

# SOVEREIGN WEALTH FUNDS INVESTMENT IN SUSTAINABLE DEVELOPMENT SECTORS

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## Executive summary

In order for the Sustainable Development Goals (SDGs) to be achieved, a large amount of long-term investment capital must be deployed into sectors that can help catalyse improvements in areas where need has been identified. The SDGs in many ways reflect the lack of long-term investment that has occurred in recent times. Theoretically, there is a significant amount of long-term capital available to address some of the most pressing challenges we are facing in society today. Globally, sovereign wealth funds (SWFs) are a major source of capital that have the potential to invest for the long term in sectors that desperately need it.

There are, however, a number of issues inhibiting the flow of capital into sustainable development sectors. These are issues specifically related to how the funds themselves are set up and the processes involved in making investments. There are also issues on the governmental and public policy side regarding ensuring that long-term SWF capital can flow into the long-term projects that need investment.

On the investor side, the term “sovereign fund” can mean a number of different things relating to how the fund is set up and what the objectives of the fund are. A sovereign fund’s type will impact its risk appetite and, therefore, the types of investments made. Sovereign funds can usually be grouped into the following: stabilization funds, savings funds, reserve investment funds, development funds and pension reserve funds. While SWFs as a group have been classed as large, long-term investors, the specific function of each may not enable them to invest as freely in long-term investments as one might hope; nor may they be incorporating environmental, social and governance (ESG) factors into their investment process. Generally speaking, stabilization funds have a more conservative risk appetite and therefore are usually restricted to lower-risk, passive investments. Such an approach is driven by the liability structure of these funds, where drawdowns may be required at short notice on the request of the Government. Investments in illiquid, long-term assets will therefore not be desirable. Pension reserve funds, savings funds or reserve investment funds, however, based on their funding ratios, may have longer-term liabilities and more flexibility to invest in illiquid, higher-risk and longer-term assets. Sovereign development funds have been used as a tool for certain countries to support economic growth and development, which has led to a greater proportion of private market investment. Sovereign development funds are examples of funds with a more flexible mandate around investment, which can lead to both successful development and financial objectives being attained.

When matching SWFs to the SDGs with investment opportunities, one can see that across the asset-class spectrum (whether in the public or private sphere, debt or equity), a number of investments may contribute to achieving the SDGs. Within the public market space, where the more conservative sovereign funds may invest, there are assets that would have certain SDG exposure. Most investments in the public market space, however, would have secondary exposure to SDGs with very few “pure plays”. Investors can act as activist shareholders in publically listed companies; however, this will usually be restricted to the more sophisticated investors with more robust governance structures in place. Furthermore, in regions where the SDGs are most relevant, the lack of depth in capital markets means that SWF investment opportunities are few. However, in the private market space—particularly in the infrastructure, housing, private equity and innovation sectors—there is arguably much more scope to have greater impact at scale for the SDGs. There is a large amount of evidence to show that private, alternative investments can lead to wider economic and social benefits to the region. As

mentioned, however, the propensity of SWFs to invest into alternative asset classes will depend greatly on the risk appetite of these investors. Despite the challenges, industry data would suggest that the allocation of institutional investors to alternative asset classes is increasing, as more investors search for returns in order to help solve their funding deficits. The method of accessing these private market investments will also dictate the effectiveness of sovereign funds are for investing in the SDGs. The closer that more direct investors are to the underlying assets, the greater their ability to access the specific investments of interest, without the distortion of “productization” through financial service providers. Regardless of asset class, translating the SDGs into sustainable and measurable metrics for sovereign funds is required.

Governments have a significant role to play in matching sovereign capital to the SDGs. Certain sectors, such as infrastructure and housing, require Governments to procure assets in a way that allows investments to be made by these investors. As an example, infrastructure inherently has a number of wider economic and social benefits that accrue to society when investments are made. The opening up of these assets to private investors, however, has been a politically sensitive issue—one that, along with the technical knowledge required to package these investments to investors, is creating a barrier to investment. Policy and structural reforms within Governments are required to help ensure that the much-needed investment is made in those sectors that provide essential services to society. There are a number innovations occurring in which Governments have recognized the value of partnering directly with long-term institutional investors such as sovereign funds. These include setting up sovereign development funds with a specific mandate for investment in the infrastructure sector, such as the National Investment and Infrastructure Fund (NIIF) in India and the practice of Governments “offloading” assets to sophisticated institutional investors, as in Australia and Canada. There are lessons from these initiatives that can be applied to many other regions.

In summary, there is significant scope for sovereign wealth funds to invest in areas that contribute to the SDGs. Arguably, there has already been a large amount of investment made in SDG sectors, although this has primarily been done on a secondary or passive basis. A key recommendation for financing for development is to look at the development of sustainable and measurable SDG metrics that SWFs can incorporate into their investment process. This can then be applied to all investors, regardless of size, sophistication or risk appetite. Governments have a role to play in order to package and provide opportunities for investors in scalable, high-impact and attractive sectors. Policy recommendations should center around Governments rewarding investors who have shown a meaningful commitment to the SDGs, by partnering with them on major investments that can achieve significant scale and impact, such as large greenfield infrastructure projects in emerging economies.

## I. Introduction

Sovereign wealth funds (SWFs) are expanding quickly in all parts of the world and are becoming a major force in global capital markets. The number of funds has grown fivefold since 2000 to approximately 80 and more are being created constantly. Furthermore, the volume of assets under management of SWFs has grown \$400 billion to \$500 billion per year since the global financial crisis, reaching a current total of over \$6.5 trillion (Preqin, 2017; Kalb, 2015). Theoretically, there is significant scope for SWFs to invest in sustainable development sectors and support the sustainable development goals (SDGs).

What makes SWFs an attractive match for the financing of sustainable development, is their intrinsically long-term and large-scale nature. Because of their unique set up, SWFs tend to have longer-term or well-defined liabilities, which enable them to invest in more illiquid assets. Furthermore, certain SWFs, such as sovereign development funds, have a specific mandate to invest in sectors that support the social and economic development of local economies. While there may be instruments and opportunities to support the SDGs across the asset-class spectrum, this paper argues that the greatest impact in the sustainable development sectors will come from investments made in the private market space (i.e., areas such as infrastructure, real estate, agriculture, timber, venture capital and private equity). Furthermore, investments made in these sectors have proven to not only provide wider economic and social benefits, in line with many of the goals of the 2030 Agenda for Sustainable Development, but these investments also provide attractive risk-adjusted commercial returns to investors. There are, however, a number of structural issues that have stymied the flow of SWF capital into long-term sustainable development investments. This paper looks to address some of these structural issues and identify key areas for overcoming some of these challenges, both from the SWF investor perspective as well

as the government procurement side.

Notwithstanding the inherent problem of a lack of long-term investment being made by SWFs, there are also a number of other ways that this group of capital can help contribute to the SDGs. Quite often, the stumbling block to long-term investment is a lack of governance, shorter-term liabilities (in the case of stabilization funds), and budget constraints for acquiring talent, all leading to a lower risk appetite. This has led to a reluctance to take on excessive liquidity risk and a stronger desire to invest in more liquid assets such as publically listed bonds and equities. Regardless of assets, there are measures that need to be incorporated across the portfolio of an SWF in order to help support the SDGs. This starts with measuring the SDG exposure in the various assets where SWFs are invested. Such an exercise requires appraising the positive, neutral or negative influences on the SDGs of various assets. A secondary step would be to come up with SDG metrics to measure the performance of an SWF portfolio across different asset classes. The methodologies for doing the above are not very well developed, but with current technological advancements in data science and machine learning, there is much scope for this to happen. These possibilities are explored in this paper.

The paper is structured as follows. Section II provides an overview of the different types of SWFs and how the categorization affects their ability to invest in the SDGs. Section III looks at the predominant models that have been employed by SWFs for meeting their investment objectives and looks at further challenges to sustainable development investing. It also looks at the specific nature of private, alternative asset investing, which is proposed as the most impactful type of long-term investment in sustainable development sectors. Section IV discusses investment styles and trends, and further analysis on what is meant by investment for the SDGs is provided in Section V, along with recommendations for how SWFs can help support the SDGs through investment across their entire portfolio. In Section VI specific case studies that highlight examples of how SWFs can support the SDGs are provided before the conclusions, implications and recommendations from the paper are summarized in the final section.

## **II. Sovereign wealth funds: history and categorization**

While the first sovereign wealth funds (SWFs) date back to the nineteenth century, the modern wave of funds has steadily increased over the last 50 to 60 years thanks to a commodity boom in places such as the Middle East, Norway and many others. In the early years, a number of misconstrued ideas formed around the role of sovereign wealth funds, with critics heralding them as barbarians at the gate, looking to buy others' strategic assets. However, following the recent global financial crisis, SWFs suddenly came into great demand due to their provision of long-term capital for all sorts of industries and sectors in most countries. There has also been far more knowledge and understanding created between host and recipient nations of SWF capital, in large part due to the creation of the Generally Agreed Practices and Principles—Santiago Principles for SWF investment behavior.

The term “sovereign wealth fund” is generally known to refer to a pool of state-owned financial assets that are being managed (invested) for specific economic purposes. These economic purposes usually fall into a number of specific categories that impact and affect the investment behavior of organizations.

### *Types of sovereign funds*

*Stabilization funds* are created with the objective of assisting in balancing short-term fiscal positions for a government. They are designed to insulate the budget and economy against volatility—generally commodity price fluctuations—and act as an additional policy tool for meeting government payments and foreign exchange commitments in countries with less developed capital markets and/or pegged currencies. For example, when commodity prices are low, reserves flow out and are used to stabilize the budget, protecting against shortfalls. When prices are high, surplus reserves flow into the fund. There are examples of stabilization funds in Botswana, Chile, Mexico, the Russian Federation and elsewhere.

