Capitalizing Economic Development Through Sovereign Investment: A “Paradox of Scarcity”?*

Working Paper

Patrick J. Schena
Juergen Braunstein
Asim Ali

This draft: April 28, 2017

Abstract
Traditionally the creation of sovereign wealth funds (SWFs) was “supply-driven”, the result of excess reserves from natural resources (e.g. Norway, Qatar, Kuwait, etc.) or non-commodity capital flows (e.g. South Korea, China, Singapore, etc.). More recently we observe many newly established or announced funds to be “demand-driven”, motivated by domestic development objectives (including infrastructure development). This transition from supply-driven to demand-driven SWF creation is most starkly manifested in SWF capitalization. This paper outlines recent developments on SWF creation—especially by countries that are neither endowed with oil wealth nor possess sizeable export surpluses to create SWFs with a development mandate. While contextualizing this study in the broader SWF literature, the aim is to provide a comprehensive overview on how funding sources impact achieving long-term financial and socio-economic development objectives.

Keywords: sovereign wealth, private equity; direct investment; co-investment.

JEL classification:

We thank Arianne Caoili for her feedback. All errors and omissions are our own. Furthermore, we would like to thank Gayane Sargsyan, Mary Melkonyan, and Tigranuhi Grigoryan for research assistance.

E-mail address: Patrick.Schena@tufts.edu

* This draft is not for citation without permission of the authors.
Introduction

Over 25 years ago, Robert Lucas asked a simple, but profound question: “Why doesn’t capital flow from rich to poor countries?” (Lucas, 1990) Deemed the “paradox of capital”, this question remains with us and its relevance over periods has become more pronounced. Consider the rapid accumulation of surpluses from commodity rents by some emerging economies. In many instances this capital was gathered into investment pools - so-called commodity funds, shielded from undeveloped domestic economies, and invested internationally in securities in well-developed financial markets, i.e flowing “uphill” from “poor” to “rich” countries.

In the formative period of commodity funds, the creation of these early sovereign wealth funds (SWF) was largely “supply-driven”, motivated by the accumulation of commodity wealth, then later current account surpluses or even state commercial assets, which had outgrown the capacity of government bureaucrats to oversee effectively. However, since the global financial crisis, and more recently in the wake of commodity price declines and slowing growth in emerging economies, the establishment of fund structures has accelerated, not in response to rising surpluses, but in part has been spurred due to a slowdown in foreign investment. Their task is to restart economic growth, promote economic diversification, and advance national competitiveness. To emphasize, the creation of new funds has become “demand-driven”, motivated less by the need to capture and invest surplus wealth, but to advance key – and some cases urgent - national economic policy goals (e.g. see Halland et al. 2016).

Financing economic restructuring and development – even with substantial surplus wealth – is challenging. Unless entirely sequestered, surpluses will certainly have competing uses. They might be “earmarked” to support both current and capital spending under central or local budgets or serve as critical buffers to maintain fiscal and balance of payments stability and by extension the international borrowing capacity of governments and local financial systems. Moreover, and specifically with regard to the IMF’s definition of foreign exchange reserves (IMF, 2007), reallocating foreign reserves (or “conscious – or unconscious - uncoupling”) beyond the reach of monetary authorities or investing them
in illiquid assets – such as infrastructure – can directly impact the credit quality and financial capacity of the government.

This raises several critical public policy questions: How are development-focused SWFs capitalized so as to contribute effectively to their objectives, while avoiding risks that detract from or even destabilize a broader national development agenda? Will existing revenues or assets be repurposed? Will governments employ leverage in more creative and innovative ways? Will policymakers consider new, “non-traditional” sources – special taxes, immigrant investment flows, collateralized debt proceeds, intellectual property rents – as potential pools of capitalization (e.g. see, Clarke, 2016)? If so the actors involved in the policy dialog will inevitably expand from the ministries of finance and central banks to other government departments and ministries, such as those engaged in innovation, immigration, state-owned enterprise (SOE) management, and economic development. Finally, returning to Lucas’ “puzzle”: How can a capital constrained country in particular use a development-focused fund effectively to increase flows of new investment capital?

Our paper contributes directly to an evolving policy literature on sovereign development and strategic investment, including new funding streams to capitalize SWFs (Gamlen et al, 2016; Hamilton and Atkinson, 2016; Schena and Ali, 2016; Halland et al, 2016; Divakaran et al, 2016; Milhench, 2017). A key objective of this analysis is to systematize existing research with a focus on the challenges of what we perceive as a “paradox of scarcity”: The creation of SWFs not from surplus wealth, but using scarce capital with competing uses, to overcome market imperfections to catalyze inward investment. Our paper is structured as follows: Part 1 provides a contextual overview. Part 2 presents our thesis of scarcity. Part 3 catalogs the rise of development-focused SWFs and documents sources of capitalization. Part 4 considers in more detail “why capitalization matters” by analyzing the indirect role of remittances in the establishment of SWFs. Part 5 offers several policy considerations when designing new fund structures.
Four Waves of Fund Origination

