Sovereign Investors 2020

A growing force

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Global megatrends

Megatrends are the macroeconomic forces that are shaping the world. By definition, they are big and include some of society's biggest challenges - and opportunities.

Throughout this report, we have made references to these megatrends to show their impact on Sovereign Investors.

Foreword

Sovereign Investors continue to increase in number, size, variety and scope. In this group we include Sovereign Wealth Funds (SWFs) and the very large Public Pension Funds (PPFs) who are active in the global market place and have many of the characteristics of SWFs. Sovereign Investors have increasingly captured attention and exerted influence in global financial markets. Over half the Sovereign Investors have sources of capital from commodities or hydrocarbon; and despite the recent fall in prices, we expect the total assets under management to reach USD 15tn by 2020. SWFs are an eclectic group of investors often described as "a very diverse heterogeneous group of global investors" with distinct macro-economic purposes, missions, sources of capital and mandates that invest in many different asset classes, industries and geographies.

As we look ahead to 2020 we believe five global megatrends are helping reshape the world economy and impacting Sovereign Investors.

Sovereign Investors are not just passive actors affected by these megatrends. In fact, Sovereign Investors actively contribute to the megatrends by helping reshape their domestic economies. For instance, demographic and social changes, such as the ageing of the population, is expanding pension plan participation while simultaneously exerting pressure on pensions to meet benefit obligations. Economic influence and power is shifting from developed economies to emerging ones, making regions with sizeable growth potential, like sub-Saharan Africa, fertile fields for Sovereign Investors. Nearly half of Sovereign Investors' assets are located in emerging economies. In the coming years, as state-directed capitalism rises, governments will play a more important role in the global economy and in turn Sovereign Investors will exercise more investment power. Rapid urbanisation in certain areas is also having an impact on portfolio asset allocation and, consequently, funds direct more capital towards real assets. Sovereign Investors will also influence the global economy towards more environmentally and socially responsible investments as they continue to fill the capital vacuum by stabilising economies and limiting leverage.

As Sovereign Investors become increasingly proactive and sophisticated, they will pursue partnerships and joint venture/co-investment vehicles and direct investments rather than delegate the management of their assets to fund managers. Also, Sovereign Investors will be more connected and collaborative with their peers and other professional investors such as Private Equity firms.

We believe the technological revolution and digital transformation currently underway will intensify, impacting the economy in profound ways. To pick "winners" in technology start-ups is often difficult, however, prospects for digital transformation in the traditional B2B along with consumer-oriented companies look overall very positive. The new opportunities and breakthroughs will be with the internet-of-things (IoT) in the manufacturing sectors. Sovereign Investors will closely follow the emerging digital trends to capitalise on convergence and industry sector transformation.

The context of this overview of the current landscape is from observing current activities and market trends of a number of Sovereign Investors, including SWFs and PPFs.

Jan Muysken
Global Leader Sovereign Wealth/
Investment Funds

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Section 1

The landscape of Sovereign Investors

Sovereign Investors - a definition

Sovereign Wealth Funds (SWFs) are often described as a very diverse breed of heterogeneous institutional investors. Numerous definitions exist and we have adopted one of the broadest: "a pool of assets owned and managed directly or indirectly by governments to achieve national objectives".[1] While remaining in line with the analysis of PwC thought leadership pieces[2], this report also includes Public Pension Reserve Funds and large Public Pension Funds (PPFs).

We use the term "Sovereign Investors" (Investors) to describe all of the Government-related funds that are active in the global markets to achieve national objectives.

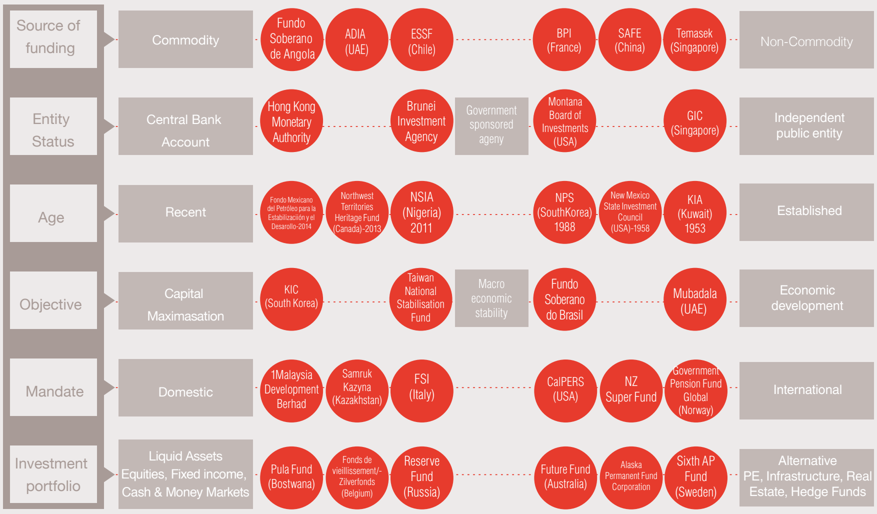
Sovereign Investors range on a continuum from Financial Institutional Investors to Investment Funds that support and drive a country's strategic, economic and social agenda. It is helpful to look at the Sovereign Investors' source of funding, entity status, age, objective, mandate and investment portfolio.

On the basis of their economic objectives, Sovereign Investors can be grouped into three broad categories:

- Capital maximisation;
- Stabilisation;
- Economic development.

These categories are further divided into specific policy objectives.

Sovereign Investors' characteristics and examples



Source: PwC & PwC Market Research Centre

For example, governments in countries with large pension funds pursue capital maximisation through their PPFs to meet future liabilities. Countries looking for stabilisation use Sovereign Investors to insulate their economies from internal and/ or external shocks. And other countries avail themselves of Sovereign Investors to bolster economic development.

Naturally, many Investors have several economic objectives, and their goals evolve over time - for instance, a Sovereign Investor may start out with a stabilisation function and later add long-term savings to the mix. That said, various Sovereign Investors have capital preservation and maximisation as core objectives.

These objectives can change over time due to influential circumstances like financial turmoil or local public budget deficits. This was the case for the Irish National Pension Reserve Fund, which had a capital maximisation objective, but took on the goal of economic stabilisation in response to the global financial crisis (GFC).

Apart from age and perhaps entity status, the megatrends are going to have a major impact on all the dimensions of Sovereign Investors' characteristics. An obvious example is the impact of climate change and resource scarcity on the investment portfolio. If carbon is left in the ground, then Sovereign Investors will not want to be exposed to potentially stranded assets.

[1] OECD, "Sovereign Wealth and Pension Fund Issues", Adrian Blundell-Wignall, Yu-Wei Hu and Juan Yermo, 2008

[2] "PwC, Alternative asset management 2020, Fast forward to centre stage", 2015 & PwC, "Asset Management 2020: A Brave New World", 2014

Another entity, which is connected to Sovereign Investors, are State Owned Enterprises (SOEs) which, according to the OECD, refer to enterprises where the state has significant control, through full, majority, or significant minority ownership.[3] Like Sovereign Investors, SOEs are a growing force in the world economy. One could say there is a sort of family resemblance between Sovereign Investors and SOEs. In an extreme situation, SOEs could actually be considered as a special kind of Sovereign Investors. However, in this report we do not specifically include SOEs in the Sovereign Investors category.

A taxonomy illustrating the differences between Sovereign Investors

Economic Objectives	Specific Objectives	Description	Examples
Capital maximisation Building a risk-adjusted capital base for the growth and preservation of national wealth	Balancing intergenerational wealth	Investing to create intergenerational equity e.g. transforming non-renewable assets into diversified financial assets for future generations	NBIM, Kuwait Investment Authority
	Funding future liabilities	Growing and preserving the real value of capital to meet future liabilities, such as contingent liabilities like pensions	Australia Future Fund, New Zealand Super Fund
	Investing reserves	Investing excess reserves in potentially higher-yielding assets via financial strategies aiming at higher long-term returns, and reducing the negative carry costs of holding reserves	China Investment Corporation Korea Investment Corporation
Stabilisation Macroeconomic management and economic smoothing	Facilitating fiscal stability	Using counter-cyclical fiscal tools to insulate the economy from internal and /or external shocks, e.g. changes in commodity prices to smooth consumption	Chile Economic and Social Stabilisation Fund
	Stabilising the exchange rate	Using the fund's resources to balance large capital inflows and outflows in the short term (which may be caused by commodity price volatility) to prevent asset price bubbles and reduce price volatility	Russia Reserve Fund
		Using the fund to manage the amount of capital entering the domestic economy over the long run to ensure the exchange rate is maintained at a level that allows for other export activities, e.g. to prevent Dutch Disease	Mexico Oil Income Stabilisation Fund
Economic development Investment to boost a country's long-term productivity	Investing in hard infrastructure	Domestic development in capital assets, including but not limited to transport, energy, water management and communications	Nigeria Infrastructure Fund
	Investing in social infrastructure	Domestic development in soft infrastructure: human capital and the institutions that cultivate it. This includes socio-economic projects such as education and health	Mubadala Development Company
	Pursuing industrial policy	Creating a diversified economy in order to reduce dependency on one resource or source of funding. Official, strategic efforts by governments to boost productivity in specific sectors	Temasek, BPI (France)

Source: PwC

[3] OECD Guidelines on Corporate Governance of State-owned Enterprises, 2005

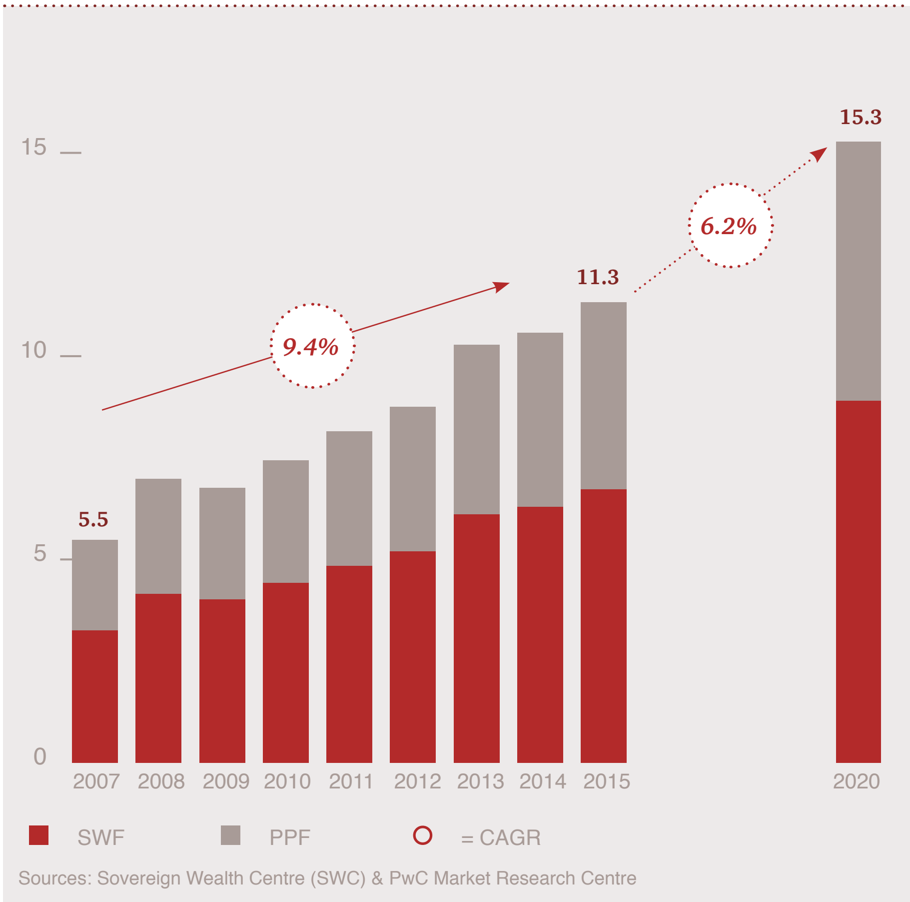
Sovereign Investors will continue to grow in significance

Sovereign Investors have been rapidly accumulating assets since the start of the 21st century, particularly during periods of exceptionally high oil prices. Although the consequences of the financial crisis negatively affected Sovereign Investors, their assets rose to an historic high shortly after, and are continuing to grow steadily. The impact of the crisis was, in part, mitigated in certain regions by sizeable account surpluses.

In order to predict future trends in the growth of Investor assets, we ran various discretionary regressions between Sovereign Investors assets and a number of economic factors over the past 10 years including the recent financial crisis. We found a positive relationship between asset growth, current account surpluses and hydrocarbon prices. We also included the impact of non-fuel commodity prices and nominal gross domestic product (GDP) as potential drivers of this growth within our model.[4]

Global Sovereign Investors' assets have continued to grow during the past decade reaching USD 10.6tn at year-end 2014.[5] While the future looks bright for many Sovereign Investors, estimates of future developments actually forecast slower growth in the coming years, due to recent events such as the fall of oil prices and the slowdown of economies like China.

Sovereign Investors' assets 2020 (in USD tn)



Sovereign Investors are disproportionately represented in emerging economies. As global economic power continues to shift, Sovereign Investors will grow faster than total global assets.