*Savings or reserve funds* are set up with the objective of investing excess reserves for the benefit of future generations. The source of reserves has usually come from current, once in a generation, commodity windfalls. There are certain reserve investment funds that are used to supplement foreign exchange reserves and run by a country's central bank. The objective here is to invest excess reserves in somewhat riskier assets to help bolster returns.

*Pension reserve or "buffer" funds* are saving surpluses that will be used for a specific purpose in the future. The funds come from commodity windfalls or out of the current tax base of a country with the aim of providing for contingent, unspecified pension liabilities on a government balance sheet from sources other than individual pension contributions. There is a difference between a pension reserve fund and a government pension fund in that the liabilities from reserve funds flow directly to the government and the government uses the fund to offset shortfalls in the pension system. For a government pension fund, the liability stream flows directly to the individuals contributing to the fund. There are examples of pension reserve funds in Australia and New Zealand. There may not be an explicit liability for these funds, but there will be a specific purpose for their development. In New Zealand's case, it is to smooth the future tax burden of providing retirement income because of the country's ageing demographic profile.

*Development funds* are set up with the primary objective of funding socioeconomic projects or investing in specific sectors within a country. The mission of development funds is usually to bolster domestic industries while also potentially crowding in foreign institutional investor capital. Development funds have also been termed "strategic investment funds". A more detailed case study on development funds is provided in section VI.

As mentioned, most SWFs formed in the second half of the twentieth century were commodity based. Today, the number of commodity-based SWFs is approximately 60 per cent while the remaining amount is made up of non-commodity, or trade-based funds. The older funds are generally larger, with the average asset size of the 21 SWFs that were formed before 2000 being \$260 billion. The newer SWFs, formed since 2000, have an average asset size of \$40 billion. There are currently approximately 80 SWFs in the world today with half of these started since 2005. The current value of total sovereign wealth fund assets is \$6.6 trillion (Preqin, 2017; Kalb, 2015).

### III. Sovereign wealth funds and long-term investment

As mentioned, the different ways sovereign wealth funds (SWFs) are created and their unique characteristics influence the way their assets are invested. This is particularly relevant when it comes to the question of long-term investment in sustainable development sectors. It is argued that the most impactful investments that will support the SDGs are long-term investments made in the alternative private market asset classes such as infrastructure, housing, clean energy, agriculture, timber, venture capital and private equity. There are, however, a number of structural constraints unique to the organizations described above that may inhibit the flow of capital into these high-impact sectors.

The first key constraint that might affect the investment time horizon of an SWF is its *liability profile*. SWFs that need to make payouts in the near term may not be able to invest in illiquid investments that have long lock-up periods. They may not be able to take on short-term volatility, which prohibits them from holding assets over the long term in the face of volatility. Generally speaking, SWFs have lower short-term liabilities compared to other institutional investors such as pension funds and endowments. As noted above, however, stabilization funds may need to draw upon their reserves at short notice, which might affect the investment decision-making process. An investor who acknowledges that they might be forced into selling positions at short notice may be reluctant to take long-term positions, especially in illiquid assets that they cannot readily exit from in the event of redemptions. Savings, reserve and development funds would have comparatively lower short-term liability issues.

Another constraint occurs if an SWF is facing net outflows from their fund rather than net inflows. Investors will be more confident that they will not be placed in the position of needing to sell into weak markets if they are confident that they will continue to draw inflows. Using data from 152 large superannuation funds in Australia during 2004–2010, Cummings and Ellis (2014) provide evidence that the funds flows of institutional investors influence the weightings held in illiquid assets. In particular, although the authors note that the heterogeneous nature of funds makes correlations difficult, they did deduce that larger funds with larger positive funds flows have a larger weighting to illiquid assets.

The *risk appetite* of an SWF will determine whether a long-term investment strategy will be employed, but there are a number of restrictions placed on certain SWFs that affect their risk appetite. A long-term institutional investor should be willing to accept moderate levels of risk, short-term volatility, potential permanent capital loss, and not divest from long-term investments in the face of market pressure. However, very close govern-

ment oversight (where it exists) may affect the risk profile of an SWF and the manner in which risky assets are treated in its accounts. Some regulators require investors to hold high capital ratios if investments are made into illiquid investments, which influences them to invest in low-risk assets. Certain SWFs may be subject to the opinions of politicians when they feel alarmed whenever volatility in asset prices leads to a sharp fall in a fund's value, regardless of whether that volatility had been taken into account. This type of pressure will make the funds cautious about making the investments in the first place. If pressure is placed by stakeholders on SWFs to maintain funded status in the short term and report to the market on a short-term basis, this may result in these funds having a low-risk appetite. Again, such pressures and influences on risk-appetite will be more pronounced for stabilization funds compared with other types of SWFs.

A number of other factors below have been highlighted as general long-term investing constraints for investment organizations. The factors will be apparent to SWFs in varying degrees depending not only on the structure and type of fund defined above, but also in how the best practices and guidelines contained in the Santiago Principles have been implemented.

The investment *decision-making process* within an institutional investor organization may provide certain constraints for the implementation of a long-term investment strategy. Laverty (1996) argues that organizational factors are a key contributor to short-termism. For example, organizational inertia and unwillingness to adapt towards the future can stem from group-think, escalating commitment and social structures within firms.

Multidivisional structures can combine with short-term measurements to encourage business units to focus on short-term outcomes; Laverty (1996) also cites managerial opportunism in pursuit of short-term results, building of reputation and avoidance of risk. Investment managers are often incentivized to maximize their performance over the short term, in line with bonus and other compensation payouts, or their performance may be pegged to an index benchmark such as the S&P 500, discouraging investment decisions from being made over the long term and employing a different performance trajectory to the benchmark (Stoughton et al., 2011).

Another important consideration is the length of the decision chain from the principal to the ultimate deployer of capital. The lengthening of the chain helps to foster a short-term culture, as delegated agents attempt to satisfy the expectations of investors who in turn are monitoring the agents based on the flow of short-term results. Internationalization has further distanced investors from their assets (i.e., companies they hold). Kay (2012) suggests that this chain creates misalignments, such as bias for action, as agents aim to justify their positions. The longer the decision chain, the higher the likelihood of misalignment.

Long-term investing requires a certain amount of *resource capability* to address the unique types of risks that are played out over a longer time frame. Certain SWFs face budget pressures that prevent them from acquiring the necessary research tools and internal expertise to help execute a long-term investment strategy. The market for investing talent is highly competitive and there are considerable challenges in attracting the necessary expertise due to restricted compensation levels and relatively fewer staff in organizations such as the SWFs described above.

Quite often, a fund's asset size will not only dictate the governance and internal capability to evaluate investments but also an institution's access to opportunities. As a result, smaller SWFs tend to have more conservative asset allocations compared with the largest funds.

The average tenure of a chief investment officer is approximately four years, meaning that long-term investing can provide a significant career risk. The tenure for more junior staff may be shorter and there can be significant pressure to perform within this period to achieve career progression. As a result, assets with a short time frame may be more attractive for investors.

There may also be constraints to long-term investment by institutional investors due to implicit understandings about the market and where the highest returns can be achieved. Long-term investment will require the belief within institutions that the returns generated from making long-term investments will be large enough to justify the associated risks, such as liquidity risk. There is a strong need within SWF organizations for principals, trustees and managers to believe strongly in a long-term investment strategy and understand counterarguments before investments can be made.

Good governance appears to be the most crucial aspect to the development of robust investment strategies for SWFs and a critical determining factor for funds to invest over the long-term. Related to this is the role of government when it seeks to promote an SWF agenda. Establishing clear independence is a prerequisite in order to avoid political interference, which may erode the fund's ability to effectively achieve its financial and economic objectives. This is particularly relevant for development funds or strategic investment funds where domestic investments may destabilize macroeconomic management and undermine the quality of public investments and the wealth objectives of the funds. A clear separation needs to be made (generally for all SWFs) between the government as a promoter of investments and as owner of the SWF. It is thus necessary to build capacity for an SWF to operate as an expert, professional investor that can independently appraise prospective investment opportunities.

#### **IV. Sovereign wealth fund investment styles and trends**

The investment objectives of sovereign wealth funds (SWFs) are translated through an asset allocation process that is usually conducted alongside an investment consultant. Strategic asset allocation refers to a target allocation of assets into various asset classes based on the risk and return characteristics of a fund. Across the asset-class spectrum there are investments that suit certain types of investors more than others based on their risk tolerance, time horizon and expected return. SWFs with a shorter time horizon will have a greater allocation to shorter-term, more liquid assets such as bonds and certain public equities. Longer-horizon investors will have greater allocations to alternative, illiquid asset classes.

Investment policies should address performance of the whole fund as opposed to the performance of individual asset classes. Strategic asset allocation can have its drawbacks in that different asset classes have clear allocations that lead to a "bucket filling" exercise, wherein asset-class experts must achieve an asset-class-specific level. This can lead to a good asset-class outcome but it doesn't guarantee a good overall fund outcome. Other funds have taken a "reference portfolio" approach, where a simple passive listed portfolio is used as a benchmark. The investment teams within the fund are then incentivized and remunerated on how much value is added relative to the reference portfolio. The actual portfolio therefore deviates from the reference portfolio only if those investments make the overall fund better off, not just one division.

In conjunction with the asset allocation decision, a number of distinct investment models have emerged between the SWF and wider institutional investor community.

First, there is the *Norway model*, which is based on the strategy of investing primarily in traditional public market assets, whether equities or fixed income. Returns are generated through benchmarking public market indexes and the model often uses tracking error constraints relative to these benchmarks. It usually encompasses a traditional 50/50 or 60/40 equity/fixed income mix and uses a large insourced team with a small allocation to external managers to achieve its objectives.

