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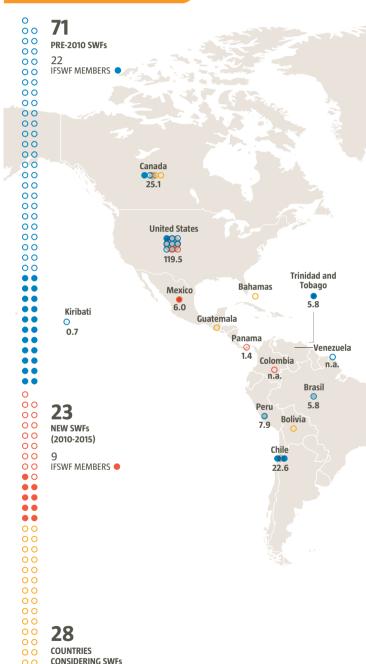
In 2015 returns across major global markets began a tortuous path that ultimately left many markets generally flat to down. Anemic to poor returns have likewise been reflected in recently released 2015 performance reports of several large sovereign funds. The challenge posed to global asset owners and managers has been to navigate a host of structural issues that plague global markets stagnant economic growth, depressed commodity prices, high demand for safe assets, continuing threats posed by disinflation and, for good measure, asset price volatility accentuated by election cycles, the growing threat of global terrorism, and cracks along the fault lines of the European Union. Credit Suisse has been sounding alarm bells that low returns are here to stay, projecting real bond returns of near zero and real equity returns of 4%–6% per annum for at least a decade.² McKinsey, focusing on US markets, draws similar conclusions of "diminishing returns".3 Simple comparisons of one- and five- year returns across most major markets give added credence that a secular shift is indeed in the offing.

For the many sovereign investors that manage with a long-horizon, change is reflected in both tails of the "bell". Risks abound in both tactical and strategic decision-making, whether in adjusting weights, selecting managers, or hedging exposures. However, the ability to take a long view offers opportunities to identify and exploit secular change across markets in pursuit of enhanced long-term risk adjusted performance. Among sovereign investors this has been reflected in a steady growth in the number of funds trading liquidity for higher expected returns in real estate and infrastructure, as well as others types of private assets.4 Such exposures are pursued both indirectly through external mandates and directly via discrete investments, usually the domain of the largest global SWFs with requisite scale and the capacity.

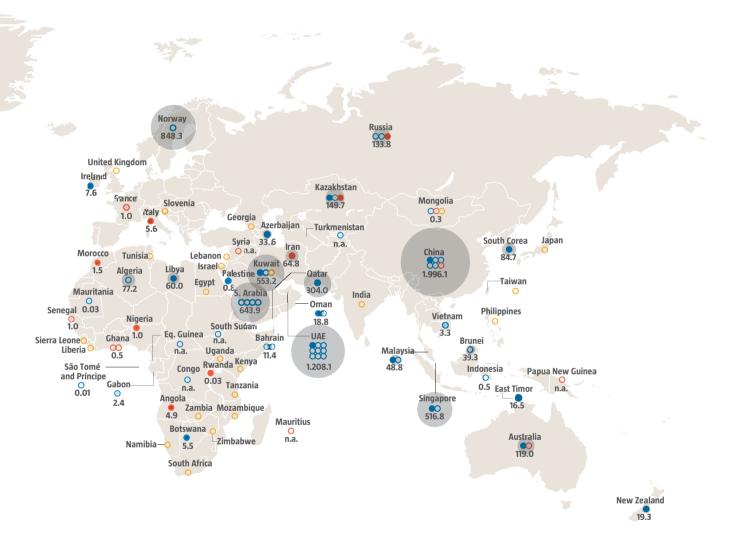
Our annual review represents an analysis of the latter – the direct investment activity of SWFs - with the goal to understand changes in their investment strategy and behavior. Our dataset consists of a public sample of SWF direct investments across all regions and sectors, updated through June 2016. While defining and cataloging SWFs remains elusive, assuming a global universe of 94 SWFs as counted in this report, our coverage includes approximately 20% of all entities. Based on holdings of nearly \$5 trillion, this cohort