[4] Note: The estimations have been done by separating oil and non-oil countries. The main drivers of SWF assets are their current account and hydrocarbon prices for oil exporting countries, and current account and non-hydrocarbon commodity prices for non-oil exporting countries.

[5] Note: For this report, we have analysed 119 entities representing USD 10.58 tn in assets at year-end 2014. Our analysis was based on several sources such as financial statements, financial reports, Preqin, SWC, IFSWF, the Natural Resource Governance Institute & the Columbia Center on Sustainable Investment.

Currently, the slump in oil prices could primarily impact funds in oil producing countries over the coming years where these entities will provide for the decrease in revenues in state budgets and incur a slowdown in their growth as capital inflows are temporarily reduced.

Current account surpluses in general, as well as prices for hydrocarbons, are projected to slow down in the next few years.

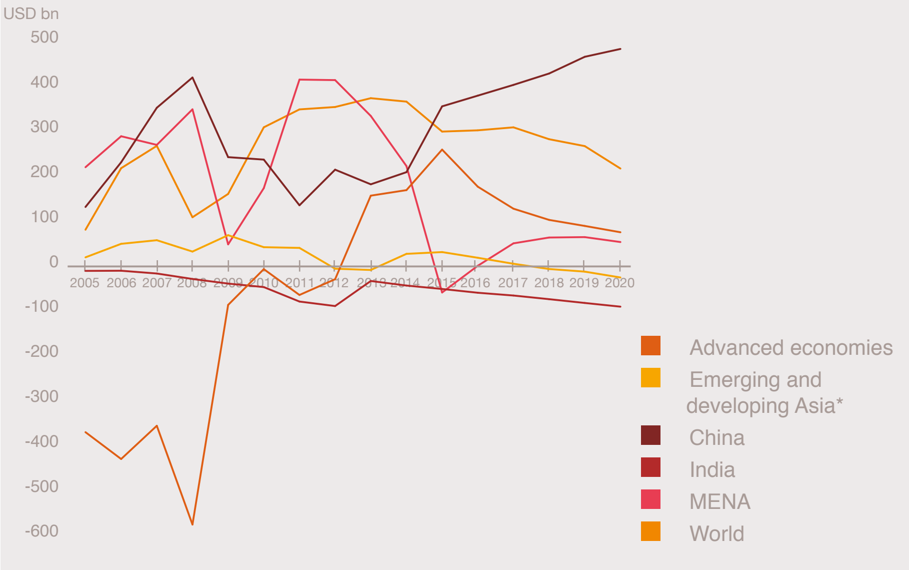
The nominal GDP growth in the countries of major Sovereign Investors will also slow down in the next few years. China, whose economic prosperity was marked by a compound annual growth rate (CAGR) of 18.2% from 2004 to 2014, is already showing signs of cooling and is projected to grow by around 6% (CAGR) until 2020. Latest figures from the IMF indicate that Norway, with the second largest Investor, will see a severe slowdown in its nominal GDP growth rate in the period from 2014 to 2020 (0.1% CAGR), decreasing from 6.6% (CAGR) between 2004 and 2014.

Based on the current trends we are seeing in the economy – including a drop in oil prices – and taking the most recent IMF data on future estimates[6], we project Sovereign Investors' assets could reach USD 15.3tn by 2020 (see graph "Sovereign Investors' assets 2020"), showing a CAGR of 6.2% from 2015 to 2020.

However, in case oil prices should drop to USD 24 per barrel in 2016 (a 75% decline compared to 2014) and remain at these levels until 2020, we would expect SWF assets to grow by only 3.3% CAGR and reach USD 7.9tn by 2020.

[6] Note: IMF data shows moderately increasing hydrocarbon prices up to 2020 (see graph "Oil and gas prices indices") reaching USD 74 per barrel.

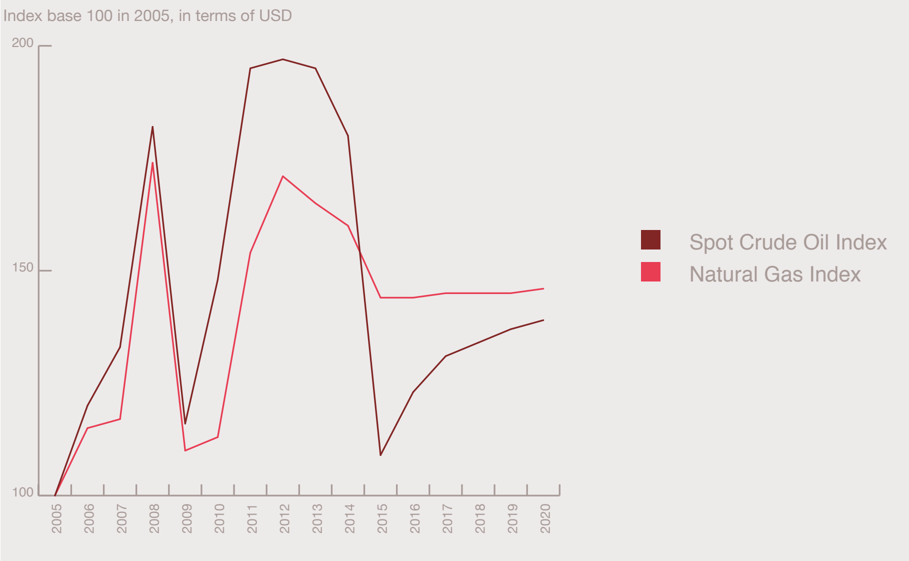
Current account balances by regions/countries in USD bn



*Note: excluding China & India

Sources: IMF World Economic Outlook Database & PwC Market Research Centre analysis

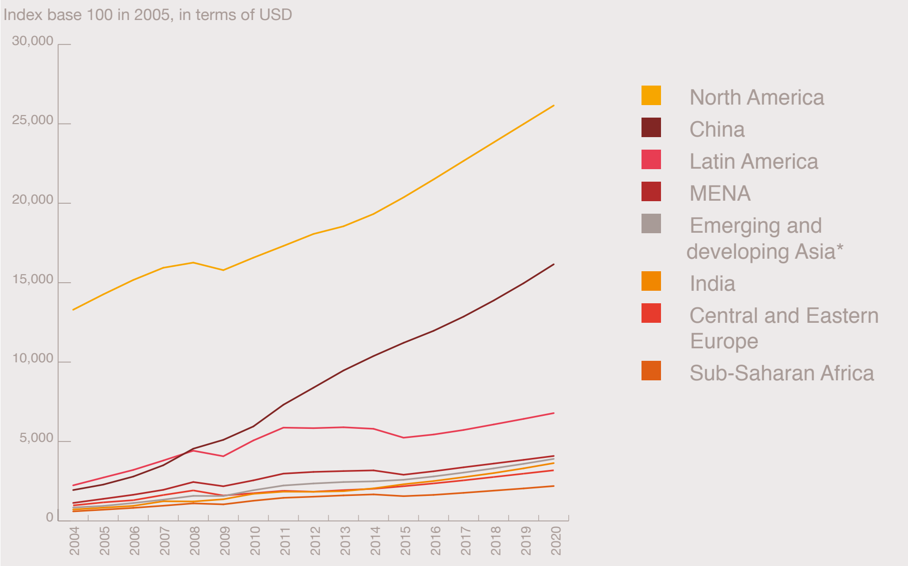
Oil and gas prices indices



Sources: IMF World Economic Outlook Database & PwC Market Research Centre analysis

Regardless of the economic scenarios, the wisdom and benefits of creating Sovereign Funds are becoming much more appreciated which is evidenced by the creation of many new funds, such as in Luxembourg (Fonds souverain intergénérational du Luxembourg), UK[7], Hong Kong (Hong Kong Future Fund), Saudi Arabia (Saudi Arabian Industrial Investment Company), and Ghana (Ghana Infrastructure Investment Fund). This will contribute to the growth of assets in the coming years.

Evolution of GDP until 2020 (current prices) in USD bn



*Note: excluding China & India

Sources: IMF World Economic Outlook Database & PwC Market Research Centre analysis

[7] Note: Plans to create the Citizen's Wealth Fund

Expanding territory
Sovereign Investors on the 2020 world map

Within the mega institutional class, Sovereign Investors are highly concentrated in terms of assets. The top fifteen Sovereign Investors hold more than 60% of the total assets.[8] Six of these are based in Asia (including two in China), two are in Europe (Norway and the Netherlands), four are domiciled in the Middle East (UAE, Kuwait, Qatar, Saudi Arabia), and three in North America (USA and Canada).

Four regions dominate the landscape in terms of total number of entities and total assets: Asia Pacific (specifically China), the Middle East, Europe (specifically Norway and Eastern Europe) and North America - the first two regions account for two-thirds of total assets.

Based on the current Sovereign Investors world map as well as the economic factors explained earlier, Sovereign Investors in Asia Pacific (especially China), the Middle East and Africa are expected to account for a larger share of assets in 2020 than they do today.

Top fifteen Sovereign Investors by AuM

Funds Name	Country	AuM (USD bn)
Government Pension Investment Fund (GPIF)	Japan	1,191
Norges Bank Investment Management (NBIM)	Norway	862
China Investment Corporation (CIC)	China	650
Abu Dhabi Investment Authority (ADIA)	UAE	627
State Administration of Foreign Exchange (SAFE)	China	594
Kuwait Investment Authority (KIA)	Kuwait	548
National Pension Service (NPS)	South Korea	429
Algemene Pensioen Groep (APG)	The Netherlands	417
Hong Kong Monetary Authority (HKMA)	Hong Kong	391
Government of Singapore Investment Corporation (GIC)	Singapore	320
Qatar Investment Authority (QIA)	Qatar	304
California Public Employees' Retirement System (CALPERS)	USA	296
Caisse de dépôt et placement du Québec (CDPQ)	Canada	237
Saudi Arabian Monetary Agency (SAMA)	Saudi Arabia	230
Canada Pension Plan Investment Board (CPPiB)	Canada	227

Source: Preqin, SWC, PwC Market Research Centre

Sub-Saharan Africa is expected to show the largest growth in terms of percentage; however, it is starting with a much smaller asset base.

While growth is expected to be tremendous for this region in the next five years, total assets are expected to remain comparatively modest.

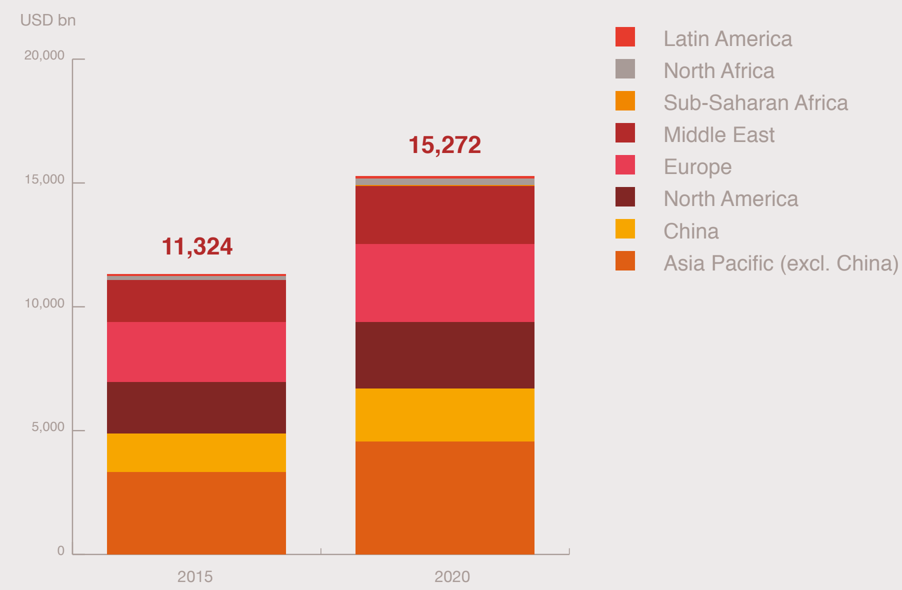
Specifically, the CAGR of Sovereign Investor assets around the world are expected to increase as follows: African Investor assets are expected to expand by 11.4%, those in the Middle East region should grow at 6.8%, Asia-Pacific Investors are expected to see an increase of 6.6%, Latin American Investor assets are expected to increase by 6.2%, Sovereign Investors in North America are expected to grow by 5.2% and European Sovereign Investors are expected to see an expansion of 5.3%.[9]

The rebalancing of the global economies affects Sovereign Investors' geographical allocation of assets and their number of entities. By 2020, South America, Africa, Asia and the Middle East (SAAAME) countries will account for a larger percentage in terms of Sovereign Investors' assets as well as entities.

