDFs leverage is what Monk (2014) described as "structural alpha" in his discussion of the venture capital industry. In his commentary, Monk argues that, while conventional wisdom holds that top-performing venture capital (VC) firms benefit from exceptional talent and cutting-edge knowledge, this alone does not wholly account for their long-term success. Rather, Monk suggests that the best VCs benefit from structural advantages that are developed over time: small differences in investment capabilities and resources produce cumulative advantages that are particularly meaningful over time. These advantages come from the identification of, and capitalization on, "positive feedback control loops" that reinforce their advantages in relation to other firms. In other words, private investors cultivate sources of private information that they alone are able to exploit over the longer-term.[7]

In the same way that the most successful VCs or PEs are adept at capturing structural alpha, so too are the best SDFs. For instance, top performing SDFs identify, capitalize upon, and lock-in local knowledge of their markets, domestic industries, and macro-economic trajectories so as to realize more sophisticated and precise estimations of long-term returns. This is especially important when a sovereign fund operates as a wealth creator rather than a wealth appreciator. Similarly, internal control of the investment process — typical of the best SDFs given the markets they tend to operate in are nascent and capital starved — allows for a reordering of relationships between sovereigns and their service providers and co-investors. With the power to effectively set the terms for the flow of commitments and flow of returns over different durations, SDFs are better able to manage the relationships and alignment between global investment institutions. In turn, this generates stronger relationships and greater opportunities to make new deals with aligned parties. Moreover, local investing, patient investing, and control over the investment process can enable collateral or 'synergetic' returns, such as property development projects around existing key infrastructure investments.[8] This is especially important in circumstances where development is clustered in nodes of innovation and human capital, wherein an investor can sustain superior investment rates of return through the positive externalities of development.

[7] For more information on the venture capital industry, structural alpha, and the advantages of firms that take advantage of their capabilities and resources, please see *Mortal Inspiration from the Gods of Venture Capital* (2014) published in Institutional Investor.
[8] A single investment in a single asset may not pencil-in terms of IRR, but if that investment also serves as a catalyst for a new ecosystem from which many opportunities arise, the SDF can be well positioned for outperformance.

Given our research, and in light of these examples of the kinds of structural alpha that successful SDFs can leverage, we have devised a matrix for categorizing these funds by objectives and links to national endowments and advantages. Figure 3 provides a way to better understand the ways in which SDFs can operate.

Figure 3: SDF Categories – Clark and Monk 2015

In the above matrix, which is loosely based on Chesbrough's (2002) analysis of corporate venture capital, we have placed SDFs on two axes. The first axis ranges from "strategic" to "commercial", in terms of investment objectives. Note that commercial entities need not outperform strategic entities; rather it's simply a function of whether the market is setting the agenda or the government. Since SDFs are strategic and/or tactical investors, funds harness their existing portfolio or acquire structurally significant assets so as to improve their performance and benefit from the financial upside of industrial development. Alternatively, SDFs may identify and capitalize on emerging opportunities in promising industries, thereby crowding-in private and public capital to accelerate development. In turn, we juxtapose the investment objectives axis against SDFs' links to national endowments and advantages, in terms of how loosely or how tightly coupled the SDF is to the national assets. For instance, this reflects the evolution of Malaysia's Khazanah

where the fund shifted from holding a large portion of structurally significant national assets, to developing and growing emerging Malaysian enterprises. In effect, the fund has partially privatized its holdings.