- Note in particular Temasek, GIC, CIC, and ADIA.
- ² See Credit Suisse Global Investment Returns Yearbook 2016, February 2016 accessed at http://publications.credit-suisse.com/tasks/render/file/index.cfm?fileid=AE3E00B9-91E2-D1FA-6C18765D3A968D73
- ³ See Richard Dobbs, Tim Koller, Susan Lund, Sree Ramaswamy, Jon Harris, Mekala Krishnan, and Duncan Kauffman, "Why Investors May Need to Lower Their Sights", McKinsey&Company, May 2016, accessed at http://www.mckinsey.com/industries/private-equity-and-principal-investors/our insights/why-investors-may-need-to-lower-their-sights
- See Preqin, "The Preqin 2016 Sovereign Wealth Fund Review" and Invesco, "Invesco Global Sovereign Asset Management Study 2016", accessed http://igsams.invesco.com





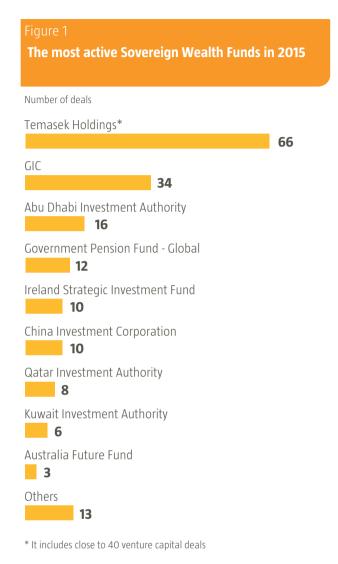
Currently, there are 94 active sovereign wealth funds, two more than in our 2015 Report. 57 countries have established at least one SWF. Middle East, China, Southeast Asia and Norway are the four most active poles of SWFs. Assets under management exceed 7 trillion dollars. SWFs have widely spread in recent years: since 2010, 23 new funds were established. Other 28 countries are considering establishing a SWF. Debates over new SWFs are growing in East and South Africa and in Latin America. Thus, in 2016, there are more than 122 operating or prospective-SWFs. There are 31 funds members of the International Forum of Sovereign Wealth Funds.



represents over 70% of the estimated global SWF assets under management and clearly reflects the disproportionate participation of the largest sovereign investors. Our analysis of the acquisition data in particular, suggests that this group has indeed "carried on" in the midst of market disruptions. In 2015, aggregate investment activity increased by over 30% to nearly 180 deals, deploying a minimum of approximately \$47 billion in reported transaction capital.⁵ Based on the number of deals completed in the first six months of 2016 direct SWF transactions appear on pace to exceed 200 in 2016.

We discuss our results below for both 2015 and, as preliminary, 2016. While generally we find a continuation of prior investment themes and destinations, some interesting secular shifts are discernible. In both periods sector and geographic preferences were somewhat consistent with themes developed in prior periods. For example, both the real estate and infrastructure sectors continued to attract significant sovereign capital. However proportionately investments in commodities and natural resources declined. Similarly, with respect to geography, key destinations such as the US, India, China, and the UK continued to attract sovereign investment. In 2015 Ireland joined these ranks based on the efforts of the Ireland Strategic Investment Fund (ISIF) to continue to scale up its investment activity. The ISIF is especially interesting as its emergence from the ashes of Ireland's National Pensions Reserve Fund reflects an expanding trend by governments to establish sovereign investment vehicles with strategic or development mandates specifically to catalyze investment into domestic economic sectors. This too is reflected in our data as the number of domestic transactions in our sample increased 25% to approximately 20. As in the Irish case, several sovereign or "strategic investment" funds have been established in developed market economies, such as Europe. These are analyzed in more detail in a separate contribution later in this volume on European SWFs.