Second, there is the *Yale or endowment model*, which is based on adding risk to the portfolio by investing in private market asset classes, such as private equity, real estate, infrastructure, and hedge funds, through external managers. A "top-down" model is employed in-house for the selection of an asset class/strategy, with external managers then assuming most of the responsibility for the investments. The endowment model is much more costly (due to the high fees of asset management firms) and has been based on getting priority access to well-performing external managers.

The third model is the *Canadian model*, employed by the large, sophisticated pension fund investors in Canada, and is characterized by largely insourced (direct) investment that has a higher allocation than most to private market alternative asset classes. The driving force behind the Canadian model is the ability to hire expert internal staff to execute the investment programme on a more cost-effective basis than using external managers.

More recently, we have seen a fourth model of investment emerge that combines aspects of both the endowment and Canadian models. The *collaborative model* recognizes that private market investing in assets like infrastructure and development projects is consistent with a long-term investment strategy, that the direct method of investing is the most cost-effective form of investing, and that alternative, external investment managers are required, but the governance needs to be redefined for more alignment. In this way, the collaborative

model involves the platforms/vehicles that SWFs are developing among themselves, as peers, to invest more efficiently in long-term assets and get as close as they can to the direct method. These include co-investment platforms/vehicles, joint ventures and seeding managers. The collaborative model has involved SWFs forming co-investment partnerships among themselves or developing more aligned arrangements with their asset manager partners. Examples of the collaborative model among SWFs include the Abu Dhabi Investment Authority (ADIA), NZ Superannuation Fund and Alberta Investment Management Company forming an investment alliance to invest in innovation in Silicon Valley; the Government Investment Corporation (GIC) teaming up with manager Highstar Capital to buy GWF Energy; and ADIA investing with and through the National Investment and Infrastructure Fund (NIIF) to access infrastructure investments in India (a detailed NIIF case study is provided in section VI).

Depending on the individual characteristics, SWF investors will usually adopt a combination of the four models described above to invest in a spectrum of asset classes.

#### **IV.1 Long-term private market investment for sustainable development**

Long-term investors such as SWFs can make an important contribution to growth in various ways, but perhaps most importantly by financing long-term projects, such as infrastructure, clean technology, real estate and agriculture. Infrastructure in particular has been the subject of much attention for attracting long-term investment, as most nations around the world struggle to address their infrastructure investment deficits. The very nature of infrastructure investment provides significant benefits to societies by contributing to economic growth, which further emphasizes the value of having long-term investors in these assets.

In the broadest sense, infrastructure services are those physical facilities that provide the building blocks of a functioning society. Within this broad concept, social infrastructure (e.g., health and education) can be distinguished from economic infrastructure. Economic infrastructure relates to the channels, pipes, conduits and apparatus that deliver power and water, provide protection from floods, and take away waste. It also includes the roads, railways, airports and harbours that allow the safe movement of people and goods between communities. These services directly support the well-being of households as well as production activities of enterprises at various points of the value chain, and is thus directly relevant to the competitiveness of firms and to economic development (Morley, 2002).

Specifically, the power industry, comprising generation, transmission and distribution, forms an integral part of the backbone of a modern economy. Without adequate investment and a reliable supply of power, an economy is unable to function efficiently, with economic growth targets difficult to achieve due to outages and blackouts. An integrated transport infrastructure that includes roads, railways, airports and seaports makes it possible to link underdeveloped parts of a country and regions into the global economy. Investments in transport infrastructure allow goods and services to be transported more quickly and at lower costs, resulting in both lower prices for consumers and increased profitability for firms. Water infrastructure relates to the delivery, treatment, supply and distribution of water to its users as well as for the collection, removal, treatment and disposal of sewage and wastewater. Investment into water infrastructure is crucial for sustaining the central role that it plays in human societies while also protecting aquatic ecosystems, which is critical for environmental health (United Nations, 2008).

The impact of infrastructure investment for the wider economy has been established through various economic studies, a number of which show the relationship between infrastructure investment and economic growth. Most of the research in this area has been done using the production function formula, where the output elasticity with respect to public capital (regarded as a synonym for infrastructure) is calculated to determine if higher rates of government expenditure can increase long-term growth rates (Solow, 1956). Early work indicated that a positive relationship exists between private sector output and infrastructure investment (Romer, 1986; Lucas, 1988; Aschauer, 1989). The direction of causality and quality of data were highlighted as limitations of the early studies; nevertheless, further work has also shown a positive relationship between public capital and private output (Munnell, 1992; Gramlich, 1994; Lau and Sin, 1997; Berechman and others, 2006; Sun and Zhu, 2009). Using an annual time-series growth regression, Égert and others (2009) provides additional evidence showing that the contributions of infrastructure have a positive impact on economic growth.

Investments in other private market asset classes can also be seen to have wider economic impacts. Venture capital investments that back entrepreneurs and new businesses, for example, have been proven to contribute to economic development (Lerner and Kortum, 2000). Venture capital financing can result in new employment for businesses as well as the stimulation of businesses related to a new venture or sectors that support one. Through unique offerings of new goods and services and production processes, entrepreneurs can improve efficiency, and the innovation leads to economic growth (Timmons and Bygrave, 1986; Samila and Sorenson, 2011; Lerner and Kortum, 2000).

Similarly, certain real estate development investments have provided economic benefit, particularly those in underdeveloped areas, which could be classed as targeted investments (Hagerman and others, 2007). In fact, certain SWFs that have had a specific development focus (i.e., investing in real estate, private businesses and infrastructure) have been able to post attractive investment returns.

By 2030, as global population surpasses 8 billion, there will be significant increases in food demand, creating pressure for higher production of agricultural crops. Agricultural investment seems suited to SWFs and necessary for improving output productivity to meet global demand. The growing middle class in the developing world will be looking to consume more and more protein. A shift towards greater global protein consumption will increase demand for grain dramatically (TIAA-CREF, 2012). Furthermore, continued development and industrialization will reduce the land resources for agriculture. All of these long-term economic factors will drive the value of agriculture assets, highlighting the importance of long-term investment in this area.

Clean technology companies that help mitigate climate change require significant amounts of financing and should be ideally suited to long-term institutional investors. In the past, in order to access green energy opportunities, investors would normally use asset managers to invest through a closed-ended private equity fund structure. These investments, however, require large amounts of capital and longer horizons, not suited to the typical fund structure. SWFs have inter-generational time horizons and deep pockets, which makes them valuable partners for capital intensive and long-gestation companies. In this way, by leveraging off their key attributes (scale and time horizon), SWFs stand to make attractive returns and have significant impact.

## **IV.2 Private market/alternative investing**

Private market investing is an umbrella term encapsulating a variety of illiquid investments that cannot be sold at short notice and therefore require a long-term investment horizon and patient capital. These types of investments (as outlined above) include infrastructure, renewable energy, agriculture, natural resources, real estate, venture capital and private equity. The opaque nature of private market assets and various information asymmetries has meant that a relational form of delegated investing has been adopted by a large number of SWFs for accessing these assets, involving a large reliance on intermediaries for the investment process. This is in contrast to direct investing or co-investing, where capital is deployed directly into the asset or company.

Private companies or assets are not subjected to the information disclosure regulations that publically listed companies must adhere to, giving investment managers the opportunity to gain access to and act on information not readily available in the public domain. Investments into private markets also often requires managing the assets actively, playing a material role in growing the assets, and adding significant value over the investment period. Investment management firms have investment professionals with the necessary skill set for sourcing, analysing, executing and managing long-term assets who are dedicated to taking advantage of informational asymmetries in private markets. For these reasons, many SWFs without sufficient governance and resource capability have utilized the services of third-party investment managers and consultants for making investments into private markets.

Investors in private markets should thus expect higher returns compared with public markets because of the premium paid for illiquidity and other asset-specific risks. While the benefits from each asset class vary (as well as the data and benchmark used for comparisons), there is substantial academic literature to suggest that private market investing can offer greater returns over investing in the public markets (Harris and others, 2013; Axelson and others, 2013; Robinson and Sensoy, 2011; Ljungqvist and Richardson, 2005; Stucke, 2011; Fisher and Hartzell, 2013). This is particularly true for private equity and real estate. While venture capital fund returns outperformed public equities in the 1990s, they have underperformed in the most recent decade (Harris and others,



2013). Infrastructure is a relatively new private market asset class, making reliable returns data quite limited. Early studies have shown that infrastructure has been mixed with a large amount of variation in the types of assets and subsequent returns achieved (Inderst, 2009).

Institutional investors' allocation to private markets has been increasing over time. Andonov (2013), based on the CEM database,<sup>1</sup> shows that institutional investors in developed economies have increased their allocation to alternative assets (which also includes hedge funds) from 8 percent in 1990 to more than 15 percent in 2011. He finds that larger institutional investors have increased their allocation in a higher proportion. Larger investors not only allocate a greater percentage of their assets to alternative investments, but also are more likely to invest simultaneously in multiple alternative asset classes. In addition to the size of investments, institutional investors that diversify their public equity investment internationally also invest a higher percentage of their total assets in multiple alternative asset classes at the same time. Institutional investors that use more active rather than passive management in public equity are investing a greater proportion in alternative asset classes, where passive investing is virtually impossible. The results suggest that institutional investors do not substitute active management in public equity with alternative investments; rather, they engage simultaneously in active investing in public and private markets. Most industry-based publications and surveys would indicate that institutional investors will be increasing their allocation to private market asset classes over the next several years and beyond (Prequin, 2014; Towers Watson, 2015). The assets managed by SWFs have been growing by about \$400 billion–\$500 billion a year. Simply to maintain their current weightings, these funds will have to allocate about \$150 billion–\$200 billion a year to alternative investments (Prequin, 2017).