Within these two axes, we then situate the different ways in which SDFs operate so as to optimize for performance. While we have arranged these investment operations into distinct components, this does not mean to say a successful SDF need adopt just one strategy. Indeed, top-performing SDFs can and do adopt a variety of these strategies to maximize for development and financial returns. These four operational strategies are described below:

1. *Reinforcing:* For SDFs in possession of existing yet underperforming national assets, be it companies, infrastructure, or other real assets, these SDFs are tasked with the responsibility to reorganize, professionalize and innovate state holdings so as to drive commercialization and higher returns.
2. *Crowding-In:* SDFs participating in emerging domestic industries reap greater financial and developmental returns when private and public investors (of other nations) also commit capital to those industries. For example, if an SDF can credibly display commercial acumen, it can syndicate local deals with investors who might have sought opportunities elsewhere.
3. *Catalytic:* For SDFs less tied to particular industries or the endowed national assets, SDFs can catalyze new industries, thereby diversifying the economy away from those industries that are either no longer profitable or sustainable over the long-term. These SDFs can also help fill 'white space' in an economy by providing answers to (and investments around) the question, "what's missing from this ecosystem that will undoubtedly be here in 10 years?"
4. *Financialization:* By virtue of their capabilities and resources, SDFs can deepen the financial infrastructure of the local economy, thereby underwriting the development process simply through the growth of the capital market and the emergence of new financial intermediaries and investors focused on opportunities in the region.

Since countries considering SDFs do so for varying economic and developmental objectives, the operations will vary one from the other. Beyond the taxonomy presented above, the performance of SDFs is dependent on how effective they are in executing their operations. In the following section, we look more closely at the operational performance of these institutions.

Principles, Policies and Pitfalls for Success

Elsewhere, we have provided the principles and policies for the governance and management of pension reserve funds (Clark and Monk 2011) and, more recently, the organizational design of institutional investors insourcing the production of investment returns (Clark and Monk 2012). In working through these issues, we have observed that there are two overarching issues that go to the constitution of any large, beneficial, sponsored (e.g., governmental, charitable, or corporate) investment organization. First, any set of principles and policies must be adaptive as financial markets never stand still all markets (public or private, developed or underdeveloped) evolve such that institutions can become prisoners of the past (Lo 2012). Second, financial crises come and go, some regional and some global in nature. In extreme circumstances, SDFs may be called upon to bail out their sponsors. How and why this might take place should be subject to discussion when the institution is established.

Building on these and other lessons from our prior attempts to offer blueprints to institutional investors, this section provides a set of principles and policies to guide the establishment and management of high-performance, strategic

investment organizations. In doing so, we are mindful that these funds inevitably reflect their countries of origin, their intended purposes, and the distinctive attributes of countries and regions in the modern economy (Gertler and Rutherford 2002). Inevitably, our principles and policies are synoptic rather than specific. That being said, they provide a blueprint of the key issues that governments must address in the establishment, governance and management of a SDF. The following 6 principles and 6 policies summarize the key issues to be considered in establishing an SDF.

A) Principles of Governance: In order to prosper in global markets, SDFs must have a robust governance framework that can meet the expectations of foreign due diligence. Indeed, if a fund is to originate deals locally and bring in co-investors (via. syndication), it has to be able to prove it is accountable and reliable. To develop the trust of others, SDFs need to adopt universally accepted procedures, such as reporting and accounting, and provide this information to an independent Board and the co-investment community. As such, the sponsor should consider the following key governance principles, which offer a mechanism to effectively characterize the rationale and stated purpose of the institution:

1. *Measurement*: SDFs should have a summary, or headline, rate of return target. This will impart a risk tolerance to the management team as well as provide stakeholders an expected long-term performance benchmark for which to hold management accountable. While the time horizon for this target may be long term, it should ensure discipline in the short and medium term by promising future measurement of stated commitments against results.
2. *Coherence*: Recognizing that the rate of return target typically stands for a set of development objectives, these objectives should cohere with one another such that there is no conflict between objectives and, where possible, these objectives align and are ordered in terms of their priority.
3. *Oversight*: The sponsor should seek to imbue the SDF with world-class governance. In general, we know that effective boards of directors are relatively small (7–9 members), and combine representatives from the sponsor and the executive directors of the institution with a group of independent directors whose expertise and relevance is unquestioned.
4. *Delegation:* SDFs operate in complex, local environments that demand independence of operation and investment in the context of a clearly defined set of objectives. As such, there should be a clear separation of powers between the board and management team, which necessarily must come with formally delegated powers to the senior executives for framing and implementation of investment.
5. *Accountability:* Boards should be accountable to their government sponsor in accordance with the SDFs' mandate, just as senior executives should be accountable to their boards of directors. With accountability comes transparency, and with transparency comes legitimacy (Monk 2009).
6. *Commerciality:* The purpose of setting up an investment vehicle outside of traditional government agencies, such as central banks or ministries of finance, is to create a credible third party investor. The idea is to bring market discipline to sectors that may have never had it. The new vehicle should thus have a well-defined, commercial orientation that can guide management and decision-making, as well as help other investors understand and appreciate its mission.