[8] PwC Market Research Centre analysis

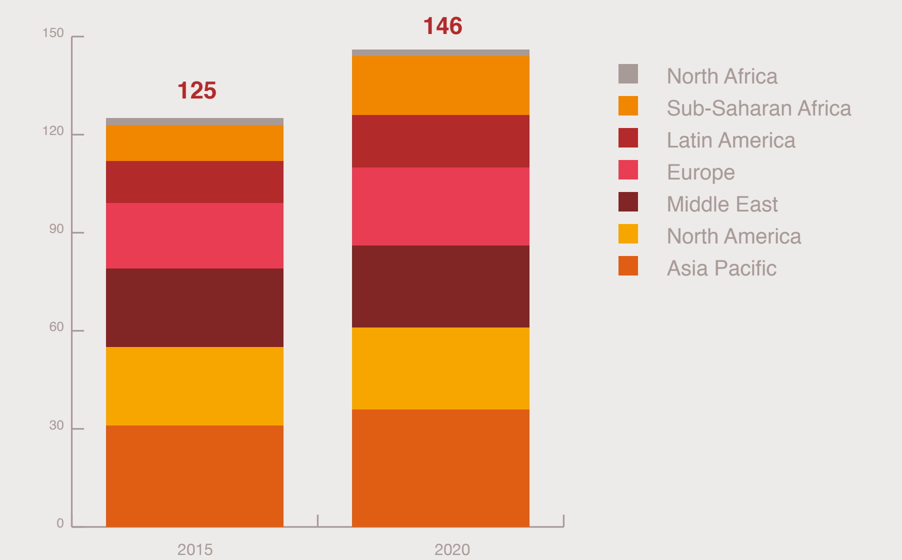
[9] Note: share increases of 1% in Asia-Pacific and 0.5% in Middle-East and Sub-Saharan Africa were assumed.

Sovereign Investors' assets by region (USD bn) 2020



Sources: PwC Market Research Centre analysis based on Sovereign Investors' financial information, SWC, Preqin, IFSWF, the Natural Resource Governance Institute & the Columbia Center on Sustainable Investment data.

Sovereign Investors by region 2020



Sources: PwC Market Research Centre analysis based on Sovereign Investors' financial information, SWC, Preqin, IFSWF, the Natural Resource Governance Institute & the Columbia Center on Sustainable Investment data.

Potential new entities

The geographical distribution of Sovereign Investors' entities is projected to evolve over the next five years due to the forecasted emergence of 21 new entities. The number of PPFs is not projected to increase as much as SWFs since a majority of developed countries have already established PPFs. In fact, the establishment of PPFs is reaching its saturation point in regions like North America. That said, Africa does not have any PPFs yet; its pension fund industry is in its nascent stage, and pension schemes are still immature.

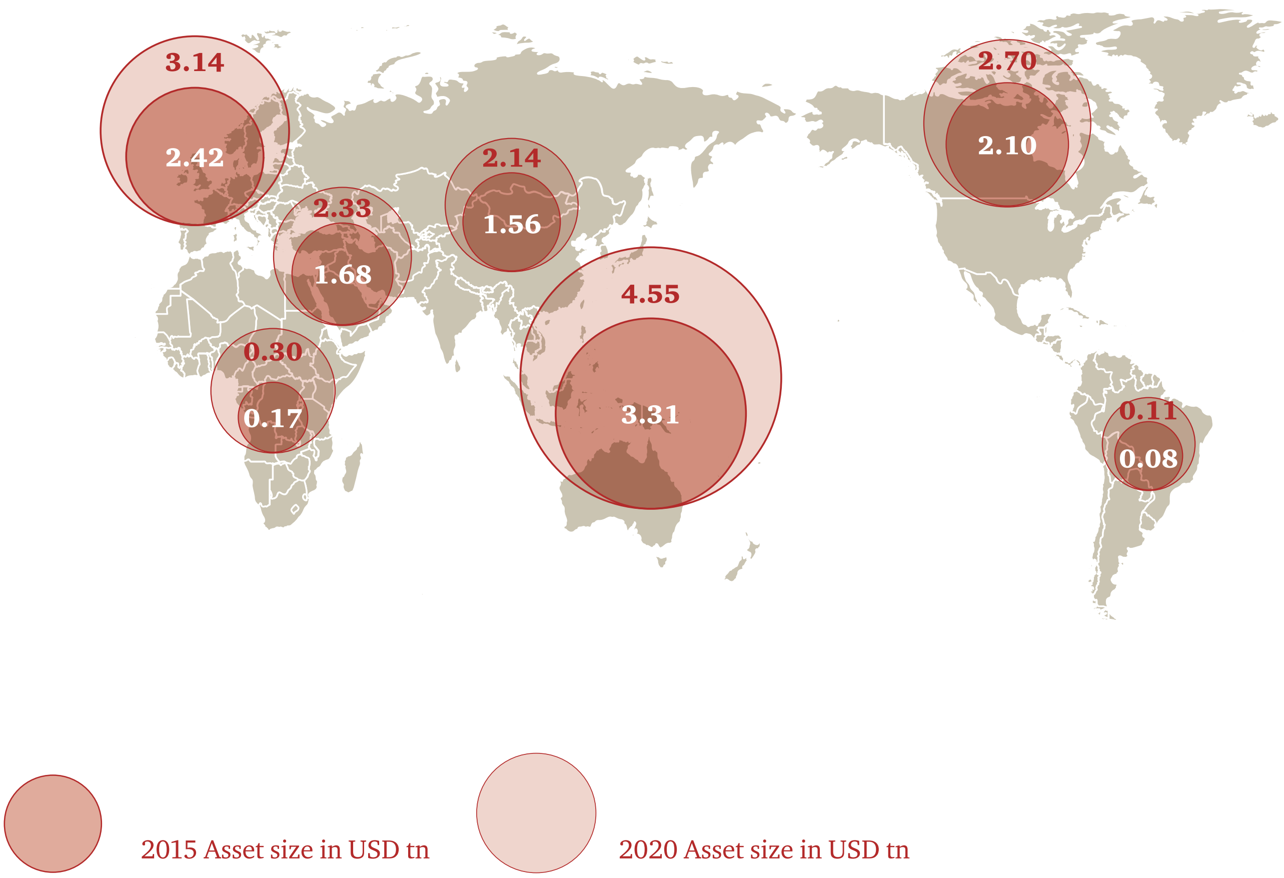
PPFs in Latin America only recently began to emerge, e.g. Chile's Pension Reserve Fund, which was established in 2006 to diversify from copper-sourced funds. Consequently, ambitions to set up new funds in Africa and Latin America are projected to increase these regions' numbers in the next five years.

As for SWFs, an increasing number of commodity-driven entities are expected to be established in emerging markets in the coming years, especially in sub-Saharan Africa, which could account for up to one-third of these potential new entities.

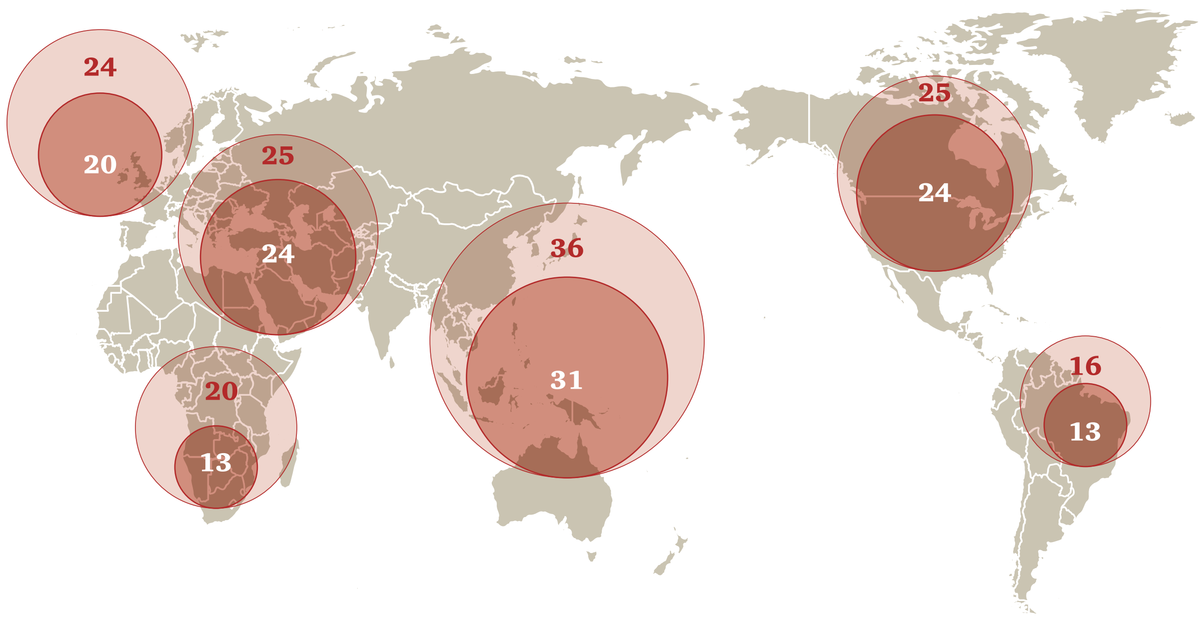
As new challenges arise, including garnering skilled talent to manage Sovereign Investors, support for these entities will be important. If appropriate economic and legal frameworks are established, these potential new entities could materialise and thrive.

Many of these new Sovereign Investors are meant to be funded with revenues generated from commodities. The ultimate size of the funds are going to be heavily dependent on commodity prices over the next 20 years.

2020 Sovereign Investors (AuM in USD tn)



2020 Sovereign Investors (by number)



Sovereign Investors in 2015

Sovereign Investors in 2020

Section 2

Investing in the future

Asset management: Outsourcing vs. Insourcing

Sovereign Investors represent a major opportunity for the asset management industry considering they are large, long-term and stable investors. In fact, asset pools of Sovereign Investors have been managed primarily by major Western asset managers for many years. A well-known example of this is ADIA, which delegates the management of 65% of its assets to external asset managers.[10]

In the future, the decision to outsource the management of a pool of assets will be based on a combination of several criteria, of which two will be particularly important for Sovereign Investors: the team capabilities, age and sophistication of the entity and its experience in the asset class or asset class category.

For example, a capital maximisation fund willing to explore investment opportunities in alternatives[11], such as hedge funds, would probably delegate a portion of its portfolio to a dedicated hedge fund manager. Conversely, an established stabilisation fund would be less likely to outsource the management of a pool of its assets, composed mostly of short-term fixed income securities, if its investment team was experienced in this asset type.

Sovereign Investors will increasingly seek bespoke structures in their interactions with the asset management industry. Instead of hiring investment firms simply to manage money, they often prefer to enter into strategic relationships. For instance, in the Hedge Funds area, "Investors would like to see hedge funds willing to take fewer clients and build stronger strategic partnerships with them".[12] This challenge is on the table of Hedge Funds' asset managers, which will need to offer more bespoke approaches to Sovereign Investors in the future.

Beyond generating higher returns, outsourcing will be useful to Sovereign Investors looking to accelerate their learning curve in new asset class categories. To do this, a Sovereign Investor might ask its asset managers to replicate portions of its portfolio and use these as "vehicles for generating investment ideas and research topics".[13]

Insourcing trend

Other large Sovereign Investors will further strengthen their investment teams with highly qualified staff in an effort to internally execute mandates previously allocated to external firms or to invest in new asset classes. Good examples are ADIA, GIC and Teachers, who today employ more than 1,000 staff each and increasingly manage their alternative assets in-house.

Bypassing intermediaries through the development of in-house investment professionals, offers a variety of benefits[14], such as improved net returns, better alignment of interest between investments and stakeholders, and access to investment opportunities.

In addition, some of the major Sovereign Investors will increase their global presence and proximity to the markets by opening physical offices in foreign countries. For example, Temasek holds 16 offices worldwide, China Investment Corporation is present in Toronto, and Norway Pension Fund-Global has offices in London, New York, Shanghai, Luxembourg and Singapore, and is looking at Tokyo next.

With shrinking populations in Europe and slow population growth, some pension funds, such as in Japan and the Netherlands, are going to have to think through their investment and physical presence strategies in terms of the emerging financial markets. For example, Mumbai, Shanghai, Lagos, and Sao Paulo are all going to have an increasing share of investable assets versus London, New York and Tokyo.

[10] "Abu Dhabi Investment Authority 2014 review", 2014

[11] Note: Alternatives refer to Hedge Funds, Real Estate, Private Equity, and Infrastructure

[12] AIMA Investor Steering Committee, "Beyond 60/40 – the evolving role of hedge funds in institutional investor portfolios", May 2013

[13] SWC, "SWFs Explore New Outsourcing Strategies", June 2014

[14] "Principles and Policies for In-House Asset Management", Gordon L Clark & Ashby H B Monk, 2012

Sovereign Investors and global asset managers; a dual relationship

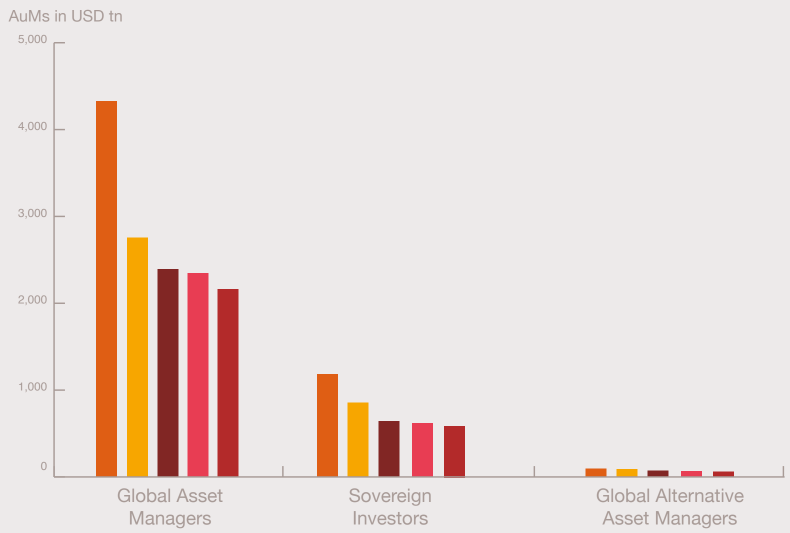
Major Sovereign Investors and global asset managers can be compared in terms of the size of their assets. In fact, Sovereign Investors are powerful actors within the universe of asset management.

