Sovereign wealth funds 2017

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Preface

1. Preface

The global economy continued to strengthen and consolidate the economy's expansive cycle in 2017 with a growth of 3.6% (four tenths more of a point compared with 2016), driven by the good track record of consumption, business investment and trade in the world's leading economies. Elements of uncertainty, particularly those of a geopolitical and financial nature, together with the adjustment of macroeconomic imbalances, continue to be present, but these have a weaker destabilizing capacity and are under greater control than in previous years.

In general terms, developed economies present an increased growth and the stabilization of emerging ones continues. In the United States, the markets' worries were diffused by the new, incoming government, and its economic growth has been boosted by the good behavior of the employment market and business results, and by the tax reform signed at the end of the year. Furthermore, the European economy performed better than expected, again supported by the European Central Bank's highly favorable financial conditions, the recovery of trust by economic agents and the employment market, and the inexistence of destabilizing episodes of its member countries. In the context of the Eurozone, Spain's economy was, in particular, a driving force, closing 2017 with an estimated growth of 3.1%, practically double that of the Eurozone and considerably higher than the forecasts of international bodies. In addition, Spain is growing strongly in job creation and foreign trade surplus, something that had not occurred in previous expansive cycles of its economy.

The leading emerging economies overcame the preceding slowdown and incertitude, and in 2016 and 2017 have gradually increased their capacity for economic growth and activity. China registered a growth identical to the year before, confirming the robustness of its cornerstones, and the lower destabilizing capacity of its public debt level, while it continues to advance along its agenda of reforms and in changing its model for growth. Latin America has embarked on a gradual recovery toward growth, backed by the improvement of its external demand and the forecasts of Brazil, its main economy, alike. As regards the Middle East, the region's leading countries continued to adapt to their new tax scenario, with heterogeneous results; the economic activity of the United Arab Emirates and Saudi Arabia slowed down, while that of Qatar grew.

In this international context, sovereign wealth funds (SWFs) increased their investment activity in 2016 and 2017. In 2016, these funds made over 245 transactions, 36% more than the previous year, while in the first half of 2017 their dynamism dropped slightly, with close to 90 operations, about 10% less than in the same period the year before. This sort of downswing is in line with the global market of cross-border mergers and acquisitions –which reached its peak value in 2015 since 2007– and has dropped almost 20% from this height, evidencing that the current economic and geopolitical climate of developed markets poses significant challenges and a call to proceed with caution, to a certain extent, in the face of a possible end of a lengthy upward trend of stock markets worldwide.

To offer an in-depth look at the trends, strategies and transactions of SWFs, we present the sixth edition of the Sovereign Wealth Funds Report, a joint project of ICEX-Invest in Spain and IE Business School. This new edition of the report delves into an analysis of a period characterized by a major drop of crude oil prices that impacts many hydrocarbon-dependent economies and their respective SWFs, and shows the consistency of the SWFs shift toward long-term investments in real assets.

The report provides a detailed breakdown of the significant increase of SWF investments in real estate and infrastructure. Furthermore, it presents the extraordinary interest sparked by the logistics sector, closely linked to Europe's growing e-commerce and the SWFs' determination to position themselves in the new digital economy. The report analyzes the investments of SWFs in the so-called "green economy" and their responsible ownership strategies. It analyzes the investments of China's SWFs, of particular interest in all of the countries comprising the New Silk Road, or the recent developments of the SWF of Saudi Arabia, which has generated tremendous attention after its initial large-scale deals in technology and infrastructure. The report includes a summary of the investments made by SWFs in Spain over recent months, and an analysis of transactions that have already been discussed in depth in previous editions of this report.

We hope that this new edition of the report will be, once again, international reference to follow the latest trends of the SWFs industry and will serve to complement the analysis already done on previous editions, both geographically (Middle East, Asian, European, Latin American and African SWFs) and at a sectorial level (real estate/hotels, energy, financial, infrastructure, agroindustry, technology, consumer goods and sports).

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Executive Summary

2. Executive Summary

Navigating Market Shoals in Turbulent Geopolitical Waters: Sovereign Direct Investments in 2016-17

The SWFs investment pattern in 2016 and 2017 suggests a cautious extension of prevailing themes and strategies that have predominated in the years following the Great Recession and – among oil exporters – since the stark correction in oil and gas prices. For sovereign investors, specifically, these two years have been characterized by a heightened degree of political change and uncertainty, particularly in developed economies – the US, the UK, and Europe – and beyond. All serve to complicate sovereign investment processes that are focused on the deployment of large amounts of capital in real or otherwise illiquid assets across extended investment horizons.

By investment deals, the period of 2016 and the first half of 2017 was led again by Singaporean funds, GIC and Temasek, due to their strong leadership in venture capital deals. Beyond these, the Abu Dhabi Investment Authority, Qatar Investment Authority, Ireland Strategic Investment Fund, and the China Investment Corp, form a core group of active SWFs who together represent over 72% of acquisition count in 2016, rising to 77% in the first half of 2017.

By sectors, real estate (23.9%), technology (26.1%), and finance (17%) have continued to attract dominant interest in 2017. Once again, deals were distributed across established geographies, predominantly the US, India, UK, China, Singapore and Australia, which together represent over 76% of total first half 2017 purchases.

The predominant themes that emerge from the transaction analysis are investor concentration, large-scale execution, and deal partnering.

China: Less Growth, More Sovereign Funds

Hard landing scenario for China looks now quite improbable, yet the deleveraging process will dent China's growth in the short term while aging and the very low return on assets will do the rest in the medium term. Potential growth in China should be around 5%, which - however- will not prevent China from acquiring more foreign assets abroad. On the contrary, the increasingly large accumulation of foreign assets – as rapid reversal of the current account surplus is not forecasted – coupled with a low return on domestic assets, should push China to invest abroad at a rapid pace as the stock of outbound-FDI continues to be low compared to US or Europe.

Thus, it would not be surprising to continue seeing more activity from the six Chinese sovereign wealth funds in operation which total north to US$2 trillion in assets under management. Moreover, these SWFs are not subject to the limitations and restrictions imposed on capital controls. Thus, Chinese SWFs are to lead a new foreign direct investment push in the Belt and Road Initiative's countries and Europe. Indeed, real estate and infrastructure companies operating in Europe or Australia, are preferred destinations to Chinese SWFs. Indeed, the largest SWF deal of 2017 was the acquisition made by the China Investment Corporation of Logicor, a pan-European logistics company, worth nearly US$14 billion.

Saudi Arabia's Bold Vision for its Sovereign Wealth

The Saudi Vision 2030 centerpiece is the creation of the world's largest sovereign wealth fund, whose returns will replace oil income as the Saudi government's main revenue source. This colossal new fund is to be formed through the conversion of Saudi's existing, mainly domestic PIF into a US$2 trillion global investor. Fresh capital for the augmented PIF is to come from listing up to 5 percent of Saudi Aramco, the Kingdom's national oil company and the world's biggest oil producer, with the remainder of Aramco's shares transferred to the PIF in the form of equity.

In the past year, the Public Investment Fund (PIF) has grabbed headlines with the announcement of multi-billion mega-partnerships, creating two of the largest private equity vehicles in history. The Saudi fund committed US$2 billion to an infrastructure-investment fund with Blackstone Group and as much as US$45 billion in a technology fund, the Vision Fund, run by SoftBank, the Japanese telecom group.

Already though, this vision is at a very early stage and will shape the evolution of PIF. Domestically, Vision 2030 deals with austerity measures and it shows the difficulty, at home, to slim down the Saudi state and rein in public sector spending in times of low oil prices. On the international front, there is speculation on Aramco's proposed listing, initially set for 2018.

Trading Skyscrapers for Warehouses: SWFs Embrace Spectrum of Real Estate Assets in Search for Yield

SWFs will continue to diversify away from traditional markets and seek more nuanced, long-term investments in niche subsectors of the real estate market. In 2016 and 2017, the biggest real estate deals executed by sovereign wealth funds were not for a luxury hotel or landmark skyscraper in London, New York or Paris — they were multibillion-dollar bids for strings of commercial warehouses scattered across the hinterlands of Europe. GIC acquired P3 Logistics Parks (US$2.5 billion) in the waning days of December 2016 and, only six months later, CIC bought Logicor (US$14 billion) in the largest real estate deal ever recorded from a single SWF.

Political uncertainty and opposition in developed markets may cool their interest, but, in all likelihood, SWFs will continue to rebalance their portfolios as they embrace secular trends and seek to participate more closely in the lifecycles of real estate developments and infrastructure projects.

Sovereign Wealth Funds: Sustainable and active investors? The case of Norway

There is a growing interest on the role played by large institutional investors to support sustainable finance and to act as responsible owners. SWFs, as long-term investors, are adapting themselves to investment strategies and risk management tools aligned with both responsible ownership and sustainable economic growth.

Beyond regulation and risk management tools, SWFs may exert a strong impact in the green economy by integrating climate-related criteria in their strategic asset allocation. So far, only few SWFs, Norway and New Zealand are salient cases, have integrated systematic investment climate-related strategies. Portfolio decarbonization, commitments to green infrastructure and agricultural funds or investments in renewable energy companies—in which Mubadala stands as a clear leader—are the main paths used by SWFs to support the transition towards a low-carbon economy.

Yet, there is ample space for further actions, as the SWFs investments in green assets still represents a mere 1% of total SWFs assets.

SWFs are not only worried about sustainable development strategies but increasingly playing a role as long-term responsible owners. The case of Norway illustrates how an active shareholder, through consistent "voice and exit" strategies, may add value enhancing the corporate governance of its portfolio companies. Others may follow.

Sovereign Wealth Funds in Spain 2017: New Players and Target Industries

The Spanish economy is going through an expansive economic cycle characterized by a high rate of growth above European Union average and a PE&VC investment record in the country. In this context, in late 2016 and 2017 major SWFs operations of high strategic value took place to target new areas and activities, including finance (GIC and Hellman & Friedman over Allfunds Bank), energy (Abu Dhabi Investment Corporation over Naturgás) and manufacturing (Dubai Ports World over Reyser, which provides services at 12 Spanish ports, and the Oman SGRF over company Escribano Mechanical and Engineering).

Nowadays hardly any investment area or strategy can be deemed to be outside the purview of SWFs in Spain. Such funds accumulate investments for an amount of €36.4 billion, including both corporate and sovereign fixed-income investments. Although the presence of SWFs is a recent phenomenon and these transactions were practically nonexistent before 2010, Spain is already one of the priority European targets for SWFs.

Navigating Market Shoals in Turbulent Geopolitical Waters: Sovereign Direct Investments in 2016-17

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1. Navigating Market Shoals in Turbulent Geopolitical Waters: Sovereign Direct Investments in 2016-17

A macro survey of direct investment activity by sovereign and public investors in 2016 and 2017 suggests a cautious extension of prevailing themes and strategies that have predominated in the years following the Great Recession and – among oil exporters – since the stark correction in oil and gas prices. However, since 2016, among large asset owners and institutional investors, a widening expanse of geopolitical challenges have contributed significantly to the complexities of managing such large diversified global portfolios.[1].

For sovereign investors, specifically, these two years have been characterized by a heightened degree of political change and uncertainty, particularly in developed economies – the US, the UK, and Europe - which have traditionally attracted a major share of SWF investment. Beyond developed markets, persistent tensions, for example, between the US and Russia, heated exchanges in Asia - conflicts on the Korean peninsula and in the South China Sea, continued disarray in the eastern Mediterranean, and the exercise of Saudi influence in the Persian Gulf - all serve to complicate sovereign investment processes that are focused on the deployment of large amounts of capital in real or otherwise illiquid assets across extended investment horizons.

In this review we examine a sample of direct investments by sovereign wealth funds from January 2016 through June of 2017. Our research focuses on the usual dimensions of sovereign investment – fund, geography and sector. However, we also tune our analysis to thematic elements that might offer a glimpse into the investment processes and strategic thinking of these large asset owners.

Surveying the Horizon

Slower growth and a decline in international trade, accompanied by weak commodity prices, and a higher quotient of political instability have required sovereign investors to be both nimble and innovative. Many sovereign funds have adapted by expanding allocations to alternative assets including real estate, infrastructure, and private equity. Moreover, many funds that invest actively in private equity specifically have retooled their strategies to seek out opportunities at earlier stages of the PE cycle. In addition, such strategies have embraced disruptive technologies that are capable of generating outsized returns by exploiting demographic themes, new technologies, and discrete shifts in modes of consumer consumption.

The current period of prolonged low interest rates and high asset valuations, have reduced return expectations over a 7 to 10-year investment horizon, prompting many SWF managers to caution owners and public stakeholders of lower returns in coming years. Among funds in oil exporting countries, organic asset growth has slowed as a result

A Brief Note on Methodology and Process

A number of institutions engage in the collection of SWF data based on publicly reported transactions. This exercise is challenging with clear limitations, including its being entirely dependent on the obligation, interest, and/or willingness of a sovereign investor to publicly disclose transaction details. As such, the process may suffer from an inherent reporting bias. With respect to methodology, our approach has been to identify, then to validate reported transactions using multiple independent sources when available. We enrich and normalize transaction details with entity, geography, and sector-level data. With respect to transaction size, we validate and report deal volume in the aggregate in both deal currency and US dollars. We also report the specific payments made/received by participating funds when these are reported and can also be validated. For clarity, we make no attempt to infer or estimate SWF deal size and so leave this key variable unreported when not available.

The 2016 and preliminary 2017 samples include coverage of 26 funds, representing approximately 90 and 95 transactions respectively. The deals include both purchases and exits, disproportionately - though justifiably – distributed among the largest SWFs who are – as we detail below - by far the most active sovereign direct investors.

With regard to fund identity, we employ an inclusive definition of sovereign investor that reflects interests in wholly-owned or directly affiliated investment companies or subsidiaries. In the case of Temasek, for example, we include its affiliated private-equity platforms, such as Vertex Venture Holdings, an open vehicle which invests on behalf of Temasek and limited partners. We attempt to associate such affiliate deals when these can be separately validated. As such, our deal count for Temasek, including of affiliated transactions, may be somewhat understated.

1.See for example "Inside the mind of the investor... What's next?", PWC. Accessed at https://www.pwc.com/gx/en/ceo-agenda/ceosurvey/2017/gx/deep-dives/2017-global-investor-survey.html and https://www.allianzgi.com/insights/investment-themes-and-strategy/2017-riskmonitor-geopolitical-concerns-create-risk-return-conundrum

of fiscal consolidation. Nonetheless, despite lower return expectations many funds continue to report strong year-over-year performance.

Slower global growth and lower commodity prices have also contributed – in part – to a re-examination of sovereign investment models. This is particularly the case with respect to inward investment and economic transformation. Thus, a significant plurality of new funds announced and/or launched in 2016-17 have development or strategic mandates that emphasize both commercial or financial and strategic or development objectives. These include funds that have been launched, such as in Turkey, as well as funds under discussion, e.g. Romania and Guyana. It has also included a restructuring of existing funds, for example, the consolidation of Mubadala and IPIC,[2] and the transfer of some $30 billion in the domestic state assets from the Qatar Investment Authority (QIA) to the Qatari Ministry of Finance.[3]

Also of note, the transaction analysis strongly reflects a continued preference among SWFs to invest alongside a sovereign or significant institutional partner. The transaction data suggest a persistently high degree of co-investment and deal partnering by SWFs. This is attributable in part to increasing scale in direct investment programs and - importantly - parallels and intersects the investment activity of other large institutional investments.

At a summary level, the predominant themes that emerge from the transaction analysis are investor concentration, large-scale execution, and deal partnering. These are manifest in a persistently high concentration of deals among the top five to ten SWFs, their capacity to deploy very large allocations of capital in single transactions, including as lead investor, and their practice of investing with each other and other large public institutional investors.

2.See https://www.mubadala.com/en/ipic-mubadala-merger

3.See "Qatar sovereign fund moves stakes to government, may sell assets", Reuters, June 21, 2017. Accessed at https://www.reuters.com/article/us-gulf-qatar-qia/exclusive-qatar-sovereign-fund-moves-stakes-to-government-may-sell-assets-sources-idUSKBN19C2PB

An Active Core

In 2016, through June 2017, six sovereign investors dominated investment activity, completing deals that both reflect and inform of their investment strategies and reported performance. These include Temasek, GIC, the Abu Dhabi Investment Authority (ADIA), QIA, Ireland Strategic Investment Fund (ISIF), and the China Investment Corp (CIC) who together represent over 72% of acquisition count in 2016, rising to 77% in the first half of 2017.

Temasek, for example, refined its investment strategy to focus on long-term opportunities in key growth sectors such as technology, life sciences, non-bank financial services, and e-commerce[4]. Its target sectors expanded from 8% to 24% of its portfolio holdings through 2016,[5] while the US has remained a major destination for its capital.[6]

As of 2017, GIC had 34% of its portfolio invested in the US, followed by 12% in the Eurozone and 6% in the UK.[7] TThis was consistent with its allocations in 2016[8] and despite mounting political pressures, including the continued uncertainty arising from the June 2016 Brexit vote. Among its most significant deals was a $500 million expansion of its Alibaba stake, acquired from SoftBank Group Corp. Faced with sizeable losses from its 2008 investment in UBS, GIC was also a major seller, shedding about 2.4% of its holding for total proceeds of about $1.5 billion.[9]

ADIA began to redeploy assets to private equity and alternative investments after its returns slowed in 2016, publicly advising that it would increase its exposure to direct private equity transactions and extend its focus in Asian private equity markets particularly in China and India.[10] ADIA's transaction volume in fact does reflect a concerted deployment of capital to India, particularly in the power and real estate sectors.

4.See "Temasek portfolio value hits new record of $275b; posts one-year return of 13%", The Straits Times, July 11, 2017. Accessed at http://www.straitstimes.com/business/companies-markets/temasek-portfolio-value-hits-new-record-of-275b-posts-one-year-return-of

5.Ibid

6.Ibid

7.See "Singapore's GIC warns of weaker returns", Financial Times, July 9, 2017. Accessed at https://www.ft.com/content/f6a796f2-630e-11e7-8814-0ac7eb84e5f1

8.Ibid.

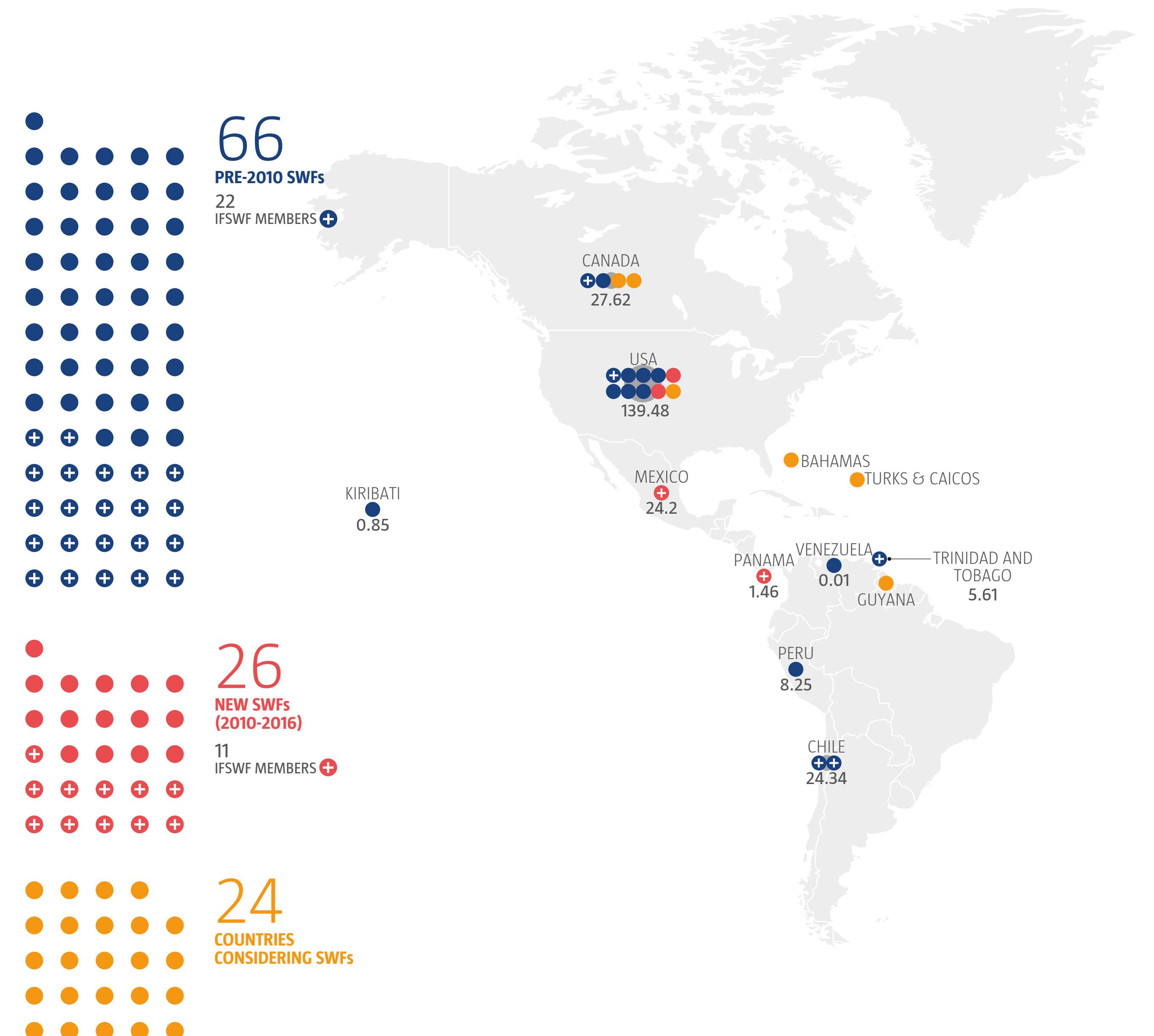
9.See"Sovereign Wealth Fund GIC Warns Investors Aren't Fearful Enough", Bloomberg, July 9, 2017. Accessed at https://www.bloomberg.com/news/articles/2017-07-09/sovereign-wealth-fund-gic-warns-investors-aren-t-fearful-enough

10.See"Abu Dhabi fund ADIA eyes direct private equity investments as returns slow", Reuters, July 4, 2017. Accessed at https://www.reuters.com/article/emirates-adia/abu-dhabi-fund-adia-eyes-direct-private-equity-investments-as-returns-slow-idUSL8N1JU3IM

1. Navigating Market Shoals in Turbulent Geopolitical Waters: Sovereign Direct Investments in 2016-17

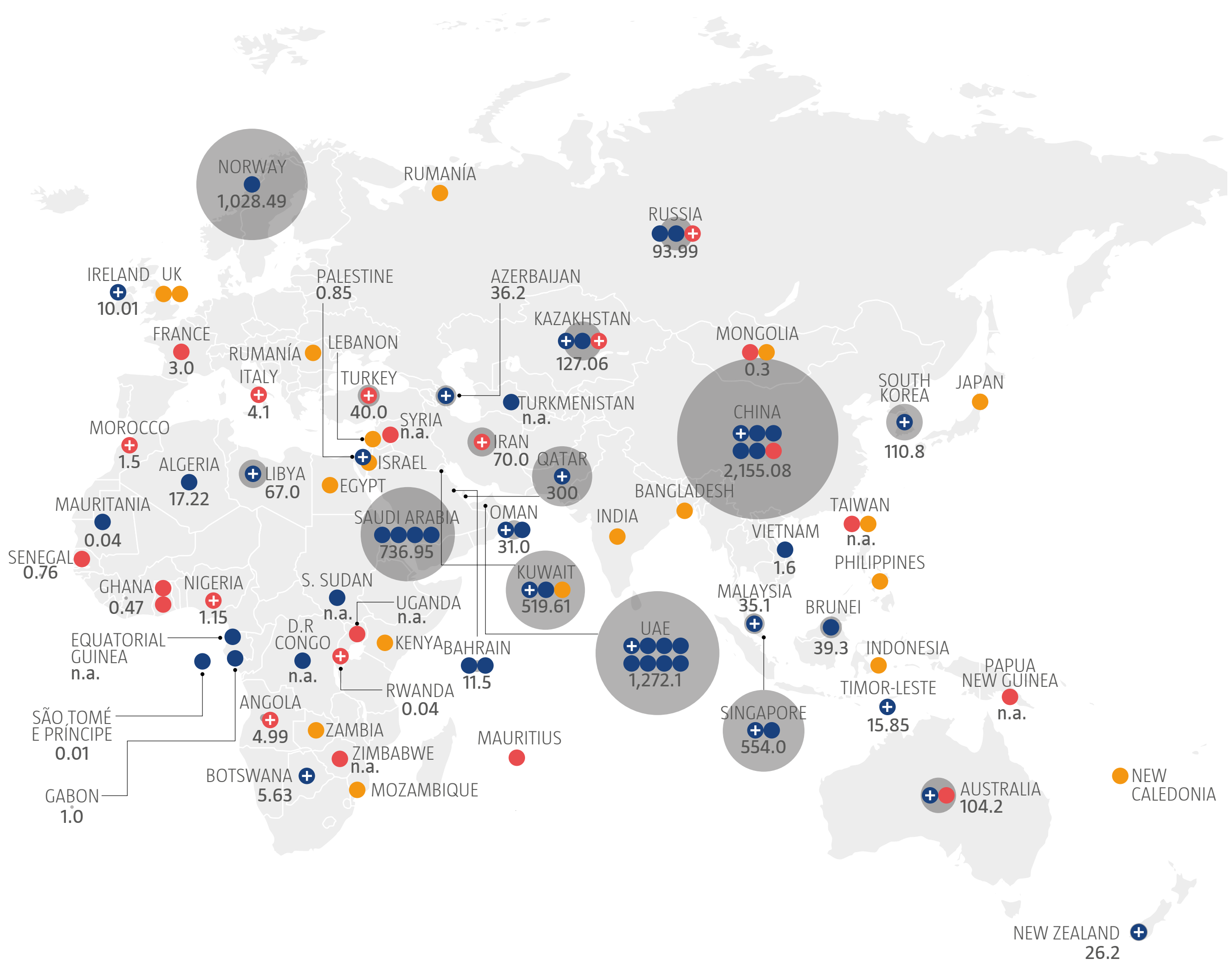
Infographic 1

IE - Sovereign Wealth Lab Map 2017



Source: IE SWLab SWF Tracker (2017).

Currently, there are 92 active sovereign wealth funds. 57 countries have established at least one SWF. Middle East, China, Southeast Asia and Norway are the four most active poles of SWFs. Assets under management exceed 7.5 trillion dollars. SWFs have widely spread in recent years: since 2010, 26 new funds were established. Other 24 countries are considering establishing a SWF. Debates over new SWFs are growing in East and South Africa and in Latin America. Thus, in 2017, there are more than 115 operating or prospective-SWFs. There are 33 funds members of the International Forum of Sovereign Wealth Funds.



1. Navigating Market Shoals in Turbulent Geopolitical Waters: Sovereign Direct Investments in 2016-17

The QIA has been strapped with several recent constraints, stemming firstly from fiscal pressures due to the decline in oil and gas prices, secondly, the decision noted earlier to transfer domestic holdings to the Ministry of Finance, and lastly, the requirement to service liquidity needs of the Qatari banking system resulting from the blockade of Qatar by a coalition led by Saudi Arabia. In April 2017, QIA did in fact liquidate its 2.5% stake in Banco Santander Brasil SA for over $700 million, selling into an 18-month rally.[11] However, despite challenges, the QIA remained a net investor and has punctuated this intent by publicly advising U.S. officials of its goal to invest $10 billion in infrastructure projects in the United States.[12] In 2016 the QIA completed some 15 transactions with a particular emphasis on the US real estate sector, including a $622 million investment representing a 9.9% stake in the Empire State Building.[13] This interest in real estate assets in gateway cities in both the US and UK continued into 2017.

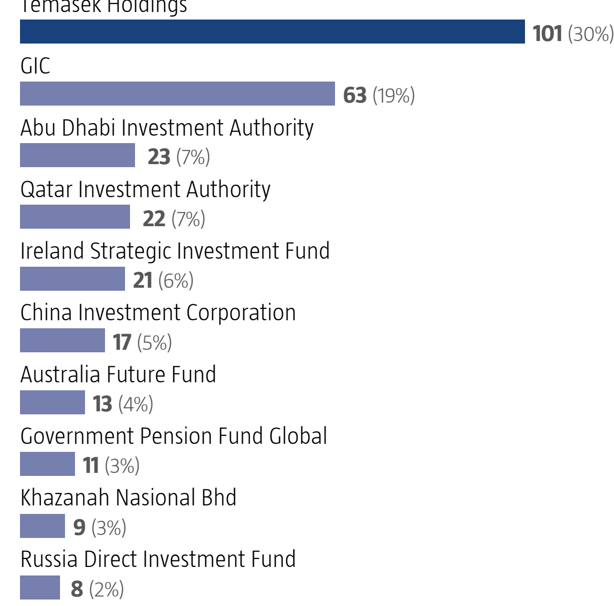
The ISIF, a largely domestic investor, maintains a dual mandate that includes advancing the economic development and transformation of Ireland. Its 2016 investments included both direct placements, as well as allocations to private funds and were focused heavily on financial services, communications and energy infrastructure, technology, and real estate.

A major focus for the CIC in 2016 and 2017 was the continued pursuit of investment opportunities in North America and specifically the US. It has also been aggressively engaged in the organizational build-out and ramp-up of its newest subsidiary - CIC Capital, founded in 2015 with a mandate to pursue direct investments in the broader context of CIC's overall portfolio management framework and with a discrete goal to enhance investment in long-term assets.[14] In 2016, CIC publicly disclosed that CIC Capital had made investments in 16 projects, with a total commitment of about $5 billion. These included investments in core infrastructure in ports, railway, pipeline and telecommunications in Europe, Oceania and Latin America.[15]

Figure 1

The most active Sovereign Wealth funds in 2016 and 2017

Deal count and % of total deals



Source: IE Sovereign Wealth Lab based on SWF Transaction Database (Tufts University).