B) Policies of Management: Having established the principles or rules governing the organization, and being mindful of the need for flexibility and the possibility of encountering extreme situations, we now turn to the policies of SDF management. This refers to how an SDF realizes its goals and objectives in the context of the above principles.

7. *Marketability:* One test of an effective investment strategy is whether other market participants might view it as attractive enough to join an SDF in specific projects and/or certain investment opportunities. SDFs should thus position themselves as partners for and with other investors, even using the decisions of private investors (most

likely foreign) as a catalyst to unlock the SDF's capital as projects evolve. SDFs are best when their interventions attempt to accelerate the activity of private agents in incomplete or undeveloped parts of a market or, additionally, catalyze completely new private agent activity through partnerships that are aligned with their goals and objectives.

8. *Positioning:* SDFs will inevitably be asked to incubate new opportunities that sometimes have hard-to-define outputs. As such, the test of an effective SDF is whether it can retain some control over the opportunity it was responsible for catalyzing. Most importantly, is the SDF able to participate in the value that it created?
9. *Capabilities:* An SDF must match its capabilities and resources (and those of its partners) to the nature and scope of its investment strategy. Overreach introduces risks that are neither easily identified nor controlled. SDF performance is predicated on unrivaled expertise and knowledge of domestic and regional markets. SDFs must be able to source, assess, structure, and de-risk (as appropriate) investment opportunities in a credible way that provides confidence to service providers or co-investment partners, such that the likelihood of a return objective will be met or exceeded. Best-in-class SDFs thus need investment teams of the highest possible quality with unambiguous track records of excellence.
10. *Phasing:* SDFs operate (almost by definition) in immature and private markets. As such, they inevitably incur far greater illiquidity than other beneficial investment organizations. The lack of liquidity demands a rigorous process for monitoring and assessing performance at each phase of investment, as interim checkpoints are crucial for unlocking follow on investment. Deliberately managing the investment process over phases also provides opportunities for parceling and distributing risk to third parties.
11. *Risk:* SDFs face idiosyncratic, project-specific risks rather than market risks. Recognizing the nature and scope of risks in any SDF investment process will inevitably need to go far beyond traditional risk models, including scenario planning, agent-based models and other qualitative methods.
12. *Translation:* In instances where foreign investors and local government priorities conflict, SDFs can serve as points of contact between international investors and local policy-makers so as to lock-in deals or better navigate trickier transactions. SDFs, unlike foreign investors, are in a better position to lobby local governments on behalf of international communities due to their links with their sponsors (in other words, their national government).

In sum, whereas SWFs rely upon public and private markets for the deployment of their assets, SDFs rely upon the integrity of their management systems to realize long-term goals. Building this integrity and ensuring legitimacy can be difficult and expensive. But so too are white elephants, castles in the sky, and other kinds of show-pieces that reflect more upon the failure to establish binding principles and policies than the shortcomings in SDFs as a new organizational form. At the same time, perfection comes at a price. This may be reflected in a lack of flexibility, a slavish adherence to past practices, and a degree of accountability that paralyzes innovation as opposed to rewarding innovation.