SWFs are large state investment funds that have become important actors in international finance. They have traditionally been established to recycle oil/gas revenues or budget and current account surpluses and to mitigate related negative externalities, such as volatile fiscal revenues, Dutch disease, or capital supply shocks (The Economist, 2014). As a consequence, SWFs – particularly when growing balances during a period of high expected returns – tended to invest primarily in liquid, foreign assets. Following years of exponential growth, the number and size of SWFs seemed ripe to plateau as traditional drivers of SWF growth – e.g. commodity revenues and current account surpluses – slowed. Instead the volume of SWFs – established, launched, or proposed – has expanded, albeit with a shift in ‘form’ and ‘function’ (Clark and Monk, 2010).

The first wave of SWFs was discretely related to commodity revenue – in particular petrodollar-flows, recycling resource revenue surpluses into the international financial system and eventually for re-intermediation via western financial institutions. This early evolution benefitted from a global economy characterized by industrialization and liberalization of capital accounts and trade, which further enhanced oil windfalls. The second wave of SWFs was strongly associated with emerging economies, when countries with persistent trade surpluses – especially in Asia – accelerated accumulation of of foreign reserves and invested in a broad range of assets classes across global markets.

A parallel third wave of SWF evolution involves what have become known as sovereign development funds. These funds have primarily been capitalized with state commercial assets and are represented well by the likes of Temasek in Singapore, Khazanah in Malaysia, Mumtalakat in Bahrain, and Samruk-Kazyna in Kazakhstan. Their objective has been first to improve the management of and – if required – to restructure state assets with the goal of privatizing and monetizing them. This liquidity imperative has contributed directly to the ability of development funds to redeploy capital to advance broader national development goals (Chaturvedi, Brookfield, and Schena, 2010).
The fourth wave of SWFs – currently accelerating – is focused on broader economic objectives as countries search for innovative ways to mobilize foreign capital and leverage international financial markets to finance economic development and transformation. Recently established funds with development or strategic investment mandates, include those designed to catalyze foreign direct investments into strategic sectors of the host country’s domestic economy (Schena and Ali, 2016). Examples include Italy’s CDP Equity, the Russian Direct Investment Fund, and the Ireland Strategic Investment Fund (Schena and Ali, 2016). Among low and middle-income countries, a sovereign investor can seed risk capital to strategic sectors or projects particularly when domestic capital markets are underdeveloped, shallow, or repressed (e.g. Senegal’s FONSIS). Morocco created Ithmar Capital as a strategic investment fund in 2011 with the purpose of mobilizing national and international investment into the tourism sector. Financed by the government, Ithmar Capital co-invests in Moroccan projects with other SWFs (PrivateEquityWire, 2016). Beyond these, a number of other development-focused funds have been recently launched or announced including funds in Turkey, Thailand, Bangladesh, Romania, Indonesia, and Guyana.

**Mandate versus Capitalization: A Paradox of Scarcity?**

Whereas creating a SWF was once the exclusive domain of countries with surpluses, excess reserves, or well-established operating assets, more recently – and perhaps paradoxically, modest wealth or even reserve scarcity has not proven a deterrent. Rather fund structures are increasingly advanced as a means to create versus simply manage assets – whether financial or real (Clark and Monk, 2010). This brings the relationship between mandate and capitalization into sharp relief. It also opens investigation into non-traditional sources of funding such as proceeds from special taxes/levies, flows from immigrant investment programs, intellectual property rents, and even proceeds from collateralized debt issuances.

With respect to taxes, for example, Luxembourg aims to collect at least EUR50mn per year from e-commerce VAT and excise duties to reach EUR1bn over a 20-year period for its “Wealth Fund for Intergenerational Generations” established in 2015 (Braunstein et al, 2016). This fund was created in
order to cover a part of future pension liabilities. Similarly, the Indian government created the National Clean Environment Fund with revenues from an increase in the coal tax (Climate Change News, 2016). To increase focus on the non-fossil fuel sector, the Indian government doubled the carbon tax on coal. The revenues from this tax flow into the Fund, which then invests in clean energy projects (Climate Change News, 2016).

In discussing the importance of intellectual property for national development, Clarke (2016) explores the creation of Sovereign Patent Funds (SPFs), which are new applications of SWFs in the global patent market. Once SPFs are established, governments can support and protect their national champions from litigation and can gain additional revenue streams from patent rights. These so-called intellectual rents then become more important in “smart societies”. Thus far such funds have been mainly created in highly industrialized countries, such as Japan and France with seed funding from other national finance vehicles (e.g. France’s Sovereign Patent Fund was funded by the Caisse de Depot) (Clarke, 2016).