As indicated, there are a number of principal/agent and governance issues associated with utilizing third party intermediaries for making private market investments. One of the problems with investing in alternatives is that it can be very expensive. A large number of SWFs utilize asset managers for alternative investment, which means paying the 2-and-20 fee model. This refers to an annual 2 per cent management fee and 20 per cent performance fee, which can amount to roughly 3–4 per cent in total annual fees. Portfolio construction costs for investing in alternatives can add an additional 1–2 per cent, so the total cost of running an alternative investment programme can accumulate to 5–6 per cent a year. With this in mind, SWFs expecting to earn an illiquidity premium of 5 per cent on their alternative strategies may end up spending the entire premium on fees. To provide further perspective on this magnitude, an SWF investing \$10 million or \$20 million—or even \$50 million—with an external manager may still be a good idea for the SWF because it is unlikely that the SWF could replicate the resources of that manager with the fees it is paying. However, if a larger SWF with a very large volume of assets under management invests \$500 million with an external manager under the 2-and-20 fee structure model, the total fees would be about \$20 million per year. Over 10 years, the total would be \$200 million in fees. For these reasons, SWFs have been looking at new methods of investing and exploring better ways to work together with external managers that are fair and equitable in order to create structures where everybody can do well and share in the benefits of good performance (Kalb, 2015).

### **IV.3 Emerging-market investing**

In areas that might have the most impact for the Sustainable Development Goals (SDGs), such as underdeveloped regions in Africa, Asia and South America, the attraction to SWFs based in developed countries has not been particularly strong. The question of investing in emerging economies relates back to the question of governance, and an appetite for risk that involves considerations similar to those of investing in illiquid assets. For SWFs based outside of emerging markets (EMs), a key challenge for investing in EMs has been to get the right internal culture to invest in a meaningful way. Many funds might direct a small number of external managers to invest in EMs generally, but the overall exposure would not be very large. Investing in EMs has been more of an opportunistic activity with investments gaining exposure to different asset classes but lacking focus. Common problems for increasing exposure have been a lack of conviction from GPs, cultural issues and currency risks. It has also been difficult to get the right benchmarks for EM investments because of the lack of depth of capital markets. Overall, there seems to be sufficient inertia within organizations to keep them from meaningfully in-

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<sup>1</sup> The CEM Benchmarking Inc. collects data from institutional investors through yearly questionnaires. The data in this study utilizes detailed information on the strategic asset allocation and performance of institutional investors during the 1990–2011 period.

vesting the necessary resources EMs. On a risk-adjusted basis, many western-based SWFs have not found the opportunity compelling enough.

Despite the above, there are a number of global dynamics that would suggest that EMs are an attractive destination for reliable long-term capital. While the US public equities market has been rallying at record levels since the global financial crisis, there is investor caution around how long this will continue. In addition, the price of assets in developed countries—particularly in a low interest-rate environment—has created difficulty in identifying sources of value in these regions. A number of investors may have been underpricing developed-country risk and overpricing EM risk. The larger, more sophisticated long-term institutional investors in developed markets have recognized some of these points and have been investing in EMs in significant ways; some of these investors have set up offices in the new regions in order to have a local presence in areas where they previously did not have much oversight. Developing relationships with key local players has been crucial; partnering with family offices, sovereign development funds and multinational corporations is one of the strategies employed.

The above discussion has concentrated on the perspectives and challenges of SWFs based in western developed countries. For sovereign funds located in developing countries, the potential for investing in their local and surrounding economies is great. This is usually done through sovereign development funds. Their nature, unique characteristics and role for the sustainable development agenda are highlighted in the case studies in section VI.

## V. Sustainable development sectors

It is argued that the greatest impact sovereign wealth funds (SWFs) can have for the Sustainable Development Goals (SDGs) is through long-term investments in the alternative private market asset classes such as infrastructure, real estate, agriculture, timber, venture capital and private equity. Not all SWFs are able to invest in these assets, particularly in a more direct, efficient way. This section thus outlines how the SDGs can be accessed for investment across the asset-class spectrum and identifies areas where and how the SDGs can be supported by SWFs more effectively.

Determining how and to what extent SWFs can access and promote the SDGs requires an assessment of where those SDGs already align with existing asset classes and investment products. It also requires an understanding of the strategies that SWFs have in furthering specific SDGs, measuring their exposure, and establishing programmes that facilitate investment.

The SDGs cover a broad range of development objectives, and while some of the goals that apply to economic development are readily accessible by current investment products and services, others are mostly accessible through private markets and direct investing programmes on a case-by-case basis. Others will require support from Governments and multilateral institutions to make them accessible by SWFs without significantly increasing risks or reducing investment returns. Access to these SDGs is thus often limited by insufficient staff time and a lack of other resources that could package opportunities into investible projects SWFs could support.

While there is little formal reporting or targeting of the SDGs by SWFs, there has been some adoption of reporting or metrics by service providers to the impact investment industry. Just one year after their adoption, 42 per cent of the industry reported that they use the SDGs to measure and report on their impacts.<sup>2</sup> One of the most common frameworks used by asset owners for assessing impact generally is the IRIS framework, which can report and track impact and sustainability across sectors and asset classes. For the SDGs more specifically, a common metric is the Investment Leaders Group (ILG) framework developed at the University of Cambridge, which groups the 17 SDGs into 6 themes and metrics to simplify and standardize reporting. That system will be described in further detail later in this section.

Formal programmes to address the SDGs and other impact-investing allocations are rare in SWFs, with a few notable exceptions. Those SWFs with impact-investing targets are often funds created with objectives and metrics other than investment returns. These sovereign development funds often have a mandate to achieve investment returns and also develop the local economy or alleviate poverty in their sponsoring nation, and are

2 Global Impact Investing Network (2017). The State of Impact Measurement and Management Practice. Available from <https://thegiin.org/research/publication/imm-survey>.

thus more likely to create investment allocations that are both impact and return oriented.

## **V.1 Impact strategies**

There are a variety of strategies that SWFs can use to invest in the SDGs. These will depend on the type of fund, the risk appetite and the portfolio of assets selected.

### ***Passive investment: publicly listed***

For most SWFs, constraints in furthering the SDGs are driven by limited staff time and investment opportunities, not capital. The majority of capital currently invested in SDG-related assets and companies is thus achieved through passive investing. Passive investing can be done directly in publically listed assets or through fund managers with an SDG orientation or strategy.

Investing in public listings that further the SDGs is a low-impact but easily scalable way to incorporate SDGs into an SWF investment strategy. While certainly useful, the breadth of SDGs accessible via public markets is relatively narrow, and the impact that SWFs are able to have through this model of investing is fairly low because these listings already enjoy access to capital markets. Thus, SWF investments in publicly listed assets have a relatively low impact if individual investments are relatively small.

Despite the limitations, there are certain public market passive indexes or exchange traded funds (ETFs) that have been developed to concentrate exposure towards the SDGs, thus providing options for SWFs. The iShares MSCI Global Impact ETF is one example of a public market fund designed specifically to address the SDGs. The fund targets companies that both employ business practices that further the SDGs and also deliver products or services that directly address one or more of the SDGs. Other ETFs or indexes that have been developed may focus on certain SDGs, such as climate change, or sustainability, such as the Dow Jones Sustainability Index.

Another public market strategy that can leverage some impact would involve SWFs taking an outsized position in a public company and further acting as an activist shareholder in the company, but this is a strategy rarely used for impact investment in general, and there are few examples to date of this activist shareholder strategy being used by SWFs to specifically further the SDGs.

### ***Passive investment: private funds***

Private funds are another model through which SWFs can gain exposure to the SDGs, and this strategy has increased significantly in recent years. Private funds include the asset classes, such as private equity, real estate, infrastructure and venture capital, which all might have secondary or inherent SDG impacts. There are also specific impact-investing funds that have been set up with the main objective of creating impact. Impact investing funds vary significantly in their particular strategies, metrics and return targets. These funds effectively overcome the human capital constraints on SWFs in pursuing SDG-based investment targets, but they also have significant limitations.

Closed-ended private funds must generally maintain fairly high return targets to make the economics of the structure work, in part because of the high fees required by the investment vehicles. These fees are also often both a function of assets under management and investment returns, which further incentivizes fund managers to target high returns. The added layer of fees can limit the use of this model in pursuing some SDGs that may require concessional returns; it may also limit the ability of funds to work with Governments and multilaterals to develop investment opportunities, in part because Governments are often wary of structuring high-return investment opportunities with private funds. A 2017 survey of impact investment funds reported that more than 60 per cent of the funds were targeting a market-rate or higher investment return, with only 13 per cent of funds reporting that they were targeting rates of return closer to capital preservation.<sup>3</sup>

Closed-ended funds also naturally limit the ability of SWFs to actively manage their investments in SDGs. As discussed in section IV.2, the specific terms of private investment funds, above and beyond their fee structure, can significantly impact the capability of the fund in furthering the SDGs and the ability of the SWF to actively track or manage its performance. Because private market investing naturally does not have the same disclosure requirements as public market investing, SWFs and other institutional investors must rely significantly more on their asset managers and other service providers to track their exposure and performance. In 2017, 35

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3      *ibid.*

per cent of impact investment funds reported that there was no explicit performance metric or formal incentive for investment staff to meet the fund's impact targets, though many of the funds reported that staff were intrinsically motivated to meet impact objectives.<sup>4</sup> While most impact investment funds have active measurement programmes and provide reporting to their investors, 43 per cent reported that obtaining quality data from investments remains a significant challenge to reporting, and 32 per cent further reported that aggregating data across the investment portfolio remains a challenge.<sup>5</sup>

### **Active/direct and enabling investment**

Direct or active investment is the most resource-intensive but highest-impact strategy for accessing the SDGs by SWFs. The use of the strategy has thus been fairly limited, but three are innovative examples of SWFs that have developed direct investing teams or platforms to further SDG or other economic development mandates. Direct or active investments also often entail additional risk, primarily because the ability to diversify is significantly lower through direct investment, and active investment naturally requires either complete ownership or ownership of a sizeable share of a target company or asset. Active investment involves the purchase of a controlling interest in an asset or operating company in order to influence or direct the adoption of practices or new initiatives that would further a particular SDG.