C) Pitfalls to Avoid: Although we lack comprehensive data and information regarding the poor performance of certain SDFs, and cannot account for all failures, we have identified three issues that SDFs and their sponsors should consider so as to avoid operational failure:

1. *Deadweight Loss:* SDFs should avoid investing in assets or conducting transactions that either the government or the free market could and may do rapidly and effectively on their own. If SDFs are intended to be catalytic in and through their operations, there is no developmental value — social or otherwise — in catalyzing investments that would have happened efficiently regardless of SDF intervention.

2. *Unintended Consequences:* SDFs should learn from government and market failures so as to avoid making short-term decisions that lead to long-term problems at the domestic level. Consequently, funds should invest in their internal capabilities and resources in ways that create well-equipped research teams.
3. *"Bridges to Nowhere":* Development-oriented investment strategies require more (not less) rigor in identifying risks and undertaking investments than traditional strategies. At the very least, SDFs should be mindful of their organizational strengths and weaknesses so as to limit their operational scope and concentrate on their advantages.

Our hope is that these principles, policies and pitfalls provide would-be SDF sponsors a framework for their governance and management. Readers should note that these are points of reference, rather than recipes or fail-safe mechanisms for institutional performance.

Conclusions

Through this paper we have sought to provide readers with analytical frameworks that can assist in the establishment of SDFs, which we define as publicly sponsored commercial investment funds that combine development and financial performance objectives. Since not one SDF or investment institution is the same, our frameworks will be more or less applicable to any given SDF. While not prescriptive, we hope these blueprints provide grounding for the development or re-development of SDFs, and lay the foundations for future academic and industry research around the management of institutions with direct investment capabilities and complex investment mandates. We believe this research is particularly important in the context of SDFs, as governments appear intent on creating more of these kinds of special purpose investment vehicles to drive domestic policy agendas.

Growing in number and significance, SDFs have the opportunity to become financially lucrative organizations that also enhance the long-term well being of their respective countries. Some SDFs will succeed in executing their investment mandates and delivering on their developmental objectives, reinforcing the strength and coherence of civil society. Others, however, will fail because of mismatches between the interests of political elites and the expertise of sovereign financial institutions. The most adept SDFs will sustain their integrity by adopting a public role in their societies, and by aligning themselves with the 'national interest', thereby insulating themselves from the short-termism apparent in partisan politics. The best SDFs will drive positive development outcomes by leveraging the capitalist system through the growth of socially valuable industries.

While SDFs may be a new form of institutional investment management – a way of investing that seeks to align long-term investment objectives with stakeholder interests – we must emphasize that most of the institutional investor community lags significantly behind SDFs in terms of innovation and capabilities. Juxtaposed next to SDF strategies, the incremental allocations by institutional investors to externally managed alternative assets is stark in the difference of approach to cultivating and accessing opportunities. Similarly, there are few SDFs that have objectives as clear and simple as pension funds or endowments. Some might see this as an advantage for the latter funds, however we see SDFs as having an inherent flexibility that might – with the right governance and management – be a potential source of strength. In this light, the less narrowly defined objectives of SDFs may actually serve to empower these institutions to take an alternative route to the pathway that offers access to assets with attractive risk and return characteristics.