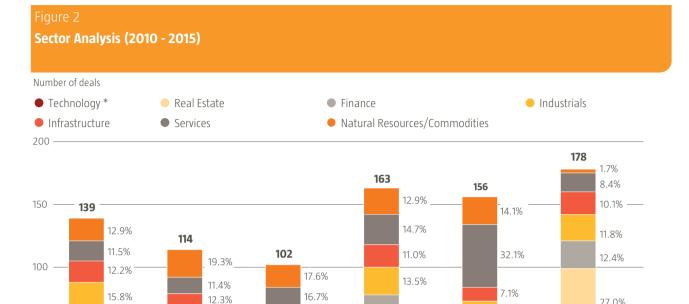
Certainly much of the media interest in SWFs during 2015 and the first months of 2016 was centered on the effects of lower oil prices on SWF flows, on the stability and growth of their asset under management, and on net impacts on SWF asset allocation. Deal teams among the largest funds — whether exporter or importer — nonetheless remained quite active during this period. The direct and indirect effects of declines in hydrocarbon and commodity prices reinforced core macro trends of slower growth and recentered investors on enhancing returns and broadening portfolio diversification. Among sovereigns this was generally reflected in



strategies that leveraged illiquidity premia and exploited global demographic shifts, while exploring the potential of new markets and technologies. Related investment themes included several linked directly to the residual impact of the oil price decline, as for example the attractiveness of renewables and green tech. We note in particular representative deals such as ADIA's investments in the Green Investment Bank and ReNew Power Ventures, as well as its recent co-investment with GIC in Greenko Energy Holdings. Others themes build on an expanding SWF investment base in bio-tech and life sciences, as well as disruptive technologies and business models both in developed and emerging markets. Temasek and GIC

Source: SWF Transaction Database (Tufts University)

⁵ We track both acquisitions and divestiture. Our analysis here is on the former.



8.8%

8.8%

35.3%

12.7%

2012

* SWF subsidiaries' investments in venture capital (mostly technology) are not included before 2015.

16 7%

25.4%

14.9%

2011

Source: SWF Transaction Database (Tufts University)

35.3%

12 2%

2010

50

continue to lead the way particularly through private equity deals, frequently executed through special purpose subsidiaries. Importantly, this theme too has expanded and deepened, particularly in e-commerce, not only among unicorns, such as GrabTaxi and Didi Kuaidi, but as well into smaller, venture-sized deals. Still, it is participation in large-scale real estate and infrastructure that garner particular attention justifiably. Together these sectors account for nearly 50% - over US \$23 billion - of reported 2015 SWF invested capital.6

2015 Investment Activity

30.7%

16.6%

0.6%

2013

In 2015, the top five SWF direct investors were Singapore's Temasek and GIC, the Abu Dhabi Investment Authority (ADIA), Norway's Government Pension Fund — Global (GPFG), and the China Investment Corp (CIC), who together by deal count constitute 78% of our deal volume. This is more concentrated than 2014, when these same funds represented about 73% of deal volume. Also, as the CIC and ISIF each completed ten transactions, elevating it to the top five further concentrates deal volume (83%). Of particular note, Norway continued to build out its real estate portfolio, averaging approximately 1 deal per month.