11. See "QIA sells stake in Santander Brasil worth $737 million", Reuters, April 5, 2017. Accessed at https://www.reuters.com/article/us-bco-santander-br-offering/qia-sells-stake-in-santander-brasil-worth-737-million-idUSKBN1772MY

12. See "Qatar sovereign fund tells Washington will invest $10 billion in U.S. infrastructure", Reuters, December 13, 2016. Accessed at https://www.reuters.com/article/us-qatar-usa-investment/qatar-sovereign-fund-tells-washington-will-invest-10-billion-in-u-s-infrastructure-sources-idUSKBN1421AF

13. See "Qatar buys a piece of Empire State Building", New York Post, August 24, 2016. Accessed at https://nypost.com/2016/08/24/qatar-buys-a-piece-of-empire-state-building/

14. See http://www.china-inv.cn/wps/portal/!ut/p/a1/jZFBc4IwEIX_Sj14pFkgEDxSQM-CW1lEchEsmaEBmMDDgePDXF7BXYnPKZr63L7sPZeiIMsHuVcluVSNYPdaZSb_BB-NXZwwYiew22BV7Oo2_CT88cgHQW0HysSfVr_Kd3fDvA5AsAsKVB6H4ELlIFAKH5Pz-3MHBte_T8d9GQOcEBHe5ShLHEiug1Rqo6FEw-mSzhdKsGUStzf2qa7sXoJl-bKKRd-LiDw3tKfbtuN9T3e85qzn_fA0NhA9lXrSyY6V_F0nJ5LnWqEYeq4qmGBNyTHhim6d-LYOsLLUwCUo1llxtJYM6RA74sRx4JjkBsqgmQJJF8mrZScfFmXeovR4Ox0fM80fRer-vAKO3F4herM56I/dl5/d5/L3dHQSEvUUtRZy9nQSEh/

15. See http://www.china-inv.cn/wps/portal/!ut/p/a1/jZHBDsFAEIafxaHX7q-qL-belVEtJ0Ki9SCu1KtWVKn19lIuEZW4z-b5k_hnCSEhYHl1THpWpyKPs0TNjM4WBZ-n8BDz4dgloY-LOW547nxh1YfwU0R9ek_rL58vsOHenmBIBuaXDt3sg2Oz7gG-v_5-FIUv_ZfESZFxroccJamFHjeoAZkIWtAksIjjGcirj-ypnncsjhhRbJLiqRQL8V9vC_LO7mr-QEFVVSoXgmeJuhVHBZ-UvTiXJHwnyekYBCFS99DOrhPaaNwA7qyOyQ!!/dl5/d5/L2dBISEvZ0FBIS9nQSEh/

The 2016 Direct Investment Sample

Year over year, SWF investment activity, reflected in our sample, was robust. SWF direct transactions expanded significantly in 2016 to over 290 transactions from 187 in 2015, reflecting a period of active capital deployment by SWFs and their affiliates. Of 290 discrete transactions, approximately 247 of which were purchases, and the remainder divestitures or exits. Temasek - and its affiliates (including its venture holdings) - led all funds by a significant margin, having completed 75 transactions in 2016, 36 of which in various technology sectors. Other active core funds - GIC, ADIA, QIA, ISIF, and CIC - each ranked with 5% or more of total SWF purchases or in the aggregate 72% of total purchases. Among others in the sample, Norway's GPFG completed 8 new investments in 2016, as did Australia's Future Fund. Khazanah followed with 7 deals, while Mubadala was among 4 funds – also including Mumtalakat, the Kuwait Investment Authority, and the Russia Direct Investment Fund – that completed 6 new investments each.

Sector-level activity similarly exhibited an extension of prior year investment trends. Among funds with greater than 10 deals, investments in real estate dominated other sectors for all but the Ireland Strategic Investment Fund. In fact, as in 2015, the real estate (21.5%), technology (24.3%), and finance (13.4%), sectors each attracted significant new capital from SWFs in 2016. This is reflected across 146 acquisitions representing nearly 60% of the total purchases.

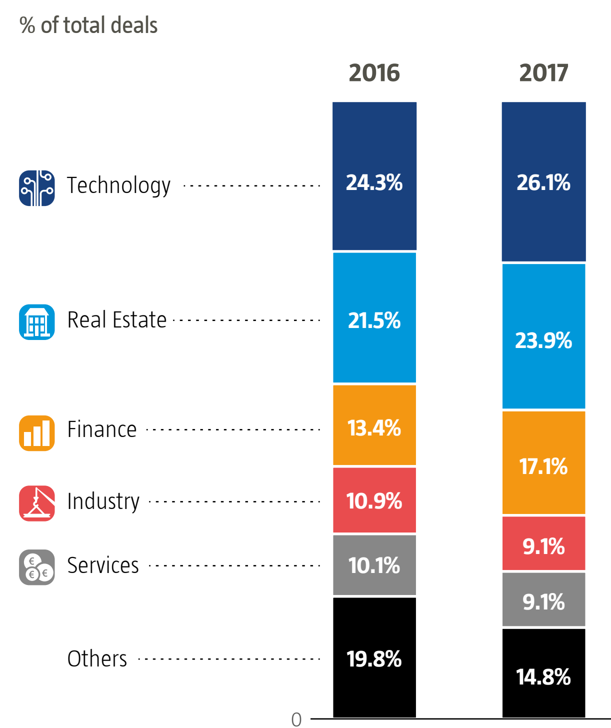
Prominent sovereign investors in the real estate sector in 2016 included ADIA, CIC, GIC, QIA, and Norway's GPFG. The US and UK dominated target geographies for real estate. Temasek, GIC, and Khazanah led in 2016 technology deals, targeting primarily the US, UK, China, and India and focusing on several key technology and application-specific areas, such as e-Commerce, IT and services, and biotech and life sciences.

In terms of geography, prevailing distributions continued as US, India, Singapore, China, Australia, and – most significantly - the UK remained key destinations for SWF investment.

In 2016, A number of the largest funds – Temasek, GIC, ADIA, GPFG, QIA – engaged actively as sole or lead investor in very large deals. Notwithstanding, funds predominantly partner. In 2015, for example, approximately 68% of reported purchases involved SWFs partnering with co-investors, including through joint ventures. This trend continued in 2016, with

Figure 2

Top five sectors in 2016 and 2017



Source: IE Sovereign Wealth Lab based on SWF Transaction Database (Tufts University).

consortia or co-investment deals increasing to 172 or about 70% of total purchases. Co-investment patterns vary widely, as do partners. The latter might include – for example - private equity firms, infrastructure or real-estate funds, investment banks, operating companies, and multilateral finance organizations, such as the IFC. Among SWFs, we identified approximately 20 new investments in 2016 that included at least 2 funds and/or their affilitates. Most striking was the diversity of partnering among large sovereigns. We reference several such arrangements later in our analysis.

2016 also saw a material increase (11% to over 20%) in the number of domestic transactions by SWFs in our sample, nearly tripling in the aggregate. These included 40 purchases with the ISIF - consistent with its mandate - again among the most active lead domestic investors (33% of the total new domestic investments), followed by Temasek (with 10

1. Navigating Market Shoals in Turbulent Geopolitical Waters: Sovereign Direct Investments in 2016-17

Table 1

Co-investment deals by SWFs

Target Name	Participating SWFs	Total deal size (US$M)	Target contry§or
Asciano	China Investment Corporation GIC Qatar Investment Authority British Columbia Investment Mgmt. Corp.	9,405	Infrastructure
Endeavour Energy	Qatar Investment Authority British Columbia Investment Mgmt. Corp.	8,671	Utilities
Port of Melbourne	Australia Future Fund China Investment Corp.	7,400	Infrastructure
Nova Transportadora do Sudeste SA (Petrobras)	China Investment Corp. GIC British Columbia Investment Mgmt. Corp.	5,190	Infrastructure
Cadent Gas (National Grid)	China Investment Cor. Qatar Investment Authority	4,523	Utilities
Zhejiang Cainiao Supply Chain Management Co. (Alibaba Logistics)	GIC Khazanah Nasional Bhd Temasek Holdings	1,540	Services
Alrosa PJSC	Abu Dhabi Investment Authority Mubadala Russia Direct Investment Fund	813	Natural Resources/ Commodities
Pharmaceutical Product Development (PPD)	Abu Dhabi Investment Authority GIC	550	Industry
Alibaba	GIC Temasek Holdings	500	Technology
3 Milan real estate assets	Abu Dhabi Investment Authority Qatar Investment Authority The State Oil Fund of the Republic of Azerbaijan	380	Real Estate
ICICI Home Finance Co. Ltd	GIC Temasek Holdings	320	Finance
Greenko Energy	Abu Dhabi Investment Authority GIC Abu Dhabi Investment Authority GIC	230	Utilities
AFG National	Mubadala Russia Direct Investment Fund	137	Agribusiness
AU Small Finance Bank	GIC Kuwait Investment Authority	87	Finance
Shanghai Gangfu E-Commerce Co	China Investment Corporation Russia Direct Investment Fund	74	Technology
Moximed	Australia Future Fund Temasek Holdings	50	Industry

Note: This table and chapter considers British Columbia Investment Management Corporation (bcIMC) as a SWF. The rest of the report and the Ranking in Annex 1 do not include it.

Source: IE Sovereign Wealth Lab based on SWF Transaction Database (Tufts University).

deals or 25% of total new home country transactions), and the RDIF (3). Transactions were broadly diversified and included deals in finance (12), infrastructure (6), and technology (5) as lead sectors. With respect to deal size, SWFs in our 2016 sample participated in new investments with a total aggregate value of nearly $121B. Transaction volume directly attributable to individual SWFs amounted to approximately $38B with three sectors – real estate, infrastructure, and technology – attracting 78% of the total and infrastructure and real estate about two-thirds. There were furthermore at least 25 transactions of $1 billlion or greater. In terms of the total deal value of acquisitions, GIC led other sovereign investors participating in deals in which the aggregate deal value was over $39 billion. The CIC, including deals executed through CIC Capital, also participated in several large transactions. These amounted to over $37 billion of which over half was clustered in very three large infrastructure deals - Asciano, Nova Transportadora do Sudeste SA (Petrobras), and the Port of Melbourne.[16]

Across sectors, several key narratives evolve from the 2016 data and extend into the first six months of 2017. These include a keen interest in investments in disruptive technologies particularly in networking and cloud computing, e-commerce, fin-tech, and bio-technology and life sciences.

16.We highlight the details of several of these transactions in the following section.

Figure 3

Largest deals in 2016

● Co-investments with other SWFs

SWF Name	Target name & country	Volume (US$ Million)
Qatar Investment Authority	Rosneft	11,000
China Investment Corporation GIC Qatar Investment Authority	Asciano	9,405
GIC	MultiPlan Inc	7,500
Australia Future Fund China Investment Corporation	Port of Melbourne	7,400
China Investment Corporation GIC	Nova Transportador do Sudeste SA (Petrobras)	5,190
China Investment Corporation Qatar Investment Authority	Cadent Gas (National Grid)	4,523
China Investment Corporation	Zhejiang Ant Small & Micro Financial Services	4,500
Abu Dhabi Investment Authority	LeasePlan Corporation	4,117
Public Investment Fund	Uber	3,500
Temasek Holdings	Meituan-Dianping	3,300

Source: IE Sovereign Wealth Lab based on SWF Transaction Database (Tufts University).

1. Navigating Market Shoals in Turbulent Geopolitical Waters: Sovereign Direct Investments in 2016-17

The deal data also suggest a continued emphasis on well-located, high quality real estate assets and, in particular, warehouse and logistics facilities that support expanding global supply chains. With few noted (and perhaps curious) exceptions – as for example QIA's investment in the Rosneft privatization[17] – sovereign investment in the resource sector declined substantially in 2016 in favor of investments in power and gas distribution, as well as clean energy sources. Similarly, core infrastructure assets also attracted considerable interest and capital flows. Several illustrations follow.

Investing Thematically

In February 2017, Temasek opened a San Francisco office following the earlier location of staff to the area by both GIC and Khazanah.[18] This initiative represents a clear commitment to the technology sector in the US and globally – whether through direct placement, via private equity partnerships, or special venture capital platforms, such as Vertex Holdings. Vertex's current plans include separate funds in Israel and the United States in 2018, additional projects related to China, India, Southeast Asia, and horizontally, to target the healthcare sector. The U.S. fund will seek investments in enterprise and infrastructure related software among other areas[19]

In 2016, arguably the most prominent SWF investment in technology and innovation was the Saudi PIF's $3.5 billion investment in Uber. However, a more refined analysis of sub-sector allocations, suggests a deeper sophistication in sovereign investment interest, particularly in disruptive tech. Artificial intelligence and virtual reality applications, for example, attracted significant sovereign interest in 2016. Blippar.com is a technology company specializing in augmented reality, artificial intelligence and computer vision based in London. Its Series D round was completed in March 2016, totaling at $54 million.[20] The deal was led by Khazanah and included follow-on investment from its investor base.[21] Unity Technologies has developed a high-performance platform to create interactive 2D, 3D, VR and AR experiences.[22] In July 2016, it closed a Series C round at $181 million led by DFJ Growth that included CIC, alongside existing investors Sequoia Capital and WestSummit Capital.[23]

In FinTech, Zhejiang Ant Small & Micro Financial Services, Alibaba's finance affiliate raised $4.5 billion in April 2016 from a consortium that included the CIC and an investment vehicle of the China Construction Bank. The company runs Alipay and also controls the firm that manages Yu'E Bao, China's largest money-market fund. Ant Financial is expected to use the proceeds to invest in network infrastructure to facilitate expansion into rural and international markets.[24] WeLab is a FinTech startup that operates online lending platforms in Hong Kong and China. The company closed a $160 million Series B round in January 2016 that was led by Khazanah, with participation from ING Bank and Guangdong Technology Financial Group.[25]

Sovereign investment in real estate in 2016 focused on three major themes: high quality commercial properties in major urban centers, student housing units, and logistics properties. Representative of the commercial sector is Norges Bank Real Estate Management's 100% interest in the Vendôme Saint-Honoré property, located in central Paris.[26] It also continued to invest in London, acquiring a long leasehold interest in 355-361 Oxford Street for $164 million. No financing was involved in either transaction.[27] Also, in the UK, ADIA acquired Queensmere and Observatory shopping centers in Slough for £130 million.[28] In the US, ADIA, through its subsidiary Henley Holding Company, made a development

17. In December 2016, Glencore and QIA agreed to buy a 19.5% in Russian state oil company Rosneft for over EUR 10.2B. The rationale and structure of the deal have been shrouded in a degree of mystery. In September 2017, Chinese conglomerate CEFC agreed to acquire 14.16% of Rosneft from Glencore and the QIA for $9.1B, leaving the pair holdings 0.5% and 4.7% of Rosneft respectively. See "China invests $9.1 billion in Rosneft as Glencore, Qatar cut stakes", Reuters, September 8, 2017. Accessed at https://www.reuters.com/article/us-rosneft-cefc-glencore/china-invests-9-1-billion-in-rosneft-as-glencore-qatar-cut-stakes-idUSKCN1BJ1HT

18. In March 2017, the QIA also announced that it will open a Silicon Valley office.

19. See "Temasek's venture arm Vertex to launch new Israel, U.S. funds in 2018", Reuters, May 26, 2017. Accessed at https://www.reuters.com/article/us-temasek-holdings-venturecapital/temaseks-venture-arm-vertex-to-launch-new-israel-u-s-funds-in-2018-ceo-idUSKBN18M10M

20. https://www.crunchbase.com/organization/blippar

21. See https://blippar.com/en/resources/blog/2016/03/02/blippar-raises-54-million-series-d-funding/

22. See https://www.crunchbase.com/organization/unity-technologies

23. See "Unity raises $181M monster round at a reported $1.5B valuation", Techcrunch, July 13, 2016. Accessed at https://techcrunch.com/2016/07/13/unity-announces-181-million-monster-round-led-by-dfj-growth/

24. See "China's Alipay, Alibaba's payment arm, gets $4.5 billion to expand", DigitalCommerce360, April 26, 2016. Accessed at https://www.digitalcommerce360.com/2016/04/26/chinas-alipay-alibabas-payment-arm-raises-45-billion/

25. See "Online lending platform WeLab gets $160M series B to expand in China", Techcrunch, January 21, 2016. Accessed at https://techcrunch.com/2016/01/21/welab/

26. See https://www.nbim.no/en/transparency/news-list/2016/fund-makes-new-investment-in-paris/

27. See "Norway's oil fund buys leasehold interest in London property for $163 mln", Reuters, July 16, 2016. Accessed at https://www.reuters.com/article/norway-swf-realestate-london/norways-oil-fund-buys-leasehold-interest-in-london-property-for-163-mln-idUSL8N1A20C4

28. See "Slough shopping centres sold to Abu Dhabi Investment Authority", CoStar, November 15, 2016. Accessed at http://www.costar.co.uk/en/assets/news/2016/November/Slough-shopping-centres-sold-to-Abu-Dhabi-Investment-Authority/

commitment to Waterline Square, a three-building luxury residential development under construction on Manhattan's Upper West Side.[29]

GIC has been a lead in the student housing segment. In September 2016, it partnered with the Global Student Accommodation Group to acquire a 7,150-bed UK student housing portfolio from Oaktree Capital Management. [30] In November 2016, GIC also acquired PointPark Properties - P3 Logistic Parks, a pan-European owner, developer and manager of logistics properties, whose portfolio includes 163 high quality warehouses in 62 locations across nine countries in Europe. The transaction valued the business at $2.6 billion and was reported to be the largest European real estate transaction in 2016.[31]

Infrastructure has long been considered an appropriate asset class for sovereign investors with long investment horizons, few near-term liabilities, and the capacity to invest in scale. Because of the size of investment required, infrastructure deals can also bring together diverse investor partners. A case that integrates both theses is the March 2016 buyout of Asciano, the Australian freight logistics company, by two global consortia for a total of approximately $9.4 billion. These together included substantial sovereign participation. Post deal, Sydney-based Qube became Australia's largest stand-alone ports company. CIC, through CIC Capital, Canada Pension Plan Investment Board, and Global Infrastructure Partners of the US acquired the company's railway assets. Brookfield Asset Management GIC, QIA, and the British Columbia Investment Management Corp acquired the half of the company's port business not retained by Qube.[32]

As oil and gas prices remain low and natural gas expands as an alternative to coal, particularly in electricity generation, investments in energy infrastructure, and specifically gas distribution, have also grown in appeal. Among sovereigns, such assets have attracted significant new capital, particularly through co-investment. For example, in September 2016, Brookfield, GIC, and CIC Capital re-engaged to acquire a 90% holding in the natural gas pipeline unit - Nova Transportadora do Sudeste SA – of Brazil's state-run oil company Petroleo Brasileiro SA for $5.2 billion.[33] In October 2016, subsidiaries of ADIA acquired a 16.7% stake in Scotia Gas Networks (SGN) from Perth-based SSE for £621million.[34] Then, in December 2016, National Grid, the UK utility, agreed to sell a majority position in its gas division to a consortium led by Australian investment bank Macquarie,[35] that also included CIC Capital, QIA, and Allianz Capital Partners. The deal was valued at GBP 3.6B ($4.5 billion) with CIC Capital and Macquarie holding among the largest positions at 10.5% and 14.5% respectively.[36]

A 2017 Preview

Our preliminary sample for the first six months of 2017 consists of 98 total transactions, 88 of which were purchases. Funds with over 5% of purchases again included Temasek, GIC, QIA, ISIF, and ADIA and Australia's Future Fund. We note that this reflect a considerably slower pace than the 142 purchases identified in our updated 2016 first half sample.

In 2017, real estate (23.9%), technology (26.1%), and finance (17%) have continued to attract dominant interest, representing 67% of acquisition deal count. Once again, deals were distributed across established geographies, predominantly the US, India, UK, China, Singapore and Australia, which together represent over 76% of total first half 2017 purchases. With regard to investment in the UK specifically, we identified 21 new purchases in our sample in 2016, with deal count increasing from 9 in the first half of the year to 12 in the second. There were similarly 9 new purchases in the first half of 2017. Such activity implies continued confidence

29.See "GID closes on $2.3 billion construction financing package – largest residential construction package in New York City History – for Waterline Square Development", Cision, November 29, 2016. Accessed at https://www.prnewswire.com/news-releases/gid-closes-on-23-billion-construction-financing-package--largest-residential-construction-package-in-new-york-city-history--for-waterline-square-development-300369837.html

30.See http://www.gic.com.sg/newsroom?id=574

31.See "GIC acquires P3 for EUR 2.4b from TPG Real Estate, Ivanhoe Cambridge", DealstreetAsia, November 7, 2016. Accessed at https://www.dealstreetasia.com/stories/singaporegic-acquires-p3-logistics-parks-from-tpg-real-estate-57510/

32.See "Australia's Asciano bows to $6.8 billion break-up bid", Reuters, March 14, 2016. Accessed at https://www.reuters.com/article/us-asciano-m-a/australias-asciano-bows-to-6-8-billion-break-up-bid-idUSKCN0WH064

33.See https://bip.brookfield.com/en/press-releases/2016/09-23-2016-115242937

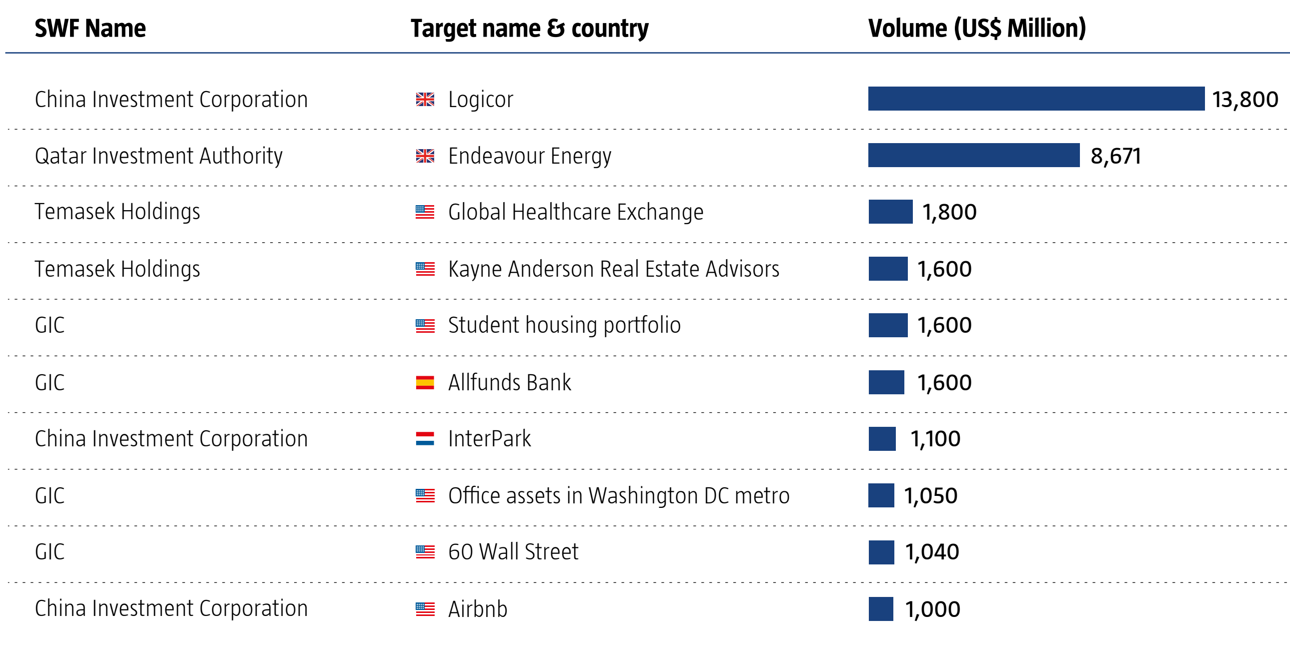
34.See "SSE sells gas networks stake to Abu Dhabi for GBP 621m", The Telegraph, October 17, 2016. Accessed at http://www.telegraph.co.uk/business/2016/10/17/sse-sells-gas-networks-stake-to-abu-dhabi-for-621m/

35.See "National Grid sells majority stake in UK gas infrastructure to Chinese and Qatari state investors" Indeppendent, December 8, 2016. Accessed at http://www.independent.co.uk/news/business/news/national-grid-sells-shares-china-qatar-investors-a7463256.html

36.See "UK's National Grid investment by group including China's CIC approved", China Daily, April 3, 2017. Accessed at http://www.chinadaily.com.cn/world/2017-04/03/content_28786450.htm

Figure 4

Largest deals in 2017 (H1)



SWF Name	Target name & country	Volume (US$ Million)
China Investment Corporation	Logicor	13,800
Qatar Investment Authority	Endeavour Energy	8,671
Temasek Holdings	Global Healthcare Exchange	1,800
Temasek Holdings	Kayne Anderson Real Estate Advisors	1,600
GIC	Student housing portfolio	1,600
GIC	Allfunds Bank	1,600
China Investment Corporation	InterPark	1,100
GIC	Office assets in Washington DC metro	1,050
GIC	60 Wall Street	1,040
China Investment Corporation	Airbnb	1,000

Source: IE Sovereign Wealth Lab based on SWF Transaction Database (Tufts University).

in the UK as an investment destination[37] and suggests that any negative impacts on sovereign investment stemming from the Brexit vote have thus far been muted.

Between January and June 2017, SWFs had participated in at least ten deals with transaction value over $1 billion. The largest and most significant of these was CIC's acquisition of Logicor. The second was participation by QIA and British Columbia Investment Management Corp in a consortium to acquire majority interests in Endeavour Energy, a New South Wales government utility. Both deals again illustrate the attractiveness among SWFs for direct investments in long-term core assets, particularly in real estate and infrastructure. An analysis of the 10 largest deals shows the strong dominance of the United States and the United Kingdom as preferred targest for large-scale transactions in the first half of 2017. The only exception is Spain, which with the Allfunds deal classifies to the top 10 table. Indeed, only a month later, beyond the analysis of this report, a consortia joined by the Abu Dhabi Investment Council bought Naturgas, the EDP's gas distribution subsidiary in Spain, for almost $3 billion.

Logicor is a European logistics company with properties across the UK and continental Europe. CIC - as sole investor - acquired the company from real estate funds managed by Blackstone for $13.8 billion. Reuters, in fact, reported the deal as the largest private equity real estate deal on record in Europe.[38] Especially interesting about this transaction is CIC's

37.See "Singapore's GIC warns of weaker returns". Accessed at https://www.ft.com/content/f6a796f2-630e-11e7-8814-0ac7eb84e5f1

38.See "Blackstone sells Logicor to China Investment Corporaiton for $14 billion", Reuters, June 2, 2017. Accessed at https://www.reuters.com/article/us-logicor-sale-blackstone-group/blackstone-sells-logicor-to-china-investment-corporation-for-14-billion-idUSKBN18T2E8

reported financing structure: A €6.8B ($7.96 billion) syndicated loan underwritten by Bank of China and China Construction Bank. The use of leverage by SWFs – particularly in real estate transactions – is not unusual, but for CIC is noteworthy as a new entrant into the syndicated loan market.[39]

The Endeavor Energy transaction was executed by an Australian consortium that, in addition to QIA and BCIMC, included Macquarie Infrastructure and Real Assets and AMP Capital. The group paid approximately $8.6B for a 50.4% stake in the utility and assumed control of a 99-year lease to operate an extensive electricity distribution network jointly with the NSW Government.[40]

In addition to logistics, power distribution, and infrastructure, technology and real estate themes have also extended robustly into 2017. In life sciences, for example, informed by demographic trends and forecasts of global healthcare spending approaching $8.7 trillion by 2020[41], sovereign investment has continued to flow into healthcare, biotech, pharma, and data science applied to healthcare applications. Among the largest and most prominent of deals – announced in January 2017 - was Temasek's $800 million investment in Verily Life Sciences, a subsidiary of Alphabet, the holding company structured from Google. Verily combines solutions derived from data science, technology, and healthcare to inform enhanced care management.[42] Temasek will receive a board seat with its minority stake, but perhaps more importantly a perch from which to monitor and evaluate the sector and related emerging technologies.[43]

AI and cloud technologies also continued to attract significant funding from SWFs. Improbable, a British technology company that enables large-scale simulations of complex virtual worlds,[44] completed a major funding in 2017 that valued the company at $1B. The deal included SoftBank – among others - with participation by Temasek, who had also invested in an earlier March 2015 round.[45] Fugue, a startup developing an infrastructure-level operating system for managing cloud-based workloads,[46] closed an approximately $41M Series D financing round in January 2017, led by New Enterprise Associates (NEA), with participation from the Australia Future Fund.[47] Similarly, VeloCloud, a developer of software-defined wide area networks, closed a $35 million Series D round in March 2017. The deal was led by Hermes Growth Partners and included new investors Telstra Ventures and Khazanah.[48] In November 2017, VMware announced its intent to acquire VeloCloud[49], affording Khazanah a quick exit.

The allure of blockchain technology likewise attracted sovereign interest. R3CEVis a developer of commercial applications for distributed ledger technology. It is a consortium of over 80 banks, clearing houses, exchanges, market infrastructure providers, asset managers, central banks, conduct regulators, trade associations, professional services firms and technology companies.[50] In June of 2017, the group completed a $107 million financing that included among others Bank of America Merrill Lynch, HSBC, and Intel. Among SWFs Temasek participated in this financing.[51]

SWFs remain active investors in large private equity deals targeting e-commerce. In March 2017, Airbnb closed a $1B funding round that valued the company at $31 billion. The round included a $100 million investment from CIC, a key partner as the company expands its presence in China.[52]

39.See "China's CIC raising $8 billion loan for Logicor acquisition", Reuters, July 28, 2017. Accessed at https://www.reuters.com/article/us-china-cic-logicor/chinas-cic-raising-8-billion-loan-for-logicor-acquisition-basis-point-idUSKBN1AD1A0

40.See "MIRA, REST, bcIMC, QIA invest AUD 7.6bn in electric network", IPE Real Assets, May 11, 2017. Accessed at https://realassets.ipe.com/news/infrastructure/mira-rest-bcimc-qia-invest-aud76bn-in-electricity-network/realassets.ipe.com/news/infrastructure/mira-rest-bcimc-qia-invest-aud76bn-in-electricity-network/10018899.fullarticle

41.See "Cash injection – sovereign funds target healthcare", Thomson Reuters, October 6, 2017. Accessed at https://blogs.thomsonreuters.com/sustainability/2017/10/06/cash-injection-sovereign-funds-target-healthcare/

42.See https://verily.com

43.See "Alphabet's Verily preps for China entry with Temasek funds", Bloomberg, January 26, 2017. Access at https://www.bloomberg.com/news/articles/2017-01-26/alphabet-s-verily-preps-for-china-entry-with-temasek-investment

44.See https://improbable.io/company/about-us

45.See "SoftBank leads $502 million investment in U.K. tech startup", Bloomberg, May 11, 2017. Accessed at https://www.bloomberg.com/news/articles/2017-05-11/softbank-leads-502-million-investment-in-u-k-tech-startup

46.See https://www.crunchbase.com/organization/luminal

47.See https://fugue.co/press/releases/2017-01-05-fugue-raises-41-million-in-funding-to-solve-cloud-operations-complexity.html

48.See http://www.velocloud.com/news/2017/velocloud-raises-35-million-to-meet-demand-for-cloud-delivered-sd-wan

49.See https://www.vmware.com/company/acquisitions/velocloud.html

50.See https://www.crunchbase.com/organization/r3-cev

51. See "Blockchain consortium R3 raises $107 million", Techcrunch, May 23, 2017. Accessed at https://techcrunch.com/2017/05/23/blockchain-consortium-r3-raises-107-million/

52.See "China Investment Corp commits $100m in Airbnb's $1b funding round", DealstreetAsia, March 13, 2017. Accessed at https://www.dealstreetasia.com/stories/airbnb-looks-to-see-more-expansion-grabbing-100-m-from-china-investment-corp-67378/

Airbnb's roster of investors is extensive and includes a range of institutional private equity funds and high net worth individuals. Among SWFs, Temasek participated in Airbnb's E round in 2015.[53]

Finally, in the commercial real estate sector, GIC, in particular, remained very active, partnering with Paramount Group, Inc. in January 2017 to acquired 60 Wall Street through a 95/5 joint venture for $1.04 billion for which the JV secured $575 million in financing.[54] GIC also extended its program of acquiring student housing assets, launched in 2016. In February 2017, it agreed to invest $283.5 million in a complex at Aston University in Birmingham, England. The transaction follows the two earlier student housing deals completed with GSA in late 2016.[55]

Maintaining the Heading: Key Takeways

Sovereign investors have continued to track to a steady investment heading despite challenge posed by global markets and the regular infusions of geopolitical instability. By no mean exhaustive, our survey sought to highlight key themes and strategies as articulated through a variety of transactions across sectors, subsectors, and geographies. Certainly some emerging themes – e.g. clean energy and sustainability – were under-represented in our analysis in favor of a focus on prevailing investment patterns. These build on existing competencies that allow sovereign and public investors to allocate capital to direct investments in scale. They further suggest the capacity of large asset owners to leverage extended investment horizons, and – in many cases - limited liquidity exposures, to exploit opportunities that reflect long-term changes in global socio-economic patterns driven by demographic and technological change. In this respect the role and interests of SWFs have become indistinguishable from other large public investors, as the expanding role of their partnerships imply.