Table 1: Governance and Management

	Sponsor	Legal Status		Oversight	Board Structure	Status of Managers	Objectives	Source of Assets **[*>15%; **>25% of investments]**
Bahrain ***Mumtalakat***	Government of Bahrain	State-owned Independent holding company	2006	*BoD – ultimate decision-making body; *National Audit Office of Bahrain & Tender Board of Bahrain	9 members (key public & private sector figures). Prime minister Chairs the Board	Select nominees for portfolio company directorship; daily activities.	Grow wealth of the country by diversifying the economy, improving CSR and transparency, and promoting young generations and entrepreneurship	Aluminium production, financial services, telecommunications, real estate, tourism, transportation & food production (38 companies)
Brazil ***Brazilian Development Fund***	Government of Brazil; becomes state owned in 1971	Independent state-owned company	1952	* Board – senior governing body; *Under review of Brazil's Central Bank & National Monetary Council	10 board members; all appointed by the President of the Republic.	7 Managing Directors head the operational departments	Foster sustainable development, by stimulating export of local goods and services, while reducing domestic inequality by generating higher income	Infrastructure (incl. energy)**; Industry*; Services*; Telecom; Agriculture & Cattle Raising ; **Ban**: banking, weapons, adult establishments
China ***China-ASEAN Investment Cooperation Fund***	Export and Import Bank; China Investment Corporation; IFC;	Close-end private equity fund	2009	*China State Council; *IFC as General Partner: mitigate risk; influence & review strategy;	No evidence of a Board. Under the direction of the China State Council.	CEO oversees investment + Admin and Finance teams	Support commercially viable projects in ASEAN through social and environmental investments to improve the living standards of Chinese people	Infrastructure; Energy (conventional + renewables); Natural Resources; 9 partnerships across South-East Asia
Malaysia ***Khazanah Nasional***	Government of Malaysia	Public Limited Company	1993	Board of Directors oversees activities and strategy	9 members (public and private sectors). Prime Minister chairs the BoD	Managing Director oversees 14 executive directors	Drive the country's economic development agenda by overseeing key state-owned enterprises and focus on new sectors	Telecommunication**; Financial services*; Infrastructure*; Since 2008: health care; tourism; renewable energy
Palestine ***Palestine Investment Fund***	Palestinian Ministry of Finance	Private Equity and Venture Capital Firm	2003	BoD: oversees strategy *General Assembly : ultimate supervisory & guiding authority	11 members – appointed by the President;	Executive Management oversees daily operations;	Revitalize the economy by fueling job creation to reduce poverty and unemployment while delivering long term returns	Capital Market**; Real Estate*; Large Caps*; Infrastructure; Treasure; Medium & Small Enterprise. 84% in Palestine region
UAE ***Mubadala***	Government of Abu Dhabi	Public Joint Stock Company	2002	BoD: direction and strategy; oversees the management team.	7 members; Crown Prince of Abu Dhabi chairs BoD	Oversees operational & business development	Strengthen AD growth potential by diversifying the economy (away from O&G), fostering social development and achieving strong returns	Semiconductors**, Infrastructure & Real Estate, Financial Services, Aerospace, TCT, Oil & gas, Renewables.
Russia ***Russian Direct Investment Fund***	Government of Russia (owned by R. State Bank)	Government Investment Fund	2011	Supervisory Board (SB) to oversee strategic governance	SB 10 members inc. Chairman of VEB, RDFI's sponsor, the CEO of RDIF & others.	CEO, COO, 7 directors & 2 advisors overseeing day to day operations.	To modernize the Russian economy through innovation & investment in primarily domestic private equity. Maximize ROI & boost FDI	Large amount of foreign capital through partnerships (CIC; Mubadala; Japan Bank; Kuwait Investment Authority; State banks)
Singapore ***Temasek Holdings***	Singapore Ministry of Finance- only stakeholder	Commercial Investment Company: independent from 1974.	1974	BoD manages assets & directs management; Audit Committee (reviews reporting, audit & monitoring to ensure legal compliance	13 members, mostly non-executive; Appointed by Ministry of Finance	Drive execution & delivery. Implements strategy & policy direction set by BoD	Underwrite economic development by seeding enterprise. Launch an aggressive international investment policy while improving domestic infrastructure. Grow middle income population.	Sectors: 31% majority Financial Services; Telecoms; Real estate; transport; Energy and industry. 58% to mature economies; 42% growth regions.
South Africa ***Public Investment Corporation***	South African Government (Ministry of Finance main shareholder)	Government owned investment manager. Corporation from 2004	1911	Board manages the fund, directs overall risk policy; Environmental, Social & Governance Working Committee to closely monitors the ESG issues in investment	10 members, including 7 non-executive directors oversee permanent committees. Appointed by Min. of Finance.	75% internal. 25% external: concentrate on active asset management, Investments are approved by Financial Services Board	Asset manager that invests only on behalf of public entities; Maximize returns in line with client mandate, and contribute positively to SA development; Good corporate governance	Focus around: Economic Infrastructure; Clean Energy & Environment; social development (incl. housing, education, and healthcare); Agriculture; Tourism. [Note: Invests 89% to Govt. Employee Pension Fund]
Sweden ***AP6***	Swedish Government	State owned Private equity fund	1996	BoD responsible for the business. There are 4 committees. *Government performs an annual evaluation of operations.	Board (5 directors, a chairman & deputy) + Audit & Remuneration Committees → Managing Director	Managing Director & senior management oversee & monitor operation of core business	Manage risk and invest in Swedish private equity through a focus on mature companies with growth potential in the Nordic region + N. Europe.	Active and passive investment in 40% companies. 28% funds. 32% liquidity.
Venezuela ***FONDEN***	Presidential, national Development Fund	State-owned company	2005	Entire FONDEN structure subordinated to the national executive power (minimal accountability for investment strategy)	BoD: 4 members (Minster of Finance, Minister of Oil and Mines and 2 others- appointed by the President).	Second level, led by Exec. & Secretary + 2 "expert" managers appointed by 4 directors. G.M oversees 6 depts.	*Promote socialism by investing in major infrastructure & social projects; *Finance, social and community projects; *Improve external debt profile by the emission of financial guarantees *create a "multipolar" world	Oil windfall profits & Energy (31%); Transportation & Com (18%); Defense (12%); energy agreements with Cuba (8%); power generation, housing, agriculture, & mining (30%). [Funding from VCB + Venez. National oil company].
Vietnam ***State Capital Investment Corporation***	Government of Vietnam	Largely autonomous with oversight from F.M.	2006	Ministry of Finance & PM appoints General Director	BoD + PM. General Director & Oversees Board of Management.	Board of management oversees 14 management sub-departs.	Improve the operational capacity & competitiveness of state-invested enterprises; generating maximum returns sustainably.	Manufacturing (40%); 407 portfolio companies in IT, healthcare, consumer goods, financial services.