The term "enabling investment" is used here to describe a form of active investment that could further some of the SDGs even when the target asset is not directly related to the SDG. While naturally limited, there is that the potential for SWFs to partner with enterprises or Governments in financing programmes or initiatives that enable the partner to further an SDG. Investments with partner companies that support transitions to more responsible manufacturing, clean energy or reduced environmental impacts would fall within this subcategory of active investment.

Within the SWF industry, sovereign development funds are significantly more likely to create the internal capability to manage direct investing programmes with a specific impact focus, and also significantly more likely to achieve those impacts through enabling investments. This is partially because sovereign development funds often already have a dual-mandate incorporated into their charter that requires the fund to both achieve investment returns and also perform against other metrics, such as developing the local economy or alleviating poverty. This experience with using multiple performance metrics and the relative prevalence of direct investment teams make sovereign development funds particularly well suited to impact-oriented direct investment programmes in general, and thus more likely to adopt programmes with specific objectives to address one or more of the SDGs.

## **V.2 Measuring exposure**

To date, the SWF industry lacks a common metric for measuring exposure to the SDGs, and those SWFs that measure and report their exposure use a variety of metrics to do so. IRIS, the metrics most commonly used to measure and report on impacts generally, and the metric system recently created by the ILG that addresses the SDGs more specifically, are described in detail below. First, the concepts of portfolio tracking and impact measurement—which generally reviews the evolution of impact measurement and reporting—are discussed.

### **Portfolio tracking**

Portfolio tracking of exposure to SDGs is by far the most common way that SWFs or fund managers have tracked or reported their allocations to goals in public markets. Under this system, individual SWFs and fund managers catalog each of their investments and their exposures to the individual SDGs, and then provide a roll-up accounting of each SDG and its weight in their portfolio. Individual investments are "tagged" as furthering the SDGs, with some investments accessing several SDGs, depending on the nature of the company or asset. A higher order version of tagging individual investments has also been used in categorizing specific industry verticals as impacting each SDG positively (or negatively) and then summarizing the portfolio's impacts based on its exposures to those particular industries.<sup>6</sup>

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4 Ibid.

5 Ibid.

6 See [https://www.nnip.com/SK\\_en/corporate/News-Commentary/view/NN-IP-sketches-roadmap-for-invest-](https://www.nnip.com/SK_en/corporate/News-Commentary/view/NN-IP-sketches-roadmap-for-invest-)

While portfolio tracking using these metrics is clearly useful, and a strong first step by any SWF in assessing its performance in furthering the SDGs, it also has some limitations. Industry tagging is useful in estimating exposure for some of the SDGs, but it cannot be used for others, such as gender equality, because progress along those SDGs is really only measurable by assessing specific companies or assets. Even in tagging individual investments, this process involves some subjective nuance on the part of investment staff. Additionally, many operating enterprises impact multiple SDGs in different ways that are not easily represented by a simple tagging metric.

### **Goal-based impact measurement**

Some SWFs are turning to more direct measurement of the impact of their investment portfolios on furthering the SDGs by rolling up actual operating results. This practice is fairly new, varies significantly among individual investment organizations, and often requires considerably more resources and operational data in developing an aggregate picture of the portfolio's exposure. While there is no universally accepted standard for measuring all of the SDGs in aggregate, several initiatives have been used to aggregate information relating to some specific SDGs. GRESB Infrastructure and Real Estate, for instance, provides an online assessment tool that investors in those industries can use to measure their climate impact and general sustainability based on a set of eight core aspects and 32 indicators on specific projects and assets.<sup>7</sup> The tool also enables investment organizations to compare practices with their peer group.

These more nuanced operational assessments can give investors a clearer picture of their exposure to specific SDGs, but are naturally more aligned with the same SDGs in which investment and measurement is easiest. While measurements of the impact on industry, economic growth, clean energy and even climate action are more readily available for specific investments, other SDGs such as gender equality or peace and justice lack a readily available measurement system that can be applied to companies or assets. Other SDGs, such as poverty reduction or health and well-being, can be readily tagged to a particular investment, but the operational impact of that investment on those SDGs is often difficult to measure clearly.

### **Specific examples of metric programmes**

IRIS is the system most commonly used by impact investors and other social or environmental investment programmes to measure and report their performance. The IRIS system is essentially a catalog of generally accepted metrics that apply to different sectors or operations of an investment. Both qualitative and quantitative metrics are included, and there is no standard template for an IRIS report. Rather, investors must select which metrics from the catalog will be most useful for their measurement and reporting programme. IRIS is essentially a clearing house for impact performance metrics, and the system assists investors in identifying which metrics apply to specific sectors within their portfolio and those that can be applied across their portfolio in their entirety. IRIS was created to leverage industry-specific standards wherever possible and it developed additional metrics for sectors or objectives when one did not exist. Many users create a set of metrics for investees that can be applied across portfolio companies and additional sets of metrics that apply to individual sectors. The catalog can also be used by investors to compare their metrics with those of their peer organizations, or by SWFs and other institutional investors that would like to apply a standardized form of reporting across all of their asset managers and service providers.

The ILG is a collective of long-term institutional investors—like pension funds and SWFs—that collaborated with a research group at the University of Cambridge in 2016 to develop its own set of performance metrics specifically addressing the SDGs. The framework was designed to improve on older metrics by placing more emphasis on environmental and social impacts directly, as opposed to impacts on investment returns, and a focus on actual outcomes, as opposed to investment processes and practices. The ILG framework groups the SDGs into three societal and three environmental impact themes and establishes a metric for each. The three societal themes are *Basic needs*, *Wellbeing*, and *Decent work*. The three environmental themes are *Resource security*, *Healthy ecosystems*, and *Climate stability*. For each of the themes, the ILG framework provides a simple “base” metric that can act as a proxy for an investment impact along that theme, as well as “stretch” metrics that could provide clearer or more detailed information, but that require data not readily available today. For instance,

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[ing-in-UN-Sustainable-Development-Goals.htm](#).

<sup>7</sup> Available from <https://api.gresb.com/infra/home>.

the base metric for the *Decent work* theme, which is meant to encompass SDGs 8-10, is simply the number of employment opportunities created per million dollars invested. Also, the ILG has a scale by which investment opportunities can be compared with one another. While metrics have been proposed for all six themes, detailed measurement guides have been developed for only two of them, while the other four remain in development.

### **V.3 Allocation metrics**

In furthering access to SDGs, SWFs and fund managers have experimented with a variety of different metrics or key performance indicators for their investment teams and asset managers. Each of these metrics faces the same challenges and in some cases subjectivity in measurement described in the preceding section. Here, two different forms of these metrics are characterized broadly as goal-based allocations for asset managers or investment teams and the more nuanced establishment of dual metrics for investment staff and service providers. While these metrics significantly overlap and in fact require the effective measurement of impacts described in the previous section, these metrics are used to more specifically incentivize and then evaluate staff or asset manager performance in furthering the SDGs or other impact investment goals.

#### **Goal-based allocations**

Goal-based allocations are a fairly simple and more widely used metric that requires a particular allocation to further one or more of the SDGs, any investor requirement, or a metric beyond investment returns. Under a goal-based allocation, an investment team is simply required to source investments that impact a particular development goal. Beyond that requirement, an investment team or manager is assessed using the same performance metrics that would be used otherwise—that is, they are to construct an investment portfolio that maximizes their risk-adjusted returns.

Goal-based allocations are a simple metric for targeting portfolios towards investments that support the SDGs, and they have the added benefit of providing clear incentives to investment staff and managers to continue maximizing investment returns within their designated “box” of investment opportunities. They are also fairly easy to establish and administer. Goal-based allocations do still have several shortcomings. First, in practice they can be fairly subjective on the margins, for the same reason that the practice of tagging investments to measure SDG exposure can be. Also, goal-based allocations do not provide a measurement or metric for investment staff and managers to compare between two potential investments, both of which further an SDG and also offer varying risk-adjusted returns. Two clean energy investments, for instance, would be compared based only on their potential risk-adjusted returns as opposed to a goal-related metric, such as their carbon reduction over time. While goal-based allocation metrics are unable to capture nuances such as these to maximize impact on the SDGs, they are often beneficial in establishing a simple performance metric without sacrificing returns.

#### **Dual-metric establishment**

The establishment of dual-metric programmes is a relatively new but growing in practice in the impact investing industry. Under these programmes, investment staff and managers are given specific performance indicators that relate to one or more specific SDGs and are evaluated using both that metric and investment returns.

These dual-metric programmes provide the benefit of directly incentivizing the furtherance of SDG investment for staff, but are more difficult to establish in practice. They are generally only applicable for SDGs in which clear operational data can be measured and aggregated in an investment portfolio. They are also significantly more complex than simple goal-based allocations, which may create a complicated and less clear system of performance evaluation for an investment organization. These metrics are also only as effective as the availability of both data and objective measurement for an investment's impacts on a particular SDG. Because these metrics drive results, care must be taken to design dual-metric evaluations so that they do not expose the allocation to excessive risk or reduce investment performance beyond that targeted by the SWF creating the programme.