Global development – social and economic infrastructure, technology, health sciences, etc – requires vast amounts on long-term, stable capital capable of insuring effective investment governance. As the scope and scale of sovereign and public participation in global markets continues to expand, so too do the burdens on asset owners as responsible global investment partners. Staying this course will have lasting consequences for the quality and inclusiveness of global development – a heavy burden indeed.

53.See https://www.crunchbase.com/organization/temasek/investments/investments_list

54.See http://www.gic.com.sg/newsroom?id=610

55.See "GIC invests in $283M UK Student Housing JV", February 2, 2017, Mingtiandi. Accessed at https://www.mingtiandi.com/real-estate/outbound-investment/gic-invests-in-283m-uk-student-housing-jv/

China: Less Growth, More Sovereign Wealth Funds

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2. China: Less Growth, More Sovereign Wealth Funds

China to continue with positive growth momentum for rest of the year

The first half of 2017 has been very positive for China in terms of growth. For the second quarter, growth rate stayed at 6.9%, topping the market expectation. Consumption spending has been the leading factor driving China's economic growth, accounting for the highest share of contribution to growth. Fixed asset investment recorded an 8.6% improvement and contributed more than 2% of GDP growth. China's external trade grew less than expected but were still resilient in August with exports and imports expanding 5.5% and 13.3% year on year, respectively. The deceleration in exports could be explained by a strong RMB in the past month as well as slightly weaker external demand, but the imports growing at two-digit rates for eight consecutive months indicates robust domestic demand. It would be expected for exports to ride on a downward trend amid tensions between China and the US and piling up global uncertainty, but the negative effects can be largely offset by stronger global demand. RMB appreciation is also expected to be temporary due to rapid wage growth rate and has likely peaked. This is forecasted to ease in the coming months, especially after the National Congress of the Communist Party celebrated in October 2017.

Consumption will be resilient for the next two years although a medium to long-term risk looms as household debt is rising extremely fast. This is related to both very high housing prices which push households to increase their leverage as well as different spending habits by younger generations with a much stronger focus on consumption. Still, some structural characteristics of the Chinese economy are there to remain, such as the limited welfare system and limited private insurance possibilities, should put brakes to the transition towards a more consumption based economy.

As regards investment, the most important driver of China's growth for many years, it has clearly held well in the first half of 2017 on the back of very lax monetary and fiscal policies. However, in the medium run, a secular slowdown is expected as a result of growth convergence.

There is also uncertainty confronting China's exports but the drag from a strong currency should be short-lived. Although the current appreciation trend of the currency has dragged down exports growth to 5.5% year on year, global recovery would add fuels to Chinese exports. Moreover, if this appreciation was just temporary, a stable export growth would follow in the second half of 2017. Overall, and not withstanding stable export growth, the increasingly consumption driven growth model should foster imports deteriorating the trade balance. The interesting thing is that, notwithstanding such deterioration, China has experienced a renewed –albeit very slow – period of accumulation of foreign reserves (for the 8th consecutive month) thanks to a better RMB sentiment and tamed capital outflows supported by draconian controls.

On the policy side, the People's Bank of China (PBoC) is still conducting a relatively lax monetary policy although less than in the past as the RMB appreciation is tightening financial conditions somewhat. Moreover, on the back of a strong currency and tamed capital outflows, the central bank has grown more confidence in its foreign exchange regime so that on September 12, it removed the FX forward reserves rule, facilitating the shortening of the RMB. So far, this has reverted the appreciation trend of the RMB. More generally, it looks reasonable to expect that the central bank will hold its stance in monetary policy and will not push forward any large-scale tightening or liquidity injection in the medium term.

Investment prospect generally optimistic notwithstanding some sectoral headwings

Although it is a fact that China has very low return on assets among emerging market economies, it is too early to be pessimistic about its long term economic prospects, at least for the short run, as the country still enjoys excess savings and huge domestic market. China continues to be one of the top recipients as well as exporters of foreign direct investment. The financial market is also undergoing reforms and relaxation of restrictions that promise huge opportunities for both domestic and global investors. At the same time, though, financial risks are looming as corporate leverage continues to pile up (already above 164% of GDP). China's leadership is taking action to address excessive corporate leverage in several fronts. One with immediate global consequences is the crack down on cross-border investment, especially purchases of iconic access in the real estate, sport or entertainment sectors. At the same time, investment in Belt and Road countries continues to be fostered. More generally, it is undeniable that private firms have incentives to channel their capital abroad given the deteriorated return on assets in China so that questions may be raised as to the extent to which such controls on some foreign acquisitions will be effective.

The grand Belt and Road Initiative (BRI) also becomes increasingly relevant to the Chinese economy as well as the rest of the world. In fact, following China's leadership aspirations, outward foreign direct investment (OFDI) from China into the BRI countries has been much more resilient to the 2017 slowdown than overall OFDI from China. In the same vein, according to the Ministry of Commerce, the newly signed foreign contracted projects in BRI countries now make up as much as 58% of China's total contracts overseas as of July 2017, rising from 45% two years ago. Trade is also increasingly geared towards the BRI countries as the growth of trade between China and these countries is clearly higher than average trade growth. 38% of Chinese goods are now exported to the BRI countries. Given that China cannot possibly finance the whole project on its own, the plan offers massive opportunities for global cooperation and investments.

Relevant risks looming in the medium term

High leverage, in the corporate sector as well as an increasingly narrow fiscal space are beyond doubt the primary risk facing China. In a longer time horizon, the household sector could further add to the debt concerns with mortgage debt being the key issue. However, at least for now, household debt is still under control, with most family holding net wealth.

While some advocates of China's successful deleverage process have cheered at M2 deceleration, the reality is that that is only a very narrow measure of leverage. A broader one, such as total social financing, offers a gloomier picture as it continues to grow well above nominal growth. The good news is that the leverage process appears to be slowing down.

Another source of risk, which is also related to corporate leverage, is the property sector. There is no doubt that real estate is still a vital sector for China to keep its growth rate target. Supported by rapid credit growth, housing prices, especially those in Tier-1 cities, have ballooned during the last two years. More recently, due to government's strong restrictions on housing investment, property prices have decelerated in first and second-tier cities since mid-2016. However, "burst of the bubble" is note expected in the property market for a number of reasons. First, the real estate sector is systemic enough not to expect a drastic and sudden correction of prices. In fact, it is closely intertwined by many other sectors of the Chinese economy. Second, the government's macro-prudential measures to tighten property prices are very much behind the current deceleration. Such measures could be eased if the fall in prices were excessively large or rapid. Third, demand will be strong as long as the capital account continues to be relatively close and no many other investment opportunities are available.

In a nutshell, short term gains both in growth and investment but increasing risks of longer term pains

The Communist Party's national congress held on 18 October and the election of the leadership of the party is another source of uncertainty. After the reelection of Xi Jinping, the party's major policy direction is a major uncertainty. It is expected that the currency and economic growth would soften following the party congress while more focus is put on deleveraging and reducing financial risks. All in all, hard landing scenario for China is quite improbable, yet the deleveraging process will dent China's growth in the short term while aging and the very low return on assets will do the rest in the medium term. Potential growth in China should be around 5% in the medium term, which - however- will not prevent China from acquiring more foreign assets abroad. On the contrary, the increasingly large accumulation of foreign assets – as rapid reversal of the current account surplus is not forecasted – coupled with a low return on domestic assets, should push China to invest abroad at a rapid pace as the stock of OFDI continues to be low compared to US or Europe. Thus, it would not be surprising to see more activity from Chinese sovereign wealth funds leading a new OFDI push in BRI countries and beyond. In the long run, rebalancing and supply side reform will determine how much China manages to grow and how successful its economic model will be.

Chinese Sovereign Funds

Chinese sovereign funds manage assets of more than two trillion dollars[1], which makes the Asian giant the reference market for this kind of world-scale institutional investors. China has six of these vehicles: China Investment Corporation, State Administration of Foreign Exchange, National Social Security Fund, Hong Kong Monetary Authority, Silk Road Fund and China-Africa Development Fund. Below, and without underestimating China-Africa Development Fund

1. This represents approximately 30% of the total assets managed by sovereign funds at a global level.

2. China: Less Growth, More Sovereign Wealth Funds

which manages assets for 10 billion dollars[2], we will analyze the composition and investment strategies of the first five. A key note is that these vehicles are not subject to the limitations and restrictions imposed by the Chinese government on investments abroad[3].

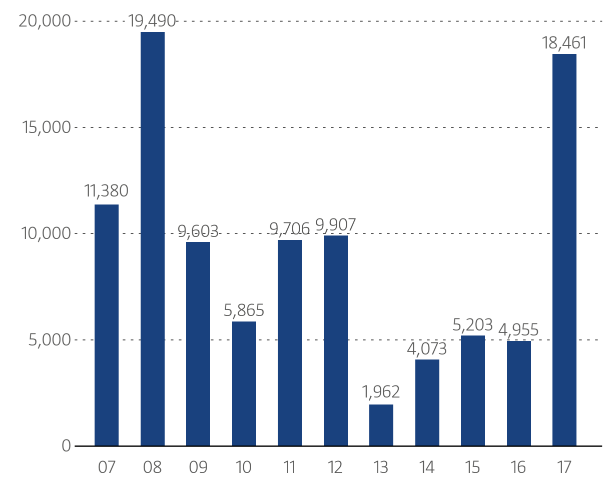
China Investment Corporation

Created by the Chinese government in 2007 with 200 billion dollars for the purpose of managing and diversifying its foreign currency reserves, this has been at the front line in the "Go Global" strategy and is one of the largest and most active sovereign funds on the planet[4]. Only in 2016 it performed 48 direct transactions. With assets of 813.5 billion dollars, CIC operates through three subsidiaries: CIC International (by means of which it manages its investment portfolio abroad), CIC Capital (through which it performs direct investments outside of China) and Central Huijin Investment (the division through which it invests in the main Chinese financial entities: in early 2016 it controlled 64% of Bank of China, 57% of China Construction Bank, 40% of Agricultural Bank of China and 35% of Industrial and Commercial Bank of China and China Development Bank).

It has a well-diversified portfolio, with the following asset allocation: variable income (45.8%), alternative assets (37.5%) and fixed income (15%). Investment in variable income is geographically distributed among the United States (51.3%), OCDE countries (37.6%) and emerging markets (11%). When it comes to lines of business, they concentrate on the financial sector (19%), information technologies (16.2%), large consumer areas (12.3%), industrial area (10.6%) and the health sector (10.5%). By contrast, in early 2016 fixed-income investments only amounted to 15% of the fund portfolio, with 53.9% corresponding to sovereign bonds of advanced economies, 27% to corporate bonds, 15.4% to structured products and the remaining 3.5% to sovereign bonds of emerging markets.

Figure 1

CIC's direct investments per year (2007-2017)



Source: Author's elaboration (2017).

If we focus on direct investments performed by CIC inside and outside of China during the period extending from 2007 to 2017, we can check that in only ten years the Chinese fund invested more than 100 billion dollars, with 2008 and 2017 having been the most active years (Figure 1).

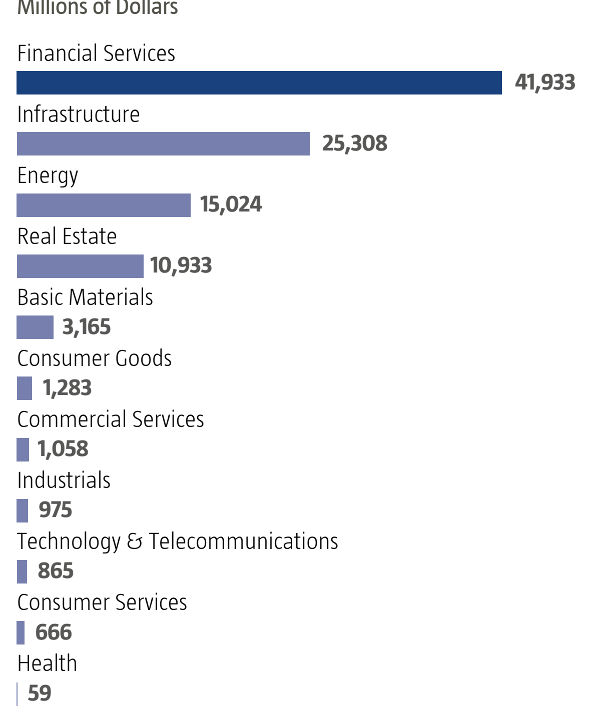
Considering the lines of business, during the 2007-2017 period CIC devoted a significant portion of its direct investments to financial service companies (41.9 billion dollars), among which the 19 billion dollars injected into the Agricultural Bank of China through the subsidiary Central Huijin Investment in 2008 are worth mentioning, as well as the 6.8 billion dollars invested between 2007 and 2009 to acquire a share of approximately 10% in Morgan Stanley; infrastructures (25.3 billion dollars), among which are the 2.4 billion dollars contributed to China-Mexico Investment Fund in 2014 or the nearly 14 billion dollars mobilized for the purchase of Logicor in 2017; and energy companies (15 billion dollars) such as the 939 million dollars invested in 2009 to acquire 10.4% of Kazakh KazMunaiGas are worth mentioning, as well as the 3.2 billion dollars invested in 2011 to acquire 30% of the French GDF Suez (Figure 2).

2. During the China-Africa Cooperation Forum held in Johannesburg in 2015, President Xi Jinping announced the injection of an additional 5 billion dollars into the fund to support the "10 Cooperation Programs" between China and Africa, thus raising the capacity of the fund to 10 billion dollars.

3. Policy to reduce the leveraging of Chinese companies, abate financial system risks and restrain the devaluation of Yuan and capital leakage.

4. Policy to promote the internationalization of Chinese companies and the integration of Chinese economy in the global market.

Figure 2
CIC's direct investments by sector (2007-2017)



Source: Author's elaboration (2017).

Finally, as far as regions are concerned we should point out that Asia-Pacific, with more than 39.5 billion dollars, has been the main direct investment target of the Chinese fund, followed by the Americas with 37.9 billion dollars as a whole and Europe, which received direct investments for 13.9 billion dollars during the period from 2007 to 2017 (Figure 3).

Although the share of real estate assets in the total investment portfolio is not known, CIC has been investing in this sector for years and on a direct basis in offices, retail stores and mixed-use premises, as shown by recent operations such as the purchase of 45% of the Manhattan's 1221 Avenue of the Americas for 1 billion dollars in 2016 or 1 New York Plaza for 700 million dollars, as well as in opportunity and core assets through specialized funds such as the Real Estate Turnaround Consortium, in which it invested 1 billion dollars in 2009, or GLP Japan Income Partners I, where it agreed to contribute 183 million dollars in 2012. In 2017, encouraged by the high returns resulting from the development of e-commerce, it has taken part in the second largest real estate transaction in history up to date: the purchase of Logicor from Blackstone for 13.8 billion dollars. This is one of the largest logistics companies in Europe, maintaining in Spain a logistic assets portfolio of more than 1 million square meters. With the real estate operations, CIC seeks, just like other funds, to: a) protect itself from inflation, b) obtain income on an ongoing and stable basis, and c) generate returns with minimum risk.

In early 2016, CIC rebalanced its portfolio by reducing its exposure to emerging market bonds and US bonds adjusted by inflation and by increasing its share in variable-income investments in developed economies and, therefore, in direct real assets. As of December 31, 2016, 66.11% of the fund portfolio was administered by external managers and only 33.89% was internally managed. Since its creation, it has earned 4.76% (Figure 4).

State Administration of Foreign Exchange (SAFE)

SAFE is controlled by the central bank of China and has offices in Beijing, Hong Kong, New York, Singapore and London. It manages assets for 474 billion dollars and is the agency responsible for: a) managing the foreign currency and gold reserves of the country, and b) regulating the foreign currency market within China. Since its foundation in 1997, SAFE's strategy lies in preserving the value of the foreign currency reserves it manages (3.1 trillion dollars in late 2017[5]) and controlling, as far as possible, renminbi fluctuations with respect to the US dollar. For this reason, a significant portion of the fund portfolio is invested in US dollar-denominated assets.

5. Reuters (2017).

2. China: Less Growth, More Sovereign Wealth Funds

Table 1

Main SAFE Direct Investments (2008-2015)

Name	Sector	Country	Investment (US$M)	Stake	Year
Total	Energy	France	2,832	1.6%	2008
BP	Energy	UK	1,951	0.9%	2008
Eni	Energy	Italy	1,764	2.1%	2014
Intesa Sanpaolo	Financial Services	Italy	1,216	2.0%	2015
Enel	Energy	Italy	926	2.0%	2014
Unicredit	Financial Services	Italy	724	2.0%	2015
Angel Trains	Infrastructure	UK	548	10.0%	2015
Telecom Italia	Telecommunications	Italy	438	2.0%	2014
Madrileña Red de Gas	Energy	Spain	423	30.0%	2015
Fiat Chrysler	Industrials	Italy	241	2.0%	2014

Source: Compiled by the authors (2016).

Although the composition of the fund portfolio has never been publicly disclosed, the direct investments made by SAFE over the last years show a conservative, risk-avoiding asset allocation, with practically the whole fund being invested in traditional (fixed- and variable-income) assets and where the so-called alternative assets, with the exception of real estate, are nowhere to be seen. Variable-income investments concentrate on large European corporations in widely different lines of business (Table 1) such as the financial sector (it holds 0.9% of Barclays), the energy business (it acquired 1.6% of the French Total) and telecommunications (it holds 30% in Madrileña Red de Gas).

Following the example of Italy, Spain could seize SAFE's acquisition of a shareholding in Madrileña Red de Gas to establish a closer relationship with the fund as a whole and with its European subsidiary Gingko Tree Investment in particular, with a view to attracting more investments of the fund to the country.

On the other hand, fixed-income investments are highly exposed to US treasury bonds, which represent the largest and most important item of the portfolio although, over the last years and as a result of increased trade with Europe and other emerging markets, SAFE has managed to diversify its portfolio to a certain extent. In the real estate sector, SAFE invests mainly[6] through Gingko Tree Investment[7]. Created in 2010 and headquartered in London, this vehicle 100% owned by SAFE has been used to invest in offices, residential homes and retail stores in Europe. It has also been involved in operations like the purchase in 2014 of 33 Holborn St. in London for 208 million dollars or, more recently, the purchase in 2015 of Siemens offices in Munich for 136 million Euros.

National Social Security Fund (NSSF)

Created in 2010 by the Central Committee of the Chinese Communist Party and the State Council, the main mission of NSSF is to support the Chinese public pension system by operating as a last-instance lender where provincial governments of the country are unable to meet their pension obligations. This constitutes one of the main challenges of the country, not only because of the unsettling rate of

6. In 2012 it injected 500 million dollars into Blackstone Real Estate Partners VII opportunities fund to build a presence in non-European markets such as USA and more recently, in 2015, it undertook to inject 250 million dollars in ASR Dutch Prime Retail Fund L.P. to gain more exposure in Dutch retail business.

7. This division has also been used by SAFE to invest in other sectors, such as energy (Madrileña Red de Gas in Spain) and infrastructure (Angel Trains in the United Kingdom).

population ageing but because the much desired change of the economic model consisting of moving from an export-based to an internal demand economy is largely based on consolidating a public pension and health system. Otherwise, a large portion of the population will continue to save a significant percentage of their income to: a) secure an adequate retirement pay at old age, and b) be able to cope with any upcoming health issues.

The more than 317 billion dollars currently under management come from widely different sources, the main ones being the accounts reserved for that purpose in the general budget of the Chinese state and the proceeds of the sale of stock of Chinese state companies. They are additionally increased by state fees on gambling and by funds obtained from redemption of securities.

Fifty-four per cent of its portfolio lies in the hands of external managers[8]. This fund is highly focused on the Chinese market: only 6% of its portfolio (some 17 billion dollars) is invested in assets outside of China, mainly in variable income (being authorized to invest up to 20% of the total portfolio in foreign variable income) and fixed income (it is not known what percentage of the minimum 40% of the portfolio required to be invested in fixed income is invested in foreign assets). Since its establishment, it has obtained an average return of 8.4%[9]. This is, beyond any doubt, the most domestic Chinese sovereign fund in relation to which there is the least information available.

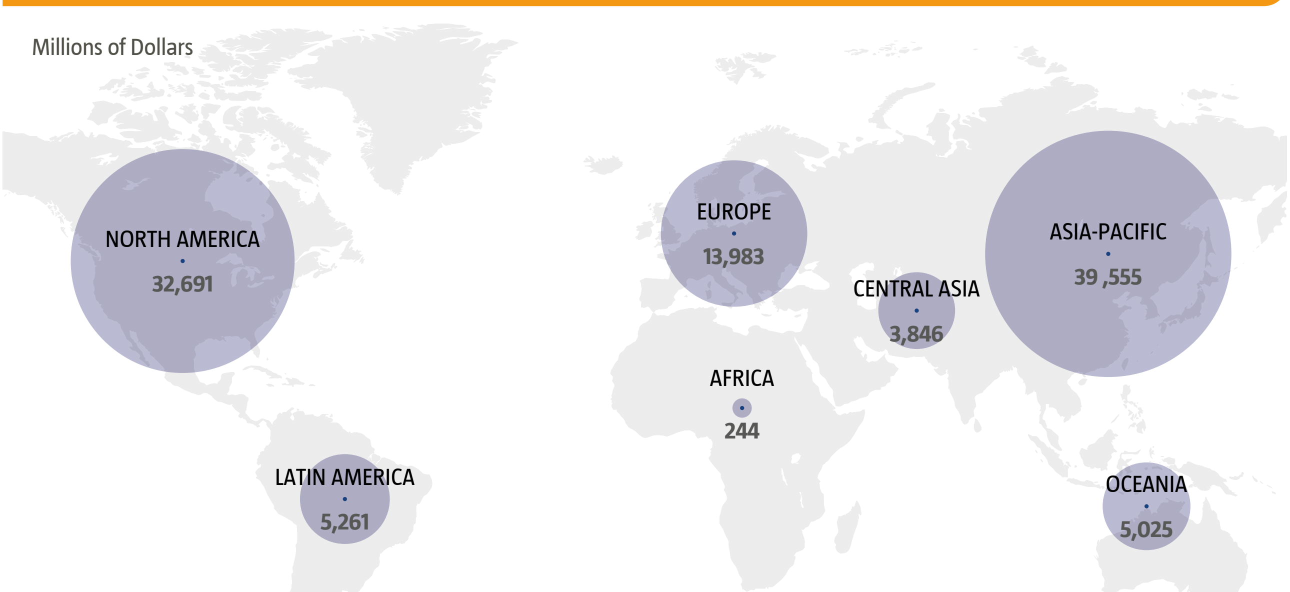
Hong Kong Monetary Authority (HKMA)

The central bank of Hong Kong, whose mission is to guarantee currency and banking stability in the special administrative region of China, has a vehicle to manage foreign currency reserves that functions as a sovereign fund: the Exchange Fund.

8. Information from late 2015.

9. Bloomberg (2017).

Figure 3



Source: Author's elaboration (2017).

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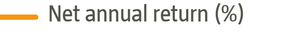
It manages assets for 500 billion dollars[10] and has a well-diversified portfolio, divided into the so-called Backing Portfolio, Investment Portfolio, Strategic Portfolio and Long-Term Growth Portfolio (LTGP), whose main purposes are: a) to preserve the capital of the fund, b) to furnish the market with liquidity to keep Hong Kong's financial and currency stability, and c) to generate attractive long-term returns for the fund. The Backing Portfolio guarantees that Hong Kong dollar is at all times fully backed by highly liquid securities denominated in US dollars. The Investment Portfolio is composed of bonds and stock of OCDE country companies, thus preserving the long-term purchasing power of the fund. The Strategic Portfolio was created in 2007 to gather Hong Kong government shares in the stock market. Finally, LTGP is the portfolio used by the fund since 2009, when it was created to invest in alternative assets such as real estate or private equity, thus enabling the vehicle to obtain higher returns.

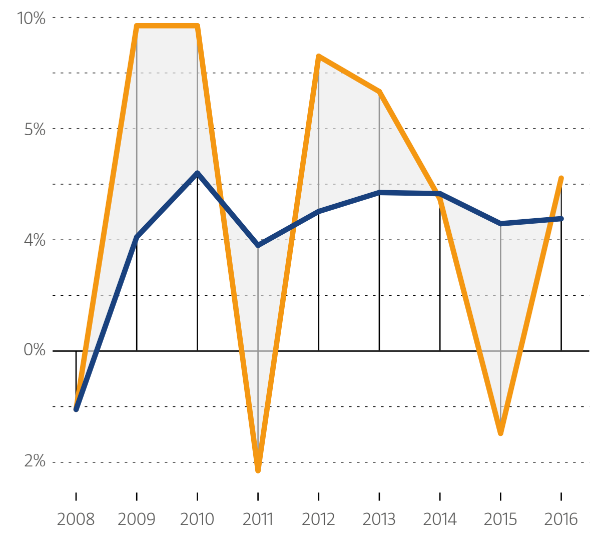
Furthermore, since June last year it has been provided with the Future Fund[11], a 28-billion-dollar vehicle aimed at facing any budget deficits and funding the future needs of coming Hong Kong generations, with which they expect to invest 14 billion dollars in real estate and private equity in the next three years.

Approximately 25% of the Exchange Fund portfolio lies in the hands of external managers, who perform and manage all the variable-income fund investments contained in the Investment Portfolio. Toward the end of 2016, 16.1% of the Exchange Fund portfolio was invested in variable income: 25% in Hong Kong company shares and the remaining 75% in foreign company stock, mainly from OCDE countries[12]. At the mentioned dates, the fund also declared it had 68% of its total portfolio invested in fixed income (showing a clear preference for debt markets of OCDE countries over emerging markets). Besides, Exchange Fund has 3.1% invested in private equity (through distressed debt and venture capital funds, with exposure to Asia, Europe and North America) and 1.7% in real estate (prime assets in cities such as Paris, London and Los Angeles). In this sector, it invests through its subsidiary Real Gate Investment Company, with which

Figure 4

Net cumulative annualized return Vs net annual return (2008-2016)





Source: CIC Annual Report (2016).

it has performed highly publicized transactions such as the purchase in London of 10 Aldermanbury Square for 390 million dollars in 2012 or, more recently, the purchase of Century Plaza Towers in Los Angeles for 393 million dollars in 2015.

10. June 2017.

11 . Management affiliated to LTGP.

12. Over the last years, there has been an increase of its exposure to China and other emerging markets.

Silk Road Fund

This has been the latest fund to be created. It was established with a sole purpose, that of decisively contributing to the development of One Belt, One Road strategy, Beijing's pharaonic project to reinforce its leadership in world trade and strengthen China as the first economic power.

Chinese President Xi Jinping announced its launching on November 8, 2014, but it was established only on November 29 that year. For its implementation, the Chinese government mobilized 10 billion dollars, of which 6.5 billion were contributed by SAFE, 1.5 billion by CIC, another 1.5 billion by the Export-Import Bank of China and 500 million by the China Development Fund. At present, it has 40 billion dollars to be invested throughout the Silk Road Economic Belt (by land) and the 21st-Century Maritime Silk Road (by sea) in companies (equity), bonds (debt) and funds (sub-funds) for the development of different kinds of infrastructure (transportation, energy, etc.) as well as projects related to the extraction, transformation and trade of certain natural resources.

Up to March 2017, the fund had performed investments and agreed to furnish funds for 6 billion dollars, among which it is worth mentioning the purchase of 10% of the Russian petrochemical Sibur, the acquisition of a 5% share in Italian concessionaire Autostrade per l'Italia (ASPI) and the contribution of 2 billion dollars to set into operation the China-Kazakhstan Production Capacity Cooperation Fund. Spain should take advantage of the fact that Valencia has been included in the new silk road to develop a strategy aimed at: a) attracting investments to the country from this fund in particular and from Chinese funds in general, and b) helping our infrastructure, utility and other companies to develop with the help of this fund part of the ambitious plan for Beijing's expansion and internationalization

Saudi Arabia's Bold Vision for its Sovereign Wealth

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3. Saudi Arabia's Bold Vision for its Sovereign Wealth

The Kingdom of Saudi Arabia is filled with vision. From "Vision 2030" reform plan to reduce the country's oil-dependence, to the Kingdom's sponsorship of the world's largest private equity vehicle, the Softbank Vision Fund, Saudi is taking ambitious steps towards a very different economic future. Moreover, global investment of the Kingdom's sovereign wealth is a key strategy in this ambitious transition to a post-oil economy. Lead by the current Crown Prince, this strategy now enjoys backing at the highest levels of Saudi power.

The plan's centerpiece is the creation of the world's largest sovereign wealth fund, whose returns will replace oil income as the Saudi government's main revenue source. This colossal new fund is to be formed through the conversion of Saudi's existing, mainly domestic Public Investment Fund (PIF) into a $2 trillion global investor. Fresh capital for the augmented PIF is to come from listing up to 5 percent of Saudi Aramco, the Kingdom's national oil company and the world's biggest oil producer, with the remainder of Aramco's shares transferred to the PIF in the form of equity. If the listing proceeds, it would be the largest ever flotation, raising roughly $100 billion in assets for the PIF based on current valuations of Aramco. While international stock exchanges from New York to London and Hong Kong to Toronto view to host the listing, the PIF has been very active. In the past year, the PIF has grabbed headlines with the announcement of multi-billion mega-partnerships, creating two of the largest private equity vehicles in history. The Saudi fund committed $20 billion to an infrastructure-investment fund with Blackstone Group and as much as $45 billion in a technology fund run by SoftBank.