Table 2: Investment Strategy

	Strategy	% In/ Outsource	Public vs. Private Markets	(Intended) Development Affect	Infrastructure	Venture Capital	Rate of Return
Bahrain ***Mumtalakat*** *	Diversification beyond oil and gas, and across sectors. Establishing Bahrain as a hub for financial services. Prefers investing in domestic business opportunities with global strategies.	Direct equity investments: **96.5%;** third party managed funds : **3.5%**	Mumtalakat has historically focused on private equity projects with aims to diversify into stocks and bonds. No evidence of investment in public markets.	Mumtalakat aligned with Bahrain's *Economic Vision for 2013* –focus on sustainability, competitiveness & fairness.	*100% ownership of Gulf Air—connects Bahrain to key European financial centers ***$22B** (2014) infrastructure project to increase airport capacity from 9m to 14m passengers	N/A	**RoR N/A** In 2014 Group revenue rose 11% from 2013
Brazil ***BNDES*** *	Focused around innovation, local and environmental development, by following a regional decentralization strategy.	N/A	About **70%** of total assets in credit; **13%** corporate shares; **11%** bonds (public bonds and debentures); and **6%** other assets	* Historical focus on industry and infrastructure ***R$19.5B** in social development (2013); **R$24.4B** Green Economy [out of R$190B]	**33%** of disbursement ($20BUSD) planned for 2015 to infrastructure. Focus on *Urban Mobility* (metro etc.), *ports* and *railways*.	BNDES largest investor in VC in Brazil (100 SME); yet 65% of funds go to larger companies.	**RoR N/A** 2009-2012: -Net Income CAGR of **6.7%**
China ***CAF***	Enhance connectivity, economic co-operation & catalyze investment into the ASEAN region. *Preference for co-investment through equity DI with a minority stake.	N/A	Private sector has a role to play in filling in gaps in the Government's public education scheme; this will increase the private sector's capacity to recruit a capable workforce.	CAF hopes to raise UD$10 billion to invest in ASEAN countries. *The EXIM Bank will anchor the CAF with a seed investment of $300 mil. *Pledged $480 mil. to help fight poverty in SE Asia.	*Part of Chinese strategy to invest in infrastructure (eg.$40B Silk Road Fund) *China pledged $20B loans to SEA for regional infrastructure development.	*Claims to provide emerging companies with seed capital (but no metrics available)	CAF very opaque on performance metrics.
Malaysia ***KN*** **	Primarily acquires equity stakes in Malaysian companies. KN directly buys large tranches of shares to control the management. A focus on innovation with commitment to CSR	Strong national focus on out-sourcing, but under growing criticism	* Fund buys large strategic equity stakes instead of debt instruments. *Focus on GLCs, rarely on private equities (most holdings are publicly listed)	*KN founded to drive the country's economic development *Public education to maintain private sector ability to recruit a capable workforce *Issued world's first ringgit SRI sukuk	*High on mandate. Infrastructure: **21.6%** *Portfolio companies: PLUS, is the largest highway operator in country + UEM is Malaysia leading infrastructure service group	Compared to other countries in SEA such as Singapore, Malaysia is not a hub for VC in the region	TSR (under GLC program): growing **12.6%** per year
Palestine ***PIF*** **	Focus on micro, small and medium sized enterprises. The firm invests in the public equity & fixed income. It takes both direct majority & minority stakes in its portfolio companies.	Managed directly by PIF, by one of its subsidiary, or by partners or co-investor	Public Equity: **$278M**, about **87.6%** of investment in capital markets. Private Equity: **$281M**; Fixed Income **$90M**; Bonds & Loans: **$26M**; Other: **$91M**	*The largest and most dynamic investor in Palestine *Has created 1.2M working days in the construction sector, and over 10,500 jobs through its Loan Guarantee Facility	Infrastructure Portfolio: **$178.2M** (about 20% of investments) – Increased stake in Gaza Marine field to 17.5%; to 39.6% in the Palestine Power Generation Company	Sharakat Investment Fund managed by PIF to invest in MSMSs. Committed $5.5M in start-up funds.	*10 year return estimated at 10.3% *2014 net income: $36.7M