Immigrant Investor Programs (IIPs) involve the sale of national membership privileges to wealthy foreigners. As a source of funding, monies exchanged for residency or citizenship rights are used to capitalize discrete immigration funds or national development funds. For example, in the case of Malta immigrants may choose to make an investment in the National Development and Social Fund to contribute to key initiatives, including in ‘education, research, innovation, justice and the rule of law, employment and public health’ (Identity Malta cited by Gamlen et al, 2016). Similarly, immigrants to the Commonwealth State of Antigua & Barbuda in the Eastern Caribbean may opt to “invest a minimum of US$200,000 into the country’s National Development Fund (NDF)” (EB5Investors, 2017).

It is not our intent here to suggest that each of the above referenced funds is in fact a SWF. Such a debate is worthy, but beyond the scope of the present discussion. Rather these cases demonstrate the expanding scope of funding sources that are captured and used to support fund mandates and to further discrete policy purposes. It is furthermore important to note that the relationship between the policy objective of the fund and its source of capitalization is not inconsequential – whether special taxes or fees (e.g. India, Panama and Luxembourg), asset transfers (e.g. Vietnam, Bahrain, Palestine), budgetary or
inter-governmental transfers (e.g. Senegal, Italy, Panama, France), or allocations of foreign exchange reserve. Notwithstanding the origin, in cases of economic development mandates, sources of capital and mandates must be effectively linked to insure a stable, dedicated, long-term funding base, whose allocation to development goals does not destabilize other components of the host country’s macro-economy. We return to this point below through the lens of remittance-based reserves to highlight potential vulnerabilities.

**The Evolving Fund Landscape for Economic Development**

Using SWFs as vehicles to enhance national development, transform industrial sectors, and promote national competitiveness reaches back to the 1970s when Singapore’s government sought to decrease SOE dependence on the state budget. To advance this it transferred stakes of Ministry of Finance holdings to Temasek, established in 1974 (Yeung, 2011). Other ministries followed suit by transferring their assets into holding companies. These included the Sheng-Li Holding (defence-related industries) and the Ministry of National Development Holding (housing development and land corporations). By the early 1980s most of these assets were merged into Temasek (Braunstein, 2015). As a state holding company, Temasek was expected to increase efficiency and eliminate redundancies through better coordination among Singapore’s SOEs, while also serving as a financing conduit for portfolio companies through the issuance of bonds in global markets.

More recently, the notion of transforming SOEs through national holding companies or development or strategic investment funds has experienced a surge with the proliferation of funds proposed, announced or launched. Motivations vary: Slow grow, declining global trade, underperforming state assets, low commodity prices, a persistent infrastructure funding gap, more generally capital constraints, and perhaps too an acknowledgement that populist movements globally may constrict traditional channels of economic cooperation and assistance. Multilateral development institutions have accepted this reality and shifted their policy stance from acquiescence to encouraging and promoting investment funds through capacity building and institutional assistance programs (e.g., see World Bank
Investment Funds for Development (homepage). However, despite their wider acceptance as institutional contributors to the development process, they are not panaceas and inherit the very funding constraints of their governments. Several newly announced cases will serve to illustrate.

In 2016, for example, the Indonesia’s government announced the creation of a super holding company which is expected to displace Indonesia’s SOE Ministry and absorb 199 of the country’s largest SOEs. The holding company will be modeled after Malaysia’s Khazanah Nasional and will reportedly control US$320bn worth of assets by 2019 (Bloomberg, 17 May 2016). To accelerate the process, the government plans to establish four sector-specific sub-holdings, beginning with the energy sector (Braunstein and Caoili, 2016). For Indonesia the restructuring of the SOE sector using a holding company model is intended to decrease SOE dependence on the government budget. While improving the overall fiscal climate, this is also expected to contribute to SOE operating efficiency and to eliminate redundancies through improved SOE operating efficiency (Braunstein and Caoili, 2016). Furthermore, the separation of ownership and management functions permits greater operational freedom from the state while facilitating capital access through global markets or direct or co-investments (e.g., see Kumar 1992; Wall Street Journal, 17.02.2017).

In 2016 Turkey also announced its intent to create the Turkish Wealth Fund. The Turkish Fund has also been capitalized by the transfer of state holdings. In February 2017, the government announced the transfer of its stakes in a number of high profile companies, such as Turkish Airlines, the Turkish oil company, Halkbank and Turk Telekom, into the SWF (The Financial Times, 07.02.2017). The size of Fund is estimated by Turkish authorities to potentially reach US$200bn (Bloomberg, 07.02.2017).

The precise mandate of the fund remains somewhat obscure. Press reports have varied regarding its operating platform. Some have indicated that the Fund would not engage in privatizing assets, but rather work and invest to enhance their operating efficiency and competitiveness. Others have quoted senior government officials that the capital of the fund would be used to fund infrastructure projects and other domestic investments. There has however been relative consistency in public disclosures that the Fund would use the transferred assets as a collateral base upon which to raise capital in global markets.
Such a central use of leverage differs from that employed by other development funds – most notably Temasek and Khazanah – and appears to target Turkey’s deteriorating sovereign credit position.