Already though, this vision is at a very early stage. Domestically, Vision 2030 deals with austerity measures and it shows the difficulty, at home, to slim down the Saudi state and rein in public sector spending in times of low oil prices. On the international front, there is speculation that Aramco's proposed listing, initially set for 2018, may be delayed or abandoned altogether in favour of a private sale to foreign investors. In October 2017, reports emerged of a possible direct sale of the 5% stake to a consortium of Chinese state-owned firms, including state oil companies PetroChina and Sinopec, as well as China's sovereign fund CIC.[1] Other reports suggest the IPO is still on track but may be delayed until 2019, by when, it is hoped, oil prices will have rebounded, fetching Aramco a better flotation price.[2] The potential sale of Saudi's national treasure to foreigners at a time of historically low oil prices has also prompted calls for any international listing to be combined with a local offering on Riyadh's bourse, the Tadawul exchange, to ensure more sale proceeds stay onshore. Against that backdrop, calls to protect Saudi citizens' stake in their post-oil economy have intensified, with some advocating for the PIF to issue citizen-shares to individual Saudis which would increase a sense of ownership over their new flagship sovereign fund.[3]

Vision 2030

In April 2016, Cabinet approved Vision 2030, the ambitious policy for Saudi's long-term economic future. The policy includes far-reaching measures to shift the country away from oil-dependence and modernize the economy. The blueprint's overarching objective is to create a prosperous, dynamic and ambitious Saudi Arabia based on three pillars: to secure Saudi's leading role within the Arab world; make Saudi a key player in global trade by better exploiting its strategic position between Asia, Europe and Africa; and transform Saudi into a global investment powerhouse.[4]

Coursing through all these goals is the fundamental desire to wean the Saudi state off oil, increasingly urgent since the mid-2014 global decline in oil prices. With oil revenues accounting for more than 80 per cent of Saudi exports, the rapid price drop saw the Saudi Arabian Monetary Agency

1. https://www.reuters.com/article/us-saudi-aramco-ipo-china-exclusive/exclusive-china-offers-to-buy-5-percent-of-saudi-aramco-directly-sources-idUSKBN1CL1YJ
2. https://ftalphaville.ft.com/2017/10/16/2194831/opening-quote-aramco-exposes-gulf-in-governance-rhetoric/
3. Nordine ait-Laoussine and John Gault (2016), 'Aramco IPO: The Case for Citizen-Owners', World Energy Opinion, July 2016, p.2
4. http://vision2030.gov.sa/en/foreword

(SAMA), the Kingdom's central bank, tap $200 billion in reserves, while the national budget fell into double-digit deficits. The Kingdom's fiscal deficit of $75bn is more than a tenth of its 2016 gross domestic product and in the five years to 2015, the government exceeded its budgeted expenditures by a quarter on average.[5]

In response, the Kingdom has begun a far-reaching economic reform programme, with aggressive targets to ensure the economy is diversified, localized and privatized. By 2030, non-oil revenue must increase from 40% to 65 % annually, and non-oil exports as a share of GDP from 16% to 50%[6]. Local industrial capacity will be boosted in the key sectors of defence, mining, and energy so that by 2030, 50% of military equipment spending is domestic and local energy consumption should have increased three fold. With the third highest rate of military spending globally the redirection of half of all defence spending onshore is considerable. So too is the planned increase in the localization of the oil and gas sectors from 40% to 75%. There is also a strong push to foster the domestic renewable energy industry, with an initial generation target of 9.5 gigawatts of renewable energy, much of which should come from local industry.

The other sector chosen to play a key role in the diversification drive is tourism and leisure, the 'fourth non-oil pillar' of the new economy. In August 2017, plans were announced for a vast Red Sea tourism project, with 50 islands and thousands of kilometres marked out for development to attract luxury travellers from around the world.[7] Tourists would not require a visa and the area would be 'semi-autonomous', exempt from the civil and commercial laws governing the rest of the Kingdom[8]. If the project materializes - the first phase of work is not due until the end of 2019 - it could add $4 billion and 35,000 jobs to the economy. Seed capital will come from the PIF, which is also responsible for financing another flagship entertainment project, a planned 334 square-kilometer sports and entertainment city with a Safari area and theme park, to be built south of Riyadh.[9]

While the Saudi state will play an active role in fostering all these economic transitions, it will unwind its presence in other sectors. More than 60% of the Saudi GDP relies on the public sector. A key goal of Vision 2030 is to boost the private sector by privatizing state-owned assets and government services through the National Transformation Program (NTP).[10] With two-thirds of Saudis employed in the public sector on wages an average 1.7 times higher than the private sector, government spending has long been a priority target for reform.[11] Many of the wage and benefit cuts took effect in September 2016, alongside a reduction in secure government jobs and the removal of energy price subsidies. More challenges lie ahead with a planned expansion of government non-oil revenue, possibly through the imposition of an income tax or a value-added tax (VAT) following the Saudi government's approval of a region-wide Gulf Cooperation Council framework for VAT to be implemented from 2018.[12] That said, the future of the Gulf Cooperation Council and its initiatives is unclear in the wake of the region diplomatic crisis.

The austerity measures are partially softened by positive initiatives to stimulate job creation, encourage private entrepreneurship and liberalize the economy. There are initiatives to increase transparency, improve bureaucratic efficiency and elites accountability, all of which, it is hoped, will boost the quality of government services. But with the tangible benefits of this cultural overhaul years away from realization, in May 2017 the government declared that up to half of the Kingdom's sovereign fund assets will be invested domestically[13]. These shifts difficult the initial planned mission of converting PIF not only into a large but also an influential global investor. Indeed, these early adjustments show that the evolving strategies and missions around PIF are yet to consolidate in the coming months and years.

5. https://www.ft.com/content/7ed59bee-163b-11e7-b0c1-37e417ee6c76
6. http://vision2030.gov.sa/en/node/6
7. https://www.bloomberg.com/news/articles/2017-08-01/saudi-arabia-unveils-plans-for-mega-red-sea-tourism-project
8. http://pif.gov.sa/theredseasa/The%20Red%20Sea%20-%20FAQ's%20-%20English.pdf
9. https://www.bloomberg.com/news/articles/2017-08-23/saudi-wealth-fund-is-said-to-hire-head-of-111-billion-portfolio
10. http://vision2030.gov.sa/sites/default/files/NTP_En.pdf
11. http://foreignpolicy.com/2017/06/05/is-saudi-arabias-massive-economy-reform-coming-off-the-rails-mohammed-bin-salman/
12. http://www.thenational.ae/business/economy/all-in-the-details-for-value-added-tax-in-the-gcc
13. http://www.reuters.com/article/saudi-economy-funds-idUSL8N1I46SH

3. Saudi Arabia's Bold Vision for its Sovereign Wealth

Public Investment Fund: The Largest Fund on Earth?

At the core of Vision 2030 is the planned transformation of Saudi's Public Investment Fund into the world's largest sovereign investor. For much of its forty-five years, the PIF has been a little noticed, sleepy sovereign fund, restricted to local investment by its domestic development mandate. With an initial injection of 1 billion riyals in 1971, $266 million today, the PIF pursued its mission of financing projects of strategic significance to the national economy. Its current holdings of roughly $200-$250 billion were built up steadily and unspectacularly through a range of local investments in the oil refining, fertilizer, petrochemical and electricity sectors.[14] Following an asset consolidation exercise, the PIF's current CEO puts the PIF's present assets under management at $230 billion.[15] The domestic portfolio includes holdings in publicly-listed national champions such as petrochemical giant Sabic, Saudi Basic Industries Corp., the world's second-biggest chemicals manufacturer, and National Commercial Bank, the Kingdom's largest lender. In addition, the fund holds stakes in about 60 private companies. Less than 10% of the PIF's deployed portfolio is invested abroad.[16]

Beyond this, little has been known about the Saudi holding company. Previously lacking a website and formal reporting on the PIF's investment strategies or returns, the predecessor fund kept a distinctly low profile relative to many of its Middle East peers. It was not then an obvious contender to become the world's largest, and potentially one of the most sophisticated sovereign funds. That new destiny for the PIF was proclaimed in an April 2016 Bloomberg interview where PIF's chairman, the Crown Prince, unveiled plans to partially privatize the Kingdom's oil giant Aramco and transfer the proceeds, along with the government's remaining Aramco shares, to the PIF[17].

The impressive claim is based on an assumption that Aramco could command a $2.5 trillion valuation. That estimate is ambitious, although not impossible. With roughly 260 billion barrels of oil reserves, on a conservative $10 per barrel valuation, Aramco could be worth more than $2.5 trillion.[18] Others are more skeptical. Analysis by Financial Times suggests a valuation of less than half that amount, somewhere between $880bn to $1tn.[19] Even at the lower end valuation, the planned 5 percent divestment would still be the largest public offering in history.

But scale will not automatically translate into influence for the PIF. Depending on the final valuation, the PIF could be looking at a cash injection of somewhere between $45 to $125bn. The rest of the PIF's enlarged portfolio would exist as controlling shares in Aramco. To be globally influential, the PIF will need substantially more liquid capital. The Saudi government recognized this in November 2016, reallocating $27bn in cash assets from SAMA to the PIF.[20]That transfer of reserves from one sovereign vehicle to another, amid the ongoing fiscal crisis, signaled Riyadh's commitment to the PIF's elevation within the Saudi sovereign investor landscape.

Still more cash injections will be needed to build a globally influential mega-fund of the scale envisaged. With reports of an aggressive hiring spree at the PIF, there is speculation that further cash injections are coming, an expectation reinforced by the fund's CEO in October 2017.[21] Since Yasir Alrumayyan took over as CEO in 2015, the PIF has more than doubled its total staff from less than 60 to more than 200 employees. This recruitment drive accelerated in the second half of 2017 with a spate of high profile appointments including the former CEO of Riyad Bank's investment banking unit hired to head up the PIF's $111 billion domestic portfolio,[22] and Qatar Investment Authority's former Head of Real Estate brought on as Chief Development Officer.[23]

14. http://www.al-monitor.com/pulse/originals/2016/04/saudi-public-investment-fund-strategy-challenges-income.html
15. https://www.bloomberg.com/news/articles/2017-10-24/saudi-arabia-wealth-fund-seeks-to-boost-investment-returns-to-9
16. https://www.bloomberg.com/news/articles/2017-10-24/saudi-arabia-wealth-fund-seeks-to-boost-investment-returns-to-9
17. The full text of the interview is available at: <http://www.bloomberg.com/news/articles/2016-04-04/saudi-arabia-s-deputy-crown-princeoutlines-plans-transcript> accessed 22 August 2017.
18. http://oilprice.com/Energy/Energy-General/How-Realistic-Is-Saudi-Arabias-2-Trillion-Sovereign-Wealth-Fund.html
19. https://www.ft.com/content/7ed59bee-163b-11e7-b0c1-37e417ee6c76
20. https://www.ft.com/content/bd3d7c34-b877-11e6-961e-a1acd97f622d
21. https://www.bloomberg.com/news/articles/2017-10-24/saudi-arabia-wealth-fund-seeks-to-boost-investment-returns-to-9
22. https://www.bloomberg.com/news/articles/2017-08-23/saudi-wealth-fund-is-said-
23. https://www.bloomberg.com/news/articles/2017-10-15/saudi-wealth-fund-said-to-hire-development-head-from-qatari-diar

Uncertainty remains though as to how the government could finance further cash allocations to the PIF. Continual tapping of SAMA's already strained reserves will prove more and more difficult. The government could float a larger stake of Aramco or pin its hopes on a significant appreciation in the crude oil price by the time of any divestment, but, as already noted, with fresh doubts about the timing and likelihood of an IPO, other capital-raising strategies may be needed.

For now though, neither the asset management industry nor the PIF is waiting for IPO specifics before embracing the Saudi fund's destiny as a global investor powerhouse. The PIF is putting itself on the global finance map with headline deals and high profile summits. In October 2017, the fund hosted a major profile-raising investment summit, the Future Investment Initiative, attracting some of the biggest names in global finance leaders of BlackRock, HSBC or Credit Suisse.[24] During the summit, PIF's CEO unveiled that the PIF is aiming to hit a return target of between 8-9% by 2025-2030. At that point, he confirmed the fund should have around $2 trillion under management, of which up to 25% will be allocated to international opportunities. The existing portfolio is divided into six investment pools, four focused on domestic opportunities and two dedicated to international strategies, with the latter two counting for less than 10% of deployed capital.

Unsurprisingly then, since mid-2014, there has been a surge in the fund's global activity. The initial upswing followed approval by the Kingdom's Council of Ministers in the wake of the oil price collapse for the PIF to fund new companies inside and outside the Kingdom without seeking the Council's prior approval. The PIF exploited that increased independence, agreeing to buy more than $1 billion worth of shares in the South Korean steelmaker Posco Engineering and Construction in March 2015, before signing impressively large investment agreements with France and Russia. The French deal saw €10 billion committed to investment in the defense, aerospace and construction industries,[25] while a further $10 billion of Saudi capital was signed over to the Russian Direct Investment Fund (RDIF), in what became the largest transaction by an SWF in 2015.[26]

The PIF's appetite for headline deals continued throughout 2016, starting with the fund's announcement in March of a $3.5bn investment in Uber, the single largest capital injection ever received by the car-hailing app. The deal not only signaled the PIF's interest in the tech sector, but the beginning of an era of statement investments, akin to those of its regional peer, the Qatar Investment Authority. Over the past decade, the QIA has become notorious for taking substantial stakes in blue-chip companies and direct investment in iconic real estate, including The Shard in London. In QIA style, the PIF topped its own record-breaking deals, rounding out 2016 with a staggering $45 billion commitment over the next five years to the Softbank Vision Fund, a new London-based technology private equity and venture fund set up by charismatic Japanese billionaire and Softbank founder Masayoshi Son.

Softbank Vision Fund

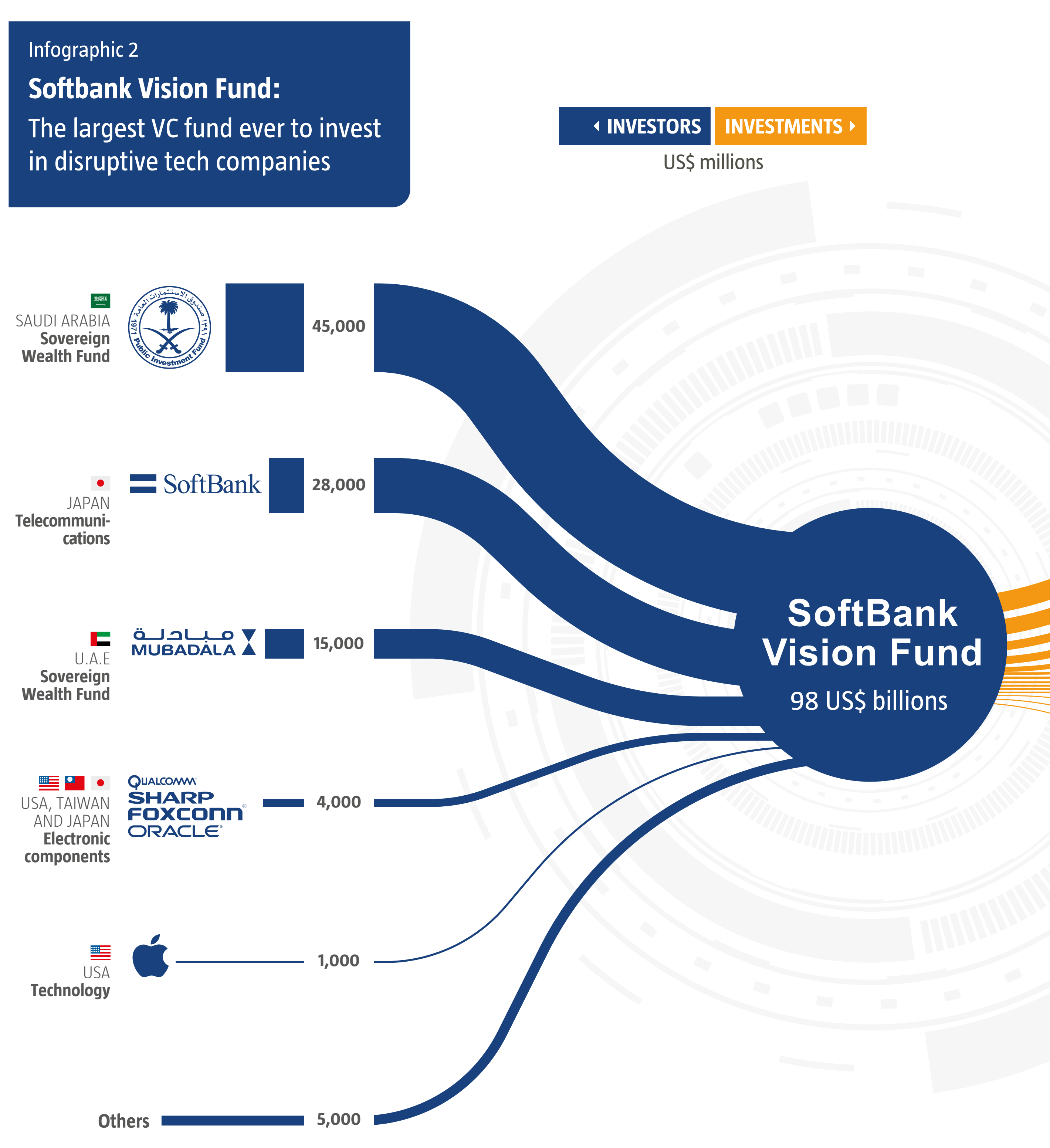
The Vision Fund's ambition is as vast as its committed capital. After its first close in May this year, the fund had raised $93 billion, making it the biggest private equity vehicle in history. Saudi Arabia's contribution topped the list of backers, followed by $28 billion from Softbank. Other major commitments include $15 billion from Mubadala, the Abu Dhabi's sovereign strategic investor, and $1 billion from Apple with the remaining $4 billion coming from a range of tech companies including Qualcomm, Taiwan's Foxconn Technology, Japan's Sharp Corp and Larry Ellison's family office. Already the largest vehicle of its kind, dwarfing even the biggest buyout funds that sit between $20-$25 billion, Softbank still expects the Vision Fund to reach $100 billion when its money-raising completes later in 2017.[27]

The philosophy of the Vision Fund aligns well with core aspects of the Saudi diversification and investment agenda. In a statement released by the telecommunications and tech investment group in May, Softbank described the impetus for its new venture fund as a 'strongly held belief that the next stage of the Information Revolution is underway, and building the businesses that will make this possible will require unprecedented long-term investment.' The ultimate goal is to enable long-term, large-scale investments to fund growth and disruption in the technology sector. To this end, the fund will invest across all technology sectors and geographies,

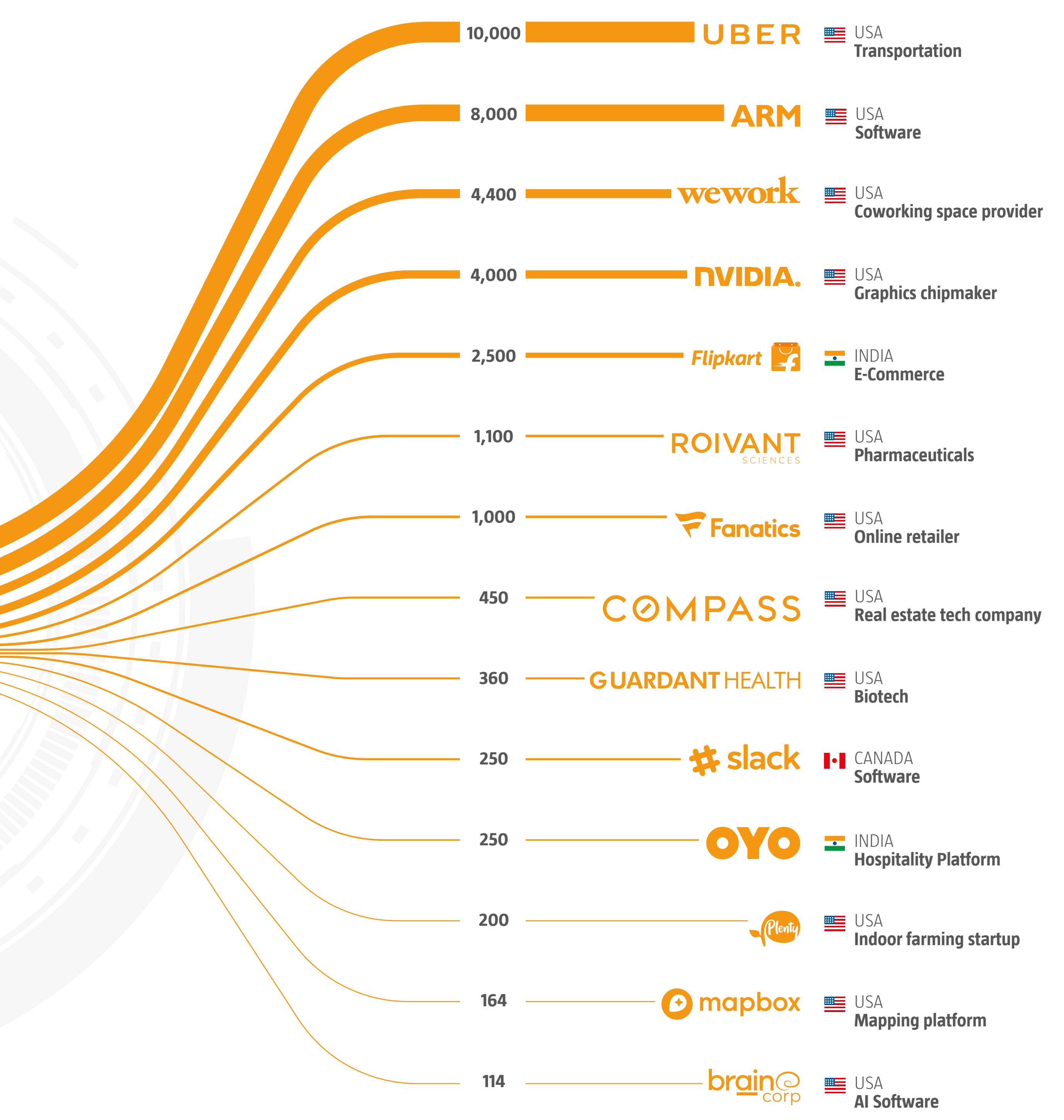
24. http://futureinvestmentinitiative.com/en/home
25. https://www.wsj.com/articles/french-accord-with-saudi-arabia-paves-way-for-billions-in-possible-contracts-1444758949
26. http://media.ie.edu/reports/Report_Sovereign-Wealth-Funds-2016.pdf
27. http://www.reuters.com/article/us-softbank-visionfund-launch-idUSKCN18G0NP

Infographic 2

Softbank Vision Fund:
The largest VC fund ever to invest in disruptive tech companies



Source: Author's elaboration from SoftBank (2017).


10,000
UBER
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Coworking space provider
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NVIDIA.
USA
Graphics chipmaker
2,500
Flipkart
INDIA
E-Commerce
1,100
ROIVANT SCIENCES
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Pharmaceuticals
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Fanatics
USA
Online retailer
450
COMPASS
USA
Real estate tech company
360
GUARDANT HEALTH
USA
Biotech
250
slack
CANADA
Software
250
OYO
INDIA
Hospitality Platform
200
Plenty
USA
Indoor farming startup
164
mapbox
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Mapping platform
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brain corp
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AI Software

3. Saudi Arabia's Bold Vision for its Sovereign Wealth

including Artificial Intelligence (AI), robotics, computational biology, data-driven healthcare, technology-enabled pharmaceutical businesses, mobile applications and computing, communications infrastructure and telecoms, cloud technologies and software, consumer internet businesses, and financial technology.[28] Both private and public companies at emerging or firmly established stages will be targeted for minority and majority stakes. The fund will focus on investments requiring at least $100 million in capital, and begun a five-year investment period after its final close in May. A minimum twelve-year fund period is planned, making it a slightly longer-life vehicle for the PE industry.[29]

This investment mission and approach compliments various tenets of Saudi's Vision 2030 programme. Chief among these is the desire to diversify the Kingdom's economy beyond the hydrocarbon sector into industries that will allow Saudi to become 'oil-free' and transform into a 21st century globally competitive marketplace.

Investment in world-class technology through the Vision Fund can assist that broader effort. Sectors targeted by Saudi for development - mining, defence and services -require access to foreign technology, which the Vision Fund promises.

Equally attractive is the opportunity to collaborate with other deep-pocketed investors from Asia, the Middle East and America, complimenting Saudi Arabia's desire to become a hub for global economic and investment activity. The PIF can enhance its investment acumen through exposure to and partnership with sophisticated investors under the Vision Fund umbrella. At the same time, the Kingdom can cement its leadership role within the Arab world, another core Vision 2030 aspiration. As the largest contributor to the Vision Fund, Saudi is set to assume more influence over the Vision Fund. That said, the Kingdom, and its sovereign investment vehicles, have plenty to learn from their experienced Gulf neighbours. The United Arab Emirates boasts the largest sovereign fund in the region and the third largest sovereign fund globally in ADIA, while Mubadala's track record as a sovereign development fund far outstrips that of the PIF. Mubadala is now managing assets of $126.7 billion after its merger with IPIC and has a similar mandate to the PIF's mission - reduce Abu Dhabi's reliance on oil and gas by investing according to a double bottom line of both economic and social benefit for the Emirate. So far, Mubadala has invested extensively in the semiconductor industry, aerospace manufacturing and energy. As Saudi Arabia seeks to build up sophisticated manufacturing capabilities as well as create a vast pool of solar energy in the country's north to shield local industry from water shortages and oil price volatility, Saudi Arabia has much it can learn from a close working relationship with Abu Dhabi through the Vision Fund.

To date, the Vision Fund's deal-making looks set to make it an ideal tool for Riyadh to pursue such objectives. July 2017 saw the Vision Fund undertake its first investment activity, making headlines with the largest agriculture technology investment in history. The Vision Fund led a $200 million Series B funding round for San Francisco-based indoor farming company Plenty, attracting participation from notable investors including Eric Schmidt, DCM and Bezos.[30] Plenty uses crop science with machine learning, IoT, big data and climate creation technology to create field-scale indoor farms that grow nutritious food with a low energy footprint. The deal saw the Vision Fund's Managing Director Jeffrey Housenbold join the Plenty's board of directors. That same month, the Vision Fund also led a Series C funding round for San Diego-based AI and robotics company Brain Corp that raised $114 million. Brain Corp is currently focused on developing advanced machine learning and computer vision systems for the next generation of self-driving vehicles.

August saw the Vision Fund dramatically accelerate its investment activity with three reported direct investments and several inherited deals from Softbank (See Infographic 2). Reported deals included a $2.5 billion investment in Indian e-commerce company Flipkart; a $1.1 billion equity funding for US headquartered global healthcare company Roivant Sciences, a partner of large pharmaceutical companies, small biotech firms and academic institutions that helps develop new medical therapies and commercializes drugs[31]; and a $1 billion investment in Fanatics, an online retailer focused on licensed sports apparel and merchandise. That same month, several earlier investments by Softbank were

28. http://pitchbook.com/news/articles/vision-fund-101-inside-softbanks-93b-vehicle
29. https://pitchbook.com/news/articles/vision-fund-101-inside-softbanks-93b-vehicle

30. http://www.businesswire.com/news/home/20170719005822/en/Plenty-Attracts-Largest-Ever-Agriculture-Technology-Investment-Led
31. http://roivant.com/roivant-sciences-raises-1-1-billion-equity-investment-led-softbank-vision-fund/

transferred to the Vision Fund, including a $4 billion stake in the graphics chipmaker Nvidia, and a $360 million funding round for biotech company Guardant Health, best known for developing a blood test for monitoring cancer treatment. Earlier in the year, the Vision Fund was reported to be taking a 25% stake in a semiconductor company ARM that Softbank bought for $32 billion in 2016. All of this suggests that Softbank's investment activity will be a good guide to the kinds of sectors and geographies that the Vision Fund, and indeed the PIF, may target. Indeed, PIF's CEO confirmed in October 2017 that as well as allocating more capital to international opportunities, the Saudi fund will increasingly move away from conventional assets and focus more on 'next generation investments' like 'IoT, robotics…life sciences'.[32] He also signaled that the PIF will continue to seek out mega-partnerships of the Vision Fund scale with international co-investors.

US and Saudi relations

The US is likely to remain chief among these target geographies abroad for both the Vision Fund and the PIF. A clear American bent to the Vision Fund portfolio was likely from the outset thanks to the tight relationship between the Trump Administration and Softbank founder Masayoshi Son. Even before the Vision Fund had any capital, Son had promised half of the fund's total money to US companies on a December 2016 visit to the US. That promise looks set to be realized and exceeded thanks to the close relationship between the US and Saudi Arabia.

President Trump's visit to the Kingdom in May resulted in the launch of new agreements between the two nations, including two historic investment deals . The largest deal announced that Saudi's PIF will supply $20 billion to a new $40 billion US infrastructure fund. The scale of the colossal mega-partnerships as well as the PIF's combined $65 billion commitment to them, are at a level never before seen by the private equity industry. All of this has led commentators to declare Saudi's sovereign fund, 'without a doubt, the most important player in global private equity investing.'[33]

The seed capital will be placed with US-headquartered global private equity giant Blackstone. If Blackstone successfully raises the other $20 billion as planned, this will make the infrastructure fund the second largest private equity vehicle in history, second only to the Vision Fund. With Saudi's PIF the majority investor in both of these mammoth funds, the Kingdom's desire to become a global investor powerhouse is rapidly becoming reality.

Going Local with Aramco

It was welcome news then when announced in May 2017 that the PIF must spend half of its capital in Saudi Arabia. An enhanced domestic focus for investment is a savvy move given the bulk of the augmented PIF's cash will come from the privatization of a much-treasured national champion, the largest oil company in the world. Created between 1973-1980, Aramco is the jewel of the Kingdom and a critical tool to enhance diversification. Indeed, the Kingdom remains highly dependent on oil relative to many of its OPEC peers. In 1970, before Aramco's creation, Saudi Arabia's dependence on petroleum exports exceeded 99 percent. For OPEC countries as a group, the figure was slightly lower at 84 percent of total exports. By 2014, Saudi was still above the OPEC group average of 69 percent, but at the notably lower level of 76 percent of total exports.