#### **Applications in practice**

Within the impact investment community, there is a wide range of reported use of metrics to evaluate staff, asset managers and investees. In a 2017 survey, 35 per cent of impact investors responded that they have no explicit staff performance metric evaluated against the impacts achieved, while 19 per cent reported that staff

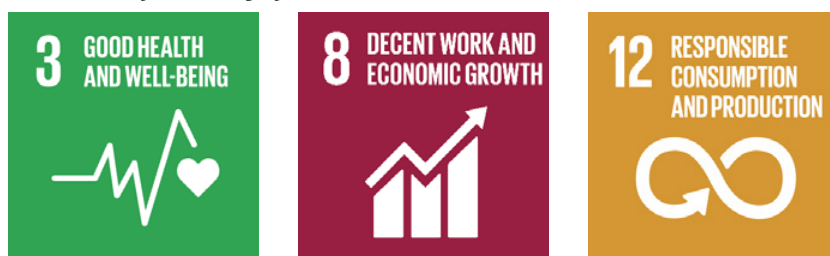
compensation is tied to achieving impacts for some or all of their staff. Metrics were reportedly used more often to evaluate investees, with 31 per cent of impact investors reporting that follow-on capital was tied to impact targets, and 15 per cent reporting that the achievement of impact targets was tied to better investment terms for investees. Eight per cent of the impact investors surveyed reported that they tied management team compensation for investees to the achievement of impact targets.<sup>8</sup>

PGGM, a large Dutch pension fund manager, provides an interesting example of a large institutional investor working to incorporate impact investing metrics into their portfolio of investments broadly, with a specific focus on the SDGs. As part of a working group of other banks and institutional investors, PGGM identified six SDGs for which it would measure investment and impact through four sustainability themes. The selected SDGs include Climate Action, Responsible Consumption and Production, Affordable and Clean Energy, Clean Water and Sanitation, Zero Hunger, and Good Health and Well-Being. PGGM then selected or developed quantifiable metrics that would evaluate investment opportunities and their performance against the selected SDGs. The scope of PGGM's metrics was limited to capturing the impacts of their current and planned investments, as opposed to limiting investment decisions or explicitly weighing the trade-offs between investment opportunities. However, the programme has already produced benefits by incentivizing better reporting from PGGM asset managers and investees; it also helped them better formulate how their various investment strategies map to specific impacts.<sup>9</sup>

#### V.4 SDG accessibility by sovereign funds

On a goal-by-goal basis, there is significant variation in the ability of SWFs to access investment opportunities that further individual SDGs. In this section, the specific SDGs are grouped into four sets, based on their accessibility to SWFs, in terms of their ability to gain exposure to the SDG; the availability of investment products that support those SDGs; and the availability of clear metrics by which an SWF can currently evaluate its exposure and performance. These groups include (i) a set of real economy SDGs that are highly investible; (ii) a set of climate SDGs in which few pure-play investments exist, but those that do can be measured across a portfolio; (iii) a set of social SDGs that are difficult for SWFs to access in a programmatic way; and (iv) a set of sustainable infrastructure SDGs that are accessible as investment opportunities, but that require innovative new fund models and approaches on the part of SWFs. This categorization identifies those SDGs that are currently readily accessible by large institutional investors; those that are more difficult to access or are a function of business practices (as opposed to pure-play investment opportunities); and those that can be accessed by SWFs via innovative investment programmes and partnerships with government.

##### **Real economy SDGs: highly investible**



These SDGs are readily investible by SWFs, and virtually all institutional investors justifiably have some exposure to them already. The SDG on economic growth is likely a component of all investment portfolios, and the SDGs of responsible consumption and production and health are accessible by almost any allocation to health care or manufacturing and consumer products.

<sup>8</sup> State of Impact Measurement and Management Practice.

<sup>9</sup> See [https://www.dnb.nl/en/binaries/SDG\\_Impact\\_Measurement\\_FINAL\\_DRAFT\\_tcm47-363128.PDF?2017091813](https://www.dnb.nl/en/binaries/SDG_Impact_Measurement_FINAL_DRAFT_tcm47-363128.PDF?2017091813).

### Climate SDGs: portfolio approach



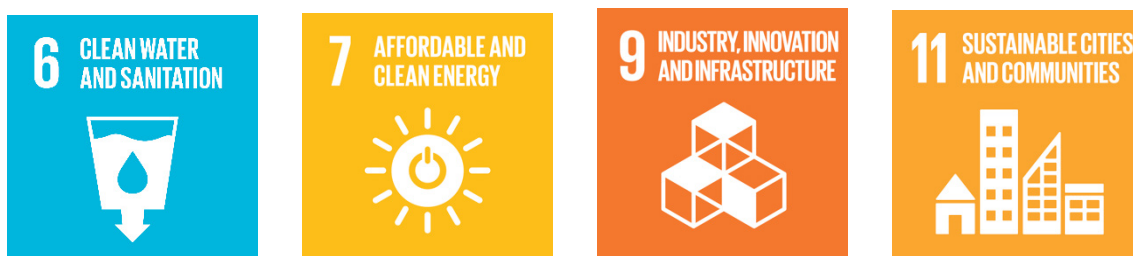
The SDGs focusing on climate change and environmental conservation are difficult to access as pure-play investments, but a portfolio approach to measuring their exposure is viable. For example, investments in sustainable farming companies or clean energy and infrastructure impact both climate change and the environment. The impact of an investment portfolio on these climate SDGs is also better mentioned by specific qualities of individual investments, as opposed to the investments themselves. A real estate portfolio, for instance, does not inherently further a climate SDG, but a portfolio that requires all of its properties to have a low-energy certification or that reports on the energy practices of its assets could justifiably further the climate action SDG.

### Social SDGs: difficult to access



Many of the social development SDGs do not translate readily into investment opportunities; they instead require concerted efforts or investment programmes in order to be accessed. Some social ventures aimed at providing education to low-income communities or reducing poverty may provide selected opportunities to have a social impact through investment, but these opportunities will likely only be accessible through direct private investing or targeted private funds. For the SDGs on poverty, hunger and education, some pure-play investments or impact investment funds are available; but the SDGs on gender and inequality are accessible primarily by investing in companies that promote those SDGs as part of their business practices (as opposed to being their core products or services). These SDGs may also be generally accessed by SWFs that have an economic development mandate in emerging economies, as these investments naturally target poverty and inequality reduction through second-order impacts.

### Sustainable infrastructure SDGs: accessible via innovation



This final set of SDGs is considered the next frontier for SWF access. Readily available public investment opportunities are rare for these SDGs, but targeted funds and direct investment programmes can make them accessible to SWFs. Innovative examples exist of SWFs creating direct investment programmes that target sustainable development and cities that both further these sustainable infrastructure SDGs and generate investment returns. These SDGs also overlap significantly with government policy, which creates the potential for cooperative programmes between SWFs and Governments to package investment opportunities creatively that sup-



port SDGs and provide risk-adjusted returns.

**Identifying SDG investment opportunities: an example in practice**

A collaboration by Dutch pension fund managers APG and PGGM is the most notable example to date of large institutional investors making a concerted effort to identify investment opportunities that directly and measurably promote the SDGs. These two institutional investors collaborated to develop a taxonomy of sustainable development investments.

According to their taxonomy, a sustainable development investment must not only measurably support an SDG, but also be a significant or decisive investment with clear additionality. They also must not be in significant conflict with SDGs other than the goal the investment promotes. APG and PGGM’s taxonomy was able to identify specific investment types that further all of the SDGs with the exception of SDGs 16 and 17 on peace, justice and strong institutions and global partnerships, respectively.

The process of developing the taxonomy enabled APG and PGGM to identify investments in SDGs that are generally considered difficult to access by investors. For example, for the SDG of Zero Hunger, the funds identified investments such as sustainable agriculture products, food storage and logistics, and impact funds supporting small-scale food producers, among other specific investments in the sector.

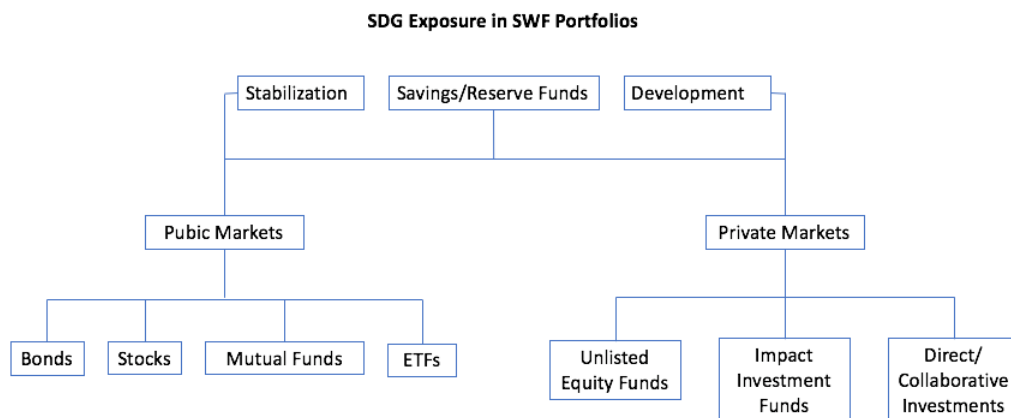
For SDGs and sub-goals with very few pure-play investment opportunities or sectors, the taxonomy states that the funds can promote the SDG through investments in acknowledged transformational leaders (ATLs) or larger companies and conglomerates that the funds determine do promote the SDG through their business practices. Under the SDGs for reduced inequalities or gender equality, for instance, the taxonomy identifies ATL investments in companies that have exceptional programmes for workplace fairness or that provide significant employment opportunities and skills development for low-income communities.

While the taxonomy is naturally limited for several of the SDGs and contains some grey area regarding which investors or asset managers can qualify as a sustainable development investment or ATL, it is one of the most significant efforts to date from large institutional investors to identify sectors or investment opportunities that measurably support the individual SDGs. It also takes a significant step beyond simply measuring the existing SDG exposure of their investment portfolios to actively identifying and seeking new opportunities to promote the SDGs.

**V.5 Summary of SDG exposure**

In summary, SWFs are able to get SDG exposure across the entire asset-class spectrum based on their risk appetite and governance capability, although the impact of that exposure varies significantly from public market asset classes to private ones. This can be seen in figure 1 below.