Russia ***RDIF***	RDIF (value $13bn.) co-invests up to 50% of investment with premier funds that have more than $1bil. of assets under management. *Funnel FDI while employing Russian citizens.	N/A	$10bn private equity fund established by Govt.; RDIF & partners have invested $4bn into leading Russian companies. *RDIF partnered CIC to create the $4bn Russia-China I.F.	Grow middle class to increase economic development. *Substitute imports & radically increase efficiency of Russian producers to develop income per capita. Prioritize infrastructure in preparation for W/C.	***$2B** partnership with Mubadala – set to allocate **$5B** for infrastructure projects *13 infrastructure projects in the next few years. *165/400b(rb) invested in high-tech infrastructure projects	$200m v/c fund with Chinese on Skolkovo foundation: Russia's Silicon valley producing high-tech. robotics.	CEO Dmitriev notes it made a 23% return in Moscow stock exchange
Singapore ***Temasek*** *	Invests primarily in Asia, but an increasing focus on Europe & Americas. Growing interests on mid-sized cities which are expected to deliver 40% of global growth by 2015.	Less than 10% of portfolio invested in 3rd party managed funds	Temasek manages mostly equities investments; about 70% in listed securities, and the rest in private companies. Heavy focus on financial services.	*Strong focus on health and life sciences. $1B investment in Gilead Sciences. The Temasek Emergency Preparedness Fund ($40M) to support communities facing emergencies & trauma	Supports the combination of CitySpring Infrastructure Trust & Keppel Infrastructure Trust to create the largest Singapore infrastructure focused business trust	Invested since 1988 in 350 start-ups, primary fund capital to VC and PE funds in US, Europe, Asia; total: US$1.2B	TSR of 1.5% in 2014; 9% over 10 years; 16% since inception 1974.
South Africa ***PIF*** *	Fixed income investments bond & money markets. *Support black asset managers in Black Econ. Empowerment initiative.	75% equity portfolio is managed in-house. 25% is managed by external asset managers.	**49%** is invested in local equities, **32.4%** in local bonds**, 7%** in cash and money-market instruments, **4.4%** in properties and **5.4%** in off-shore equity & bonds.	2014: Approved **R11.4** bil. worth of unlisted companies creating >7805 jobs & 77k were sustained. *Est. 2 funds & will invest $1 bil. in projects outside of SA incl. $213 mil. in 2015.	$435Mcommitted to economic infrastructure.*Since 1995 R3.8B was invested in transport & logistics, rail, water, ICT/broadband and energy resources. *R2.5B retail dev.	Lending to small & micro businesses via private equity.	Fund's overall return 2014: **14.77%** [AR 2014].
Sweden ***AP6*** **	Specializes in unlisted companies; directly through private placements or indirectly through GP-LP fund structure. Clear focus in the *Nordic Region in a shift away from V/C to mature companies.	46% of SEK managed internally; 27% outsourced	Company investments (46%); Funds (27%); Liquidity (27%) *No investment into public markets.	Gradual recovery since the Global Recession. *Development of the private equity sector.	In 2014: infrastructure SEK 196M; 16% of fund investment. *Limited commitment as AP6 is one of many govt. pension funds which specialize in infrastructure.	Total venture capital (8.2%) funds. 10%. indirect. 2014: 6% direct companies DI in VC disappeared from Fund strategy ~2011	6.5% (2014); Average return during past 10 years: 5.4% (AR 2014).
UAE ***Mubadala*** *	Diversification away from oil. Focus on high tech, green infrastructure investments in emerging markets.	N/A	Management of a capital to deploy across a range of public & private market opportunities.	*Economic Vision 2030* Aims to become world's largest semi-conductor manufacturer.	*7% of portfolio with projects like UAE Uni, Paris-Sorbonne Uni * Mubadala Infrastructure private equity fund	N/A	Returns negative 2009-12. 2012: 6.7% & rising.