Aramco itself has already played a substantial role in the Kingdom's diversification. Aramco has diversified vertically and horizontally. Within its own business, the company has expanded beyond crude oil exports by financing refining and petrochemical facilities. Across the Saudi economy generally, Aramco has helped to develop the non-oil sector through investments in construction, shipping and healthcare. Aramco has also diversified its own energy sources beyond fossil-fuels by building a large solar facility that is intended to help serve the domestic market, as well as support local service startups through its Entrepreneurship Centre and help diversify industrial investment through Saudi Aramco Energy Ventures.[34]

32. https://www.bloomberg.com/news/articles/2017-10-24/saudi-arabia-wealth-fund-seeks-to-boost-investment-returns-to-9

33. Arash Massoudi, Financial Times M&A correspondent, 'Saudi's celebrate Trump Visit with giant investment deals', Financial Times, 25 May 2017, news podcast at https://www.ft.com/content/edd748a6-3aca-4d5f-a303-4c98ae05cd45

34. Ait-Laoussine and Gault (2016b) 'Aramco IPO: The Case for Citizen-Owners', World Energy Opinion, July 2016, p. 2.

3. Saudi Arabia's Bold Vision for its Sovereign Wealth

All of these diversification strategies have strengths and weaknesses, and have been deployed with varied success in the Saudi economy. Downstream vertical integration is capital-intensive and brings only a minor boost to local employment, while leaving a country subject to petroleum market price cycles. Indeed,Saudi Arabia remains more exposed to oil price changes than OPEC members as a group, with a 13.3 per cent drop in GDP in 2015 compared to 11.7 per cent for the whole group.[35] Horizontal diversification often requires public-private partnership to ensure technology transfer and world-class training, but Aramco has remained domestic-only in its investments. The company's other efforts to stimulate a renewable energy sector and encourage entrepreneurship are laudable, but ultimately insufficient to help achieve the genuine freedom from oil envisaged by Vision 2030.

Now Aramco has a new role to play in the diversification vision. For Aramco's CEO Amin Nasser, that role is one of leadership in the diversification programme. For Nasser, the oil company's contribution should not be limited to securing an initial cash injection for the country's sovereign fund through its part privatization. Rather, it must play a bigger role in 'setting an example' for future privatisations and diversification initiatives envisaged under the Vision 2030 reforms. It can do so by extending its horizontal diversification, with further investments in shipping, healthcare, construction, information technology and transport.

Aramco will transform from an 'oil and gas company to an energy and industrial company' that will pursue multi-sectoral diversification and benefit 'the Saudi economy as a whole.'[36] It is already targeting many projects in this vein including building the first solar energy plant in Saudi Arabia, developing the petrochemicals markets and overseeing housing construction. International partnerships will be crucial for Aramco to develop necessary expertise as it ventures into these new sectors. To this end, the King signed deals worth $65 billion between the Kingdom and Japan and China on his March 2017 Asian tour. Aramco featured heavily in the deals, committing $7 billion to a venture with Malaysia's state oil company Petronas, and executing an MOU to look into building refining and petrochemical plants in China.[37] In addition to strengthening the oil supply relationship, Aramco chief executive indicated that Aramco stood ready to 'multiply' its investments in China.[38] Those efforts received a boost with the August 2017 announcement of a $20 billion joint investment fund between Saudi Arabia and China. The fund involves Aramco, a Chinese company and the Royal Commission for Jubail and Yanbu and will seek to attract Chinese industrial investments, sharing costs and profits on a 50:50 basis.[39]

Aramco in Asia

Those deals may just be forerunners to a much bigger engagement with Asia, in particular China, as regards Aramco's sale. Given its enormous valuation, the list of candidate stock exchanges that can accommodate an Aramco float is short. London and New York top the list. But Asia has several stock exchanges in the mix including Hong Kong, Tokyo and Singapore. Toronto is also a candidate., As noted above, there are also reports of a possible direct sale to a consortium of Chinese state-owned buyers.

If a listing of Aramco ultimately proceeds, where the company floats could affect its valuation. Both London and New York have excellent reputations that could stem the discount that will apply to Aramco relative to private oil companies.

35. Ait-Laoussine and Gault (2016a), p. 7

36. The full text of the interview is available at: <http://www.bloomberg.com/news/articles/2016-04-04/saudi-arabia-s-deputy-crown-princeoutlines-plans-transcript> accessed 22 August 2017

37. http://www.businessinsider.com/r-saudi-arabia-spends-money-to-make-money-in-foreign-investment-drive-2017-3/?r=AU&IR=T

38. http://www.saudiaramco.com/en/home/news-media/news/china-development-forum-press-release.html

39. https://www.albawaba.com/business/saudi-arabia-china-announce-20-billion-joint-investment-fund-1014658

On their part, Asia stock exchanges may prove more attractive as Saudi deepens its ties with China and the Asian region. Deep-pocketed Chinese sovereign funds and state-owned companies may prove the obvious buyers to help Aramco reach its target valuation. For China, an Aramco investment could secure one of its biggest and lowest-cost oil import sources as its need for large volumes of fossil fuel looks set to continue into the foreseeable future. Beijing would also welcome the chance to further elevate the yuan to global currency status by convincing Aramco to accept yuan payments for its oil instead of US dollars.[40] It may have more reason to do so after the Saudis announced in August that they would consider issuing yuan-denominated bonds.[41]

Benefits at Home and Abroad

Wherever a float takes place or whoever the ultimate buyer, Kingdom's commitment to making the PIF a global investment giant will benefit asset managers abroad as much as Saudis at home. In the last few months of 2017 alone, the PIF took a $2.4 billion stake in a Riyadh-based dairy farm and food processor, built a $500 million energy-efficiency company and established its promised support fund for small and medium-sized businesses with a $1.1 billion windfall. These efforts are all dwarfed by its $4.8 billion mega-project to redevelop the Jeddah waterfront. With as much as three-quarters of the augmented PIF earmarked for domestic spending long-term, Saudi citizens will remain relatively prosperous despite the new frugality required by some of the Vision 2030 reforms.

Beyond the Kingdom's borders, the potential beneficiaries of the PIF's spending are limitless. Not even space is ruled out, with the PIF's latest announcement of a $1 billion investment in Virgin Group's space companies to accelerate plans for supersonic space travel.[42] The deal, announced at the close of the Future Investment Initiative summit, involves a $480 million investment in Virgin Galactic, The Spaceship Co. and Virgin Orbit as well as an option to invest an additional $480 million in space services. Such deals reinforce the PIF's continued interest in portfolio internationalization through large-scale investment in cutting-edge sectors, especially capital deployments that help the Kingdom realize the Vision 2030 objective of a more diversified, knowledge-based economy. Any asset manager, foreign government or potential investment partner that offers investment opportunities in the key sectors of defence, mining, energy and tourism with a potential return north of 8% should be well-positioned to win PIF mandates and partnerships.

40. http://oilprice.com/Energy/Crude-Oil/Aramco-Looks-To-China-Ahead-Of-IPO.html

41. https://www.reuters.com/article/us-saudi-china/saudis-may-seek-funding-in-chinese-yuan-idUSKCN1B413R

42. https://www.bloomberg.com/news/articles/2017-10-26/saudi-arabia-invests-1-billion-in-virgin-group-s-space-ventures

Trading Skyscrapers for Warehouses: SWFs Embrace Spectrum of Real Estate Assets in Search for Yield

Loch Adamson
Director, Sovereign Wealth Center

Jess Delaney
Head of Data and Research, Sovereign Wealth Center

4. Trading Skyscrapers for Warehouses: SWFs Embrace Spectrum of Real Estate Assets in Search for Yield

In 2016, the single biggest real estate deal executed by a sovereign wealth fund wasn't for a luxury hotel or landmark skyscraper in London, New York or Paris — it was a multibillion-dollar bid for a string of commercial warehouses scattered across the hinterlands of Europe. The purchase, which closed quietly in the waning days of December, saw Singaporean sovereign wealth fund GIC pay the remarkable sum of €2.4 billion ($2.5 billion) for P3 Logistic Parks, an owner and developer of European logistics properties.

The market appeal of P3 only became clear in the fine print: At the time of the sale, the company boasted of owning 163 warehouses in 62 locations across nine European countries — and the firm was clearly signalling its intention to expand its territory. Just prior to the deal, P3 lined up an additional €1.4 billion in long-term financing to develop new facilities across a "land bank" of 1.4 million total square acres in Europe. Indeed, right after the deal was completed, P3 targeted Spain, to continue its European expansion, where the company acquired a portfolio with assets worth $258 million. GIC, which has been actively seeking opportunities to invest in logistics assets globally given the surging popularity of e-commerce, bought into P3's ambitious development plans with an eye to future growth.

Sovereign wealth funds (SWFs) have long been eager investors in real estate — especially in the immediate aftermath of the global financial crisis, when many sought to take advantage of cheap financing and depressed real estate valuations in developed markets — but their collective appetite for the asset class has since reached unprecedented levels. Much of the increase is attributable to the emergence of new SWFs as well as existing funds entering the asset class for the first time: Norway's Government Pension Fund Global (GPFG), for example, which is managed by Norges Bank Investment Management, an arm of Norway's central bank, didn't add real estate to its giant investment portfolio until 2010, despite the government approving a 5% allocation in 2008.

More recently, SWFs have also directed fresh billions to private real estate and infrastructure investments as they've sought out viable alternatives to low-yielding fixed-income instruments. Even though prime commercial real estate valuations have risen in the past five years, SWF allocations to brick-and-mortar assets, including infrastructure, have expanded dramatically since 2011 (Figure 1). Prior to that year, the proportion of foreign direct investment (FDI) focused on real estate and infrastructure hovered around 21% on average[1]. In 2011, real estate and infrastructure investments, as a percentage of total FDI, suddenly jumped to 29.6% — the following year, the total soared again to 41.8%. In 2016, SWFs spent 61.8% of all FDI on real estate and infrastructure — the highest percentage allocation ever recorded by SWC.

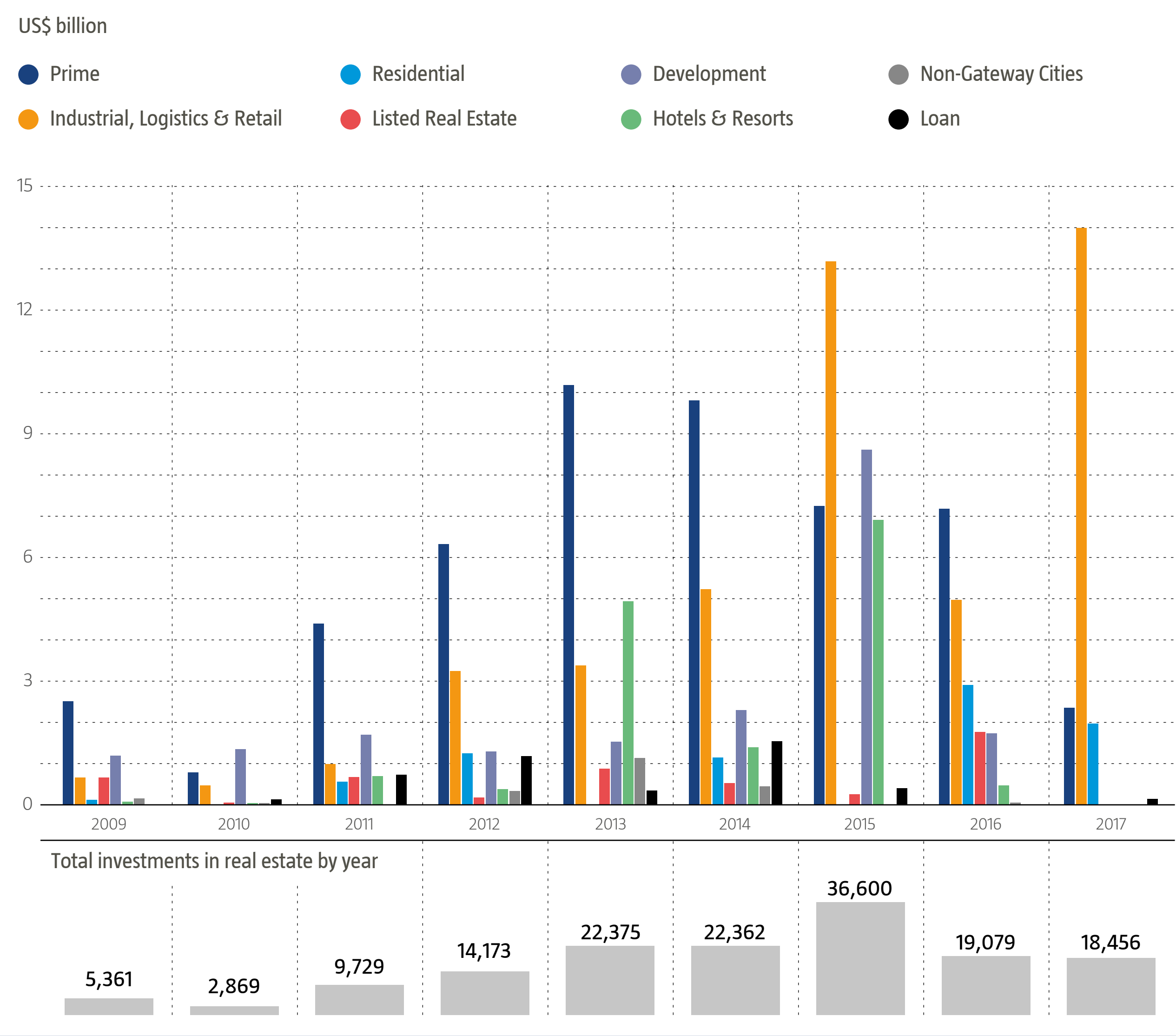
Faced with rising competition and skyrocketing valuations for prime real estate assets, however, SWFs are becoming increasingly creative in their pursuit of niche opportunities and long-term returns in this sector. Beginning in 2011 — and accelerating sharply in 2012 — many of the largest and most experienced SWFs began to branch out from traditional investments in commercial properties and pay more attention to real estate sectors that were once deemed gritty and obscure, such as industrial warehouses on the outskirts of major metropolitan areas and student residence halls in leading university towns. As intergenerational investors, SWFs are arguably better placed than most buyers to take advantage of distinct secular trends, such as the dramatic rise of e-commerce and the globalization of higher education, by buying both existing assets and participating in the construction and development of new ones.

Those diversification strategies have continued despite the pressures brought to bear on SWFs by the collapse of oil prices in 2014, which marked the definitive end of a 15-year-long commodity "supercycle." As oil prices rapidly fell below the projections that policymakers had used to set their respective annual government budgets in oil-generating economies, the pressure on SWFs — particularly in the Middle East and North Africa — rose. Some of the largest SWFs in the region help provide financing from their cash reserves in the event of government budget deficits; macroeconomic stabilization is part of their mission. But several countries, notably Bahrain, Oman and Saudi Arabia, had fiscal break-even prices (the future estimated cost of a barrel of oil) of approximately $100 per barrel coming into 2015, necessitating major fiscal adjustments — and sharp downward revisions of their price estimates for budgetary planning purposes in 2016. Even Norway's Parliament was forced to make its first withdrawal from GPFG to top up government spending in 2016.

1. This chapter uses data from Sovereign Wealth Center (SWC), which tracks the 43 largest SWFs.

Figure 1

SWFs' foreign direct investments in real estate by sub-sector.



Source: SWLab based on author's elaboration from SWC (2017).

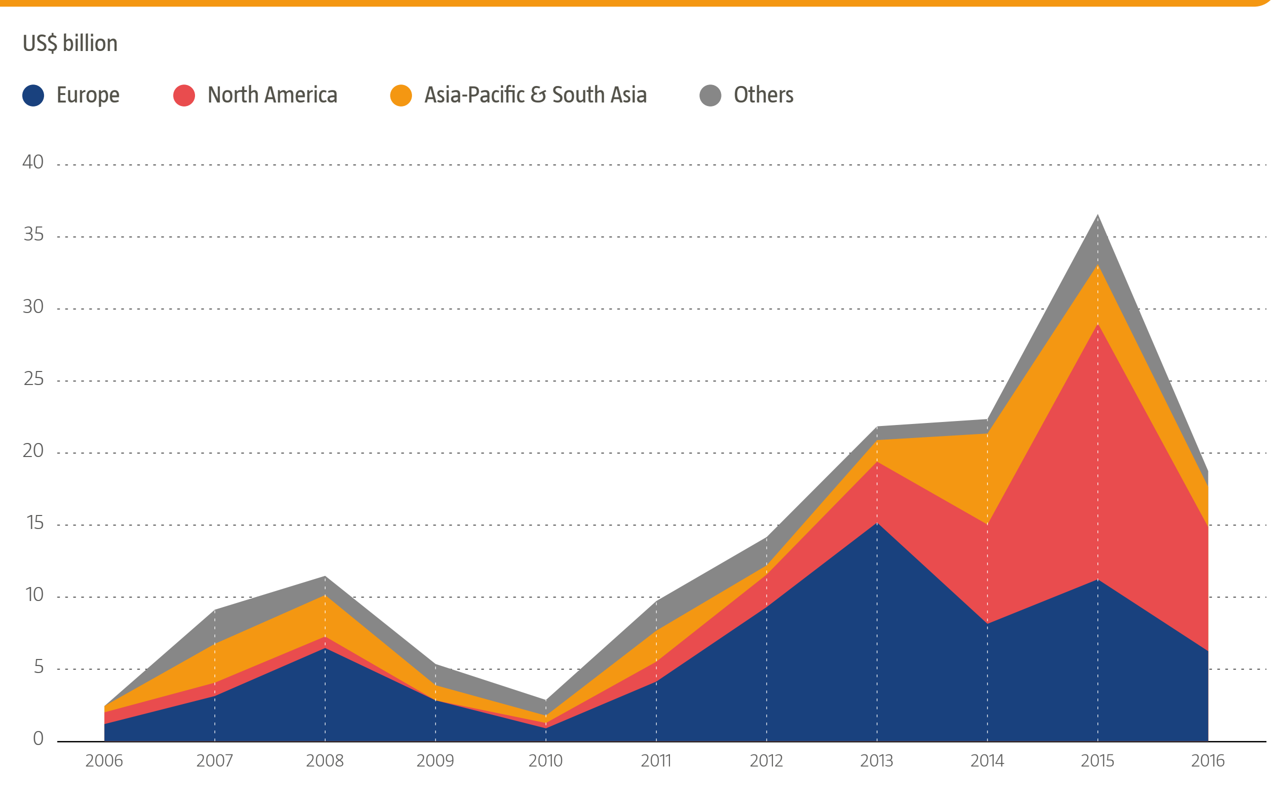
Gruelling as the oil-price shock may have been, most of the oldest, largest, and most diversified SWFs — buoyed by ongoing profits from their investment portfolios — continued to pursue illiquid investments, especially real estate. In 2015, the largest SWFs in the world spent a record-setting $36.6 billion on 82 real estate investments. By 2016, however, SWF activity in foreign real estate markets had slipped back in line with the recent average levels of spending observed since the influx of new capital began in 2011, as SWFs deployed $19.1 billion in 2016 across 56 real estate deals.

Geographically, foreign direct investments in real estate declined across the board from 2015 to 2016 (Figure 2). Europe suffered a 45.8% reduction in real estate spending year over

4. Trading Skyscrapers for Warehouses: SWFs Embrace Spectrum of Real Estate Assets in Search for Yield

Figure 2

SWFs' foreign direct investments in real estate by target region



Source: SWLab based on author's elaboration from SWC (2017).

year, but most of that decline was attributable to investors' sudden loss of appetite for British commercial real estate assets. Excluding the U.K. — which attracted less than $1 billion in real estate FDI in 2016, the lowest level observed since 2010 — the rest of Europe garnered $5.3 billion in real estate FDI last year, up 8% from $4.9 billion in 2015. Whether the U.K.'s deal-flow decline is attributable to the country's stunning "Brexit" vote in June 2016 to leave the European Union is hard to ascertain, but SWFs seem to be viewing British real estate valuations with a new sense of caution.

Niche Subsectors Gain Ground

In light of longer-term portfolio trends, total spending in 2016 looks like a temporary pullback sparked by the confluence of soaring valuations for prime real estate assets and rising macroeconomic stresses, rather than a retreat from illiquid assets. Despite last year's overall decline in real estate spending, however, SWFs have continued to pursue their new, distinctive patterns of investment, reshaping their portfolio exposures and sparking headlines.

The most active investor in the asset class in 2016 was Singapore's GIC, which — in addition to its stunning December deal for P3 — also flexed its might across a range of cutting-edge assets, notably student housing. GIC spent a remarkable $7.3 billion on 17 direct real estate investments in 2016, far beyond the $2.7 billion spent on 9 deals by the second most-active fund, the Qatar Investment Authority (QIA), which is usually at the top of the leaderboard. China Investment Corp. (CIC) and Norway's GPFG came in neck-and-neck for third and fourth place, spending $2.2 billion

and $2.1 billion respectively. Rounding out the top five was the Abu Dhabi Investment Authority (ADIA), which spent $1.6 billion on 7 deals.

GIC's dynamism last year is difficult to overstate. Unlike its Middle Eastern peers, many of whom had to divide their attention between foreign opportunities and domestic fiscal concerns, GIC experienced no such pressures. Founded in 1981 and now managing 80% of its estimated $350 billion portfolio of investments in-house by an expert team of investment professionals, GIC has emerged over the past decade as one of the most independent, sophisticated sovereign investors in both real estate and infrastructure. In addition to logistics properties, GIC has clearly staked a claim to the investment potential of residential properties, specifically the construction, development and management of student housing stock.

Sovereign funds are keenly interested in residential real estate, and they've grown wise to the value inherent in student housing located around major universities. Between 2011 and 2015, SWFs invested an average of 4% of total real estate FDI in residential projects (excluding mixed-use prime real estate developments); in 2016, however, that percentage skyrocketed to 15.21%, driven almost entirely by student housing deals — with GIC leading the way. In January 2016, for example, GIC and the Canadian Pension Plan Investment Board (CPPIB) formed a joint venture with Chicago-based real estate firm Scion Group to buy a portfolio of student residences across the U.S. for $1.4 billion.

GIC wasn't finished, and soon turned its attention to the U.K. In late September 2016, GIC and Dubai-based student housing developer GSA paid £700 million ($907.7 million) to Los Angeles-based alternative investment firm Oaktree Capital for a British portfolio of student-accommodation halls with capacity for 7,150 beds in properties across six cities: Bristol, Cardiff, Edinburgh, Liverpool, London and Southampton. The deal also included construction of new student residences in Plymouth, Portsmouth, Birmingham, Bournemouth and Cambridge, which GSA plans to complete over the next 24 months.

Barely a week after the news broke of GIC's partnership with GSA, the pair of investors announced an extension of their venture by taking joint ownership of a portfolio of German student accommodation halls with 1,000 beds. As Europe's largest student market, Germany presents a significant opportunity for GSA's planned European expansion — and the company seeded the joint venture with the properties it had acquired in June 2016 across markets in Frankfurt, Darmstadt, Munster and Dresden. GIC and GSA now plan to develop properties to build capacity for an additional 1,500 beds in other key university cities, including Berlin, Cologne, Frankfurt, Hamburg and Munich, with the ultimate goal of accommodating and housing 10,000 students in Germany.

The trio of deals represent GIC's willingness to invest handsomely in what may well turn out to be a decades-long trend: rising international demand for higher education. As growing wealth in emerging markets boosts the ranks of the middle classes, higher education is fast becoming a sought-after marker of privilege and professionalism — and leading universities in the U.S., U.K., Europe and beyond are eagerly trading on their global reputations to attract fee-paying students, particularly graduate students, from overseas.

GIC and several other sovereign and government funds, including ADIA and Singaporean state investor Temasek Holdings, are clearly focused on the subsector's positive demographics and potential for future growth. Among notable deals in the real estate subsector last year, ADIA — via its subsidiary, Henley Holding Co. — teamed up with U.S. student housing developer Landmark Properties to invest an undisclosed sum in the construction of four new projects serving major campuses, including Pennsylvania State University, the University of Florida, and the University of California, Berkeley.

Not to be outdone, Temasek's wholly owned real estate division, Mapletree Investments, acquired its first U.S. student housing portfolio of seven assets from Los Angeles-based developer Kayne Anderson Real Estate Advisors in November 2016 for an undisclosed price — and in June 2017, Mapletree added to its holdings by striking a second deal with Kayne for U.S. student residences worth a combined total of $1.6 billion. Mapletree's portfolio now boasts 43 assets with more than 18,000 beds located across 29 cities in the U.S., Canada and the U.K., many of which have been bundled together and opened up to outside investors through a real estate investment trust called Mapletree Global Student Accommodation Private Trust. GIC and CPPIB, for their part, acquired three additional U.S. student-housing portfolios for a hefty $1.6 billion in 2017 through their joint venture with Scion Group, which has a presence in 180 campus markets across the U.S.

4. Trading Skyscrapers for Warehouses: SWFs Embrace Spectrum of Real Estate Assets in Search for Yield

Major Themes Extend into 2017

All of the catalysts that sparked SWFs' recent activities in real estate and infrastructure remain in effect in 2017 — namely, historically low interest rates in developed markets, negligible yields on fixed-income instruments, and solid risk-adjusted returns for brick-and-mortar assets. For those reasons, SWFs have continued to commit cash to real estate and infrastructure based on the potential of these investments to deliver bond-like returns over time. Unlike 2016, however, the first half of 2017 has seen a dramatic rebound in private sector activity, with real estate investments alone accounting for 30.3% and 57.4% of total FDI in the first and second quarters. Deal flow has bounced back in absolute terms, as well, as SWFs deployed $18.5 billion in the first half of 2017 across 23 real estate deals.

The biggest contributor to that total — in fact the largest real estate deal ever struck by a SWF in terms of transaction value — was CIC's acquisition of pan-European logistics company Logicor for €12.25 billion ($13.82 billion) in June 2017 from New York-based alternatives firm the Blackstone Group. Much like P3, Logicor owns and operates a portfolio of logistics assets totaling 13.6 million square meters of warehouses in 17 countries in Europe, with more than 70% of its assets concentrated in the U.K., Germany, France, Spain and Italy. CIC faced fierce competition from several rivals, including a joint venture formed by Temasek and its subsidiary, Mapletree, as well as Asia's largest warehousing group, Global Logistics Properties (whose biggest shareholder is GIC, although publicly traded GLP is now on the verge of being privatized by a consortium of Chinese investors).

Looking ahead, industrial, logistics and retail investments appear likely to continue to command fresh billions from SWFs as a revolution in online retailing, led by Amazon (in the U.S.) and the Alibaba Group (in Asia), drives fundamental changes in consumer behavior. Over the past five years, SWFs have increasingly sought to amass widespread portfolios of industrial properties across multiple geographies, particularly in Asia, Europe and North America. Between 2011–2015, SWFs spent an average of 21.5% of total real estate FDI on logistics and industrial properties; in 2016, the subsector accounted for 26.5%. Those percentages pale in comparison to the first six months of 2017, however, which have seen logistics seize 75.8% of all real estate FDI thanks to CIC's colossal Logicor deal.

Portfolio diversification extends far beyond sheds and student dormitories, however — over the past five years, SWFs have also begun dedicating increasing amounts of FDI to development and construction projects. Absolute amounts for these investments are somewhat difficult to break out from real estate subsectors, however, because SWFs are partnering with specialist firms that have the capability to develop new properties in addition to managing the operation of existing assets. Construction and development prospects were clearly part of GIC's investment metrics when bidding for P3, for example: Prior to the acquisition, the company had already lined up financing to construct new facilities across European sites totaling more than a million square acres.

New project development and construction tends to emerge most frequently as a complement to existing partnerships between SWFs and their preferred external managers or developers. Although SWFs' direct investments in prime real estate assets have tapered off since their all-time high of $10.18 billion in 2013 — when they accounted for 45.5% of total real estate FDI — many of the largest SWFs are still actively engaged in the sector. In February 2016, for example, ADIA bought a property in the La Défense district of central Paris for €55 million ($60.5 million) from a fund managed by Swiss financial services giant UBS Group. Barely two months later, ADIA took its first step toward implementing plans to demolish the existing property and construct a new 38-story office tower by awarding a contract worth €200 million to French real estate developer Bouygues Construction, which expects to complete the project in 2020.

Some of the largest construction and development projects, however, are taking place in SWFs' home countries as they prioritize economic development goals. In August 2017, Saudi Arabia's Public Investment Fund (PIF) — which emerged last year a key vehicle for the kingdom's ambitious economic diversification agenda, known as "Vision 2030"— announced plans to transform a 125-mile stretch of coastline along the Red Sea into a visa-free luxury tourist destination for international travelers. Under the direction of Saudi Crown Prince Mohammed bin Salman bin Abdulaziz al-Saud (who also serves as the PIF's chairman), the newly repurposed SWF intends to provide "initial funding" to develop resorts on 50 islands between the cities of Umluj and al-Wajh.

PIF, which manages an investment portfolio worth an estimated $230 billion, has not disclosed any projections about how much the endeavor will cost. But the SWF intends to

seek partnerships with foreign investors and global hospitality firms as it strives to bolster the tourism industry in deeply conservative and historically isolationist Saudi Arabia, as part of the Crown Prince's plan to diversify the kingdom's economy away from its reliance on oil production. In October, news broke that the project had attracted its first international investor: British billionaire Richard Branson, founder of the Virgin Group.

Infrastructure Remains Strong

On balance, infrastructure investments by SWFs also remain strong, driven by many of the same market catalysts that have been powering SWFs' efforts to diversify their real estate holdings. In 2016, SWFs, according to SWC, invested $9 billion in 28 foreign infrastructure assets, down from a record high of $10 billion across 22 deals in 2015. Infrastructure's share of total FDI dollars spent, however, rose sharply from 12% in 2015 to 20% in 2016 (Figure 3).

A frustrating gap exists between the world's infrastructure needs and available financing, however, because restrictions on foreign ownership — and the potential for political resistance in destination markets — have capped the supply of investable projects well below the actual demand coming from SWFs. As a consequence, government investors of all stripes, including sovereign funds and pension funds, are now regularly pitted against each other in their efforts to fill almost-unreachable target allocations.

Fierce competition for prize assets, coupled with skyrocketing prices, has nudged some SWFs toward emerging and frontier markets — which can be notoriously difficult to access. Infrastructure investment in emerging markets has risen significantly since 2012 — soaring from a mere 3% of all direct investment in infrastructure that year to nearly 30% of infrastructure FDI in 2016. Even though the absolute amounts being deployed by a core group of SWFs are relatively small, the broader level of interest across institutional allocators is high and rising.

Last year, Latin America attracted $1.5 billion in infrastructure FDI from the core group of SWFs; while Asia came in a distant second place, at about $300 million. MENA and sub-Saharan Africa drew minor amounts of direct-investment capital for infrastructure projects, largely because so many projects are greenfield developments that require partnerships with local governments, development banks, and others.

The shift suggests SWFs are growing bolder after years of seeing few openings in the U.S., which may qualify as the world's biggest untapped infrastructure market. Local government officials still prefer financing infrastructure projects by leveraging municipal bond markets. In 2016, SWC recorded just one direct infrastructure investment on U.S. soil: GIC's announcement that it would participate in the $11.3 billion takeover of Michigan-based power grid ITC Holdings Corp. by Canadian utility company Fortis. When the deal closed in the fall of 2016, GIC received roughly 20% of ITC for $1.2 billion.