5.8%

24.4%

1.9%

2014

Evaluating private equity deals separately, we note that Temasek and GIC—either directly or via subsidiaries—maintained an aggressive pace in this asset class. Principle among such structures is Vertex Ventures, one of several venture capital subsidiaries of

27.0%

28.7%

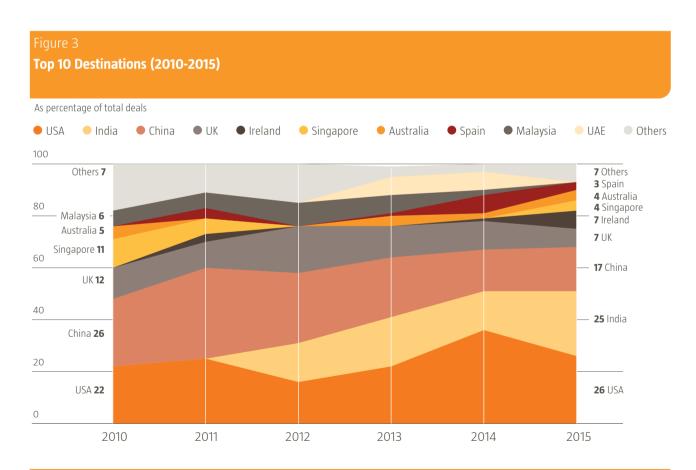
2015

⁶ We offer here a brief and cautionary note on methodology. Data on the value of SWF participation in deals is extremely difficult to collect and validate. All too frequently transaction amounts are expressed as aggregates with little clarity around specific commitments or levels of participation by co-investors. Also some sectors – such as real estate – might be better reported than others. While various techniques may be used to estimate or "range" SWF investment levels, we suggest that any interpretations of such data — and so any conclusions drawn - must be viewed with considerable caution. Our approach is to reference reported and verified SWE investments, recognizing both the possible presence of selected reporting bias and that missing data will significantly impact analyses and conclusions.

Temasek, which itself completed nearly 50% of the venture deals we tracked. With respect to execution, Temasek's average commitment in such transactions is over US \$350M, while Vertex average commitment — appropriately for the size and stage in which it investments — is estimated to be approximately US \$18M.

By sector real estate transactions dominated in 2015 representing 27% of the deal count led by GIC, GPFG, and ADIA (Figure 2). While increasing proportionately from 20% in 2014, total real estate transactions actually increased nearly two-fold to 48. This represents over 37% of total reported SWF invested capital in 2015. Conversely investments by SWFs in commodities and natural resources were significantly scaled back in 2015 owing to the structural decline in global commodity prices and what some have speculated as the end of the commodity supercycle. Proportionate investment in this sector declined from over 10% in 2014 to under 5% in 2015. Lastly, in financial services, a sector that dominated SWF deal volumes since 2009, year over year investments remained about flat, but declined proportionately.

By geography, the US, India, China, the UK, and Singapore remained attractive destinations for sovereign investment with 69% of total deal volume (Figure 3). This was an increase over 2014 (61%). While there were proportional shifts, deal volume was higher in each geography, in some cases by a factor of two (26 China deals) or over three (39 India deals). The US nonetheless continued its appeal as a sovereign investment destination with over 40 deals, an increase of over 60 percent year over year. As noted above, Ireland also climbed in the ranks but by virtue of the domestic investment activities of the ISIF. In fact, 12% of the 2015 SWF deals were completed domestically. The ISIF, in keeping with its development mandate, completed 9 of 21 total deals. Other funds with development or strategic mandates notably Temasek, Samruk-Kazyna, CIC, and Mumtalakat - were likewise active domestically in 2015. In the case of Temasek it is interesting to note that its domestic 2015 deals were undertaken by its venture investing arms Vertex Venture Holdings and Heliconia.



Source: SWF Transaction Database (Tufts University)

SWF Name	Target Name	Volume (US\$ Million)	Target Country HQ	Target sector
Public Investment Fund	RDIF	10,000	Russia	Finance
Samruk-Kazyna National Welfare Fund JSC	Kashagan Oil Field	4,700	Kazakhstan	Natural Resources
Qatar Investment Authority	Manhattan West Properties	3,784	USA	Real Estate
Abu Dhabi Investment Authority	Hong Kong Hotels	2,390	Hong Kong	Real Estate
Government Pension Fund - Global	322 properties across 17 states	2,340	USA	Real Estate
China Investment Corporation	Australia Office Properties (Investa Property Group)	1,783	Australia	Real Estate
Government Pension Fund - Global	Trinity Wall Street	1,560	USA	Real Estate
Abu Dhabi Investment Authority	TransGrid	1,400	Australia	Infrastructure
Kuwait Investment Authority	TransGrid	1,400	Australia	Infrastructure
Qatar Investment Authority	HK Electric Investments	1,200	Hong Kong	Infrastructure