Recently Romania too announced creation of a SWF (Press release, 2017). The model is similar to that of the levered fund proposed by Turkey (and in fact similar to a construct proposed by Poland in 2012, see The Wall Street Journal, 12.10.2012). The Fund for Development and Strategic Investment (FDSI) (CDEP, 2017) is to consist mainly of profitable state companies and is expected to reach a value of €10bn in a period of four years (Business Review, 2017). The Fund is expected to use state assets as a collateral for issuing bonds and will use the dividend income of these companies as a revenue source together with the sale of non-performing assets (CDEP, 2017). The FSDI will also act as a co-investor with to international banks, such as the EIB, EBRD and World Bank, and invest in strategic sectors such as healthcare, defense, energy, food, and information technology (CDEP, 2017). An EU regulatory constraint of having production and distribution companies managed by the same entity, drives the Romanian government’s interest to create a second fund - The Fund for National Development (FND) – which will hold shares of companies currently managed by AVAS – the State Asset Management Authority – and state companies that are not in the portfolio of the FSDI (CDEP, 2017).

Other cases include India which has created a development fund that became operational in 2016. The National Infrastructure Investment Fund is capitalized not through excess reserves, but rather through a budgetary allocation. Guyana’s recent discovery of oil deposits has prompted its government to consider of a multi-fund structure designed at inception to address three objectives: stabilization, savings, and development objectives (Ali and Schena, 2017). The fund’s capitalization has yet to be determined, but would presumably involve transfers from future oil revenues. Similarly recent discoveries of hydrocarbon reserves has prompted the Kenyan Treasury to also initiate study of a wealth fund.
<table>
<thead>
<tr>
<th>Country</th>
<th>SWF</th>
<th>Year</th>
<th>Status</th>
<th>Size</th>
<th>Financing Source</th>
<th>Sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Romania</td>
<td>Sovereign Fund for Development and Investment</td>
<td>2017</td>
<td>announced</td>
<td>€10bn</td>
<td>Debt/Equity/Borrowing</td>
<td>Health infrastructure, infrastructure, technology, defense, energy</td>
</tr>
<tr>
<td>Armenia</td>
<td>Russia Armenian Investment Fund</td>
<td>2017</td>
<td>announced</td>
<td>n.a.</td>
<td>Local and international sources, including RDIF and Armenia’s SME funds</td>
<td>Agriculture, industrial production, transport and logistics infrastructure, as well as in technology</td>
</tr>
<tr>
<td>Turkey</td>
<td>Turkey Asset Management</td>
<td>2017</td>
<td>established</td>
<td>n.a.</td>
<td>Debt/Equity/Borrowing</td>
<td>Communication and transport infrastructure,</td>
</tr>
<tr>
<td>Guyana</td>
<td>Guyana Sovereign Wealth Fund</td>
<td>2017</td>
<td>established</td>
<td>n.a.</td>
<td>Budget surplus/oil</td>
<td>Infrastructure (social and economic)</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>Bangladesh SWF</td>
<td>2017</td>
<td>announced</td>
<td>$10bn</td>
<td>FEX reserves</td>
<td>Infrastructure (social and economic)</td>
</tr>
<tr>
<td>Egypt</td>
<td>Amlak (Egypt- SWF)</td>
<td>2017</td>
<td>announced</td>
<td>n.a.</td>
<td>External sources (i.e. GCC)</td>
<td>Communications, logistics and travel infrastructure</td>
</tr>
<tr>
<td>Nigeria</td>
<td>Infrastructure Fund</td>
<td>2016</td>
<td>established</td>
<td>US$25bn</td>
<td>Local and international sources, including Nigeria’s SWF and domestic pension funds</td>
<td>Logistics and energy infrastructure</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Indonesian SWF</td>
<td>2016</td>
<td>announced</td>
<td>up to US$ 320bn</td>
<td>Ministry of State Owned Enterprises</td>
<td>Oil/gas, consumer goods, banking, construction and housing</td>
</tr>
<tr>
<td>India</td>
<td>India SWF</td>
<td>2016</td>
<td>established</td>
<td>US$3bn</td>
<td>Budget</td>
<td>Infrastructure</td>
</tr>
<tr>
<td>South Africa</td>
<td>Green Strategic Investment Fund</td>
<td>2016</td>
<td>established</td>
<td>n.a.</td>
<td>Budget</td>
<td>Low carbon infrastructure</td>
</tr>
<tr>
<td>Thailand</td>
<td>Thailand Future Fund</td>
<td>2016</td>
<td>established</td>
<td>US$3bn</td>
<td>Budget</td>
<td>Infrastructure (social and economic)</td>
</tr>
<tr>
<td>Ireland</td>
<td>Ireland Strategic Investment Fund (ISIF)</td>
<td>2014</td>
<td>established</td>
<td>US$8.4bn</td>
<td>Assets of the National Pensions Reserve Fund</td>
<td>Transport infrastructure, education, techn. development, low carbon infrastructure, agriculture, waste management, water</td>
</tr>
<tr>
<td>France</td>
<td>Bpifrance</td>
<td>2013</td>
<td>established</td>
<td>€32.6bn</td>
<td>Merger between Caisse des Depots, the former SWF, the Strategic Investment Fund, and OSEO</td>
<td>Advanced materials, aeronautics, automotive components, biotech, contract research, oil and gas engineering</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Baiterek</td>
<td>2013</td>
<td>established</td>
<td>US$12.7bn</td>
<td>SOEs</td>
<td>Infrastructure (transport), financial services, energy, telecom, SME</td>
</tr>
<tr>
<td>Rwanda</td>
<td>The Agarico Development Fund</td>
<td>2013</td>
<td>established</td>
<td>n.a.</td>
<td>Voluntary contributions by Rwandans at home and abroad</td>
<td>Broad mandate - economic development of the country</td>
</tr>
<tr>
<td>Gabon</td>
<td>Gabonese Strategic Investment Fund</td>
<td>2012</td>
<td>established</td>
<td>US$0.14bn</td>
<td>10% of oil revenue goes to fund, 50% from excess budget</td>
<td>Infrastructure (social and economic)</td>
</tr>
<tr>
<td>Senegal</td>
<td>Fonds Souverain d’Investissements Stratégiques (FONSIS)</td>
<td>2012</td>
<td>established</td>
<td>US$0.76bn</td>
<td>State Budget</td>
<td>Agriculture, infrastructure, logistics, energy, social housing, mines, services (IT, health, education, tourism) SMEs</td>
</tr>
<tr>
<td>Italy</td>
<td>CDP Equity SPA</td>
<td>2011</td>
<td>established</td>
<td>€4.9bn</td>
<td>90% gov CDP (bank owned by Ministry of Econ and Finance), 10% Fintecna</td>
<td>Innovation, and high-tech, defense and security, financial industry, industrial infrastructure</td>
</tr>
<tr>
<td>Morocco</td>
<td>Moroccan Fund for Tourism Development</td>
<td>2011</td>
<td>established</td>
<td>US$1.8bn</td>
<td>2/3 gov. budget and 1/3 from Hassan II Fund (owned by State)</td>
<td>Tourism infrastructure</td>
</tr>
<tr>
<td>India</td>
<td>National Clean Energy Fund</td>
<td>2011</td>
<td>established</td>
<td>n.a.</td>
<td>Budget</td>
<td>Energy security, innovative projects in clean energy technologies</td>
</tr>
</tbody>
</table>