Despite the obstacles, SWFs remain optimistic that new avenues will open up if U.S. President Donald Trump eventually gets his way on a proposal for a sweeping overhaul of the country's infrastructure financing. During Trump's state visit to Saudi Arabia in May 2017, Saudi Arabia's PIF announced it would allocate $20 billion to Blackstone to launch a massive U.S. infrastructure fund. In December 2016, QIA told U.S. officials it planned to deploy $10 billion in U.S. infrastructure projects — although that number is now looking somewhat optimistic as Qatar's SWF turns its attention to economic pressures brought about by the recent diplomatic row with its neighbors in the Gulf region. And in January 2017, CIC also said that it was keen to participate in Trump's infrastructure overhaul. It's worth noting that CIC and QIA, together with ADIA, GIC and the Kuwait Investment Authority (KIA), accounted for 98% of all SWF infrastructure dollars spent from 2014 through 2016.

European infrastructure markets, which have historically been more open to outside investors than in North America, have seen more activity over the past year. In February 2016, a consortium of investors, including KIA and Alberta Investment Management Corp. (AIMCo.), which invests government funds on behalf of the eponymous Canadian province, bought London City Airport for £2 billion ($2.9 billion). The group also included London-based asset manager Hermes and two Canadian pension funds, Ontario Teachers' Pension Plan and Ontario Municipal Employees Retirement System.

The deal underscores how rising prices are pushing even the biggest SWFs and government investors to pool their resources to fill infrastructure allocations. The U.K., which has seen subdued FDI activity by SWFs across all asset classes except infrastructure in the first six months of 2017, notched up a major new deal when CIC and QIA invested about $1 billion apiece as part of an investor consortium buying a 61% stake in the British gas distribution business of London-based

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Figure 3

SWFs' foreign direct investments in infrastructure by target region

US$ billion

Europe · North America · Asia-Pacific & South Asia · Oceania · Others

Source: SWLab based on author's elaboration from SWC (2017).

electricity and gas distributor National Grid for a total consideration of £5.4 billion ($6.85 billion). The deal, announced in December 2016, closed in April 2017.

Asia-Pacific also remains extremely popular as an infrastructure investment destination. In mid-May 2017, a fierce bidding war erupted for Endeavour Energy, one of Australia's largest power-grid utilities, that pitted two sovereign-heavy consortiums against each other. The seller, the state government of New South Wales, has had enormous success in attracting major SWFs to its energy-asset auctions, which are being conducted as part of a "recycling" program to raise capital for future infrastructure projects by selling off stakes in existing companies.

QIA ultimately emerged victorious with a 10.1% stake in Endeavour in a deal that valued the company at A$15.1 billion ($12.1 billion). The state government auctioned off a 50.4% stake in the power distributor for A$7.6 billion ($5.6 billion) to a consortium led by Aussie asset manager Macquarie Group that also included Canadian pension fund British Columbia Investment Management Corp. The group's sharpest rival was a sovereign-heavy consortium led by Hastings Fund Management, which included Caisse de dépot et placement du Québec, Spark Infrastructure, and two Middle Eastern sovereign wealth funds, ADIA and KIA. The same group previously bought a controlling stake in Australia's Transgrid in November 2015 for $7.7 billion U.S. dollars.

Australia, with an active government-led privatization program dedicated to "recycling" infrastructure assets, has really magnetized sovereign wealth fund investment capital. In 2016, Australia drew $3.6 billion in foreign direct investment from SWFs alone, which represented 40% of all total infrastructure FDI conducted by SWFs that year, according to SWC data. Yet from a political standpoint, inviting foreign

governments to invest in domestic infrastructure can be extremely contentious. After public outcry, New South Wales in December 2016 advised potential bidders for Endeavour that no single investor could hold more than half of the 50% stake being sold, and that a domestic investor would have to hold 20% of the asset — a near-total capitulation to headline risk.

SWFs Embrace Spectrum of Real Assets

Unless and until infrastructure investing becomes easier — and shifts the balance between asset classes — SWFs are still going to need to invest heavily in real estate to gain exposure to the long-term returns and diversifying benefits available to holders of real assets. The avenues by which they access market opportunities, however, are changing: As competition for infrastructure increases, SWFs are moving away from private-equity style pooled funds and putting more money to work in foreign direct investments — much as they do now, for real estate. At the same time, investors in real estate are also being forced to embrace a wider range of assets to gain the risk-and-return exposures they want.

Today, volatility is low, global growth remains steady, and public markets are on a tear, but the largest SWFs are urging caution — and not simply because geopolitical risks are running high. With the global financial crisis still a recent memory, SWFs are all too familiar with the limitations of traditional risk analysis and quantitative models. They're also aware that central banks' loose monetary policy of the past decade, which has served to dampen volatility in financial markets, has ratcheted up valuations and cross-asset correlations. Rising prices may be a boon to performance, but they're not helpful for deploying capital. SWFs are keen to ensure, as best they can, that they will be compensated for any additional risks that they take on — especially as central banks in developed markets start to raise interest rates.

With those concerns in mind, SWFs are likely to continue to rebalance their real estate and infrastructure portfolios, taking advantage of sky-high valuations for prime assets by selectively selling holdings, as ADIA, CIC and QIA demonstrated in August 2017. In Paris, for example, two wholly-owned ADIA subsidiaries, Tamweelview European Holdings and Tamweelview Listed Securities Holdings, sold a 23,000-square-foot building to Norway's GPFG for €462.2 million ($545.8 million). Across the English Channel, a group of institutional investors, including CIC and QIA, sold their interest in London's landmark office tower at 20 Fenchurch Street, known as a the "Walkie-Talkie" building to Hong Kong's Lee Kum Kee Group for £1.3 billion ($1.7 billion) — the highest price ever paid for a single commercial building in the British capital.

Tracking those changes may prove painstaking, but — based on the level of deal-making activity in the first half of 2017 — SWFs will continue to diversify away from traditional markets and seek more nuanced, long-term investments in niche subsectors of the real estate market. Political uncertainty and opposition in developed markets may cool their interest, but, in all likelihood, SWFs will continue to rebalance their portfolios as they embrace secular trends and seek to participate more closely in the lifecycles of real estate developments and infrastructure projects.

Sovereign Wealth Funds: Sustainable and active investors? The case of Norway

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5. Sovereign Wealth Funds: Sustainable and active investors? The case of Norway[1]

INTRODUCTION

There is a growing interest on the role played by large institutional investors to support sustainable finance and to act as responsible owners. This trend is also affecting sovereign wealth funds (SWFs) who, as long-term investors, are adapting themselves to investment strategies and risk management tools aligned with both responsible ownership and sustainable economic growth.

Indeed, two big global events in 2015, which fostered the awareness on sustainable development goals and climate change, have helped to align the incentives of large institutional investors around responsible investments.

First, in September 2015, after three years of negotiations, the 193 country members of the United Nations agreed on the "2030 Agenda for Sustainable Development" which included 17 Sustainable Development Goals (SDGs), continuing and enlarging the impact of the Millennium Development Goals (MDGs) which expired in December 2015. The main thread is the commitment to eradicate poverty.

SDGs display a strong focus on specific sustainable development actions, in comparison to the often criticized excessively ample MDGs. In particular, goals such as climate action, affordable and clean energy, clean water and sanitation, responsible consumption and production, strong institutions, or innovation and infrastructure, point to a new array of goals that should be achieved to obtain durable and sustained development. For this, the UN acknowledges the critical role of partnerships. Indeed, the last of the goals refers explicitly to "partnerships for the goals" and includes all kinds of measures including "financial support and debt relief, the transfer of technologies and scientific know-how to developing nations on favorable terms, and the establishment of an open, non-discriminatory and equitable trading system to help developing nations increase their exports." But most importantly, the message was sent out to reach all partners, including large institutional private and public investors, including SWFs, in order to fill the immense investment and financing gap required to fulfill the SDGs within the next 15 years.

Second, in December 2015, only 3 months after the release of the SDGs, the 2015 United Nations Climate Change Conference was held in Paris. It was the 21st session of the Conference of the Parties (COP 21) to the 1992 United Nations Framework Convention on Climate Change (UNFCCC). The conference negotiated the Paris Agreement, a global agreement on the reduction of climate change, the text of which represented a consensus of the representatives of the 196 parties attending it. On April 2016, 174 countries signed the agreement in New York, and began adopting it within their own legal systems (through ratification, acceptance, approval, or accession).

These two global calls have resonated among sovereign wealth funds. Actually, in November 2016 during the annual meeting of the International Forum of SWFs (IFSWF), this group of SWFs (representing almost 70% of the assets in the industry, north to US$5 trillion) decided to explore the investment implications of the global commitment to curb greenhouse gas emissions and to identify the most relevant and pressing challenges and opportunities with a view to establishing a long-term program on this subject.

More recently, in December 2017, a group of six SWFs established the "One Planet Sovereign Wealth Fund Working Group", in order to accelerate efforts to integrate financial risks and opportunities related to climate change in the management of large, long-term asset pools through the commitments to develop an environmental, social and governance framework (ESG Framework) to address climate change issues, including methods and indicators that can inform investors' priorities as shareholders and participants in financial markets; and to publish the ESG Framework, methods and indicators in 2018[2].

Founding signatories of the One Planet SWF working group included the Abu Dhabi Investment Authority, Kuwait Investment Authority, the New Zealand Superannuation Fund, Norges Bank Investment Management, the Public Investment Fund of the Kingdom of Saudi Arabia, and the Qatar Investment Authority. These six funds total US$2.9 trillion of assets under management, and represent almost 40% of all the industry assets. More SWFs will be joining in the coming months. China and Singapore are the only missing two big poles of SWFs not represented (yet) in this influential group of sovereign investors.

1. The case of Norway and the Volkswagen emissions scandal was prepared by Marta Santiváñez during her research stay at the Sovereign Wealth Lab at IE Business School. I want to thank her for the excellent research and research assistance.

2. More details available at the press release note here: https://www.nzsuperfund.co.nz/news-media/joint-communiqu%C3%A9-one-planet-sovereign-wealth-fund-working-group

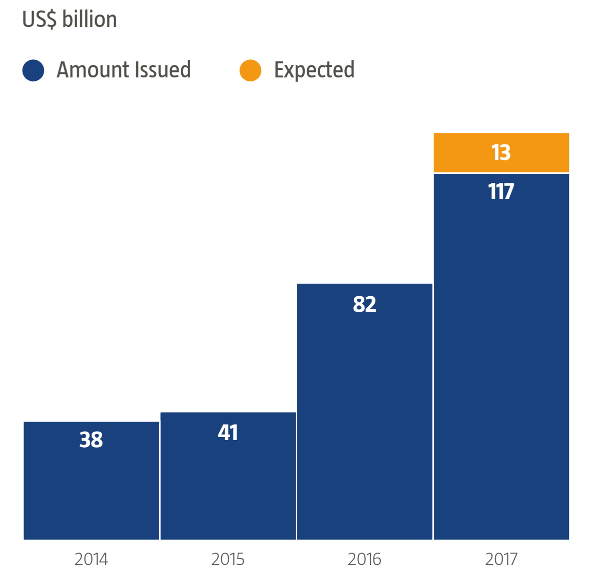
Beyond environmental issues, and conscious of the importance of well governed organizations to sustain portfolio long-term value, SWFs continue their effort to establish the best possible governance, accountability, and operational methods. SDGs include related issues such as responsible production, innovation and infrastructure or strong institutions.

The role of SWFs to finance and invest on climate-related projects and to enhance global governance standards is essential. Indeed, governance provisions enhancing board accountability, better board monitoring capabilities or transparency towards stakeholders, should facilitate avoiding environmental damages, such the paradigmatic case of gas emissions of Volkswagen, which is explored in-depth in this chapter.

The rest of this chapter will explore first the concept of the green economy with a focus on green bonds, and how new regulation may help to enhance the inclusion of sustainable and responsible investment criteria among large institutional investors. The second section describes the main examples of SWFs incorporating green criteria to investment decisions. The third section explains the role of responsible ownership and the strategy developed by the Norges Bank Investment Management (NBIM), the manager of the worlds' largest SWF, the US$1 trillion Government Pension Fund Global of Norway.

Figure 1

Green-labelled bonds issuance per year



Source: Sovereign Wealth Lab based on CBI (2017).

1. THE GREEN ECONOMY

Several studies have tried to capture the size of the green economy. One of the key dimensions refers to green bonds, the most used instrument to finance projects compatible with environmental preservation, which are expected to reach US$1 trillion in 2021. Yet, there is a long way to go.

The size of the green bonds market pales in comparison to the global bond issuance volumes. In 2016, governments, corporations and financial institutions issued US$9.2 trillion in debt bonds worldwide. This trend may reverse in the near future, but so far borrowers keep raising funds to record paces ahead of central banks deciding to tighten conditions and governments removing economic incentives. In comparison, in 2016, green-labelled bonds issuance was worth US$82 billion. That is, at the end of 2016, green bonds issuance volume represented a mere 0.9% of the global bond market size[3].

Yet green bond markets are growing strongly. In 2015, total green-labelled bonds reached US$41 billion; in 2016, it was US$82 billion, doubling year on year. By September 2017, the figure stood at US$56 billion. The optimistic forecast is that the global green bonds market will reach US$130 billion on new issuance by the end of 2017[4]. It would imply a growth rate of 85% in comparison to 2016, and shows the strong support these initiatives are receiving by institutional investors, policymakers, and corporations.

3. Figures used in this study follow the strict definition of green labelled bonds established by the Climate Bonds Initiative, which exclude multiple green bonds issued in China (the world's largest market) under People's Bank of China guidelines. That is, it excludes PBOC's green bonds used to upgrade coal-fired power stations including clean coal, to finance hydropower electricity generation greater than 50 MW, or bonds with more than 10% of proceeds allocated to 'general corporate purposes' rather than disclosed green assets. More details at: https://www.climatebonds.net/market/explaining-green-bonds/china-definitions

4. For details of global green bond issuance check the non-for-profit data aggregator www.climatebonds.net

Table 1

How green is your project? The Shades of Green methodology

Shades of Green	Definition	Examples
Dark Green	Projects and solutions that correspond to the long-termvision of a low carbon and climate resilient future Medium Green.	Wind energy projects with a governance structure that integrates environmental concerns.
Medium Green	Projects and solutions that represent steps towards the long-term vision, but are not quite there yet.	Plug-in hybrid buses.
Light Green	Projects and solutions that are environmentally friendly but do not by themselves represent or contribute to the long-term vision.	Efficiency in fossil fuel infrastructure that decrease cumulative emissions.
Brown	Projects that are in opposition to the long-term vision of a low carbon and climate resilient future.	New infrastructure for coal.

Source: Sovereign Wealth Lab based on CICERO (2015).

One critical aspect of the young low carbon economy is the clarity and the definition of risks and appropriate methods. In the case of green bonds, there is still uncertainty among investors about how "green" will be the usage of the proceeds obtained by the issuers. In this regards, the Center for International Climate Research (CICERO) has developed a methodology named "Shades of Green" to evaluate how well a green bond aligns with a low-carbon climate resilient future (Table 1).

Regulatory push

There are other ways to support the climate-related SDGs. One of the most pressing strategies include regulatory measures such as those introduced in France, the United Kingdom and China.

In France, new regulation passed in 2015 with the law "energy transition for green growth" have reinforced the reporting requirements linked to greenhouse gas (GHG) emissions. The first dimension, directed to listed and large privately-held companies, requires that the boards report on the indirect emission occurring along the supply chain, which is normally not reported despite of the fact it represents three quarters of overall GHG emissions on average. The second aspect of the law is that it targets institutional investors and makes France the first country to introduce mandatory carbon reporting by investors[5]. All institutional investors, with assets above €500 million will be required to report climate change risks, capital expenditure for the development of fossil fuels, carbon footprint, etc. This is a critical aspect as it may help to mobilize the US$100 trillion in hands of institutional investors to greener investments such as green bonds or renewable energy.

5. More details about the passage of the law at https://www.ipe.com/countries/france/france-aims-high-with-first-ever-investor-climate-reporting-law/10011722.fullarticle

The United Kingdom, on its part, have fostered the creation of several new organizations which would help to understand the needs of green financing and to bring some clarity to the often obscure and confusing definitions of sustainability. On behalf of the United Kingdom, the Bank of England (BoE) co-founded and co-chairs the G20 Green Finance Study Group (GFSG) with the People's Bank of China (PBC), and the United Nations Environment Programme (UN Environment). The goal of this high-level group is to "identify institutional and market barriers to green finance, and based on country experiences, develop options on how to enhance the ability of the financial system to mobilize private capital for green investment"[6]. Also, the BoE's Governor chairs the newly-established Task Force on Climate-related Financial Disclosures (TCFD), which aims to bring transparency on climate risk, as it will develop voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers, and other stakeholders.[7]

China recently launched an initiative jointly promoted by the PBC and the UN Environment to establish China's green financial system. The reasons are clear for China with levels of pollution in many areas that can no longer be ignored. Air quality, for instance, is satisfactory in only 8 out of 74 major cities, and just 25 percent of drinking water reaches national quality standards. The extent and severity of China's environmental pollution is closely related to China's industrial, energy and transportation structure, with heavy industries accounting for almost 30 percent of the national GDP and 67 percent of energy based on coal sources. China urgently needs to initiate its transition toward a green and sustainable growth model. It is estimated that achieving national environmental goals will require an annual investment of at least US$320 billion into environmental protection, energy efficiency, clean energy, and clean transportation"[8]. China seems to mark again a big part of the agenda of the SDGs; as it happened with the MDGs, which became a success due to the millions of people who get out of poverty in the Asian country. To attain important goals in GHG emissions will be linked to the success of Chinese policies to reduce those emissions and would imply a transition to a low carbon economy.

2. SOVEREIGN WEALTH FUNDS AND THE GREEN ECONOMY

Beyond regulation, institutional investors, and SWFs in particular, may have a strong impact on the green economy by setting up sustainable friendly risk management tools and incorporating climate-related criteria to their strategic asset allocation. For instance, SWFs may choose to invest more on equity or bonds issued by green-aligned companies, those who derive the majority of their revenue from climate-aligned assets. The inclusion of climate criteria in the selection of external managers or in the in-house asset allocation strategy is growing among SWFs, as shows the establishment of the Climate Action SWF Working Group and the efforts of the IFSWF in promoting a long-term investment vision which includes climate-related risks and opportunities. For this, the transparency requirements of the Green Transition Law passed in France or the standardization of financial climate-related risk reporting impulse by the TCFD, will be crucial.

SWFs, as part of the institutional investment industry hold specific features to become relevant players in the sustainable economic future. First, SWFs are long-term investors whose goals and time-frame align well with the SDGs. Second, more SWFs are investing in private markets including infrastructure, a crucial sector for achieving SDGs given the large investment gaps in transportation, energy, utilities. Third, SWFs by definition are connected to national governments, and to develop joint efforts with national-wide strategies would amplify the impact on SDGs both domestic and regionally. SWFs, in sum, are well positioned to help on filling the investment gap needed to achieve the SDGs in the coming years.

There are different channels that SWFs may use to generate such a positive impact. The main channels can be grouped on decarbonization strategies (divestments of highly carbon exposed companies), and investments in green assets (commitments to green infrastructure or agriculture funds, support to renewable energy companies, investments in clean tech solutions).

6. More information is available in the G20 Green Finance Synthesis Report at http://unepinquiry.org/wp-content/uploads/2017/07/2017_GFSG_Synthesis_Report_EN.pdf

7. All details about the mission, members and milestones of the TCFD can be traced here: https://www.fsb-tcfd.org/about/

8. See more details at https://www.cbd.int/financial/privatesector/china-Green%20Task%20Force%20Report.pdf

5. Sovereign Wealth Funds: Sustainable and active investors? The case of Norway

Decarbonization strategies

SWFs control 8% of all listed equities worldwide, according to IE–SWLab estimates. This significant position implies SWFs may exert an important influence and generate imitative processes among other large institutional investors.

Few SWFs have established strategies for reducing the exposure to fossil fuel reserves and carbon emissions. According to the UN Portfolio Decarbonization Coalition (PDC), portfolio decarbonization refers to systematic efforts by investors to align their investment portfolios with the goals of a low-carbon economy. Among SWFs, only France's CDC have joined PDC. Yet, by the size of the divestments made, and the relevance in the SWF industry, it can be said that both New Zealand Superannuation Fund (whose former CEO has been the Chairman of the IFSWF) and NBIM (managing the world's largest SWF) are leading this movement among SWFs.

NZSF, one of the most profitable SWFs, returning 10.5% per annum since inception in 2003, has designed a new global equity benchmark which excludes companies with high carbon impact. This low-carbon benchmark provides the same returns than the general global benchmark. It implies that it is not necessarily true that ethical criteria reduce returns.

The fact that several institutional investors, including sovereign and pension funds, are missing returns after divesting from tobacco producers, have raised the questions on how to be ethical and profitable at the same time. The answer of NZSF is the design of alternative low carbon portfolios with the same expected returns of the global portfolio. The big advantage of such strategy is that in a ceteris paribus situation when green risks are not manifested, NSZF would not miss returns. On the other hand, if latent green related risks (environmental damage, stranded assets, regulatory risks, and the reputational dimension) ever emerge, NZSF is well hedged against these risks.

New Zealand, after years of analysis, has initiated a strong strategy on climate change. NZSF has analyzed where carbon emissions and carbon reserves were concentrated; how best to reduce exposure and carbon risk; and where to focus its efforts in seeking additional low carbon and climate-resilient investments that meet their risk-adjusted return requirements[9]. In 2017, it published the first results of the new strategy. It has reduced its exposure to carbon emissions more than 20% after it reviewed its entire passive portfolio (40% of total portfolio). NZSF plans to extend this low carbon strategy to its entire active and fixed income portfolio in the coming years. By 2020, the goal is to reduce the carbon emission intensity of the fund by at least 20%; and reduce the carbon reserves of the fund by at least 40%. NZSF completed the strategy and it announced in August 2017 that it had sold stakes in almost 300 companies, valued worth US$693 million.

Responsible investment is an integral part of the management of the sovereign wealth fund of Norway. NBIM, which manages the Fund, has a strong commitment to the responsible investment movement. Only in the third quarter of 2017, the NBIM has participated or collaborated with United Nations-backed Principles for Responsible Investment (PRI), to provide inputs on the proposed reforms introduced by the FSB Task Force on climate-related financial disclosures and "the PRI's objective of strengthening fundamental obligations and expectations for signatories' implementation of the principles". NBIM has also backed or assessed on initiatives to improve information on climate, water and reforestation. NBIM only has a small fraction (4.5%) of its capital managed externally. Yet, it includes 7 mandates for environment-related investments.

On its part, NBIM has also initiated a campaign to reduce the carbon footprint and reserves of its portfolio. Following a three-tranche divestments between 2016 and 2017, the GPFG from Norway has divested from 69 coal power or mining companies. Another 13 companies are still under observation because of the coal criterion. The estimated total value of the stakes divested from the excluded companies is US$2,100 million. It is the largest decarbonization strategy to date among SWFs.

The reduction in the carbon intensity or carbon exposure of the NBIM portfolio has been driven by these changes. NBIM publishes the carbon footprint of its equity portfolio since 2014. In 2015, the carbon footprint of NBIM's listed equities portfolio was 12% less than its reference portfolio. In 2016, the figure grew to 16%, implying an improvement of 4 percentage points year on year. The majority of the improvement was attained in the carbon emissions of utilities and basic materials sectors, were most of the companies excluded by the thermal coal criteria were classified.

9. More details in its website: https://ar2017.nzsuperfund.co.nz/climate-change

Moreover, in November 2017, NBIM announced its intention to divest oil and gas stakes, which amounted to 5.5% of its equity portfolio, that is US$39 billion. NBIM details how Norwegian petroleum wealth is exposed to a permanent oil price decline through sectors that co-move with oil prices. This responds to a real long-term view and is compatible with missing short-term returns out of these sectors. Indeed, "oil and gas companies delivered the best return in the third quarter at 8.7 percent, due to higher oil prices in the wake of increased demand for oil, a normalization of global oil stocks, OPEC's quota discipline, and lower production of shale oil in the US"[10]. This relates to one of the fears of institutional investors for investing in green assets and divesting carbon-based companies and high GHG emitters. Yet, for long-term SWFs with high dependence on oil and gas, the inclusion of climate-related risks such as long-term oil price decline, regulatory risks and stranded assets, remain critical and explain why is important for NBIM to divest to prevent the materialization of such risks.

Integrating ESG concerns in the investment decisions is one of the core missions of United Nations-backed Principles for Responsible Investment (UNPRI). Indeed, three funds are among the founding signatories of the UNPRI: Ireland Strategic Investment Fund, New Zealand Superannuation Fund and CDC (France) in April 2006. This group was rapidly joined by GPFG (Norway) in July 2006. Lately, Khazanah Nasional (Malaysia) and Ithmar Capital (Morocco) joined the group in 2016 and 2017, respectively. Given the important financial and institutional role that many SWFs have in their domestic economies, to be part of this initiative may generate imitative trends at home. Other institutional investors, governments and corporations may join UNPRI and other advocacy groups towards more responsible policies and actions.

Yet, policies towards greener portfolios are not restricted to SWFs which are members of the PRI: Other SWFs are also investing, even heavily, in green assets, and thus helping into the transition to low carbon economies. In fact, the role played by Senegal and Nigeria, in renewable energy and in infrastructure and agriculture can be relevant. By integrating ESG considerations in the design of focused funds, these initiatives may generate a trend within Africa's institutional investors to finance the huge investment gaps needed to achieve the sustainable development goals.

Still, the number of SWFs which are considering sustainability on their passive or active portfolios remains small. Along with New Zealand or Norway, South Korea decided to follow a similar strategy and has established a special mandate to invest US$300 million, which represents 0.3% of its portfolio, in low carbon companies. It is a starting point, but the comparison to the total equity portfolios of the SWF industry is quite impressive. The total equity portfolio of the industry is estimated at US$5 trillion. Thus, the impact of decarbonization strategies, including KIC in South Korea, is just residual. The estimated value of the divestments made by NBIM is US$2.1 billion, added to the CDC, KIC and NZSF, the total amount is US$2.9 billion. It implies that the decarbonization strategy followed by SWFs up to date is worth just 0.04% of the total assets of the SWF industry.

Apart from divesting from companies with high carbon impact, other SWFs are investing or remaining as shareholders in companies which are decided to reduce its carbon footprint (this is the case of both Norway and New Zealand).

In this way, SWFs exert both sustainable and responsible active ownership strategies. SWFs in conversations with utilities, energy or infrastructure companies, may catalyze the switching to a more intense green energy source mix. This can be done through communication with the boards, direct talks to the top executive management teams or by disclosing expectations on these particular aspects. And this is precisely one of the hot topics around climate change: the debate between divestments and engagement. The discussion is to decide which channel is more effective. On the one hand, to stay and exert active policies with boards, other shareholders and managers to establish green investment criteria. On the other hand, to sell the equity stakes and divest ("vote with the feet" in the corporate governance jargon) and thus signal high polluting companies. There is still no clear wisdom on how each channel may benefit climate change goals, and which of the two should be applied universally.

10. The Discussion Note on Petroleum Wealth and Oil Price Exposure of Equity Sectors here: https://www.nbim.no/contentassets/e9d384ea85c64381bbdd4c-9be6622e53/government-pension-fund-global---q3-2017-report.pdf and the Q3 2017 Report is available here: https://www.nbim.no/contentassets/e9d384ea85c-64381bbdd4c9be6622e53/government-pension-fund-global---q3-2017-report.pdf

5. Sovereign Wealth Funds: Sustainable and active investors? The case of Norway

Investments in green assets[11]

Sovereign funds are increasing their exposure towards privately-held companies and projects. Private markets accounted to almost one third of SWFs portfolios at the end of 2016. This implies a substantial change if compared to only a decade ago, when private markets represented just 12% of the total SWFs portfolios. The presence of SWFs in infrastructure, real estate, private equity funds and venture capital, is more prevalent.

According to Preqin, the data provider, the proportion of SWFs investing in private equity has grown from 47 to 61% in just two years. The share of SWFs investing in real estate and infrastructure has also grown to 63% from 59 and 60%, respectively. More funds have enlarged their investment teams, hired investment bankers from recognized plazas, and established new governance structures and departments to face the specific challenges of investing in complex asset classes such as infrastructure and real estate. This professionalization may facilitate the transition towards green assets, given in-house capabilities have been developed in the recent past in many SWFs.

The strong linkage between infrastructure projects, especially in energy and transportation sectors, and green emissions is undeniable. According to UNCTAD, the bulk of the effort to achieve the COP 21 goals is to change the energy matrix towards greener sources. The development of large-scale sustainable energy projects in emerging markets is critical. The role of domestic SWFs from these countries, in partnership with others is thus preeminent. The financing and investment needs are not covered by current investment flows. Today, investments into power sectors in developing countries total US$260 billion. The projected annual needs stand at US$630-950 billion, leaving an investment gap of US$370-690 billion per year. And this figure represents just one of the sectors in need of new capital; other critical sectors such as transportation, telecommunications, water and sanitation, or climate change mitigation, require similar amounts. In total, the UNCTAD estimated that the current investment gap in developing countries in key SDG sectors (including health and education) stands at US$2.4 trillion per year[12].

SWFs have invested heavily in infrastructure and natural resources. On average, these two broad asset-class groupings have represented a quarter of the transactions made every year by SWFs since 2010 up to 2014. In the last two years, the impact of the oil price crises has derailed SWFs from entering into commodity sectors, yet the role of real estate and infrastructure has grown. According to the data in the Chapter 4 on real estate and infrastructure, these sectors amounted to 60% of all foreign direct investments by SWFs in 2016.

Yet, SWFs have developed various initiatives to introduce sustainable investment criteria in their infrastructure and sustainable development portfolios. More interestingly, SWFs from countries with urgent and large investment needs are developing strategies and structuring their funds to comply with these needs and help to direct the domestic economies achieve the SDGs. This is the case of Senegal, Nigeria and Morocco.

Three examples of green infrastructure from African SWFs: Senegal, Nigeria and Morocco

Senegal has made large offshore oil and gas discoveries since 2014. It is estimated that Senegalese discoveries may reach 1 billion barrels of recoverable hydrocarbons, starting to pump in 2021. So far, before the first barrel of oil is extracted, the "Fonds souverain d'investissement stratégiques" (FONSIS) looks more like a development-SWF than a saving-SWF. Today, the main objective of FONSIS is to source and facilitate deals which are considered "strategic" by the government of Senegal through capital investments, partnerships and designing vehicles reducing funding risks. In three years, the Fund has closed 8 transactions worth over US$160 million by investing and attracting co-investments and debt, with a multiplier (leverage ratio) of 12 to 1. There is a strong commitment with renewable energy. Senegal's FONSIS partnered with French investors to build the largest solar farm of West Africa. Also, FONSIS is backing another 20MW project in north Senegal, where it has invested US$1 million and has attracted other US$46 million in equity and bank debt, showing the capacity of FONSIS to develop and

11. This section is largely based on the analysis of the SWFs green investments which can be found in Capapé, J. 2018. "Financing sustainable development: The role of sovereign wealth funds for green investment." UN Environment Working Paper. Geneva: UN Environment.