While Sovereign Investors partner with global asset managers, whether via co-investments or portfolio management mandate delegation, the two often compete for direct investments.

However, competition for direct investments between global asset managers and Sovereign Investors only takes place among the most sophisticated Sovereign Investors, those who have developed the necessary capabilities, namely dedicated investment management teams for RE, PE or Infrastructure direct investments.

Direct alternative investments in RE are subject to fierce competition among the mega institutional class, resulting in price escalation of prime location assets. Sovereign Investors' names can be seen in many high profile transactions where they have acted on their own as they built up direct RE investment capabilities or joined forces with RE asset managers.

Top 5 Sovereign Investors in 2014 versus top 5 Global Asset Managers and top 5 Global Alternative Managers



Sources: Towers Watson for Global AM and Global Alternative AM data, PwC Market Research Centre for Sovereign Investors' data

In the infrastructure sector, Sovereign Investors traditionally have a strong presence, especially economic development funds investing in their home countries. As for capital maximisation funds, they compete with infrastructure asset managers to seize international opportunities. In numerous instances, they also bid in partnership with these asset managers.

In the PE sector, capital maximisation funds are among the largest LPs. The most sophisticated Sovereign Investors invest directly in targets on their own and through co-investment schemes. Direct investing is on the rise and Sovereign Investors are disrupting the PE environment with these investment models.

With urban population growing, Sovereign Investors are going to have to be positioned to invest in assets that support this urbanisation – infrastructure and real estate are two of the most important.

Shifting the balance: actors of global economic change

As large investors, Sovereign Investors have a strong impact on both local and global economies. By nature, they act as long-term investors with the primary aim of leaving a legacy for future generations. As a consequence, they contribute to limiting speculation and volatility on the global financial markets.

Sovereign Investors also allow emerging and developing countries to manage revenues derived from non-renewable resources and to foster continued growth when those resources run dry.

Economic Development Funds typically take part in infrastructure projects which have profiles that do not fit banks in terms of ticket size, risk and potential yields. Moreover, the goal of Stabilisation Funds has been geared towards countercyclical action to limit economic shocks brought on by the volatility of commodity prices.

Shareholders of last resort

Before the GFC, Sovereign Investors were considered to be an alternative for the accumulation of liquid assets, coming from commodity and trade surpluses, in the foreign exchange reserves of central banks. However, during the GFC, Sovereign Investors provided a large amount of funds to the worldwide market and made sizable investments in the financial industry and beyond, presenting themselves as shareholders of last resort.

In fact, in September 2008, following the failure of Lehman Brothers, CIC started to buy stakes in three Chinese banks – the Industrial and Commercial Bank of China, the Bank of China and the China Construction Bank – on the local Stock Exchanges. The objective was to stabilise the banks' stock prices and provide liquidity to the major State-controlled lenders. Again, in November 2008, the Agricultural Bank of China received a capital injection of USD 19bn from the CIC and the Ministry of Finance in order to strengthen the bank and prepare for its initial public offering.[15]

The KIA helped rescue the Gulf Bank in 2009 by injecting over USD 420mn and restructuring the management of the bank.[16] Additionally, the fund acquired a stake of 24% (USD 85mn) in Warba Bank and played an important role in the real estate sector by creating a five-year fund with AuM of USD 3.5bn dedicated to investing in commercial real estate. The main goal of this move was to support developers in the process of finding buyers.[17]

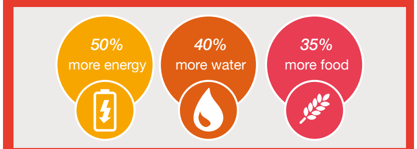
Fuelling economic sectors

In addition, in post-GFC times, where capital scarcity and bank regulation have increased, Sovereign Investors have played an important role in financing key economic sectors and companies. Further, they contribute to local economic development by financing infrastructure initiatives like the acquisition of water supply networks, hospitals, power generation units, ports, agricultural land and SMEs.

In this context, Sovereign Investors have been providing better access to stable long-term capital to the companies they have acquired in order to reduce uncertainty regarding their future financing ability. Furthermore, companies belonging to Sovereign Investors have the opportunity to gain privileged access to the markets in the country or region in which the fund is based.

Scarcity of resources and the impact of climate change are of growing economic concern. Therefore, Sovereign Investors' shift to responsible investing is becoming more critical.

With a population of 8.3 bn people by 2030, the world needs…



Sovereign Investors could lead in mitigating environmental damage and tackling climate and resource challenges.

[15] Economie Internationale, "Sovereign Wealth Funds as domestic investors of last resort during crises", March 2010

[16] Reuters, "Kuwait sovereign fund takes stake in Gulf Bank", January 2009

[17] "Asset Management Newsletter", ADCB, February 2014

ESG investments

Sovereign Investors are playing an important role in the corporate governance of the companies in which they have been investing. In fact, by exercising shareholders' rights, Sovereign Investors have the ability to influence corporate governance together with boosting corporate social responsibility.

In this regard, responsible investors may choose to exclude entire sectors they consider unsustainable or unethical. Norway's Government Pension Fund Global (GPFG) is a pioneer in shaping the responsible conduct of local private companies. Its investment policy features a list of companies and sectors in which the fund cannot invest, including those that engage in human rights violations, finance tobacco or weapons production, or contribute to environmental damage. Increasingly, investors seek to supplement their existing investment processes with ESG analysis.[18]

The New Zealand Superannuation Fund published its Responsible Investment Framework (September 2014), which includes "social returns" alongside financial performance in its investments profiles.[19]

Furthermore, Singapore's Temasek Holdings set up a USD 300mn private equity fund called Tana Africa Capital to invest primarily in consumer goods and agricultural sectors across Africa. The fund focuses on agricultural production, processing of farm produce and, to a lesser extent media, education and healthcare.[20]

Masdar, the alternative energy company owned by Mubadala Development Co, has two funds dedicated to investing in renewable energy, including solar, hydroelectric and wind worldwide. For instance, the company owns 20% of the London Array Limited in the Thames estuary, opened up in 2013, which represents the largest operational offshore wind farm in the world.[19]

Moreover, in 2013 QIA made an investment of about USD 400,000 to improve the supply chain of agricultural goods in East Africa. In June 2013, QIA signed an agreement of about USD 412mn to create a joint fund with France to boost jobs by investing in small and medium-sized French companies.[21]

In conclusion, thanks to their size and potential market advantage, and due to their long-term investment horizons, Sovereign Investors have the potential to catalyse change beyond their own portfolios and contribute to a better world.

Social change is demanding that corporations are more responsible across the board, by addressing critical issues such as eliminating pollution, improving working conditions, pursuing gender equality, and reducing corruption.

[18] PwC, "Bridging the gap: Aligning the Responsible Investment interests of Limited Partners and General Partners", 2015

[19] Sovereign Wealth Centre, "What Approach to Green Investing Suits SWFs Best?", May 2015

[20] Reuters, "Oppenheimer, Temasek in African private equity JV", August 2011

[21] FT, "Qatar fund sets sights on impact investment schemes", October 2013

Asset Allocation – trends and drivers

A different investment environment
Asset owners are facing an investment environment characterised by low interest rates and slow global growth. Despite unprecedented monetary policy, including significant quantitative easing (QE), global inflation expectations remain subdued and global economic growth is showing signs of a slow-down. In an era of low interest rates, traditional safe-haven, income-generating assets such as government bonds no longer look attractive.

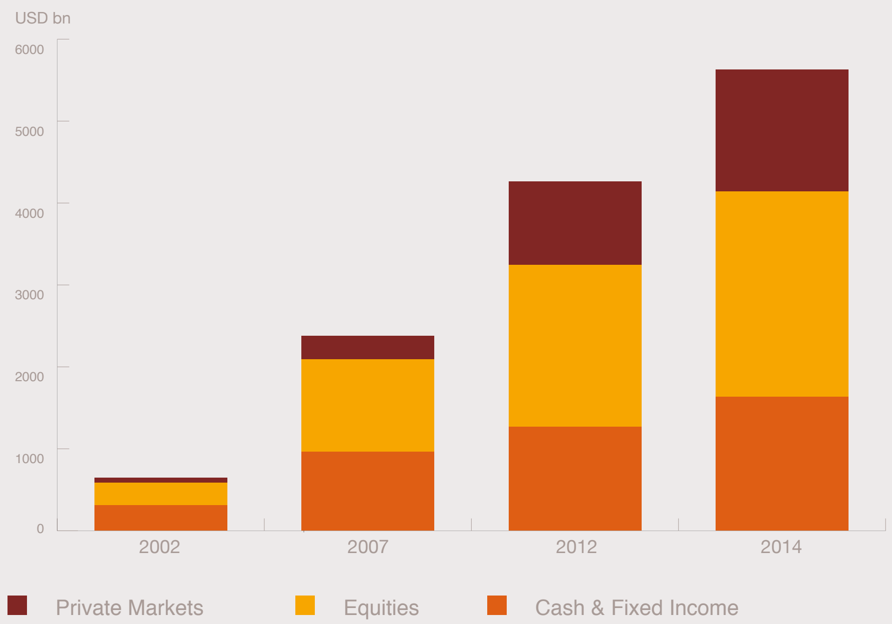
Drivers of asset allocation changes
Sovereign Investors' asset allocation changes will be driven by a combination of:

1) The search for higher returns due to the low yield on traditional assets and as a consequence of QE.[22] Depressed returns on traditional fixed income assets will continue to make alternative investments attractive due to their higher expected returns, despite the costs and expertise required to manage them.

2) Increased pressures to draw on assets to support sovereigns' spending levels. If global macro conditions deteriorate and commodity prices remain depressed, many Sovereign Investors will face increased pressures on financing the government spending gap – diversifying away from energy and realising higher returns will be more important than ever.

3) Ability of Sovereign Investors to access asset classes that require long-term investment horizons. Sovereign Investors have a significant size and investment horizon advantage compared to many other institutional investors. In an environment where many participants are focusing on the short and medium term, having a multi-generational mission offers Sovereign Investors an opportunity to capture a wider range of return drivers than other investors. Long-term investing offers the ability to diversify into illiquid assets and earn an additional premium for doing so.

Increased reliance on private markets will continue



Source: State Street Global Advisors, 2015

22 Source: State Street Global Advisors, "How do Sovereign Wealth Funds Invest? A Glance at SWF Asset Allocation", 2015

Over the next five years, we are therefore likely to see continuation of the trend (see graph "Increased reliance on private markets will continue") of increasing allocations to alternative investments accessed through private markets – namely Private Equity (PE), Real Estate (RE) and infrastructure, as well as multi-asset and/or unconstrained managers.

Investment objectives and liabilities remain key

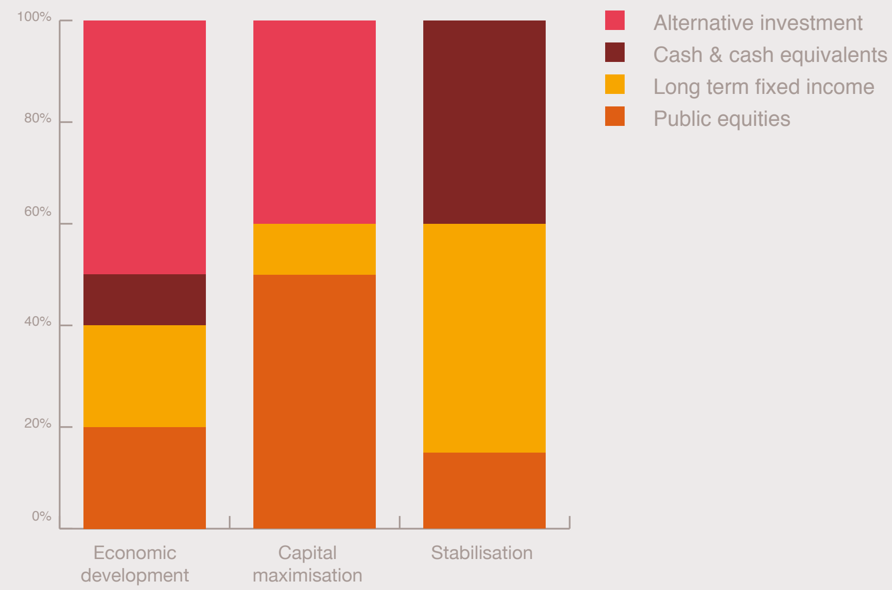
Changes in asset allocations will be determined by Sovereign Investors' investment objectives and liability profiles. Earlier in this publication, we identified three broad groups of Sovereign Investors. For each group we provide an indicative asset allocation beside.