Sources: Compiled from Halland et al, 2016; Clark and Monk, 2015 and individual fund websites.
Why Sources of Capitalization Matter: The Case of Remittances

Migration and global diaspora resources are an integral part of the development process in many developing countries and an important lever of socio-economic development. Approximately 247mn people, or 3.4% of the world population, according to the latest World Bank figures, live in a country different from that of their birth. Remittances refer to personal funding flows from expatriates to their friends and families back home. According to the World Bank Migration and Remittances Factbook 2016, global remittance flows are estimated to have exceeded US$580bn, of which developing countries are estimated to receive above US$441bn (see Graphic 1). Remittances have been a relatively stable source of external capital – more stable than foreign investment or development aid (World Bank, 2003).

**Graphic 1**, Countries with remittance inflows above US$10bn and countries with remittance inflows exceeding 10% of their domestic GDP.

*Source: Compiled with data from World Bank (2016).*
Interesting patterns of remittance growth can be observed across countries at different income levels. The rise in remittance flows reflects the steady increase in annual labor migration. While average remittance inflows in low income countries was low between 2000-2015, upper middle-income countries experienced on average a remittance inflow of US$3bn in 2015 up from US$500mn in 2000 (see Graphic 2). Interestingly the most dynamic growth in remittance inflows has occurred in lower middle-income countries. On average lower middle-income countries had remittance inflows of more than US$5bn in 2015, up from approximately US$700mn in 2000 (see Graphic 2). Many lower middle-income countries have also experienced a dynamic growth in population. At the same time most also lack sufficient social and economic infrastructure.