**Figure 1: SWF exposure to SDGs**



Within the public market asset classes, the exposure to SDGs is very passive in nature and the metrics for measuring SDG exposure is at an early stage of development. There are developments, however, such as offering green and social impact bonds. Sustainability indexes have also been developed that are using more and more sophisticated methods for identifying and scrutinizing companies' adherence to the SDGs. Currently, there is a wide spectrum of environment, social and governance (ESG) and SDG incorporation among the SWF community. This is related to governance, where the more sophisticated SWFs will have in their mission an explicit commitment to invest responsibly and integrate ESG and SDG considerations into the investment process. As mentioned throughout this paper, however, the greatest impact that SWFs can have is through direct investments in the private market space in asset classes such as infrastructure. In section VI, we highlight some of the innovations that are occurring in the private market space to help facilitate SWF investment in the SDGs.

## **VI. Case studies**

The following case studies illustrate specific instances of the use of SWFs and sovereign development funds (SDFs) in furthering the 2030 Agenda for Sustainable Development and the SDGs.

### **VI.1 Sovereign development funds: an overview of localized SWF investment**

Because of their set up, sovereign development funds (SDFs) or strategic investment funds have great potential for supporting the sustainable development goals (SDG) agenda. Governments typically create SDFs when domestic financial markets are underdeveloped or capital starved. SDFs do not, however, replace the functions of budgetary spending in the economy. In the design of an SDF, consideration needs to be given to local needs, and to the question of whether finance leads or follows development (Dixon and Monk, 2014; Patrick, 1966). For those that believe that finance and financial intermediaries lead development, there is a large role to be played by investors such as SDFs in identifying and financing entrepreneurs and technological changes that lead to growth and development (Schumpeter, 1934). Such investors catalyse opportunities and, as such, require a certain level of sophistication to play an active role in economic growth and change, identifying, researching and financing the most promising sectors, firms and corporates, and entrepreneurs. Others that believe that finance follows development take the perspective that investors would facilitate the flow of capital between savers and borrowers, between high-growth areas and low-growth areas, essentially responding to the demand for their services (Dixon and Monk, 2014). As opposed to the previous view, it is the entrepreneurs or enterprising firm that is the catalytic agent rather than the investors. Investors and intermediaries still matter, but the role is more of a passive one for the growth and development process. Notwithstanding the above, there is substantial academic literature that illustrates the important role that finance plays for economic development (King and Levine 1993, 1994; Mayer and Vines, 1993).

SDFs can be defined as government-sponsored commercial investment funds that combine financial performance objectives with development objectives. Most SDFs are created in countries that have broader economic development agendas, unlike a lot of Western developed countries where the role of government is limited.

The comparative advantage of SDFs over other types of financial institutions is that they can have proprietary knowledge of local opportunities, privileged access to opportunities, and trusted relationships with other investors, public or private. As a result, certain SDFs have been very successful in generating financial returns, despite their dual objectives. Examples of these include Singapore's Temasek, which has generated a 40-year total shareholder return of 18 per cent; Malaysia's Khazanah Nasional Berhad ("Kazanah"), which has a 10-year internal rate of return (IRR) of 13 per cent; and South Africa Public Investment Corporation (PIC), with a 10-year IRR of 16 per cent.

While recognizing that not all SDFs are created equally, there are a number of key lessons that can be learned from the currently successful SDFs. Research has shown that instead of being detrimental to financial performance, having a secondary or tertiary mandate can lead to a well-governed and well-managed investment organization that has room to be innovative and dynamic in pursuit of additional objectives. Furthermore, the fact that SDFs are "wealth creators" as opposed to "wealth accumulators" means that SDFs are more likely to help catalyse new enterprises or projects, to link their well-being to that of their ecosystem, and to think about sustainability. The less narrowly defined objectives actually appear to empower SDFs to take a path less travelled

that leads to the implementation of innovative and, hopefully, profitable strategies. Such flexibility, however, needs to be coupled with strong governance and management (Clark and Monk, 2015).

When it comes to governance, achieving complete independence from the government is unlikely for any type of sovereign fund. Arm's-length or double arm's-length arrangements<sup>10</sup> should be made whereby the Board of the funds is made up of a mixture of independents and officials. Oversight, however, is subject to company law, rather than to a government department. Boards usually should comprise nine members, reflecting best practice in the private sector around the world (Clark and Urwin, 2008). A management executive committee, chaired by a managing director, is usually employed to run the day-to-day activities of the fund, including the framing and implementation of investment strategy, management of the investment team and maintaining the operational services of the fund consistent with the fund's objectives. The objectives of the fund need to be clearly stated at the outset and consist of the mandate of the fund, the sectoral and regional focus, and the functional objectives in realizing the fund's mandate (Clark and Monk, 2015).

While there are best practice takeaways from SDFs, there are also certain risks to the local economy as a result of an SDF presence. In order to mitigate destabilizing macroeconomic management and undermining the quality of public investment and wealth objectives of the fund, Gelb and others (2014), provide the following guidelines for SDFs: (i) screen investments for commercial or near-commercial financial return; (ii) encourage investor partnerships to diversify risk and increase implementation capacity; (iii) design governance to insulate it from political pressure; and (iv) ensure full transparency on individual domestic investments and financial performance.

## **VI.2 National Investment and Infrastructure Fund (India)**

The National Investment and Infrastructure Fund (NIIF) was created by the Government of India (GoI) to catalyse capital from international and domestic investors into infrastructure and allied sectors in India. The GoI has committed \$3 billion to NIIF with the remaining capital flowing from other long-term investors such as SWFs, pension funds and other development institutions. The NIIF is set up as a company to act as investment manager to alternative investment funds and will be managed by a team of investment professionals. The governance of the NIIF entity will include a Board of Directors that will have government representatives, investor nominees and independent directors. The NIIF in many ways is an SDF or strategic investment fund as described above with the specific mandate to help deepen India's infrastructure sector.

The NIIF vehicle consists of two main strategies. The first strategy is that of a master fund, whereby outside investors will provide founding investor capital to gain ownership stakes in the vehicle. The master fund will then invest in specific platform companies set up in different infrastructure sectors such as roads, railways, airports and waterways. The master fund exemplifies the collaborative model of investment identified above, not only in the way long-term investor capital is pooled together (through a co-investment platform independent of asset managers), but also in how the capital is deployed into projects. The commercial nature of the initiative can be seen through the independence in governance arrangement, as well as the partnerships approach to investments. The NIIF master fund not only attracts investor capital into the vehicle itself, but also provides co-investment sidecars that can access the platform companies where the vehicle invests. The NIIF will co-invest into the platform companies alongside other commercial institutional investors. The NIIF has currently secured the investment of another SWF—the Abu Dhabi Investment Authority—into the master fund.

The second strategy of the NIIF is to set up a fund-of-funds vehicle to invest into private equity funds in the infrastructure growth sectors in India. This second strategy is more passive in nature but leverages the entity's position of having deep oversight over the most attractive opportunities in the sector, which stems from (a) having the sponsorship of the Indian Government; (b) the being a balanced solutions provider across line ministries, regulators and sector-focused agencies; (c) having and maintaining a strong network with private equity investors in India; and (d) possessing strong credit-worthiness within the Indian financial sector.

As indicated, infrastructure investment is in many ways central to the ability of the 2030 Agenda for Sustainable Development to directly and indirectly support the SDGs. India is one of the largest economies in the world, but

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10 See IFWSF governance guidelines for an elaborate discussion on double arm's-length governance.

it also has one of the largest infrastructure investment deficits in the world. Its projected gross domestic product (GDP) growth for 2018-2019 is estimated at 7.8 per cent. This economic growth rate will largely depend on whether investments into crucial infrastructure sectors will be made. The NIIF, through adopting best practices in governance, capital pooling and deployment, is emblematic of the potential for SWFs to support the sustainable development agenda.

### **VI.3 Aligned Intermediary for climate infrastructure investing**

Aligned Intermediary (AI), a global investment advisory firm, provides a platform for long-term investors such as SWFs to access climate infrastructure investments in a more effective way than past methods. Historically, in order to access green energy opportunities, investors would normally seek out a third-party asset manager to do an inventory of the investable assets and make investment decisions through a private equity fund structure. The scale and time horizon of these companies, however, did not fit within the fund structures of existing intermediaries, causing many of these investments to fail and deterring investors from the sector.

Despite this, there is a general consensus that green energy and technology companies will go on to be the most profitable companies for generations to come. A subset of these will play a catalytic role in driving large-scale reductions in global greenhouse emissions, directly addressing SDGs 13, 14 and 15, and indirectly addressing many others, such as 3 and 12. Many SWFs share this view and indeed believe that competitive, long-term investment returns can be generated by catalyzing solutions to the climate crisis.

In many ways, long-term investors such as SWFs are the best sources of capital for clean technology companies, as they have intergenerational time horizons and can make large-scale investments. Making direct investments into clean energy companies, however, can be very difficult because of the specific knowledge and sophisticated skill set required, which even some of the largest SWFs do not possess.

AI was thus formed to help channel long-term capital into climate infrastructure. The core function of AI is to source, screen, do due diligence, and structure and monitor clean and green technologies and companies for the purpose of connecting them with long-term investors. The climate infrastructure industry requires the development of new financial products, business models, measurements and standardization in order for the required investments to be ramped up over the next five to ten years, and this is what the AI is setting out to do.

AI currently has nine members that are long-term investors, two of which are SWFs that have committed \$1.4 billion into transactions identified by the organization. AI essentially guides its long-term investor members around all levels of capital investment in climate infrastructure, early stage, growth and project finance. Deals sourced by AI are global, direct in nature and have a minimum investment size of \$25 million. In addition to this, the organization recently started building out a strategy to de-risk climate infrastructure investments in emerging markets by blending institutional capital-seeking market returns with concessionary capital-seeking specific social, development and/or economic goals.