Stabilisation funds have the specific goal of managing macroeconomic shocks and providing stability to a government's revenue stream. Given their purpose, these funds have short investment time-horizons and tend to be very liquid. This largely limits the investable universe to short and long-dated bonds and money market instruments, with appropriate currency hedges to match potential liabilities.

While stabilisation funds might have some equity exposure, given the macroeconomic uncertainty likely to persist going forward, we do not envision an increase in such allocations.

On the other end of the spectrum are Capital maximisation funds whose liability profiles are multi-generational in nature. Our forecasted changes of asset allocations are likely to be most pronounced and visible for this group. They are the most unconstrained and risk-seeking of Sovereign Investors. This group includes funds that do not have strictly defined liability profiles and those that do, such as Public Pension Funds.

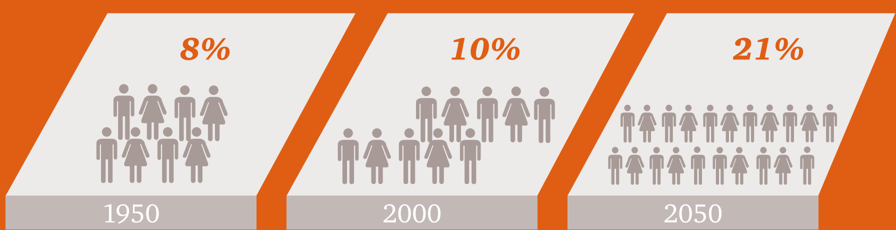
Indicative asset allocation among main Sovereign Investors' fund types



Source: PwC

Some societies are aging rapidly and their workforces will be smaller compared to their total population. Sovereign Investors with pension liabilities (PPFs) in regions with ageing populations will have an increased need to achieve perportional returns and, therefore, may invest more in real and alternative assets.

Proportion of the world population aged 60 years or more



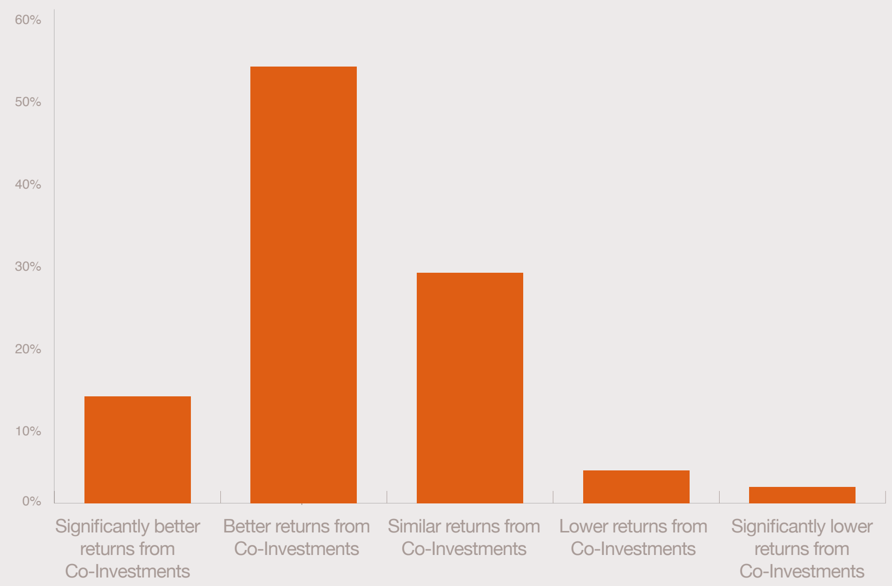
The latter have suffered in the low interest rate environment as their funding gaps have increased. PPFs are likely to increase their fixed income allocations if and when interest rates rise – until then, similar to the more liability-unconstrained Sovereign Investors, we expect to see them searching for yield-generating assets to meet their obligations.

Somewhere in the middle of the spectrum is the growing number of economic development funds. These funds have been established by the sovereigns with the explicit goal of boosting the development of their national economies – among other, through investments in infrastructure and development projects, as well as through providing liquidity to finance business ventures or research & development. These funds tend to have larger allocations to alternative investments (including infrastructure and private equity) and pronounced allocations to risky assets; however, balancing these out to some extent with allocations to safer assets as their need to provide a stable stream of financing is strong.

Increased allocations to private equity, real estate and infrastructure

The trend of increased allocations to private equity will continue despite some divergences of views among the Sovereign Investor community about market opportunities and portfolio management (e.g. de-risking that took place between 2012 and 2014). While Sovereign Investors are well positioned to take advantage of the illiquidity premia present in the private markets, some of the larger Middle Eastern funds have alternative allocations well below those of most leading institutional investors in North America and Europe.[23] We expect an increasing amount of private-type deals to be completed in the form of co-investments (alongside General Partners - GPs) or sourced internally by the increasingly more skilled in-house investment teams. Co-investments, traditionally offered by private equity GPs are also increasingly offered by hedge fund managers. Co-investments involve private equity managers approaching investors with an opportunity to invest directly in a business outside the usual limited partnership (LP) structure. The benefits of co-investments to Sovereign Investors are significant: GPs can by-pass fund deal limitations by using "friendly" capital and Sovereign Investors get access to select opportunities at very low or no cost boosting their return prospects (see graph "Past performance of co-investments in comparison to fund investments" - 66% of surveyed investors indicated significantly better or better returns from co-investing versus fund investments).[24]

Past performance of Co-Investments in comparison to fund investments



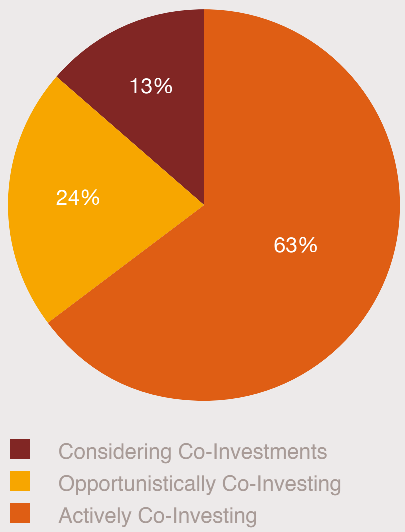
Source: Preqin, 2016

[23] Source: Pensions and Investments, "Sovereign wealth funds move outside for specialist investments", 2014

[24] Source: Preqin, "Preqin Special Report: LP Appetite for Private Equity Co-Investments", 2016

A general survey of LPs suggests that the appetite for accessing private equity in this way is substantial (see graph "LPs with an interest in co-investing") and growing. We expect Sovereign Investors to increasingly utilise co-investments given their long-term investment horizons and ability to fund large investment tickets.

LPs with an interest in co-investing: current attitudes towards co-investments



Source: Preqin, 2016

The main drivers of increased allocations to real estate will be the attraction of higher yields, inflation protection and diversification benefits. With government bond yields at or near all-time lows, relatively low risk opportunities including prime real estate can yield significantly more than a government bond portfolio. In 2010, Norway's Government Pension Fund took a strategic decision to develop its real estate allocation, which reached 1.3% by September 2014 and increased to 3% as of September 2015. Norges Bank Investment Management (NBIM), who manages the fund's assets, appears to be on track to reaching its 5% strategic target.[25] Nine out of the ten biggest sovereign wealth funds have allocations to commercial real estate and many have been creating or expanding specialist teams.[26]

While inflation remains subdued, the long-term effects of QE are not fully understood and the risk of stagflation cannot be discounted. Real estate provides Sovereign Investors with a hedge against spikes in inflation as these become priced into rents through contract clauses. As yield-seeking capital of Sovereign Investors crowds the prime market space, Sovereign Investors (especially the ones with less risk-averse mandates) are likely to move into development schemes, second tier cities or value-add assets.

Infrastructure investments will continue to attract investors due to their solid fundamentals including strong equity returns and perceived low risk. The steep rise in prices that has led many to question the sustainability of this sector has the potential to price out and crowd out smaller players. Sovereign Investors' long-term investment horizon and long-term nature of infrastructure investments gives them a unique advantage. The asset class will remain attractive and see increased allocation due to a combination of the following:

- The long-term investment horizon of Sovereign Investors makes them ideal financier of large infrastructure projects. The demand also plays its part – it is estimated that Asia needs USD 8tn over the next ten years to finance infrastructure projects.[27]
- Infrastructure offers higher yield than government bonds and equities – steady stream of returns with explicit inflation pass-throughs built into their contracts. While inflation expectations are severely subdued at the moment, infrastructure is well-positioned to protect value in a stagflationary environment.
- Infrastructure investments are typically less volatile than general equity markets to which many capital maximisation funds have overweight.
- Sovereign Investors are increasingly playing the role of development-finance institutions and allocating not only to global infrastructure but also to domestic projects[28], therefore combining a benefit to local economy with a stable and predictable stream of returns.

[25] Source: NBIM, "Key figures", 2016
[26] Source: Preqin, 2016
[27] Source: Worldbank
[28] Source: Center for Global Development, "Sovereign Wealth Funds and Long-Term Development Finance: Risks and Opportunities", 2014

Other trends in asset allocations

Multi-asset managers have the ability to act in a fully unconstrained manner and react to changing macro and micro fundamentals very quickly to exploit them to their advantage. In a low interest rate environment, Sovereign Investors seeking liquidity and unconstrained strategies where manager skill can add value, will likely turn to multi-asset managers more often[29], especially as hedge fund fees and performance disappoint. However, capacity in such mandates is likely to be a constraining factor for the largest funds.

One of the longer-term developments in asset allocation will continue to be a gradual broadening of the distribution of assets across regions and countries, resulting in a globalisation of portfolios away from the home-bias.[30]

Asset allocation changes and long-term investing

Asset allocation changes do not occur in a vaccum. Being long-term may seem easy, but in reality is a complex exercise. Investing in assets that are illiquid in nature, like real estate, private equity and infrastructure requires a very different skill set than investing in listed equities or bonds. It also requires that the organisation is fit-for-purpose in terms of investment governance and philosophy. While a vast majority of investors are focussing on "smart beta" and factor investing in the move away from the relatively higher cost of traditional active investing, Sovereign Investors can differentiate themselves as long-term investors by constructing a portfolio based on major trends. We are likely to see more Sovereign Investors go further by incorporating long-term trends in their investment thinking and by adopting a more contrarian (counter-cyclical) approach. This would not only be beneficial for them and their stakeholders, but also be constructive for the stability of financial markets.

Summary

We predict that major trends and changes in asset allocations of Sovereign Investors over the next few years will focus on moving more capital into illiquid private markets, through investments in private equity, real estate and infrastructure. The overarching driving force behind rebalancing into these asset classes is the search for yield in a generally low-yield macroeconomic environment, and the unique advantage of Sovereign Investors to be some of the longest-term investors in the market. Moreover, each of the asset classes has unique characteristics, which makes it attractive to Investors: for private equity it is the ability to earn an illiquidity premium and take significant direct equity interests if co-investment vehicles are utilized; infrastructure and real estate offer investors implicit inflation protection in an environment where stagflation remains a concern. All of them (especially the latter two), offer strong portfolio diversification benefits, especially if combined with more traditional asset classes such as public equities and/or bonds. While these asset classes offer benefits, reaping tangible rewards will require an altogether different set of skills and niche expertise on the part of investors. Asset allocation decisions, in this context, become as important as the quality of execution of these investments. Only time will tell whether Sovereign Investors will maximise this opportunity.

[29] Source: Pensions and Investments, 2014

[30] Source: IMF, "Long-Term investors and their asset allocation: where are they now?", 2016

The demands for governance and transparency are related to social change.

Contacts

Michel Meert
michel.meert@uk.pwc.com

Matt Craddock
matt.craddock@uk.pwc.com

Sovereign Investors are taking PE to new frontiers

As Sovereign Investors invest more in emerging markets, they will increasingly need to use PE because publicly investable assets are not available. To gain exposure to new markets, Sovereign Investors will also need to create their own assets and structure transactions.

Private Equity (PE) has remained strong in the past few years, in terms of both fund raising and investment activity. Sovereign Investors have taken this asset class to the next level by hiring executives with consolidated experience in specific industries, and are now able not only to act as limited partners, but also to co-invest and leverage their relationships with the general partners. This trend is set to continue in the next five years.

In an effort to align interests with their limited partners, funds are now offering longer tenures – and lower returns. Sovereign Investors are also more flexible and have started to exit their private investments. In the meantime, dry-powder continues to grow, illustrating the continuing high levels of unused capital. In a context of very low interest rates and world economic revival, the competition between General Partners (GPs) and Limited Partners (LPs) for attractive targets will continue and even intensify in the coming years.

Sovereign Investors investing in Private Equities

Levels of asset allocation to PE are very different among Sovereign Investors, the average being 5% in 2014.[31] The spectrum is wide, ranging from entities not investing in PE at all, to those that have specific PE programs (e.g. Alaska, Teachers, GIC and more recently CIC). However, within the framework of the gradual shift towards alternatives, PE is a growing asset class category in the portfolios of Sovereign Investors. The search for higher yield has produced a move towards PE, which delivered returns that met or exceeded expectations for 92% of a panel of Limited Partners (LPs) in 2014.