**Graphic 2.** Average remittance inflows in US$mn for countries across income levels (2000-2015).

**Source:** Calculated with data from the World Bank (2016).
In many countries remittances are a substantial percentage of GDP (see detailed Graphics 3, 4, 5) and an important source of foreign exchange reserves. As such they can insulate the local economy from balance of payments deficits and, along with the entire reserve base, serve as a critical liquidity buffer. In fact, for many developing countries, remittances form a significant base of their foreign exchange reserves. In Tajikistan, for example, remittances represented around 50% of the GDP in 2013 (see Graphic 4). In upper middle income countries, such as Lebanon, Albania and Bosnia, remittance flows have decline over the period 2000 until 2015. In Bosnia and Herzegovina, for example, they represented around 10% of GDP in 2015, but down from around 30% in 2000 (see Graphic 5). We can draw several conclusions about remittances as a source of income and a contributor to reserve balances. They effect the local money-supply and so are liability-based. Impacts are country-specific and can vary significantly by country. They remain especially critical as a liquidity buffer to low income countries. Lastly, as the income-specific charts portray, they can be especially volatile.

**Graphic 3**, Remittances as a share of GDP (PPP) for low income countries (2000-2015)

(Source: Calculated with data from the World Bank (2016).)
Graphic 4, Remittances as a share of GDP (PPP) for lower middle-income countries (2000-2015).

Source: Calculated with data from the World Bank (2016).

Graphic 5, Remittances as a share of GDP (PPP) for upper middle-income countries (2000-2015).

Source: Calculated with data from the World Bank (2016).
Bangladesh is a lower-middle income country with a myriad of economic challenges. The country will continue to record budget deficits between fiscal years 2016/17 and 2020/21. The government confronts numerous spending and investment challenges, ranging from power and water infrastructure to education and healthcare to reducing poverty to meet the targets of the Sustainable Development Goals (SDGs). Its tax base remains low and the government continues to struggle to fund fiscal deficits. Overall fiscal deficit is reported to be -4.7% (FY2016) and -4.6% (2017) of GDP (IMF, 2016). Meanwhile, revenue as a proportion of GDP is estimated to be around 11.6% in 2017, one of the lowest levels in Asia (IMF, 2016).

Bangladesh also runs persistent deficits on its trade, services and primary income accounts. Remittance flows are important to insure that its current account remains in surplus. Remittances accounted for 65% of the country’s over US$32bn in foreign exchange reserve in 2015. According to the central bank of Bangladesh, the remittance inflow for the year 2014-15 was US$15.3bn, while the remittance inflow in 2013-14 was US$14.2bn – a significant increase from the approximately US$7.9bn inflow in 2007-2008. This increase and steady inflow of remittances is in part due to central bank efforts to facilitate the inflows through formal banking channels. In contrast, according to World Bank data, FDI (net inflows) was US$3.3bn and US$2.5bn respectively in 2014 and 2013.

In 2015 reports first appeared that Bangladesh would establish a SWF using foreign exchange reserves whose mandate would – at least in part – be to invest in infrastructure and other national, development projects (AsiaNikkei, 03.08.2015). In early 2017, the government reiterated plans and shared additional details of a SWF potentially as large as [U$10bn] that would be used for “any purposes in public interest” (BDNews, 06.02.2017). The fund would be capitalized by systematic transfers (approximately US$2bn annually) of foreign exchange reserves in excess of US$30bn (XinhuaNet, 06.02.2017). The Cabinet Secretary, commenting on this strategy, argued: “If our reserves remain at
between [US$30 to 32bn], then a [US$2bn] withdrawal will not adversely affect the economy” (BDNews, 06.02.2017).

Such a strategy – if eventually adopted - is measured and flexible. Capitalization of the SWF would be progressive and linked directly to benchmark levels of foreign reserves in any year. Importantly it provides a circuit-breaker to reduce or halt transfers if remittance flows were to reverse or slow in the future. It would also offer the central bank and the government flexibility in both reserve and fiscal management. However, this approach – to the extent it includes a development component - is not without significant risks. Most problematic among these is the transformation of reserve assets to assets owned and managed by a SWF, whose mandate includes development or infrastructure investment in long dated illiquid assets. Such a mandate could undermine the structure of existing buffers and significantly constrain critical reserve and fiscal management functions in times of crisis.

In Armenia - a second illustration - remittances have been the single most critical external source of capital in relative GDP terms. Between 2008 and 2015 remittance inflows into Armenia were considerably higher than FDI inflows. As of 2015 about US$1.6bn (around 15% of Armenia’s GDP) were transferred to Armenia from other countries (see Graphic 6). As of 2015 remittances were about the size of Armenia’s total export revenues, almost nine times as high as FDI inflows and more than twice as high as portfolio investment inflows. In 2014 remittances were significantly higher than Armenia’s total export revenues (see Graphic 6). With an emigrant remittance stock of 785,740 as of 2015, approximately one third of Armenia’s population is employed abroad (World Bank, 2016). Annually on average each emigrant remits about US$2,000 to Armenia. This is a considerable amount given the average monthly income in Armenia of US$350 average in 2015 (Armstat, 2016). In short, Armenia is heavily remittance-dependent.
As a post-Soviet republic, Armenia is influenced by the business cycles of the Russian economy (see Graphic 7). Its dependence on remittances leaves Armenia especially vulnerable to sudden stops or decreases in remittance flows. Graphic 6 illustrates Armenia’s high dependency on Russia. As of 2015 about 60% of remittance flows to Armenia came from Russia. In turn any economic downturn in Russia translates into reduced remittance inflows or remittance supply shocks in Armenia, leading to a decline in foreign reserves. Such a situation would leave the Central Bank and the Armenian currency vulnerable to disruptions in remittance flows.