12. More details in UNCTAD. 2014. World Investment Report. Geneva: UNCTAD

structure strategic and bankable greenfield and brownfield projects to attract foreign capital in sustainable business areas. Senegal, on its part, joined the International Finance Corporation's Scaling Solar program in January 2016. Under this initiative, the IFC is organizing auctions for solar, as well as providing financing and guarantees for investors in order to reduce funding risks.[13]

Nigeria is supporting several initiatives with clear sustainable development impacts. The Nigeria Sovereign Investment Authority (NSIA) was established in 2011. NSIA has a triple mission: develop domestic infrastructure, stabilize government budgets and to save for future generations. Yet, only few investments have been made by infrastructure branch of the NSIA (capitalized with US$600 million). One of the first deals has focused sustainable agriculture in Nigeria. NSIA has backed the fundraising of FAFIN, a 10-year fund with a final close of US$66 million. The asset managers have elaborated its own ESG guidelines to provide a "robust framework", which they use to assess operations of potential target companies prior to investing. This particular foreign-government-backed fund only invests in those Nigerian companies that meet (or can meet) the manager's ESG guidelines. Also, NSIA partnered and formed a joint venture with Old Mutual to set up a US$200 million agriculture fund. Both parties provided seed capital (US$50 million each). The fund focus is on integrated commercial farming and agriculture food processing projects in Nigeria. Main investment objectives include food security and import substitution in addition to commercial returns.

The Moroccan SWF, renamed Ithmar Capital, announced in late 2016 that it has signed a Memorandum of Understanding with the World Bank to launch the Green Growth Infrastructure Facility for Africa (GGIF). It is the first green investment fund dedicated to the African continent. GGIF for Africa, structured as a private equity fund, will aim to attract private investors in search of responsible and green investments. The main goal of the GGIF is to direct the flow of private capital to responsible infrastructure investments. Ithmar is seeking to raise $1 billion-$2 billion from infrastructure specialists and other sovereign funds. GGIF will focus on clean energy and water projects. Recently, Ithmar Capital and the Ghana Infrastructure Investment Fund (GIIF) have signed a strategic partnership to explore co-investment opportunities in several African countries. This validates the growing interest among institutional investors for green investment opportunities. Also, Morocco signed several public-private and private-private partnerships with Senegalese institutions, FONSIS included. They have joined forces to develop solar large scale projects and share expertise on renewable energy. These multi-country co-investments on green assets are growing in West Africa and represent an opportunity to cover large infrastructure gaps, mainly energy shortages, that remain critical for economic sustainable development.

Global recent renewable energy investments by SWFs

Recent investment activity has risen on renewable energy investments. SWFs with expertise in infrastructure, such as GIC, ADIA or CIC, and more conservative investors such as Alaska Permanent Fund Corporation, have all invested in new renewable energy projects, paving the path for other SWFs and institutional investors to join them in supporting clean energy companies and projects. "The credibility of governments' clean-energy premiums and tariff agreements are critical regulatory risks in this sector." For the majority of SWFs, to invest into renewable energy is not only a way to support SDGs but to diversify their infrastructure portfolios too.

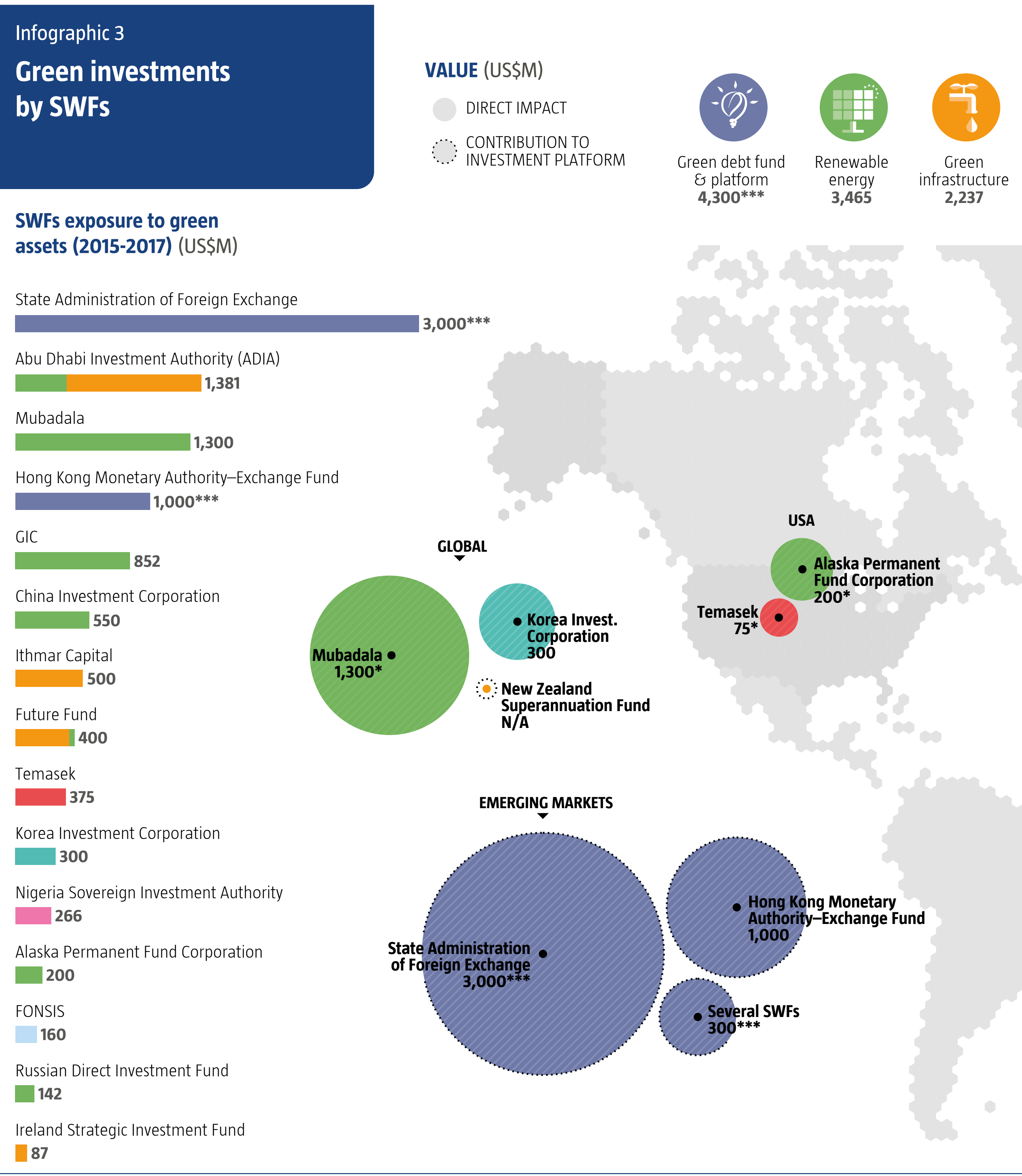
In October 2017, a group of private-equity investors led by New York-based Global Infrastructure Partners (GIP) and China's sovereign wealth fund announced the acquisition of a portfolio of Asian wind and solar energy projects from Singapore-based Equis for US$3.7 billion. When finalized, this would be the largest renewable energy generation acquisition in history. And CIC Capital, the private equity arm of China Investment Corporation, is participating on it. GIP, it is an old friend of SWFs which has already dealt with SWFs in developed markets infrastructure acquisitions. In 2016, GIP partnered with Australia's Future Fund in the acquisition of the 50-year lease of the Port of Melbourne. The same year, GIP sold the London City airport to a consortium of investors joined by the infrastructure arm of the Kuwait Investment Authority. GIP launched the largest-ever infrastructure fund (GIP III) in November 2017, it is said to count on several SWFs among its limited-partners.

Also, the Alaska Permanent Fund Corporation (APFC) participated in the last funding round of Generate Capital, a leading financer, owner, and operator of distributed energy and resource infrastructure. Generate Capital plans to use

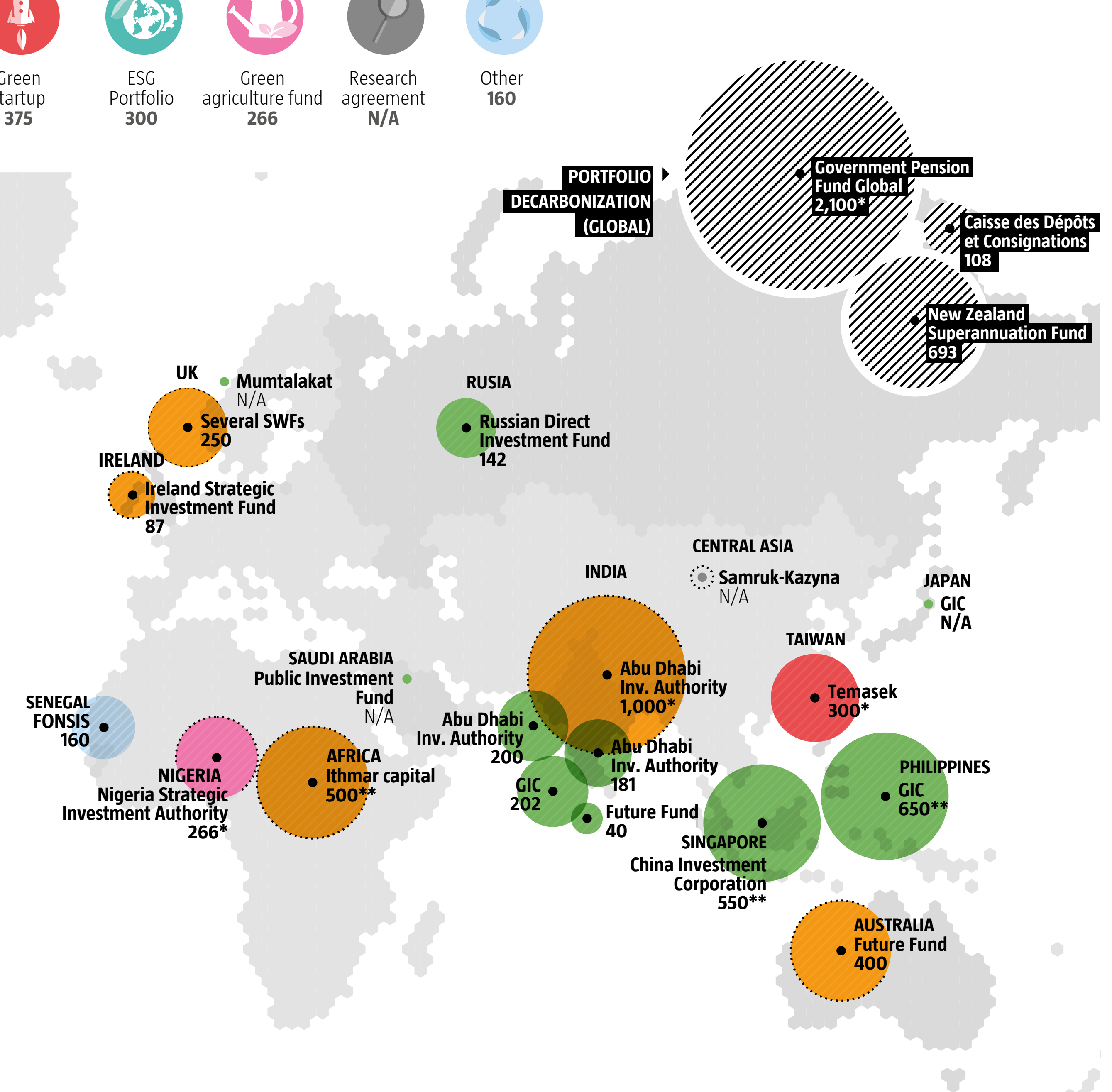
13. More detailed information is available at https://www.pv-magazine.com/2017/06/30/senegals-first-solar-park-comes-online/

Infographic 3

Green investments by SWFs



Source: Author's elaboration.



*Total deal value including other coinvestors
**Author's estimate
***Commitments to several IFC green-debt platforms. Not realized investments.

the new funds to continue building and participating in projects including community solar assets, innovative wastewater treatment, energy-efficient battery storage roll-outs., and waste-to-energy facilities, across the United States. APFC led a round of US$200 million in equity which can unlock $1 billion in investment capacity for distributed green energy projects. In this way, APFC joins the group of SWFs which has entered into the green energy as an asset class.

GIC, the Singaporean SWF, has recently announced its strategic alliance with a Goldman Sachs subsidiary, Japan Renewables Energy, devoted to develop green energy. The announcement was made in October 2017 after a GIC investment in JRE, for an undisclosed amount. JRE develops and operates solar, wind, biomass and other clean-energy projects in Japan. It is the first time GIC invests in Japan's infrastructure and renewable energy sector. Another recent example, also involved GIC. In August 2017, GIC along with Macquaire Infrastructure and Real Assets (MIRA), acquired 31.7% of Energy Development Company (EDC) for US billion. EDC is owned by the top clean energy provider in the Philippines and is a world leader in the geothermal industry. GIC plans to commit and grow the company into this "vibrant" energy sector.[14]

GIC has partnered with ADIA, the investment fund from Abu Dhabi, to tap into the vast renewable markets of India. GIC and ADIA have funded Greenko Energy Holdings, the Hyderabad-based clean energy leader. Since 2013, both SWFs have invested more than US$500 million in three equity rounds. GIC is the majority shareholder of Greenko with a stake of 60-65%, while ADIA has around 15%. The rest is held by the two Indian founders. Listed at the London Stock Exchange's Alternative Investment Market, this 10-year old green energy startup now has 2.7 GW of operating capacity and another 800 MW under construction from 60 projects.[15]

The group of green SWFs will not be completed without the inclusion of Mubadala. This government-owned investment company from Abu Dhabi has backed some of the largest wind and solar energy projects during the last decade. In total, Mubadala has invested US$2.7 billion in projects around the globe, including US$1.3 billion since 2015. A major example is the London Array, the then largest offshore wind farm project, which includes 175 turbines with a combined capacity of 630MW and serves directly the London grid. It has been backed by Masdar, a Mubadala's fully-owned subsidiary, and a Canadian pension fund. Mubadala has financed Shams 1, one of the largest concentrated solar panels (CSP) plants in the World. It is owned, operated and developed by a joint venture between Masdar (80%) and Total (20%). It produces energy for 20,000 UAE homes. Shams 1 was designed to displace 175,000 tons of CO2 every year, equivalent to planting 1.5 million trees or taking approximately 15,000 cars off the road. Another joint-venture in renewables is Torresol Energy. Jointly with Sener, a Spain's engineering leader, it has built solar power plans in the Spanish "sunbelt". So far, the three projects have operating capacity of 120MW. The first project, Gemasolar, diverts roughly 30,000 tons of CO2 emissions from the atmosphere each year.[16]

Interestingly, Mubadala is investing in renewable energy sectors in developing countries. In 2015, it inaugurated a 117MW wind farm in Jordan. The project generates enough electricity to power 83,000 homes and it was the first commercial utility-scale wind power project in the Middle East. Currently, Mubadala through Masdar Clean Energy is developing five projects with combined energy output of 840MW in solar and wind facilities. Projects outside mature markets, such as Scotland and England, are located in Oman and Serbia. The importance of Mubadala investing in Jordan, Oman or Serbia is triple. First, the power capacity installed is relevant compared to the country total energy output. Second, Mubadala-backed projects represent the first large-scale green energy projects of these countries which lack the experience. Third, the combined projects displace 1.2 million tons of CO2 emissions each year.[17]

In the Gulf Cooperation Council, the Public Investment Fund (PIF) from Saudi Arabia is participating in one of the largest photovoltaic solar energy projects ever witnessed. The SoftBank Vision Fund (SBVF) backed by PIF and Mubadala (See Infographic 2) announced a strategic partnership with Saudi Electric, the national utility majority owned by PIF. The memorandum of understanding plans to develop 3 GW of solar energy in 2018. If completed, it would meet

14. From the press release: http://www.gic.com.sg/newsroom?id=665&Itemid=159

15. More detailed info in https://economictimes.indiatimes.com/small-biz/startups/from-1-gw-in-10-years-to-its-second-in-only-12-months-greenko-group-is-now-powering-on/articleshow/60302913.cms

16. More details at http://www.torresolenergy.com/TORRESOL/home/en

17. See http://www.masdar.ae/assets/downloads/content/264/masdar_clean_energy_factsheet-final-jan_8,_2017.pdf and http://www.utilities-me.com/article-5028-oman-prepares-to-build-the-first-large-scale-wind-farm-in-the-gcc/ for more information.

one third of the 9.5GW 2023 National Renewable Energy Program's target.[18]

Investments in green energy assets are not the only way to support sustainable development. In fact, investments in technology and innovation may also generate a relevant impact in the transition towards low carbon economies. A good example is the investment made by Temasek in August 2017 in Impossible Foods, a company that develops plant-based burger patties with the look, taste and texture of meat. Compared to animal sources, the production of burgers from plants requires less land and water, and emits less greenhouse gases. Temasek led the investment round of $75 million in the California-based company. It is not the first time Temasek invests in meat-free startups. Last year, the state fund invested in Modern Meadow, a New York-based developer of lab-grown bio fabricated leather.

3. SWFs AS RESPONSIBLE LONG-TERM SHAREHOLDERS

Sovereign wealth funds are long-term investors. From this angle, to consider climate change related risks into the matrix of risks is key. But there are other ways SWFs may have a long term impact and to boost sustainable economic models. One of the main ways to influence global businesses is done through active ownership. As large owners, SWFs may have a tremendous impact in private and chiefly listed companies by exercising its shareholder rights thus enhacing sustainability of the businesses of their portfolio companies.

The Sovereign Wealth Lab by IE Business School estimates that SWFs own 8% of all listed shares globally. This means that the potential role of SWFs to influence global business towards better governance practices, increased reporting, climate change awareness, social impact, etc., is huge.

Sovereign wealth funds are not interested in operating the majority of their investment positions. Yet, there is a growing trend among institutional investors, including SWFs, to improve the monitoring role of large shareholders. Lower information costs due to new and accessible technologies, the presence of proxy advisors (helping institutional investors to decide how to vote in shareholder annual meetings), major recent corruption scandals, and the role of some activist investors, have pushed institutional investors toward more active ownership strategies.

More active owners demand better governance provisions, and require improved reporting standards to their portfolio companies. This should help to generate sustainable business too, given the linkage between better governed companies and profitability. Also, by upgrading the reporting and transparency of portfolio companies, would pave the way for the implementation of national disclosure standards on climate change issues.

Despite some SWFs are acting as stewards and looking for improvement of their active ownership, there is still a clear winner when it comes to engagement and communication with boards and management of its portfolio companies. It is Norway. The next section focuses on the history of NBIM and the impact it has had on portfolio companies.

4. THE CASE OF NORWAY

According to NBIM's statements, the mission of its Fund is not only to achieve a certain risk-adjusted return, but also "to contribute to efficient and well-functioning markets and promote work on international standards for responsible investment." That is, Norway is interested in being recognized as a benchmark for other institutional investors on transparency, responsible investment and long-term view.

NBIM responsible ownership tries to raise awareness about environment, social and governance issues of the companies they invest in. There are two different strategies NBIM uses to attain this goal. First, through its divestment policy, NBIM excludes companies from its investment universe based on product or conduct risks such as production of nuclear weapons, coal and tobacco producers, or severe violations of human rights or damages to the environment. It can be said that this divestment policy is reactive. This chapter has detailed divestments made by NBIM based on the thermal coal criteria.

18. More details available at https://www.pv-magazine.com/2017/10/24/softbank-vision-fund-to-build-3-gw-of-solar-and-storage-in-saudi-arabia/

Second, there are two channels used by NBIM to follow a more proactive strategy towards sustainability and long-term value. One channel is the portfolio allocation, and the positions NBIM takes to ensure a sustainable risk-adjusted return in the long run. The second channel is through exercising voting rights, engagement and formulating expectations on the quality of governance, social and governance issues. This second channel is a proactive ownership strategy: to vote during annual meetings, to engage and meet companies' boards and managers, and to focus on specific companies and sectors which would ensure long-term sustainable returns.

Reactive strategies: Ethical Guidelines, Council on Ethics, and observation and exclusion

The Ministry of Finance is the owner of the Fund, which is managed by NBIM. The Ministry is the responsible for defining the overall strategy for responsible investments and the criteria for observation and exclusion of the portfolio companies of GPFG. In 2004, by a Royal Decree, a set of ethical guidelines for observation and exclusion was established.

The ethical guidelines set the criteria for product and conduct-based violations. Among the product-based criteria, GPFG shall not be invested in companies which themselves or through subsidiaries they control produce weapons that violate fundamental human rights; produce tobacco; sell weapons or military material to states excluded based on particularly large-scale UN sanctions. It has recently banned investments in mining companies and energy producers which derive 30 percent or more for their income from thermal coal or base 30 percent or more of their operations on thermal coal. Apart from product-based violations, GPFG shall not be invested in companies whose conduct implies serious or systematic human rights violations, such as murder, torture, deprivation of liberty, forced labor and the worst forms of child labor; serious violations of the rights of individuals in situations of war or conflict; severe environmental damage and acts or omissions that on an aggregate company level lead to unacceptable greenhouse gas emissions; gross corruption and other particularly serious violations of fundamental ethical norms. The original guidelines have been modified in several occasions banning tobacco producers (2009), unacceptable levels of greenhouse gas emissions (2015), or thermal coal producers and beneficiaries (2017).

The Council on Ethics

With these ethical guidelines in mind, the Ministry established the Council on Ethics, which continuously monitor the GPFG's portfolio looking for companies that are responsible for production or conducts described in the guidelines.

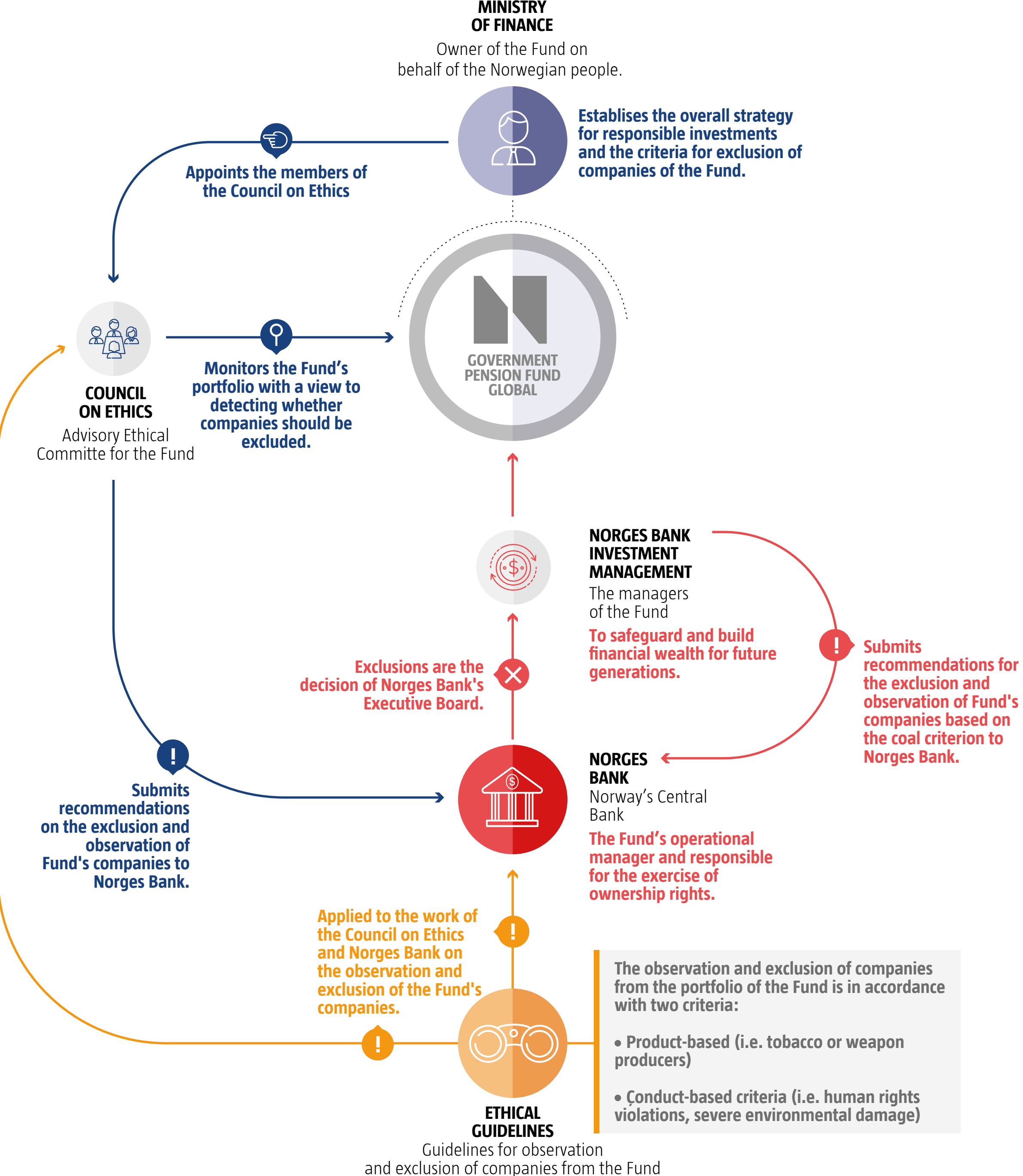
The Council on Ethics was established in November 2004, in parallel with the adoption of the ethical guidelines. It is an independent council which recommends the exclusion or observation of companies of the portfolio of the GPFG. Its five members are appointed by the Ministry of Finance after hearing the recommendation of NBIM. The Council has a Secretariat, with eight members, which investigates and prepares the cases for the Council.

The process to put on observation a company or to exclude it from the GPFG portfolio starts with the work of the Council. Specifically, the Secretariat continuously screens companies in the portfolio and receives enquiries from individuals or organizations requesting it to look into certain issues or individual companies. The work of the Council has increased with the number of companies owned by NBIM. By the end of 2016, NBIM had investments in 8,985 companies. In 2005, when the Council started its activities, NBIM had minority positions in "just" 3,288 companies. The number of screened companies have more than doubled and the size of the stakes owned by NBIM has multiplied by 6, from "just" US$85 billion in 2005 to US$547 billion, at the end of 2016.

However, an important change was introduced in 2015. Coinciding with the hiring of a new Council and the introduction of the thermal coal and GHG emissions new criteria, an important change was made in the exclusion procedure. Since January 2015, the Council makes recommendations directly to NBIM. Also, NBIM is allowed to initiate its own exclusions independently of the Council. Up to December 2014, the Council recommendations were made to the NBIM, but the ultimate word was the Ministry of Finance which decided to follow or not the recommendations of the Council. These changes reinforce the position of NBIM and more importantly project an image of independency. Given the final decision on exclusions had been made by the Ministry of Finance, the risk of seeing these exclusions as politically driven was big and motivated this change. Today, Norges Bank, along with the recommendations of the Council, is the ultimate responsible for ensuring the portfolio of the GPFG is not only ready to face financial risks but also ethical and environmental risks.

Figure 2

Government Pension Fund Global: Responsible Governance Structure



Source: Author's elaboration.

Observation and exclusion of companies

One of the most known channels used by NBIM to exert its responsible investment strategy is through exclusion of companies and consequent divestments. NBIM has excluded and divested stakes of 210 companies which do not comply with the ethical guidelines

Today, Norges Bank is assessed by the Council's recommendations but it can initiate its own recommendations for exclusion, as it is the case for the thermal coal exclusions integrated in the guidelines effective February 2016, as it has been already described above. Apart from the coal issues, other product-based decisions have excluded four companies for production of cluster munitions, 12 companies for nuclear weapons and 20 tobacco producers. Among the companies excluded for producing nuclear weapons are big names in the industry such as Airbus, Boeing, Lockheed Martin and Honeywell International.

The second section of the ethical guidelines refers to conduct-based violations. In this category it is particularly large the group of companies excluded due to severe environmental damage. 19 companies from Rio Tinto, the UK-based mining giant, to Freeport (managing one of the world's largest copper mines in New Guinea island), have been divested since May 2006 for severe environment damage.

Proactive strategies: Voting, engagement, and "cherry picking." Voting and Engagement

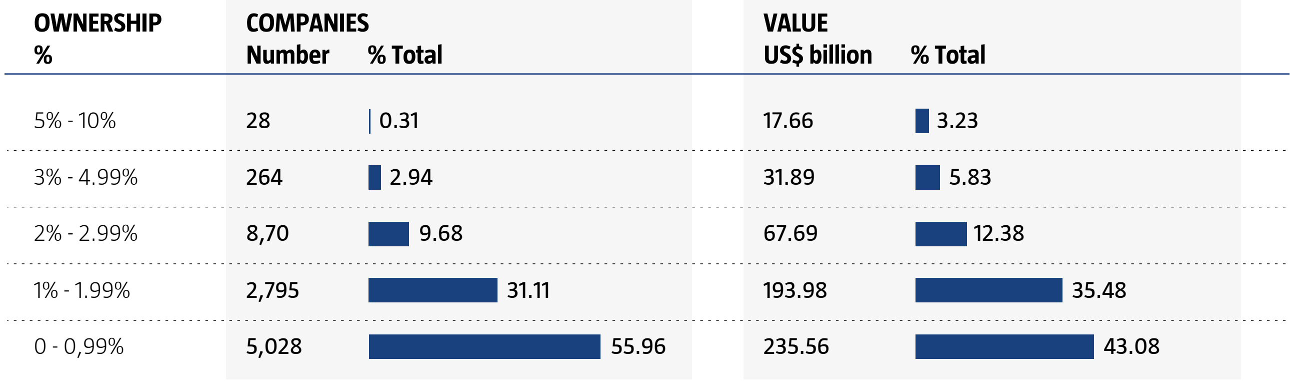
Institutional investors may choose between exiting a firm (the "exit" channel) or talk to corporate managers and boards when they disagree with investees (the "voice" channel). NBIM decided in 2012 to talk and engage more with companies. Through a "discussion note" released in November 2012, NBIM set up its expectations in the areas of board accountability and equal shareholder treatment. This "engagement strategy" have yielded positive results in a short period of time. Key corporate governance mechanisms have improved in a short period of time and both "exit" and "voice" channels have provoked an improvement in the quality of the corporate governance level of investee companies after the release of the note in November 2012.[19]

The NBIM has a restrictive investment strategy compared to other SWFs. It only invests on companies listed on regulated exchanges or in companies where the board has explicitly manifested its interest to be listed in an exchange. It is in the mandate of NBIM to own less than 10% of the shares of a single listed company.

19. Aguilera, Bermejo, Capapé & Cuñat, 2017, (Working Paper), "Too big to leave: The case of active owners".

Figure 3

NBIM portfolio distribution by ownership levels



OWNERSHIP %	COMPANIES Number	COMPANIES % Total	VALUE US$ billion	VALUE % Total
5% - 10%	28	0.31	17.66	3.23
3% - 4.99%	264	2.94	31.89	5.83
2% - 2.99%	8,70	9.68	67.69	12.38
1% - 1.99%	2,795	31.11	193.98	35.48
0 - 0,99%	5,028	55.96	235.56	43.08

Source: Sovereign Wealth Lab based on NBIM (2017).