Sovereign Investors are already the world's largest group of LPs in terms of assets. In fact, numerous Sovereign Investors entities belong to the top 50 LPs of PE funds, along with global asset management companies and insurance companies (six LPs out of the top ten are Sovereign Investors).[32] Depending on their sophistication level and capabilities, Sovereign Investors invest in PE in a variety of ways: as passive LPs, through separate accounts managed by GPs, either as co-investors along with the GP, or directly in the target. SWFs' direct investments in 2014 favoured targets active in Consumer Services, Technology, Media and Telecommunications and the Energy sectors.

Outlook for Sovereign Investors – a growing force that will take PE to new frontiers

Sovereign Investors are recognised key actors of the PE industry. In fact, GPs of international PE funds consider SWFs and Pension Funds to be their most likely investment partners by 2015.[33]

Key drivers will shape the future of Sovereign Investors' PE investments in 2020:

- Forecasted asset growth of Sovereign Investors together with the gradual shift to alternatives will generate more capital flows towards PE. In a recent survey, a third of LPs showed interest in raising their target allocations to this asset class.[34] This increase translates into an additional amount of nearly USD 300bn of new Sovereign Investors investments in PE by 2020. The allocation to PE within the alternative portfolios may range from 31% of economic development Sovereign Investors to 38% of capital maximisation Sovereign Investors.
- As newer Sovereign Investors mature and become sophisticated investors, new options will be explored, generating inflows to this asset class.
- The geographical mix will also change, given the scarcity of attractive targets, particularly in the US. In 2014, the bulk of PE investments was made by Asian Sovereign Investors (especially Singaporeans), which invested mostly in Asia, especially in Chinese companies.[35] Nearly 20% of a sample of LPs assured that they will increase their investments in Asia, and 14% of them were interested in Latin America.[36] As African PE deals hit a seven-year peak in 2014 (over USD 8bn), the continent could also be the next horizon for Sovereign Investors.

Sub-Saharan Sovereign Investors and local PE funds have already committed capital (USD 5bn in 2014) to local non-public companies, and international PE firms, along with Sovereign Investors, are exploring opportunities in the Dark Continent.

- Various PE investment models will continue to co-exist, with direct investing models on the rise. Almost half of the surveyed LP population, versus 21% in 2014, said they would invest in targets directly. Alaska Permanent Fund, Temasek and GIC are known to be active direct PE investors, and China Investment Corporation has recently set up CIC Capital to focus on foreign direct investments.
- Co-investments will continue to develop as Sovereign Investors search for higher yields and develop their interactions with PE houses. In fact, Sovereign Investors are competing more and more with each other when trying so seize co-investment opportunities. According to the Chief Investment Officer of a US based Sovereign Investor, "Sovereign Wealth Funds are disrupting the co-investment market".[37]
- Finally, the scarcity of high-quality opportunities in other alternatives such as Real Estate and Infrastructure will make some Sovereign Investors turn into PE.

Concerning investments in funds as passive LPs, these schemes continue to offer less sophisticated Sovereign Investors exposure to PE, normally at a higher cost. To support these schemes, GPs have launched various initiatives and products. CVC for instance announced in November 2014 the launch of a new USD 4bn fund dedicated to SWFs, with a lifespan of 15 years and a targeted Internal Rate of Return of 12%-14%.[38]

By 2020, megatrends such as demographic shifts, climate change, resource scarcity and technological breakthroughs will shape the private equity investments and the sectors of choice of global investors. In another five years, we expect Sovereign Investors could direct more capital towards healthcare, natural resources and commodities, as well as new industries and technology companies. This trend is aligned with the rejuvenation of Venture Capital, which is becoming a common choice among Sovereign Investors.

The PE landscape will continue to evolve until 2020 and Sovereign Investors will contribute to the rise of PE version 2.0. As Sovereign Investors gain expertise and capabilities, and venture deeper into direct investments through dedicated PE vehicles, competition with GPs will intensify. Therefore, in times of capital abundance and cheap borrowing, not only will GPs continue to compete for assets with other PE "pure players", but they will also have to compete with their largest investors on a bigger scale. Direct investing involves potentially higher returns and control over the assets, but also higher risks — as does exploring opportunities in emerging markets. Accordingly, only well-endowed Sovereign Investors will be able to play this game. Alignment with the General Partner will continue to be key.

Breakthroughs in technology are increasing productive potential and creating entire new industries. This will open new investment opportunities. Further, the rejuvenated interest of Sovereign Investors in Venture Capital, shown in the trend of setting up dedicated subsidiaries and Sovereign Investors' tactical asset allocation, will increase investments in PE.

[31] PwC Market Research Centre analysis based on available recent financial information, if not available, SWC or Preqin were used.

[32] LP50, "Private Equity International", July/August 2014

[33] PwC, "Private Equity Trend Report", 2015

[34] Coller Capital, "Global Private Equity Barometer", winter 2014-15

[35] PwC Market Research Centre analysis based on SWC deals database

[36] Coller Capital, "Global Private Equity Barometer", winter 2014-15

[37] The Wall Street Journal, "Committed: Texas Pension Plan says Sovereign-Wealth Funds are disrupting co-investment market", March 2015

[38] FT, "CVCs find creative way to attract biggest investors", November 2014

Contacts

Diego López
d.lopez@ae.pwc.com

Real Estate investment - here to stay

The rise of cities in the global economy is unprecedented, increasingly creating demand for housing. Consequently, Sovereign Investors will have the opportunity to further invest in Real Estate.

A Real Estate market being transformed by global megatrends is spurring Sovereign Investors to develop more active and adaptable real estate strategies. In 2020 and beyond, real estate will not only be central to Sovereign Investors' investment strategies, but their presence in the market will be one of the biggest influences on prices and development plans in the Real Estate sector. What are the strategies and capabilities needed to capitalise on these developments?

Accelerating urbanisation is transforming the way global populations live and work, how resources are used and how the global economy performs.

In 1800, barely one in fifty people lived in cities. By 2009, urban dwellers had become a majority of the global population for the first time. Some analysts are predicting "the century of the city" as 1.5mn people join the urban population every week. The concentration of people in cities has made them a primary engine of the global economy; 50% of global GDP is generated in the world's 300 largest metropolitan areas. This rapid expansion in urban areas is creating huge opportunities for developers – we estimate that the global stock of institutional grade Real Estate will grow by more than 50% to reach USD 45tn by 2020. But it is also creating mounting strains on infrastructure and resources. We estimate that some USD 8tn of investment in infrastructure will be needed in London, Shanghai, Beijing and New York to deal with this issue.

With rapid urbanisation and associated economic growth comes the regeneration of central areas (e.g. London's King's Cross and South Bank). Over the next 20 years, the pressures of supply and demand will bring about the migration of many more new districts into the prime arena.

Urbanisation is not the only trend that will transform the Real Estate market: other megatrends will force change, as well. Technology is redefining essential infrastructure like cabling, telecommunications connections and heating and cooling systems, to name a few. Consequently, buildings continually need to be upgraded to avoid falling into obsolescence. Additionally, new technologies demand power. In the face of surging development and energy usage, Real Estate owners, managers and developers now must consider whether there will be enough power for their properties, while taking account of demands by occupiers for cleaner and more efficient energy sources.

Technology is also changing the way people work and how buildings are used. Workforces are more mobile, creating the need for spaces that can accommodate flexible usage. A potentially game-changing development for real estate developers and operators is the explosion of fixed and wearable sensors. These are paving the way for closer monitoring and control of energy, usage, air quality and other environmental factors. In the near future, tenants will be more informed about the impact of their working environment on their health and expect their premises to fluctuate according to their specific needs. Owners and managers will need to anticipate these needs and respond to them.

These developments in the way we live, work and communicate are transforming our understanding of "Real Estate". Some Real Estate asset classes are moving from "alternatives" to mainstream investments such as healthcare, housing, student accommodation and data centres.

Real Estate investment trusts (REITs), particularly in the US market, are beginning to embrace a host of new assets such as telecom towers, telephone masts, parking facilities, pipelines, storage structures, advertising hoardings and solar energy facilities.

As we look ahead, Sub-Saharan Africa epitomises the interplay between demographic, urban and economic trends. The population is expected to double to some two billion by 2045, providing the spur for major industrial investment and development. On the back of these developments, Africa's urban population is expected to grow by nearly 500mn by 2030, creating further opportunities for housing and infrastructure investment. Having seen its fortunes dip in the 1990s, the centre of Johannesburg is once again becoming a highly attractive location as corporations look for a well-developed base from which to run their Africa-wide operations. Other cities, such as Lagos and Nairobi, are also seeing the first signs of the acceleration in developments that have transformed cities like Rio and Shanghai over the past 20 years. At the same time, extreme poverty continues to persist alongside rising wealth, with new slums springing up as quickly as the skyscrapers.

Sovereign Investors rapid move into Real Estate

Sovereign Investors have already emerged as important drivers of investment and development within Real Estate. Nine out the ten biggest Sovereign Investors (ranked by AUM) have allocations to commercial Real Estate and many have been creating or expanding specialist teams. From Canary Wharf to the Champs-Élysées, some of the biggest property deals of recent years have involved a Sovereign Investor as either the direct buyer or major investor in a consortium or Real Estate fund. If a top tier property comes up for sale, Sovereign Investors are now certain to be in the agent's first round of calls.

In 2015, capital maximisation Sovereign Investors held 4.9% of their portfolios in Real Estate (38% of their alternative allocations). By 2020, we estimate that Real Estate could rise to more than 40% of alternative allocations, with even bigger rises to come as expertise grows and opportunities increase. Economic development Sovereign Investors held 2.4% of their portfolios in Real Estate (9% of their alternative allocations). By 2020, we estimate that Real Estate could dip to 7% of alternative allocations if fixed income becomes more attractive again. Overall Sovereign Investor investments in Real Estate could reach USD 750bn by 2020.

With the yield from the highest rated government bonds running at near record lows, it is easy to see the attractions of Real Estate for Sovereign Investors. Despite the primary focus on relatively low risk opportunities (the usual criteria are high quality assets in superior locations of prime cities such as Paris, London and New York, which are occupied by financially sound organisations), the investor can achieve returns of 3% to 6%. Real Estate also has the attraction of inflation hedging and portfolio diversification, with increased property allocations often running alongside investment in infrastructure.

Looking to 2020 and beyond, Sovereign Investors will still be attracted to commercial and retail property in primary locations. However, as the shape and purpose of cities changes the real estate assets will change. This will lead to specialisation as Sovereign Investors build up large portfolios in the areas they are comfortable they have the right level of knowledge and expertise. Whilst the type of assets may vary for each Investor they will still be seeking the fundamentals – reliable sustainable revenues over a long period of investment.

As outlined earlier, some Sovereign Investors may scale back Real Estate allocations if and when fixed income yields move back towards historical norms. But most funds would appear to be building up Real Estate capabilities for the long-term. Real Estate provides an important source of investment diversification, with Real Estate volatility showing little correlation with other prominent asset classes. The opportunity to periodically raise or index rents provides a useful hedge against inflation. Moreover, in a volatile world, prime commercial Real Estate provides the comfort and familiarity of a solidly asset-backed investment.

Allocation to Real Estate of around 20% is often seen as good target within stable long-term asset-liability management strategies, which is much higher than most Sovereign Investors currently hold. Further signs of an enduring commitment include the expansion of dedicated Real Estate teams within many Sovereign Investors. Rather than any major withdrawal from Real Estate, the future is likely to see its movement from alternative to mainstream allocation.

Keeping pace with market developments

Indeed, the real question is not will Real Estate continue to be important, but how to keep pace with a rapidly evolving market. It is against the backdrop of these colliding, coalescing and accelerating megatrends that Sovereign Investors' Real Estate strategies need to be considered.

The first challenge is how to get closer to the constant movements in market demand and client expectations. In the past, Sovereign Investors have been happy to accept a long lease and sit back while the returns flow in. But in a world in which corporate empires are rising and falling, there is less certainty over the long-term viability of corporate tenants. Hence, new approaches to financial due diligence will be paramount.

Sovereign Investors have also historically found themselves several stages removed from the tenant, with agents and property managers in between. But at a time when shifts in technology and the global economy are rapidly changing tenant requirements and the use of data is accelerating the impact of these requirements on property returns, it is important for Sovereign Investors to develop a more hands-on operational approach to Real Estate investment and management.

One of the challenges for Sovereign Investors will be to achieve the right level of operational control over their expanding and increasingly complex Real Estate portfolios and enable access to accurate, timely and relevant information on performance for decision making purposes. Development in technology, digital transformation and data management processes will play an important role here.

Sovereign Investors will also need to maintain direct contacts with the C-suite of their tenant companies and use this dialogue to anticipate and meet their demands.

In turn, this demands more adaptable "shell and core" developments, which offer the capacity to upgrade a building's infrastructure without ripping out floors and walls. We are also likely to see more "loose fit" interiors, which allow tenants to quickly and easily move walls and partitions as demands for space evolve.