### **VI.4 Government innovations for long-term investment: Queensland, Australia and Quebec, Canada**

As identified earlier, there is a significant role that Governments can play to facilitate the flow of long-term SWF capital into infrastructure. A certain number of Governments have recognized the importance of partnering with true long-term investors in this way and have thus come up with initiatives to help facilitate the flow of long-term institutional capital into their infrastructure projects.

The first example to highlight is the Quebec Provincial government and CDPQ Infrastructure partnership in Canada. In this case, the provincial government—which had been under pressure as the second most indebted Canadian province with a large infrastructure investment gap—announced that it would hand over the planning, financing and management of new infrastructure projects to the province's major pension fund, Caisse de Depot et Placement du Quebec. The arrangement can be seen as a more integrated design, build, finance, operate and maintain/public-private partnership model (DBFOM/PPP). After the government identifies its infrastructure investment needs, through the agreement, the pension fund will have the discretion to select the projects that will help generate a commercial return for its clients and to help propose solutions to the government. Various rounds of dialogue between CDPQ and the government will then proceed, after which the government will either

accept or reject the proposal. CDPQ will assume full responsibility for all aspects and stages of the project including planning, financing, execution and operations. The projects that are selected will be removed from the government's balance sheet, providing some budgetary relief.<sup>11</sup>

Such an arrangement allows the government to form a relationship with a trusted long-term partner to help solve its infrastructure investment needs. A key component is that the projects selected by CDPQ have to be able to generate revenues. By investing in the projects and overseeing their operation, execution, financing and planning, the citizens of Quebec not only benefit from improved infrastructure, they are benefit from the proceeds of the investment added to the pension fund, which will help to secure their retirement. It must be noted that CDPQ is a large, experienced direct investor in infrastructure with significant capability to carry out the function of investing and managing assets. This programme was designed to help fund greenfield projects, which historically have been too risky an investment for pension funds and SWFs. CDPQ will supplement their in-house expertise by working with well-aligned and complementary partners who can help undertake the stages of construction, logistics and operations. By being involved at the earliest stage of project origination, CDPQ will be able to carry out substantially deeper research and due diligence, and mould the design of the project to ensure mutually beneficial outcomes.

The first project—a new integrated light rail network linking downtown Montreal with the airport—is underway for the new partnership. The project will have construction costs of approximately \$6.04 billion and requires government investment to complement the CDPQ investment. The project is expected to add more than \$3.7 billion to Quebec's GDP over four years and enable \$5 billion in private real estate developments along the route.

The second example to highlight here is the Queensland (Australia) government's sale of its motorway network to the local defined benefit pension fund manager, Queensland Investment Corporation (QIC).<sup>12</sup> In 2011, the Queensland government transferred Queensland Motorways (QML), a 70 km road network consisting of two major tolled motorways, to QIC under a long-term concession that valued the asset at AUD\$ 3.088 billion. There were a number of factors that contributed to the sale. First, the Queensland government had professionalized its services in developing alternative procurement programmes for infrastructure assets, and the local defined benefit pension fund had professionalized its services to be able to conduct direct infrastructure investments. In the lead-up to the sale, system upgrades and the global recession had necessitated increased tolls for users but in 2010 the entity still reported aggregate deficiencies of equity of more than AUD 500 million from its major shareholder—the state government. The Queensland government's finances were also deteriorating with the state's credit rating being downgraded in 2009 and the state budget forecasting a deficit of AUD 1.9 billion. QML was identified as an asset to sell or lease in order to address the government's budget shortfalls.

At the same time, the state actuary was completing its three-year review of the state's defined benefit pension and found that the fund's liabilities exceeded its assets by more than AUD\$ 1.4 billion. As a result and after weighing the relative disadvantages and advantages of putting QML through a standard competitive tender process, the Queensland government began an exclusive negotiation with QIC on the transfer of a concession agreement for QML. A key rationale behind the transfer was that value would ultimately be captured by the retirees of Queensland. The shared liabilities between QIC and the government reduced the concerns over the valuation of the asset for the public. The valuation and due diligence process also benefited from QIC's experience in evaluating infrastructure investments globally and in Queensland itself. Following consultations with external advisors and independent valuations being commissioned, both entities agreed on a market value of AUD\$ 3.088 billion.

Following the sale transfer, QIC was able to make significant operational and efficiency improvements to the network, including adding new assets to the system by acquiring a failed tolled motorway and two other Brisbane City council-owned roads. In late 2013, the Board of QIC was presented with a unique challenge in that

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11 For further information on the CDPQ/Quebec example, please see World Economic Forum (2016) *Innovations in Long-Term Capital Management: the Practitioner's Perspective*. Available from [http://www3.weforum.org/docs/WEF\\_GAC\\_Future\\_of\\_Investing\\_Executive\\_Summary.pdf](http://www3.weforum.org/docs/WEF_GAC_Future_of_Investing_Executive_Summary.pdf).

12 For more information on this case study, see *In-Kind Infrastructure Investments by Public Pensions: The Queensland Motorways Case Study* (M. Bennon, A.H. Monk, and Y.J. Cho, 2017). Stanford Global Projects Center. Available from <https://ssrn.com/abstract=2981707>.

the QML asset had grown sufficiently in size and value that it was overrepresented in the pension fund's portfolio of assets. The concentration of QML in the QIC portfolio was so great that the fund was forced to assess the divestment of all or part of QML. It was decided that the entire QML asset would be divested (in order to maximize the value of a sale) at a time when competition for operating brownfield infrastructure assets was extremely high. QIC sold QML to a consortium consisting of a local pension, a middle-eastern sovereign fund and a local road operator for AUD 7.057 billion, realizing a profit of AUD 3.8 billion for the pension fund over a four-year period. The sale was made between a pension fund and a consortium that also consisted of long-term investors. In normal circumstances, QIC would have held on to QML, being a long-term investor, however, the unique nature of concentration risk through the significant value creation led to the sale—a decision that was in the best interest of the beneficiaries of the pension fund.

Both of the cases above provide examples of how the arrangement between governments looking for long-term capital for their infrastructure projects and long-term investors such as SWFs can come to fruition. What is crucially required is a government that has the ability to procure assets for alternative financing, and SWFs with the expertise to execute infrastructure investments and manage assets appropriately. There are challenges with the model, including the conflict of interest of each entity in satisfying each of their beneficiaries appropriately—that is, SWFs should only be investing in assets that maximize commercial return in order to carry out their fiduciary obligation. Certain projects of the government, however, may not be the best commercially viable projects available. What is evident here though is the desire for governments to partner with true long-term investors, whose long time horizon points to a closer alignment with the public interest. While these cases are located in developed markets, there are attributes of both that could be applied in developing regions where such investment is likely to be of great impact.

## VII. Implications and recommendations

While the assets of sovereign wealth funds (SWFs) have grown in size to over \$6.5 trillion, their unique characteristics mean that this large sum is not fully available for investment in the sustainable development sectors. The role of SWFs for investing in and supporting the 2030 Agenda for Sustainable Development is substantial; however, a deeper understanding of the drivers and influences of investor organizations is required to mobilize the capital effectively.

Out of the universe of investable assets, this paper has made the assumption that investments in long-term private market asset classes—such as infrastructure, real estate, agriculture, venture capital and private equity—are the most impactful strategies to support the Sustainable Development Goals (SDGs). This is because SDG metrics in other asset classes, such as public markets, are not developed enough, but investors are able to have more control and invest over the long term, thus providing the ability to make a bigger difference. There are unique organizational and structural characteristics to SWFs that prohibit a number of these funds from investing in the most impactful asset classes. Furthermore, in regions where these investments would have the most impact, capital markets might not allow these opportunities to come to market, or governments do not have the capability to offer them. Investments into these sectors and regions seem to be restricted to the few savings, reserve investment and development categories of sovereign funds that have the required size, sophistication and governance to manage these investments.

In light of these constraints, this paper puts forward the following recommendations to facilitate the flow of SWF capital into SDG sectors:

- i. More work is required to develop specific SDG measurement metrics that SWFs can use to appraise their investments across their entire portfolio. The ongoing measurement work by the Investment Leaders Group is a promising measurement initiative, and should the current lack of an industry standard persist, the suite of tools that IRIS provides gives SWFs and their asset managers a menu of measurement criteria to choose from.
- ii. In addition to these programmes, measurement of the SDGs could be significantly improved by industry standardization and the further development of these measurements into actual performance metrics.
- iii. The development of performance metrics is a natural next step for SWFs interested in furthering the SDGs.

While measuring impact produces benefits in itself, leveraging those impacts to adjust incentives for SWF staff, service providers and asset managers is eventually necessary to facilitate real change to the investment industry related to the SDGs.

- iv. The individual SDGs vary in their ability to provide investable opportunities. Further detailed analysis on how the individual SDGs can translate into a reliable long-term investment programme that can specifically address the issues at hand is needed. In particular, the social SDGs 1, 2, 4, 5, 10 and 16 are currently difficult to purposefully access.
- v. Governments in emerging economies have a role to play to help attract SWF investment into their high-impact sectors. This could be done through the development of SDFs such as the National Investment and Infrastructure Fund in India, which provides foreign SWFs with a trusted local partner to co-invest in the priority sectors of the Government (these sectors can remain attractive for commercial investors).
- vi. Governments also need to develop the skill sets to procure their assets and package them in a way that is attractive to SWF investors. Further examples, such as in Queensland, Australia, and Quebec, Canada, where governments have recognized the value of partnering with local and international long-term investors, should be explored and, where applicable, replicated in areas in need of investment.
- vii. Ultimately, SWFs, where possible (mainly for savings, reserve investment and development funds), need to adopt a long-term approach to their investment decision-making process. They should be looking to take advantage of their competitive advantage of having scale and time horizons and make investments accordingly. By doing so, with the right governance and processes in place, they stand to make substantial financial returns for their beneficiaries and will also be contributing to sustainable development in a meaningful way.

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