Sources: World Bank staff calculation based on data from IMF Balance of Payments Statistics database and data releases from Armenian Central Bank and Armstat, Custom Armenia Database.
Armenia also does not have a SWF, but likewise has considered fund structures to address macro-economic needs. Certainly using foreign reserves that are heavily dependent on remittances from a single country poses significant risks, even beyond those in the case of Bangladesh. Nonetheless establishing a discrete buffer using a portion of exchange reserves designed exclusively for reserve management would be consistent with SWF models established by other post-Soviet republics, including Russia (e.g. Azerbaijan and Kazakhstan). Specifically such a mandate would require assets to be invested similarly to Central Bank assets in liquid, hard currency securities and accessible to the Central Bank if balance of payments conditions deteriorate or currency conditions require. An extension of this model might also target fiscal pressures resulting specifically from the volatility of commodity prices. With proper attention to its asset base, such a mandate could be capitalized separately by mobilizing a portion of...
revenues from commodity production or mining. Here Armenia might consider – in parallel – establishing a stabilization fund with a portion of revenues from Armenia’s large copper-molybdenum exports.

Given the vulnerability of both reserves and commodity revenues, neither seemingly would serve as a stable base to capitalize a development mandate. An alternative construct might be to transfer state assets into a quasi private equity structure in which the state acts as a General Partner and co-invests with other institutional investors. In 2016 Armenia considered such a fund that would operate through public-private partnerships (Government Programme of the RA, 2016) and perhaps by extension promote increased FDI flows, by catalyzing investments from other institutional investors, including those in Russia. In mid March 2017, the Russian and Armenian governments announced a bilateral structure: The Russia-Armenia Investment Fund (RDIF Press Release, 15.03.2017) under which the Armenian state-owned company SME Investments Russian Direct Investment Fund would jointly search and invest into “attractive investment opportunities that will strengthen trade, economic and investment cooperation between the two countries” (RDIF Press Release, 15.03.2017). Both sides agreed to a modest $50mn capital commitment. However, the means by which Armenia will fund its portion were undisclosed.

**Policy Considerations**

Through the lens of remittance-based reserves in the cases of Bangladesh and Armenia, we have attempted to isolate the trade-offs of designing investment fund structures as development tools with the need to capitalize them effectively without jeopardizing other key macro-economic objectives, including currency and fiscal stability. SWFs are increasingly serving a broader macro-economic policy agenda. This is clearly reflected in the mandates of newly launched or announced funds, which have ventured well beyond stabilizing budgets and saving for future generations. As new funds target national development and diversification, they must first be properly and sustainably capitalized, then effectively integrated into the overall economic development strategy of countries to contribute to long term economic growth. The critical question of how to capitalize a SWF with limited or no surplus capital challenges policy makers to
search beyond conventions means - fiscal or foreign exchange reserves, to find creative and flexible solutions. Supply-driven SWFs are well established in practice with over 40 years of operating history and well-defined risk and asset management structures. Demand-driven SWFs vary considerably in mandate and function and are complicated by the need to design institutional features, including governance features, that effectively link the mandate of the fund with its capitalization model.

Critical to policy considerations of new fund design are the risks and other implications of the mode of capitalization and – importantly - its relationship to the mandate, and by inference the asset allocation strategy, of the fund. Capitalization strategies must, at the outset of fund design, be reconciled with the capital constraints of the founding government and be compatible with the contours of the national development agenda. Perhaps most importantly the investment required to build new development-centric institutions must yield significant returns in both the scale and efficiency of public investment. Insufficient policy due diligence risks undermining the very purpose of the fund, either through undercapitalization or by potentially destabilizing the local economy through the reallocation of scarce capital, especially to investments with a high illiquidity profile.

We return here to the case of Turkey which has transferred state operating assets to the Turkish Wealth Fund reportedly to be used to support a capital acquisition strategy that will fund domestic investment. Unlike Temasek and Khazanah, which, in their formative stages, raised capital as holding companies to support the working capital or investment requirements of their holdings, the Turkish SWF will be established as a “leveraged fund” at its outset. Furthermore, as a result of the asset transfers, annual dividends of SoEs will be diverted from the central budget to the SWF (Intellinews, 2017). Likewise transfers to the proposed Romanian FDSI will also divert dividends from Romania’s central budget raising the specter that FDSI capital might be used to finance government budget deficits (Intellinews, 2017). Any such circumstances – as in the case of Turkey or Romania – must prompt a careful review of budgetary impacts, including residual or indirect impacts on sovereign credit quality.