This more active approach to management and investment will also need to take account of the rise, and possible fall, of the desirability of different districts in the coming decades. This is not just a matter of anticipating what is coming up, but also ensuring that the power, transport and other aspects of the local infrastructure (ranging from affordable housing and schools to the pavements and public spaces) are equipped to cope with demand, both physically and environmentally.

Supply and demand

The other big question is supply and demand. Meeting ambitious allocation targets is going to be difficult at a time when there is far more demand than supply. Even if the focus is moved beyond the core prime cities to include destinations such as Tokyo or Washington, the sheer weight of capital flooding into the premium Real Estate market means that there are still not enough suitable properties to go around.

So why is there such a squeeze on available supplies? Prime Real Estate assets have always tended to be long-term investments, which restricts the amount that come up for sale. At a time when occupancy demands are changing fast, these buildings can also quickly fall below today's expected standards.

The risks involved in refurbishment and re-letting mean that some less well maintained properties may no longer be considered as prime assets. The dip in development during the height of the financial crisis has exacerbated constraints on available supply and the risk that properties will be left long enough to slip into obsolescence. While the pace of development has since picked up, the long lead times in planning and construction mean that the impact of the dip will continue to be felt for some years to come.

At the same time, it is important to avoid making too many generalisations about this market. While the capital is global, Real Estate is a primarily local business, in which the price and availability of assets can vary by post/zip code or even street. Supply might dip in one neighbourhood, but pick up in another. This underlines the importance of local knowledge and an eye for an opportunity that others might miss.

There is unlikely to be a major dip in risk appetite that would draw in too many lower than prime properties and developments. But as we have seen, new locations could join the prime designation, with the possible examples ranging from new districts of favoured cities such as London to new or resurgent cities like Johannesburg.

This brings us back to urbanisation. Cities are the fulcrum where a number of megatrends collide and cities are becoming the most important unit of the economy. Technology, the creation of 'smart' cities, demographics, resource optimatisation and disruptions in the occupier market could all mean that we see the fortunes of cities change rapidly. A new order could emerge as different cities adopt winning or losing strategies. A trend towards decentralisation will also free up city authorities to compete more effectively for inward investment in this new competitive landscape.

What does this mean for Sovereign Investors? New locations could also provide Sovereign Investors with the opportunity to shape the environment and derisk their investments through their long-term support of local infrastructure projects and community programmes. We are also likely to see considerable releases of government and corporate stock, which no longer meets owners' needs. What this requires from Sovereign Investors is good antennae for what areas offer future potential and where untapped stocks might lie. This in turn requires a considerable increase in expertise, either directly or via trusted partners. It will also require new approaches to determining what localities, cities and regions constitute low risk and a broader set of evaluation criteria as factors such as digital infrastructure and customer needs evolve ever more quickly. The need for local expertise could eventually see the acquisition of land and property holding companies, with the investment rationale being as much about their knowledge as their portfolio.

The new face of Sovereign Investors investment

What this all amounts to is the move to a more operational and customer service orientated approach to Sovereign Investors Real Estate investment. Sovereign Investors will be closer to tenants and have research teams looking for fresh opportunities, both for investment and development. Sovereign Investors will also be key partners in urban regeneration and infrastructure development as they look to open up opportunities.

Contacts

Craig Hughes
craig.o.hughes@uk.pwc.com

Infrastructure, the perfectly aligned asset class for long-term investors

A sustained worldwide demand
The shortfall of government budgets coupled with the de-risking of the banking system and increasing global infrastructure demand have created a gap in infrastructure financing.

According to the World Economic Forum[39], USD 2tn is needed each year to fund global infrastructure. This means that, unless major efforts are undertaken to close the gap within the next decade, the global economy will fall USD 20tn short by 2025.

Emerging economies are in need of physical infrastructure to accommodate growing populations and developed countries continue to require modifications and modernisation of their aging infrastructure. Technological infrastructure, however, is an entirely different and equally pressing issue.

The ideal asset for Sovereign Investors?
Infrastructure investments are well suited to Sovereign Investors' needs; their investment horizon aligns with long-term infrastructure projects and their investment capacity can address the ticket size of such projects. Typically, economic development funds invest in domestic infrastructure projects such as water supply networks, power generation, agriculture projects, etc. while capital maximisation funds tend to invest abroad.

Currently, Sovereign Investors invest 3.3% of their portfolios in infrastructure assets and these account for 12% of the alternative portfolio of capital maximisation funds and 46% of the alternative portfolio of economic development funds. These infrastructure investments have shown a strong increase over the last decade. Direct infrastructure acquisitions represented 10% of all SWF deals during the period 2009-2014 (versus 6% during the period 2003-2008).[40]

There is a fierce competition for prominent infrastructure assets. Investors' appetite for Western infrastructure assets has increased in recent years. London Heathrow Airport now has seven institutional investors, including state-owned vehicles from China, Qatar and Singapore. Meanwhile its biggest competitor in London, Gatwick Airport, has five owners, including SWFs from Abu Dhabi and Korea, and PPFs from Australia and Canada. GIC is part of a consortium that owns the French gas transport and storage company TIGF and two significant ports in Australia are collectively owned by Abu Dhabi, Australian Superannuation Fund and other investors.

Attracted by strong fundamentals, including strong equity returns and perceived low-risks, many investors including Japanese trading houses, British university pension funds and German insurance companies have turned to infrastructure. The impact of this chase for yield has been a sharp increase in the prices investors have been prepared to pay for investments. This emphasises the need for caution in deal-making and the necessity of undertaking appropriate levels of due diligence.

In developed economies, infrastructure will be strained to the utmost as populations expand.
Worldwide annual spending on infrastructure is estimated to grow from USD4 tn in 2012 to more than USD 9 tn by 2025. The Asia Pacific market, driven by China's growth, will represent nearly 60% of global infrastructure spending by 2025.
With this trend, Sovereign Investors, particularly Economic Development funds, will be on the forefront to invest in infrastructure.

The inflation of prices of available infrastructure assets could also lead to other opportunities for Sovereign Investors, such as greenfield projects where the competition is not as strong as it is for brownfield sites. However, the challenges of greenfield investing, including construction and commissioning risk, make it a very different proposition from investing in stable, existing infrastructure. Initiatives have been launched to encourage Sovereign Investors to participate in bigger and riskier construction projects, such as the USD 4.2 bn London "Supersewer".[41]

Challenges with direct investments

The other main challenge for this new wave of direct investors will be managing the performance of their assets. Recent history has shown that infrastructure businesses have performed extremely well under focused private ownership. Since the first major wave of infrastructure investing in 2005-2007, asset performance has consistently improved, with record asset performances for major regulated utilities and transport businesses.

However, most of the improvements have been driven by teams of professional investors – funds set up specifically to improve asset valuations, with appropriate remuneration structures.

Many Sovereign Investors have not yet evolved sufficiently to set up strong asset management teams and are often based on different continents from their investments, or regularly find themselves investing as part of complex investor structures.

Across the infrastructure space (and more widely), achieving high levels of asset performance has generally been achieved through giving management teams clarity of purpose whilst also providing appropriate scrutiny and supporting investment. While there is no reason why direct investors should not be as successful with asset management as they are with specialist funds (indeed some have already proved themselves more than capable), we consider this likely to be a sizeable challenge for many.

[39] World Economic Forum, "Paving the Way: Maximizing the Value of Private Finance in Infrastructure," 2010

[40] PwC Market Research Centre analysis based on SWC deals database

[41] FT, ThamesWater seeks investors for £4bn "supersewer", June 2014

Contacts

Colin Smith
colin.d.smith@uk.pwc.com

Richard Abadie
richard.abadie@uk.pwc.com

Co-investment trends

Sovereign Investors are unique market players. While it would be highly unlikely that two investment banks or consulting firms compare notes about their business, Sovereign Wealth and Pension Funds share an unparalleled culture of collaboration and inclusion, reinforced by the International Forum of Sovereign Wealth Funds and the Santiago Principles.

A number of Sovereign Investors have already started looking at building joint venture or co-investment vehicles, rather than delegating the management of their assets to an external entity or making investments on stand-alone basis. These alliances are now taking place at the local and global level across all sectors.

Real Estate

When it comes to Real Estate, Sovereign Investors have traditionally been interested in acquiring 100% or majority stakes, sharing it only with the developer or operator of the property, which are expected to have a sound knowledge of the local market. However, partnerships are also reaching this asset class and today it is possible to find co-investments in properties in case of landmark acquisitions or multi-billion deals, such as the Time Warner headquarters in New York City (co-invested by ADIA and GIC) and the Canary Wharf Group in London (co-invested by QIA and Brookfield).

Infrastructure

Co-investing is a natural fit with the infrastructure sector, where the ticket size is typically high and privatised assets are normally sold in public auctions. Sovereign Investors can enter into public-private partnership projects or team up with infrastructure asset managers to seize investment opportunities in this asset class. Competition is fierce, and it is not uncommon to see several consortia, typically comprised of a GP and a number of LPs, competing for the scarce high quality assets in developed markets. Recent examples include Thames Tideway Tunnel (also known as London Super-Sewer), where the bidding consortia included a number of infrastructure funds and institutional investors from across the world. Other examples of these processes exist in the airport businesses (e.g. Heathrow), in the tolled motorways (e.g. Autoroutes Paris-Rhin-Rhône, Queensland Motorways) and in the utilities business (e.g. Thames Water).

Private Equity

Collaborative investment is also an increasing trend in Private Equities, where Sovereign Investors invest in target companies alongside the General Partners. For new fund commitments, a large number of LPs now ask for co-investment rights, which are usually granted. In addition, while some Sovereign Investors consider co-investments separately, others include them as part of their broader PE fund allocation.[42]

The LP has two main reasons to co-invest. First, it gains control over the transaction and gives direct exposure to its investment executives, while reducing fees to half. Second, the liquidity provided early on in the transaction mitigates the J-curve effect associated with PE deals and may help to outperform the returns of traditional fund investing. The GP, however, faces conflicting views concerning this new trend. On the one hand, it can use the capital to target larger deals or stakes, and thus benefits from offering high quality co-investment opportunities to LPs. On the other hand, it is tempted to keep these high quality deals in traditional fund structures in order to maximise management and transaction fees.

Consortia among Sovereign Investors are more uncommon in direct PE investments, but the recent example of Tesco's South Korean unit Homeplus (valued at over USD 6 billion), where some of the bidders are backed up by institutional examples, could set a precedent on larger deals.

A new breed of Sovereigns

The Russian Direct Investment Fund can be considered as the pioneer of a new breed of Sovereign Investors. The mandate of this USD 10bn fund is solely to act as a catalyst and to attract over USD 25bn of FDI into Russia. In 4 years of life, RDIF has signed partnerships with over 20 institutional investors from Europe, the Middle East, Far East Asia, and has started to invest in a number of high-profile projects and partnerships on Russian soil. This model has now been followed by several other European nations, including France (CDC International), Italy (Fondo Strategico Italiano) and Spain (COFIDES) – and can indeed represent a great opportunity to increase FDI in times of uncertainty.

During the next five years, we expect the use of co-investments to spread and consolidate, regardless of the type and mandate of the Sovereign Investor. A year ago, the Korean Investment Corporation (KIC) hosted the first Co-Investment Roundtable of Sovereign and Pension Funds (CROSAPF) in Seoul to discuss potential alliances and co-investment opportunities. It brought together over thirty Sovereigns and Pension Funds, as well as a number of GPs that gave an overview of their asset classes, and after the event, a co-investment agreement was signed by 12 Sovereign Investors to discuss investment ideas on a regular basis on the way forward.

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[42] Preqin Special Report, "LP Appetite for Private Equity Co-Investments", 2012

Other recent examples of partnerships include the Global Infrastructure Investor Association (GIIA), which is comprised of 30 infrastructure partners and Sovereign Investors and aims at discussing unlisted infrastructure investments; and the widely discussed Asian Infrastructure Investment Bank (AIIB), which has 57 prospective founding members to date and will be focused on supporting infrastructure construction in the Asia-Pacific region.