Table 2: Investment Strategy (continued)

	Strategy	% In/ Outsource	Public vs. Private Markets	(Intended) Development Affect	Infrastructure	Venture Capital	Rate of Return
Venezuela ***FONDEN***	The funds are delivered to projects either directly or through a series of bilateral funds that the government has created with China, Libya, Belarus.	Executive power as the sole decision maker for spending of the money.	Very limited information available. There was a list of project on the FONDEN website (with a $30B gap), but the website has been shut in 2011.	Fund initially created to finance productive, social and community projects; A way to leverage the nation's sustainable economic growth. But no info on how money is spent	Focus on social and major infrastructure projects. Between 2005 and 2011 $40b allocated to social and infrastructure projects across the nation.	N/A	N/A
Vietnam ***SCIC***	Short term focus on ongoing equitization program (transfer from public to private); Long term: increased investing in domestic oversees businesses	Mostly insourced by government led management teams	SCIC portfolio consists of mostly state owned enterprises	N/A	N/A	Portfolio consists of mostly SMEs. 71% of enterprises with capital of less than US$1.1M.	2013 revenue VND 4.9B; After-tax profit: VND 34.3B;

No star: opaque (no report or very limited info);
* fairly transparent (Annual reports available but lack key information and metrics);
** Information available and complete.