Consider also the role of foreign exchange reserves particularly when constrained or subject to high degrees of volatility. Under any such circumstances, segregating a portion of reserves and
transferring their ownership and control to a separate government-owned institution could expose the government and the national economy to liquidity risks and the potential of a balance of payments or currency crisis. Such vulnerability is especially prevalent if the transferred assets are beyond the reach of monetary authorities and the asset allocation strategy of the SWF features high allocations to illiquid assets, such as real estate, infrastructure, and private equity. Reserves transferred to a separate legal entity and invested in assets whose liquidity profile deters prompt and cost-efficient conversion to cash are not “reserves” under current definitions or also may not be considered a component of a conventional liquidity buffer. This could be credit-constraining and destabilizing under conditions of balance of payments or fiscal distress.

**Conclusion**

A combination of slow growth, budgetary constraints, and increasing demand for both economic and physical infrastructure are putting pressure on governments to catalyze investment into critical sectors of their national economies. This has prompted considerable interest in institutional innovations that include redeploying and even leveraging national assets to promote development, economic diversification, and national competitiveness. Sovereign investment funds are poised to play an increasingly prominent role in such initiatives.

This paper has offered insights into a critical dimension of new fund creation: The link between mandate and capitalization. Its limitations highlight the need for more in-depth research into the emerging frontiers of sovereign wealth fund design. Practitioners and scholars are confronted with a new and expanded set of questions. Does institutional and financial innovation in SWF design occur in a stable and evolutionary way or is it potentially disruptive? What are resultant implications or potential unintended consequences? What do innovations mean for long-established SWFs, as well as their underlying operating dynamics? What part does emulation and institutional learning play in responding to, engaging with, and adopting from these new forms of investment institutions?
Lucas’ puzzle remains largely unsolved. A vast body of follow-on research has extended the scope of the original research question, if not clarified and narrowed the empirical context. Among explanations offered are those that focus on market failures that distort returns to and disrupt the flow of capital. Also examined is the role of institutions – such as investment treaties (Bhagwat, 2016) – that may narrow gaps in markets. Sovereign development funds are consistent with such explanations of the puzzle. As state-owned institutional investors, they are positioned between foreign capital and the local market and – if effectively designed and incented - can potentially bridge market disruptions resulting from bureaucratic inefficiencies, incomplete project origination, and even exposures resulting from host country political and social conditions. Thus, institutional innovation offers the potential to design solutions to pressing macro-economic problems of economic transformation and development, including addressing market failures in the provision of capital, as well as basic resources and other critical services (such as water, electricity, healthcare, education, transportation and infrastructure). Striking a balance between mandate and capitalization may ultimately catalyze foreign capital flows and reduce barriers to investment, but warrants careful scrutiny to circumscribe the real risk of unintended consequences.
Bibliography


‘Comunicat de presă - ședință de guvern - Fond Suveran de Dezvoltare și Investiții pentru administrarea și valorificarea eficientă a participațiilor statului’(2017), Guvernul Romaniei, 09 Februarie. Available from: http://gov.ro/ro/media/comunicate/comunicat-de-presa-edinta-de-guvern-fond-suveran-de-dezvoltare-i-


A phrased popularized by Gwyneth Paltrow, an actress, in reference to domestic partnership or marriage. Yet, the phrase has taken a life of its own and has been used by academics and policymakers alike in reference to political and economic issues. See for example: https://www.advisorperspectives.com/commentaries/2014/10/07/a-case-of-conscious-uncoupling.pdf.

The trade off between maintaining an optimal level of reserves and aligning with macroeconomics and development objectives is an issue confronting Saudi Arabia. In the context of trying to diversify its economy, the oil kingdom is deploying its newly restructured SWF, Public Investment Fund (PIF), along with signing co-investment agreements that would see its capital being invested abroad. See: “Saudi Arabia spends money to make money in foreign investment drive,” Reuters, 22 March 2017. http://uk.reuters.com/article/saudi-asia-investment-idUKL5N1GX1BE

The rationale behind the creation of a separate entity is driven by having a separate SWF like entities as a means to address regulatory constraints is not new. For example, in the late 1980s, it became clear that Temasek had started to invest on a global basis, including the US. Temasek also started to acquire stakes in banks; however, US legislation at that time forbade industrial holding companies with direct interest in industries to take controlling stakes in banks (Braunstein, 2016). Therefore, it was necessary to separate bank-related activities from industrial-related investment activities. Consequently it was decided to retain the Ministry of National Development Holdings as a vehicle for the Singapore government’s investment in banks (Braunstein, 2016).