Major Sovereign Investors

Fund Name	Region	Country	SWF/PPF**	Year established	AuM (USD bn)
Fund for the Regulation of Receipts (FRR)	Africa	Algeria	SWF	2000	77.2
Fundo Soberano de Angola (FSDEA)	Africa	Angola	SWF	2012	3.6
Pula Fund	Africa	Botswana	SWF	1994	5.5
*Fonds Souverain au TCHAD (FONSIS)**	*Africa*	*Chad*	*SWF*	*2015*	-
Fonds de Réserves pour Génerations Futures	Africa	Eq. Guinea	SWF	2002	0.2
Sovereign Fund of the Gabonese Republic	Africa	Gabon	SWF	1998	0.4
Ghana Heritage Fund	Africa	Ghana	SWF	2011	0.2
*Ghana Infrastructure Investment Fund**	*Africa*	*Ghana*	*SWF*	*2015*	-
Ghana Stabilisation Fund	Africa	Ghana	SWF	2011	0.3
*National Sovereign Wealth Fund**	*Africa*	*Kenya*	*SWF*	*2015*	-
Libyan Investment Authority	Africa	Libya	SWF	2006	65.0
National Fund for Hydrocarbon Reserves	Africa	Mauritania	SWF	2006	0.1
Moroccan Fund for the Tourism Development	Africa	Morocco	SWF	2011	-
Sovereign Investment Authority - Nigeria Infrastructure Fund	Africa	Nigeria	SWF	2011	1.0
National Oil Account	Africa	S. Tome & P.	SWF	2004	0.01
Future Fund	Asia Pacific	Australia	PPF	2006	91.2
Queensland Investment Corporation (QIC)	Asia Pacific	Australia	PPF	1991	57.9
Western Australian Future Fund	Asia Pacific	Australia	SWF	2012	0.7
State Oil Fund of the Republic of Azerbaijan	Asia Pacific	Azerbaijan	SWF	1999	35.9
Brunei Investment Agency	Asia Pacific	Brunei	SWF	1983	39.3
China Investment Corporation (CIC)	Asia Pacific	China	SWF	2007	650.0
National Council for Social Security Fund (NSSF)	Asia Pacific	China	PPF	2000	205.1
State Administration of Foreign Exchange (SAFE)	Asia Pacific	China	SWF	1997	593.7

* Newly established funds
** SWF - Sovereign Wealth Funds
PPF - Public Pension Reserve and large Public Pension Funds

Fund Name	Region	Country	SWF/PPF**	Year established	AuM (USD bn)
*Hong Kong Future Fund**	*Asia Pacific*	*Hong-Kong*	*SWF*	*2015*	*28.0*
Hong Kong Monetary Authority (HKMA)	Asia Pacific	Hong-Kong	SWF	1993	***390.7***
Government Investment Unit	Asia Pacific	Indonesia	SWF	2006	***2.7***
Government Pension Investment Fund (GPIF)	Asia Pacific	Japan	PPF	2006	***1,191.0***
JSC National Investment Corporation	Asia Pacific	Kazakhstan	SWF	2012	***2.0***
Kazakhstan National Fund	Asia Pacific	Kazakhstan	SWF	2000	***64.3***
Samruk-Kazyna	Asia Pacific	Kazakhstan	SWF	2008	***93.5***
Revenue Equalization Reserve Fund	Asia Pacific	Kiribati	SWF	1956	***0.6***
1Malaysia Development Berhad	Asia Pacific	Malaysia	SWF	2009	***3.3***
Khazanah Nasional	Asia Pacific	Malaysia	SWF	1993	***41.6***
National Trust Fund (KWAN)	Asia Pacific	Malaysia	SWF	1978	***1.7***
Retirement Fund (KWAP)	Asia Pacific	Malaysia	PPF	1991	***30.5***
Fiscal Stability Fund	Asia Pacific	Mongolia	SWF	2011	***0.3***
Phosphate Royalties Stabilisation Fund (NPRT)	Asia Pacific	Nauru	SWF	1968	-
New Zealand Superannuation Fund	Asia Pacific	New Zealand	PPF	2003	***20.6***
Papua New Guinia SWF (PNG SWF)	Asia Pacific	Papua New G.	SWF	2011	-
Government Investment Corporation (GIC)	Asia Pacific	Singapore	SWF	1981	***320.0***
Temasek Holdings	Asia Pacific	Singapore	SWF	1974	***177.2***
Korea Investment Corporation (KIC)	Asia Pacific	South Korea	SWF	2005	***72.0***
National Pension Service (NPS)	Asia Pacific	South Korea	PPF	1988	***429.1***
Taiwan National Stabilisation Fund	Asia Pacific	Taiwan	SWF	2000	***0.0040***
Timor-Leste Petroleum Fund	Asia Pacific	Timor-Leste	SWF	2005	***15.0***
Turkmenistan Stabilisation Fund	Asia Pacific	Turkmenistan	SWF	2008	***0.5***
State Capital Investment Corporation	Asia Pacific	Vietnam	SWF	2005	***3.1***

Fund Name	Region	Country	SWF/PPF**	Year established	AuM (USD bn)
Fonds de vieillissement	Europe	Belgium	PPF	2001	*25.1*
Banque publique d'investissement (BPIFrance)	Europe	France	SWF	2013	*28.4*
Caisse des Dépôts Group	Europe	France	SWF	1816	*5.9*
Fonds de réserve pour les retraites	Europe	France	PPF	2001	*50.0*
National Pensions Reserve Fund	Europe	Ireland	PPF	2000	*9.0*
Italian Strategic Fund	Europe	Italy	SWF	2015	*6.7*
*Fonds souverain du Luxembourg**	*Europe*	*Luxembourg*	*SWF*	*2015*	-
Algemene Pensioen Groep (APG)	Europe	The Netherlands	PPF	2000	*417.0*
Stichtig Pensioenfonds Zorg en Welzijn (PGGM)	Europe	The Netherlands	PPF	2012	*195.8*
Government Pension Fund - Norway	Europe	Norway	PPF	2002	*29.9*
Norges Bank Investment Management (NBIM)	Europe	Norway	SWF	1994	*861.6*
National Wealth Fund	Europe	Russia	SWF	1998	*86.9*
Reserve Fund	Europe	Russia	SWF	2011	*85.4*
Russian Direct Investment Fund	Europe	Russia	SWF	2011	*10.0*
First National Pension Fund (AP1)	Europe	Sweden	PPF	2006	*39.9*
Fourth National Pension Fund (AP4)	Europe	Sweden	PPF	2011	*41.3*
Second National Pension Fund (AP2)	Europe	Sweden	PPF	2006	*41.9*
Sixth National Pension Fund (AP6)	Europe	Sweden	PPF	1991	*3.4*
Third National Pension Fund (AP3)	Europe	Sweden	PPF	2004	*40.2*
*Citizen's Wealth Fund**	*Europe*	*United Kingdom*	*SWF*	*2016*	-
*Brasil Investimentos & Negócios (BRAiN)**	*Latin America*	*Brasil*	*SWF*	*2015*	-
Fundo Soberano do Brasil	Latin America	Brasil	SWF	2012	*7.1*
Economic and Social Stabilisation Fund	Latin America	Chile	SWF	1999	*14.8*
Pension Reserve Fund	Latin America	Chile	SWF	1956	*8.0*
Fondo de Ahorro y Estabilización	Latin America	Colombia	SWF	2007	*2.3*
Latin American Reserve Fund	Latin America	Colombia	SWF	1983	*6.0*
Fondo Mexicanao del Petróleo	Latin America	Mexico	SWF	2000	*0.0034*
Oil Income Stabilisation Fund	Latin America	Mexico	SWF	1997	*6.2*

* Newly established funds
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Fund Name	Region	Country	SWF/PPF**	Year established	AuM (USD bn)
Fondo de Ahorro de Panamá	Latin America	Panama	SWF	1993	*1.3*
Peru Fiscal Stabilization Fund	Latin America	Peru	SWF	2006	*8.6*
Heritage and Stabilisation Fund	Latin America	Tr. & Tobago	SWF	2006	*5.6*
Macroeconomic Stabilisation Fund	Latin America	Venezuela	SWF	2000	*0.002*
National Development Fund	Latin America	Venezuela	SWF	2008	*15.0*
Bahrain Mumtalakat Holding Company	Middle East	Bahrain	SWF	1993	*10.7*
Future Generations Reserve Fund	Middle East	Bahrain	SWF	1991	*0.2*
National Development Fund of Iran	Middle East	Iran	SWF	2009	*52.0*
Kuwait Investment Authority (KIA)	Middle East	Kuwait	SWF	1978	*548.0*
Oman Investment Fund	Middle East	Oman	SWF	1968	*17.2*
Oman Oil Company	Middle East	Oman	SWF	2003	*6.9*
State General Reserve Fund	Middle East	Oman	SWF	2011	*34.4*
Palestine Investment Fund	Middle East	Palestine	SWF	2011	*0.7*
Qatar Investment Authority (QIA)	Middle East	Qatar	SWF	1981	*304.4*
Arab Petroleum Investments Corporation	Middle East	Saudi Arabia	SWF	1988	*5.7*
Public Investment Fund	Middle East	Saudi Arabia	SWF	2005	*5.3*
Sanabil al-Saudia	Middle East	Saudi Arabia	SWF	2000	*5.3*
*Saudi Arabian Industrial Investment Company (SAIIC)**	*Middle East*	*Saudi Arabia*	*SWF*	*2015*	*-*
Saudi Arabian Monetary Agency (SAMA)	Middle East	Saudi Arabia	SWF	1974	*230.0*
Abu Dhabi Investment Authority (ADIA)	Middle East	UAE	SWF	2005	*627.0*
Abu Dhabi Investment Council (ADIC)	Middle East	UAE	SWF	2011	*90.0*
Dubai International Capital	Middle East	UAE	SWF	2000	*13.0*
Dubai World	Middle East	UAE	SWF	2006	*100.0*
*Emirates Defence Industries Company (EDIC)**	*Middle East*	*UAE*	*SWF*	*2015*	*-*
Emirates Investment Authority (EIA)	Middle East	UAE	SWF	2007	*22.0*
International Petroleum Investment Company	Middle East	UAE	SWF	2013	*54.5*
Investment Corporation of Dubai	Middle East	UAE	SWF	2001	*70.0*
Mubadala Development Company	Middle East	UAE	SWF	2001	*60.8*
Ras Al Khaimah (RAK) Investment Authority	Middle East	UAE	SWF	2000	*2.0*

Fund Name	Region	Country	SWF/PPF**	Year established	AuM (USD bn)
Alberta Investment Management Corp. (AIMCo)	North America	Canada	PPF	2006	***80.0***
British Columbia Investment Managemern Corp. (bcIMC)	North America	Canada	PPF	1998	***88.0***
Caisse de dépôt et placement du Québec (CDPQ)	North America	Canada	PPF	1994	***237.0***
Canada Pension Plan Investment Board (CPPiB)	North America	Canada	PPF	2012	***226.8***
New Brunswick Investment Management Corp. (NBIMC)	North America	Canada	PPF	1996	***11.6***
Northwest Territories Heritage Fund	North America	Canada	SWF	2006	***0.0005***
Ontario Municipal Employees Retirement System (OMERS)	North America	Canada	PPF	2011	***57.6***
Ontario Teachers' Pension Plan Board (OTPPB)	North America	Canada	PPF	2002	***128.0***
Public Sector Pension Investment Board (PSP)	North America	Canada	PPF	2011	***80.6***
Alabama Trust Fund	North America	USA	SWF	2006	***2.6***
Alaska Permanent Fund Corporation	North America	USA	SWF	1999	***52.0***
California Public Employees' Retirement System (CALPERS)	North America	USA	PPF	1991	***295.8***
California State Teachers' Retirement System (CalSTRS)	North America	USA	PPF	2012	***189.1***
Idaho Endowment Fund	North America	USA	SWF	2006	***1.7***
Louisiana Education Quality Trust Fund	North America	USA	SWF	2000	***1.3***
Montana Board of Investments	North America	USA	SWF	2000	***16.1***
New Mexico State Investment Council	North America	USA	SWF	1983	***19.1***
North Dakota Legacy Fund	North America	USA	SWF	2008	***1.4***
Texas Permanent School Fund (SBOE)	North America	USA	SWF	1956	***30.7***
Texas Permanent School Fund (SLB)	North America	USA	SWF	1993	***7.7***
Texas Permanent University Fund	North America	USA	SWF	1997	***17.4***
Wyoming State Treasurer's Office	North America	USA	SWF	2007	***19.1***

Source: PwC Market Research Centre analysis based on Sovereign Investors' financial information, SWC, Preqin, IFSWF, the Natural Resource Governance Institute & the Columbia Center on Sustainable Investment data.

* Newly established funds
** SWF - Sovereign Wealth Funds
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Contributors and contacts

Should you want to discuss any of the issues raised in this paper in more detail, please speak with your PwC contacts or anyone listed below.

Jan C Muysken
Global SWF Leader
Abu Dhabi, UAE
jan.c.muysken@ae.pwc.com

Marissa Thomas
UK SWF Leader
London, UK
marissa.c.thomas@uk.pwc.com

Curt Cornwell
US SWF Leader
New York, USA
curt.cornwell@us.pwc.com

Sovereign Investors

Richard Boxshall
Economics Director
London, UK
richard.boxshall@strategyand.uk.pwc.com

Asset Allocation

Michel Meert
Investment Advisory Director
London, UK
michel.meert@uk.pwc.com

Matt Craddock
Senior Investment Manager
London, UK
matt.craddock@uk.pwc.com

Private Equity

Diego López
Global SWF Director
Abu Dhabi, UAE
d.lopez@ae.pwc.com

Real Estate

Craig Hughes
Global SWF Real Estate Leader
London, UK
craig.o.hughes@uk.pwc.com

Byron Carlock, Jr.
US Real Estate Leader
Dallas, Texas USA
byron.carlock.jr@us.pwc.com

Infrastructure

Richard Abadie
Global Capital Projects and Infrastructure Leader
London, UK
richard.abadie@uk.pwc.com

Colin Smith
UK Infrastructure Leader
London, UK
colin.d.smith@uk.pwc.com

Megatrends

Andrew Nevin
FS Advisory Leader and Chief Economist
EMEA
andrew.x.nevin@ng.pwc.com

Editor

Dariush Yazdani
Luxembourg
dariush.yazdani@lu.pwc.com

Notes

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