In fact, at the end of 2016, NBIM has stakes of 5% or higher only in 28 companies of the total portfolio (8,985 companies), with US$17 billion invested in these 28 companies. Financial companies lead the pack of these "particularly interesting holdings" for NBIM, which combine stakes larger than US$1 billion and more than 5% of voting rights. The second group of interest is basic materials (18%), followed by industrials (14%). It is remarkable to note that among basic materials and industrials, it can be identified a particular preference towards paper-related companies.

Indeed, one of the frequently asked questions to NBIM refers to the role of the Council as a negative screening tool instead of a way to select green companies. The question is "Why does the Council not recommend that, for example, more money should be invested in 'green' companies?" And the answer it provides reads as "it falls outside the scope of the Council on Ethics' mandate to issue recommendations as to where the Fund should invest. The Council is only required to submit recommendations regarding the observation of a company or its exclusion from the Fund." Interestingly, the Council will not recommend investments but only exclusions to the Fund. Yet, the particular case of paper companies, whose impact in terms of greenhouse gases sequestration capacity is huge along the value chain, makes a different case, and it may explain why NBIM has decided to look with special attention into this industry. The Intergovernmental Panel on Climate Change (IPCC) has stated that "in the long term, a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fibre or energy from the forest, will generate the largest sustained mitigation benefit.". The IPCC estimates that forest biomass-derived energy could reduce global emissions by between 400 million and 4.4 billion tonnes of CO2 equivalent per year"[20]

NBIM invests in more than 9,000 listed companies. Yet, when the list of portfolio companies is ranked by the percentage of shares owned by NBIM, it shows that paper companies are a special type of companies for NBIM.

At the end of 2016, among the 28 companies with stakes above 5% of outstanding, there was an elevated proportion of paper-related and chemical companies. Four companies belong to the niche sub-industry of paper manufacturing. Indeed, two companies to this specific paper industry, the Irish Smurfit-Kappa and the Swedish Svenska Cellulosa, are ranked 2nd and 13th by ownership percentage. Moreover, in the case of Svenska, NBIM has invested a stake valued US$1.1 billion, representing 8.67% of voting rights. and making the Swedish company an especially strong bet, uncommon in the diversified NBIM portfolio. The case of Smurfit-Kappa is also important, given it is the second largest controlling stake in the vast NBIM portfolio, yet the stake is smaller. Other two Spanish companies, Viscofan and Iberpapel Gestión, form part of this particular group of companies preferred by Norway. Yet, this trend is not new, in 2015, along with Svenska and Smurfit, the Finnish UPM-Kymmene made it to the top 20 by ownership.

Norway runs a particular responsible investor strategy which allows to exclude companies based on ethical and environmental reasons advised by the Council on Ethics. This strategy has been classified as reactive, meaning that NBIM reacts to the threats that potentially damaging companies imply for the overall portfolio value. On the contrary, when deciding to invest and hold larger control of paper companies, NBIM is deploying a more active approach towards green energy and sustainable businesses. Indeed, as a responsible investor, NBIM punishes companies damaging through unethical products such as cluster munitions, nuclear weapons, or tobacco. Yet NBIM also follows a proactive approach investing in sustainable and climate smart companies. Paper companies, with a strong linkage with natural resources such as forestry, are critical for the whole planet, and for NBIM to have a more controlling position strengthens its voice and it also signals other institutional investors where to invest following the lead of a renowned and resourceful fund. It may lead to isomorphic trends[21] and facilitate other institutional investors to follow a similar responsible investment strategy.

20. FAO. 2010. "Impact of the global forest industry on atmospheric greenhouse gases" available here: http://www.fao.org/docrep/012/i1580e/i1580e00.pdf

21. See Vasudeva, G. 2013. Weaving Together the Normative and Regulative Roles of Government: How the Norwegian Sovereign Wealth Fund's Responsible Conduct Is Shaping Firms' Cross-Border Investments. Organization Science 6, 1662-1682.

Table 2

The most "controlled" companies in the NBIM portfolio (ownership > 5%)

Name	Country	Market Value(USD)	Ownership	Industry
Gecina SA	France	861,906,279	9.80	Financials
Smurfit Kappa Group PLC	United Kingdom	523,182,296	9.57	Industrials
Great Portland Estates PLC	United Kingdom	271,620,484	9.56	Financials
Shaftesbury PLC	United Kingdom	288,804,843	9.22	Financials
Capital & Counties Properties PLC	United Kingdom	252,940,846	8.15	Financials
Vonovia SE	Germany	1,130,575,243	7.44	Financials
Deutsche Wohnen AG	Germany	742,156,833	6.99	Financials
Brenntag AG	Germany	563,763,482	6.55	Basic Materials
Land Securities Group PLC	United Kingdom	660,033,921	6.34	Financials
Viscofan SA	Spain	141,269,933	6.13	Consumer Goods
Ameriprise Financial Inc	United States	1,045,076,877	5.96	Financials
Svenska Cellulosa AB SCA	Sweden	1,102,439,541	5.52	Consumer Goods
Ocado Group PLC	United Kingdom	112,593,816	5.52	Consumer Services
Tesco PLC	United Kingdom	1,150,297,289	5.51	Consumer Services
Derwent London PLC	United Kingdom	208,640,330	5.47	Financials
Tocalo Co Ltd	Japan	18,737,224	5.45	Basic Materials
Arkema SA	France	404,403,395	5.45	Basic Materials
Prudential PLC	United Kingdom	2,743,414,668	5.29	Financials
AMG Advanced Metallurgical Group NV	Netherlands	23,203,472	5.27	Industrials
BlackRock Inc	United States	3,225,289,983	5.18	Financials
CyrusOne Inc	United States	191,933,567	5.14	Financials
International Personal Finance PLC	United Kingdom	24,158,904	5.10	Financials
Iberpapel Gestion SA	Spain	13,445,581	5.09	Basic Materials
LSR Group PJSC	Russia	88,571,510	5.07	Industrials
Berjaya Food Bhd	Malaysia	6,633,932	5.07	Consumer Services
Aflac Inc	United States	1,433,801,621	5.05	Financials
Boliden AB	Sweden	360,424,550	5.03	Basic Materials
Applus Services SA	Spain	66,228,060	5.00	Industrials

Note: In orange, paper-related companies.

Source: Sovereign Wealth Lab based on NBIM (2017).

NBIM, VOLKSWAGEN, AND THE CASE FOR GOOD CORPORATE GOVERNANCE

The case for good corporate governance is one that has been taken on by NBIM. For almost twenty years the Fund has sustained a strong public position against improper behavior among corporate elites, attempting to press some of the world's largest, most influential companies to improve their governance on issues ranging from cultural diversity to board "specific skills or executive payment."

Yngve Slyngstad, the head of the fund, has defended this position as core to NBIM's investment approach, given its size and impact in the corporate world. The latter may baffle those not familiar with the scale of funds such as the one managed by NBIM: its $950 billion in assets under management represent more than twice Norway's GDP and it owns, on average, 2.5% of every listed company in Europe. The fund is listened to, even if it does not own, per its bylaws, more than 10% of one asset, and their stances have repercussion throughout the corporate world. Their impact has been evidenced by recent research[22] which compares the changes in corporate governance taken on by companies as an effect of the pressure exerted by NBIM

Considering this magnitude, NBIM's corporate position becomes ever relevant. Perhaps the most gripping case to acknowledge in this regard, both for its relevance and for the peculiar role NBIM has played within it, is Volkswagen's.

NBIM's disapproval of the German carmaker is longstanding, dating back to 2005 and the days –forgotten by most of us- when (alas) Porsche attempted to buy up Volkswagen and failed, a project ultimately failed due to its bad timing: in late 2008, banks refused to keep lending to Porsche and triggered a liquidity crisis unprecedented. Oversimplifying events, that is, to draw a general picture of the situation. Forgiving that Porsche's side of the story has much more to it, and that indeed many shareholders were unhappy with the market manipulation that Porsche enforced, NBIM's concerns with Volkswagen as a company arise from the events that developed as Porsche's purchasing ability dropped and the stakes took a radical shift: Volkswagen would end up acquiring Porsche in July of 2012 (four months before NBIM put in place its "active shareholder" note) in a move that aimed, or so did many shareholders think, to safeguard the families that owned both companies rather than benefit the company's interests.

NBIM shared this fear and criticized that the negotiations between Volkswagen and Porsche were being unacceptable in their support of the interests of the Piëch and Porsche families. On October 7th, 2009, NBIM publishes a statement[23] declaring its discontent with this approach that had been taken towards the Volkswagen-Porsche transactions. The requests put forward in the letter addressed to the chairman of the supervisory board, Ferdinand Piëch, and the supervisory board as a whole, emphasized the importance of protecting minority shareholders and treat them fairly, enhanced the need for transparency, and stated the lack of "justifiable reasons" to assist the Porsche and Piëch families "by buying out their privately held automobile trading business". It further demanded the purchase to be cancelled unless Volkswagen could demonstrate its specific strategic value. With little regard for euphemistic language, NBIM wrote that "the planned transactions [...] leave the impression of being designed to suit the needs of the Porsche controlling families at the expense of Volkswagen and its not-controlling owners".

Fast-forward six years to September 2015, and despite having remained Volkswagen's fourth largest shareholder, it is fair to say that to deem the nature of the relationship between NBIM and Volkswagen "tense" would be an understatement. This sets the background for their relationship when one of the greatest scandals of the financial world of this century broke out: on September 18th 2015, Volkswagen admits to having cheated on its emissions tests in the US –initial estimates calculated that cars manufactured by the carmaker could be producing up to 40 times the levels of pollution allowed.

22. (Working Paper). Aguilera, Bermejo, Capapé & Cuñat, 2017, Too big to leave: The case of active owners.

23. https://www.nbim.no/globalassets/documents/news/2009/2009-10-07_nbim_letter_volkswagen.pdf

Alike with every other shareholders' reaction, NBIM stated its disapproval of the company's position, further pursuing legal action by May 2016 in what the Financial Times deemed "merely the latest sign of the oil fund's growing willingness to criticize the carmaker." More interestingly, a quick look through the voting positions and results in Volkswagen's last two AGMs in comparison to the stands the fund had taken previously evidence the extent to which NBIM is opposing Volkswagen's current governance structure. Save one case (out of 30 requests), NBIM has opposed approving every single discharge suggested in the meetings in 2016 and 2017 (the board voted in favor of these discharges). By comparison, in the general meeting held in May 2015 NBIM voted in the same way as the majority of the shareholders –in the Volkswagen case, represented by the Porsche/Piëch families, the State of Lower Saxony, and Qatar Holding, the sovereign wealth fund.

Asked by the Financial Times about these decisions,[24] Mr Slyngstad underlined the fund's concerns over the quality of corporate governance in Volkswagen and did mention that "they [Volkswagen] are not listening clearly". He also remarked that minority shareholders were "unlikely to be able to push through change on their own", given the power, in terms of voting rights, held by the three main shareholders. The aforementioned research challenges this notion and emphasizes the impact of active shareholder strategies in improving corporate governance, even given that the improvement is small and does not apply not to all the factors that NBIM sets itself to work towards affecting.

Responsible and engaged owners can exert fruitful changes in the corporate governance quality of its portfolio companies, and NBIM has decidedly attempted to do so in the Volkswagen case. It is important to consider this specific case beyond the time-constraints of the emissions scandal that outraged shareholders in 2015 and analyze the conflict that existed previously in regards to the quality of its corporate governance. Given the way NBIM has positioned itself in the last two AGMs, it is fair to say that the emissions scandal presented a turning point on what the fund could stand by, but it would be absurd to deny the issues that NBIM already had with Volkswagen's supervisory board. It will be interesting to observe the way NBIM continues to seek to assert its influence on Volkswagen in the near future as a response to the (still unresolved) emissions scandals. Nonetheless, it will be far more interesting to look for similar cases of corporate irresponsibility, likely to be commonplace given the tendency to market concentration in the car-making industry and others, and analyze the way large, state-backed investors such as SWFs will respond to these actions.

24. https://www.ft.com/content/1c16d99c-191a-11e6-b8d5-4c1fcdbe169f

Annex 1.
IE - Sovereign Wealth Lab Ranking 2017

Annex 1.
IE - Sovereign Wealth Lab Ranking 2017

Table 1

IE - Sovereign Wealth Lab Ranking 2017*

Ranking	Sovereign Wealth Fund	Assets under Management ($bn)	Country	Established
1	Government Pension Fund Global	1,028.49	Norway	1990
2	**China Investment Corporation**	813.51	China	2007
3	**Abu Dhabi Investment Authority**	792.00	UAE	1976
4	**Kuwait Investment Authority**	515.00	Kuwait	1953
5	Hong Kong Monetary Authority	499.72	Hong Kong (China)	1993
6	SAMA - Foreign Holdings	493.11	Saudi Arabia	1952
7	State Administration of Foreign Exchange	474.00	China	1997
8	**GIC**	350.00	Singapore	1981
9	National Social Security Fund	317.85	China	2000
10	**Qatar Investment Authority**	300.00	Qatar	2005
11	Public Investment Fund	230.00	Saudi Arabia	1971
12	Investment Corporation of Dubai ^	214.20	UAE	2006
13	Temasek Holdings	204.00	Singapore	1974
14	Mubadala Investment Company	126.70	UAE	2002
15	**Korea Investment Corporation**	110.80	South Korea	2005
16	Abu Dhabi Investment Council	110.00	UAE	1999
17	**Future Fund**	103.09	Australia	2004
18	**National Development Fund**	70.00	Iran	2011
19	**Samruk-Kazyna ^**	69.26	Kazakhstan	2008
20	**Libyan Investment Authority**	67.00	Libya	2006
21	National Wealth Fund	66.94	Russia	2008
22	**Alaska Permanent Fund**	59.80	USA - Alaska	1976
23	National Oil Fund of Republic of Kazakhstan	57.01	Kazakhstan	2000
24	Silk Road Fund	40.00	China	2014
25	**Turkiye Wealth Fund**	40.00	Turkey	2016
26	Brunei Investment Agency	39.30	Brunei	1983
27	Texas Permanent School Fund	38.82	USA - Texas	1854
28	**State Oil Fund of Azerbaijan**	36.02	Azerbaijan	1999
29	**Khazanah Nasional**	35.10	Malaysia	1993
30	**New Zealand Superannuation Fund**	26.20	New Zealand	2001
31	**State General Reserve Fund**	25.00	Oman	1980
32	**Fondo de Estabilización de los Ingresos Petroleros ^**	24.20	Mexico	2015
33	New Mexico State Investment Council	22.90	USA - New Mexico	1958
34	**Alberta Heritage Savings Trust Fund**	17.10	Canada	1976
35	Reserve Fund	17.05	Russia	2008
36	**Timor-Leste Petroleum Fund**	15.85	Timor-Leste	2005
37	Emirates Investment Authority	15.00	UAE	2007
38	**Fondo de Estabilidad Económica y Social**	14.54	Chile	2007
39	Dubai International Capital	13.00	UAE	2004
40	Bahrain Mumtalakat Holding Company	11.00	Bahrain	2006
41	Quebec's Generations Fund ^	10.52	Canada	2006
42	**Strategic Investment Fund**	10.01	Ireland	2001
43	**Russian Direct Investment Fund**	10.00	Russia	2011
44	China-Africa Development Fund	10.00	China	2007
45	**Fondo de Reserva de Pensiones**	9.80	Chile	2006
46	Fondo de Estabilización Fiscal ^	8.25	Peru	1999
47	Sanabil Investments	7.70	Saudi Arabia	2009

Ranking	Sovereign Wealth Fund	Assets under Management ($bn)	Country	Established
48	Revenue Regulation Fund ^	17.22	Algeria	2000
49	Permanent Wyoming Mineral Trust Fund	7.06	USA - Wyoming	1974
50	Arab Petroleum Investments Corporation	6.14	Saudi Arabia	1975
51	Oman Investment Fund	6.00	Oman	2006
52	**Pula Fund ^**	5.63	Botswana	1994
53	**Heritage and Stabilization Fund**	5.61	Trinidad and Tobago	2000
54	North Dakota Legacy Fund	5.08	USA – North Dakota	2011
55	**Fundo Soberano de Angola**	4.99	Angola	2012
56	Gulf Investment Corporation	4.61	Kuwait	1982
57	**Cdp Equity ^**	4.10	Italy	2011
58	CDC International Capital	3.00	France	2014
59	Alabama Trust Fund	2.54	USA - Alabama	1985
60	Idaho Endowment Fund	1.88	USA - Idaho	1969
61	State Capital Investment Corporation	1.60	Vietnam	2006
62	**Ithmar Capital ^**	1.50	Morocco	2011
63	**Fondo de Ahorro de Panamá**	1.46	Panama	2011
64	Louisiana Education Quality Trust Fund	1.40	USA - Louisiana	1986
65	RAK Investment Authority	1.20	UAE	2005
66	**Nigeria Sovereign Investment Authority**	1.15	Nigeria	2011
67	Western Australia Future Fund	1.11	Australia	2012
68	Fonds Gabonais d'Investissements Stratégiques	1.00	Gabon	1998
69	**Palestine Investment Fund**	0.85	Palestine	2003
70	Revenue Equalization Reserve Fund	0.85	Kiribati	1956
71	**National Investment Corporation**	0.79	Kazakhstan	2012
72	FONSIS	0.76	Senegal	2012
73	Future Generations Fund	0.50	Bahrain	2006
74	Fiscal Stability Fund ^	0.30	Mongolia	2011
75	Ghana Heritage Fund ^	0.27	Ghana	2011
76	Ghana Stabilization Fund ^	0.20	Ghana	2011
77	**Agaciro Development Fund**	0.04	Rwanda	2012
78	National Fund for Hydrocarbon Reserves ^	0.04	Mauritania	2006
79	Permanent Fund for Future Generation	0.01	São Tomé e Príncipe	2004
80	Fondo para la Estabilización Macroeconímica^	0.01	Venezuela	1998
81	West Virginia Future Fund	N/A	USA - West Virginia	2014
82	Dubai World	N/A	UAE	2006
83	Fonds de Stabilisation des Recettes Budgétaires ^	N/A	Democratic Republic of the Congo	2005
84	Mauritius Sovereign Wealth Fund	N/A	Mauritius	2010
85	Oil Revenue Stabilization Fund	N/A	South Sudan	2008
86	Fund for Future Generations ^	N/A	Equatorial Guinea	2002
87	National Investment Fund ^	N/A	Syria	2012
88	Turkmenistan Stabilization Fund ^	N/A	Turkmenistan	2008
89	Zimbabwe Sovereign Wealth Fund	N/A	Zimbabwe	2015
90	Bureau of Labor Funds	N/A	Taiwan	2014
91	Petroleum Revenue Investment Reserve	N/A	Uganda	2015
92	Papua New Guinea SWF	N/A	Papua New Guinea	2011

Source: IE - SWLab (2017) with information obtained from funds' annual reports and websites. In their absence we relied inter alia on the estimates of SovereigNet (The Fletcher School-Tufts University), Sovereign Wealth Center, Ashby Monk (Institutional Investor) and Preqin.

* This list contains the 92 active sovereign wealth funds as at December 2017. "The IE - Sovereign Wealth Lab Ranking uses the most updated information available, some figures may differ from data shown in other parts of the Report.

^ Using a stricter definition (see Capapé and Guerrero, 2013), these sovereign wealth funds would be excluded from the ranking. For example funds dedicated exclusively to stabi- tion, with 100% domestic portfolios, or investing only in fixed income.

Note: The sovereign wealth funds in bold are members of the International Forum of Sovereign Wealth Funds (IFSWF).

Annex 1.
IE - Sovereign Wealth Lab Ranking 2017

Table 2

Potential new funds

Ranking	Sovereign Wealth Fund	Assets under Management ($bn)	Country	Established
93	Northwest Territories	N/A	Canada	N/A
94	Romania	N/A	Romania	N/A
95	Japan	N/A	Japan	N/A
96	India	N/A	India	N/A
97	Israel	N/A	Israel	N/A
98	Philippines	N/A	Philippines	N/A
99	Lebanon	N/A	Lebanon	N/A
100	Kenya	N/A	Kenya	N/A
101	Zambia	N/A	Zambia	N/A
102	Mozambique	N/A	Mozambique	N/A
103	Taiwan	N/A	Taiwan	N/A
104	Saskatchewan	N/A	Canada	N/A
105	Bahamas	N/A	Bahamas	N/A
106	Amlak	N/A	Egypt	N/A
107	Future Heritage Fund	N/A	Mongolia	N/A
108	Kuwait	N/A	Kuwait	N/A
109	Indonesia	N/A	Indonesia	N/A
110	Bangladesh	N/A	Bangladesh	N/A
111	New Caledonia	N/A	New Caledonia	N/A
112	Future Britain Funds	N/A	United Kingdom	N/A
113	Michigan	N/A	USA - Michigan	N/A
114	Turks & Caicos	N/A	Turks & Caicos	N/A
115	Guyana	N/A	Guyana	N/A
116	West Midlands	N/A	United Kingdom	N/A

Note: These 24 funds were not active when this edition went to press. Their establishent is currently being discussed in the various States.

Annex 2. Sovereign Wealth Funds in Spain 2017: New Players and Target Industries

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Annex 2.
Sovereign Wealth Funds in Spain 2017: New Players and Target Industries

Spanish economy is involved in an expansive economic cycle characterized by a high rate of growth above European Union average, as well as that of its main European partners. Gross domestic product increased 3.2% in 2016 (compared to Eurozone's average of 1.5%) and a similar growth is expected to take place in 2017 within a framework of foreign trade surplus and strong employment increase. The fact that Spain has become one of the economic boosters in Europe has led to increased trust from international investors and, as a result, to an increase in investments in private equity and venture capital (PE & VC) funds. In 2016, international funds performed transactions in Spanish businesses for €2.6 billion (53% more than in 2015), 72% of the total invested in PE & VC industry in Spain that year[1]. 2017 will mark a record of PE & VC investment in Spain, with €4.38 billion invested up to September and 71% having been invested by international funds. Another sector with record investments is the hotel business, where by the end of November an investment of €3.09 billion, 36% more than the whole previous year, had been reported. Investments by international funds were also a key factor. These investments aim at repositioning and increasing the value of assets and they have focused both on core and secondary cities, with growing interest, thus consolidating its appeal throughout the country.

We need to interpret within this framework the renewed interest of sovereign wealth funds (SWFs) to perform investments in Spain and in Spanish companies in late 2016 and during 2017. In this period, major operations of high strategic value took place, attesting not only to the consolidation of Spain and its companies as an important market for the main sovereign funds of the world but also to the expansion of their targets to new areas and activities, including finance, energy, manufacturing and technology. The higher presence of sovereign funds in the capital stock of Spanish companies is excellent news because, apart from being a long-term partner of large financial strength, they offer opportunities in their markets of origin, often restricted to foreign companies operating jointly with local partners.

As far as the financial sector is concerned, the joint venture formed by GIC (a sovereign fund from Singapore) and Hellman & Friedman, an American private equity firm, purchased Spanish payment platform Allfunds Bank for an amount of €1.88 billion, having finally won over the bid made by the Chinese giant Legend, owner of Lenovo. Allfunds Bank was created by Banco Santander in 2000. The financial entity Intesa Sanpaolo acquired a stake (through Eurizon Capital SGR), as did Warburg Pincus and General Atlantic, private equity firms. Thus, Allfunds Bank, which manages €250 billion from institutional clients, will rely on a reference partner for its expansion in the Asian market.

Similarly, it is worth mentioning that in the financial sector, the largest sovereign fund in the world, Norwegian Government Pension Fund Global (US$1.02 trillion in assets under management), purchased 3.26% of the Asturian financial entity Liberbank. This transaction, performed through the operational unit of the sovereign fund, Norges Bank Investment Management (NBIM), added up to €13 million. More recently, in December 2017 it acquired 94 million shares of Bankia, paying €381 million and becoming the second largest stockholder of the entity with 3.26% of the shares. These NBIM transactions form part of its Spanish equity portfolio, valued at approximately €8.5 billion in late 2016. The fund was also highly active in 2017 and made transactions in many Spanish global public companies, leaders of their market sectors such as Iberdrola, Meliá, Gamesa and Técnicas Reunidas, among others. Apart from listed equities, NBIM increased its sovereign debt exposure, increasing from US$3.85 billion at the close of 2016 to US$4.42 billion as of September 30, 2017. Its exposure grew by US$569 million in nine months, placing Spain among the top ten preferred fixed-income destinations of NBIM globally. In all, the Norwegian fund has investments in Spain close to €14.4 billion.

In 2017 we also witnessed a significant transaction in the raw materials sector. The Australian group Berkeley Energía reached an agreement with Oman's sovereign fund, State General Reserve Fund (SGRF), for the financing of projects in an amount of 120 million dollars. Financing would be used by the Spanish branch of Australian-British group Berkeley Minera, and more specifically for the Salamanca Project, the largest open-air uranium mine in Europe. Underlying this operation is Oman's interest to expand its energy mix beyond natural gas and oil. With regards to defense industry,

1. Information provided by the Spanish Association of Capital, Growth and Investment (ASCRI, as per the initials in Spanish). See: http://www.ascri.org/wp-content/uploads/2017/01/Nota-de-prensa-Informe-ASCRI-2017.pdf

in late 2016 SGRF purchased 32.2% of precision engineering company Escribano Mechanical and Engineering for €18 million. The deal forms part of the diversification strategy of Oman's fund and will contribute to making the Spanish company go international in Oman by means of the establishment of a joint venture called Escribano Middle East LLC.

Furthermore, SWFs continued to trust in the most traditional sectors in which they had already invested in Spain, such as electricity and energy or infrastructure. As regards electricity, in mid 2016 the sovereign fund Abu Dhabi Investment Corporation (ADIC) purchased, jointly with JPMorgan, Swiss Life and Covalis, the company Naturgás for €2.59 billion. The operation is the second largest one having been performed in the area of electrical distribution in Spain by a SWF after the participation of Gingko Tree Investment (the investment division of SAFE, the quasi-SWF within the central bank of China) in Madrileña Red de Gas in 2015, also in a joint venture with international private funds. Naturgás is the second largest gas distribution network in Spain with a million customers, having been up to now in the hands of Portuguese group EDP (Electrica de Portugal). The operation will enable the Spanish company to rely on long-term investors, which will provide it with stability and financial strength to engage in an expansion of the scope of networks and the number of customers.

As far as the energy sector is concerned, it is worth mentioning that in late 2017 Abu Dhabi Investment Authority (ADIA) was negotiating with US private equity giant KKR the acquisition of the 33.3% stake held by KKR in Acciona Global Renewables, an operation that would be close to €600 million. Moreover, in the transportation and infrastructure sectors, Dubai Ports World (owned by UAE's Dubai World sovereign fund) purchased from Bergé y Cía its towing and mooring branch Reyser, which provides services at 12 Spanish ports, for €422 million. The transaction was performed through a company already owned by the sovereign fund, Repasa (Remolques de Puertos y Altura), and enables Bergé y Cía to divest and cash funds to focus on its core car distribution business and related logistics activities.

All these transactions recorded in late 2016 and in 2017 join those already performed by SWFs in Spain, which include a high number of Spanish economic sectors and companies holding a leading position in their industries. Hardly any investment area or strategy can be deemed to be outside the purview of SWFs in Spain. Such funds accumulate investments for an amount of €36.4 billion, including both corporate and sovereign fixed-income investments, ranging from acquistions of multinational companies specialized in commodities (IPIC, the Emirati SWF, acquired 100% of CEPSA) to recruiting startups for technological companies (Kuwaiti KIA's transaction regarding Tyba), including agro food (Chinese CIC's deal regarding Miquel Alimentació), infrastructure (ADIA, from Abu Dhabi, involved in the IPO of AENA), telecommunications (GIC's position in Euskaltel), hotel business (Qatari Diar's purchase of the Hotel W in Barcelona or Oman Investment Fund's transaction regarding Hilton hotel in the same city), SOCIMIS (Qatari QIA's investment in Colonial and Singaporean GIC's participation in Gmp) and sponsoring soccer teams (Emirates, the airline owned by Dubai's SWF, sponsoring of Real Madrid and the former sponsorship of Qatar Airways in FC Barcelona). Although the presence of SWFs is a recent phenomenon and these transactions were practically nonexistent before 2010, Spain is already one of the priority European targets for SWFs.

But, what is the potential and range for a larger number of transactions by SWFs in Spain and Spanish companies in the coming years? International strategies in the composition of SWF portfolios and the investment trends within this industry, along with the record of operations in Spain over the last decade, enable us to identify the points of attraction or differential aspects of Spain to capture SWFs capital. Although in a context like the current one Spain offers attractive asset valuations and investment opportunities for SWFs in multiple economic sectors and projects, a particularly strong interest can be observed for a larger number of transactions in certain areas whose features fit into the strategy of SWFs.

First, the companies operating in moderate-profitability, low-risk sectors and activities will, in the long run, continue to be attractive for sovereign funds, in particular those in the energy and infrastructure areas. The mentioned operations

of Gingko Tree Investment in Madrileña Red de Gas, of ADIC in Naturgás, of KIA in the Spanish assets of EON, of ADIA in AENA and of GIC in Euskaltel, evidence such interest. In other cases, SWFs have shown interest in this kind of operations even if they did not come through, as was the case of China Investment Corporation (CIC) with regard to Red Eléctrica Española (REE) or that of Khazanah, Malaysia's SWF, with regard to Globalvia.

Second, the strategy of sovereign funds not only focuses on financial but on industrial investments. In this respect, Spanish companies specialized in high added-value manufacturing, incorporating technology and operating in areas of interest for the countries owning the funds, will continue to be an investment priority too. So far, some deals performed have followed this rationale and it is foreseeable that new operations will take place in the coming years. This kind of operations is reflected by the investment of Masdar, a subsidiary of UAE's Mubadala, in the joint venture with Basque Sener engineering company to form Torresol Energy and develop solar power plants in Spain. Similarly, it is reflected by the more recent operation already described of Oman's SGRF with the Spanish company Escribano Mechanical and Engineering or the one performed by Mumtalakat, the SWF of Bahrain, in Aleastur in 2016.

Third, apart from the above- mentioned sectors, Spanish companies with high international presence, in particular in Latin America, are a priori particularly attractive for sovereign funds. The considerable exposure of Spanish multinationals in Latin America (40% of the turnover of these companies comes from the region) is one of the main points of interest that have led SWFs to invest there, as acknowledged by those responsible for the funds. The clearest examples among these investments are the purchase by Qatar Holding of 5.5% of Banco Santander branch office in Brazil in 2010 – even though it has reduced its share to 3,3% in 2017 – or the position of Qatar Holding in Iberdrola, with a large presence in Mexico and Brazil, where it is the main stockholder. Another example of this strategy is Temasek's shareholding in Repsol, holding the largest share of its exploration and production interests in Colombia and Peru, or the purchase of 20% in Abertis Chile by ADIA. The minority shareholdings of Norges Bank in different multinationals of IBEX 35 partially follow this rationale too.

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