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

On the basis on the value of reported commitments by SWFs,7 we find that approximately 22% invested capital was committed to companies or projects domiciled in the United States, 21% in Russia, 11% in China and Hong Kong, 10% in Kazakhstan, and 5% in India.

Noteworthy deals of size include the 10 billion dollar commitment to the Russia Direct Investment Fund by the Public Investment Fund of Saudi Arabia and the 4.7 billion dollar Samruk-Kazyna investment in a 50% stake in the Kashagan oil field acquired from Kazakhstan's state oil and gas company KazMunaiGas. Investments in the United States and Hong Kong were primarily in real estate, highlighted by the Qatar Investment Authority's investment in the Manhattan West development, Government Pension Fund Global's investment partnership with Prologis in American warehouses, and ADIA's investment in the Grand Hyatt, Renaissance Harbour View and Hyatt Regency and Hong Kong.

It is interesting to note that in each of the three aforementioned real estate transactions, the sovereign was engaged in a partnership or a consortium. Of the 21 real estate deals we reported for 2014, only 10 were as a contributor to a partnership or consortium. In 2015 18 of 33 real estate investments were in fact co-

Sovereign Wealth Fund	Average Deal Size*		
Public Investment Fund	5,550.00		
Samruk-Kazyna National Welfare Fund JSC	2,403.00		
Qatar Investment Authority	961.58		
China Investment Corporation	944.33		
Australia Future Fund	841.77		
Abu Dhabi Investment Authority (ADIA)	682.12		
Kuwait Investment Authority	681.50		
Mubadala	500.00		
Government Pension Fund - Global	496.12		
The State Oil Fund of the Republic of Azerbaijan	435.00		
Khazanah	300.00		
GIC	263.31		
New Zealand Superannuation Fund	260.58		
Temasek Holdings	169.44		
Ireland Strategic Investment Fund	128.58		
Korea Investment Corporation	100.00		

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

Note that substantial deals such as the GIC's purchase of Veritas (worth \$8 billion), Temasek's investment in China's Postal Savings Bank IPO (worth \$7 billion), and Temasek's financing of the EMC purchase (\$67 billion) were not included in these figures as we could not accurately determine the level of SWF financial investment.

invested deals. This was coupled with a significant increase in the average size of real estate deals in which sovereigns participated. The combination might well suggest that sovereigns sought to deploy larger allocations to deals, but are opting to share transaction exposures, while leveraging the market expertise of coinvestment partners. It is nonetheless telling that it is the largest SWFs by AuM - GPFG, ADIA, CIC, QIA and GIC – that account for most of the reported sovereign investment in real estate – over 90% - in 2015.

2016 Investment Activity: A Preliminary View

To assess continuity in SWF direct investment patterns into 2016, we extended our analysis cautiously to offer a preliminary view into 2016 deal activity. We find that in the first half of 2016 SWF investment has generally maintained its trajectory though at a somewhat faster volume pace. As of June 30, approximately US \$21 billion in reported investment value was identified across approximately 100 deals. This suggests that while deal count may have accelerated, aggregate capital deployed — as reported — has not thus far. Once again Temasek, GIC, and ADIA, dominate the rankings with over 50% of the transactions, joined by the Qatar Investment Authority (5), the ISIF and Mumtalakat (each with 4), and the Kuwait Investment Authority (KIA), the Korea Investment Corp (CIC), the CIC, and the Russia Direct Investment Fund (RDIF) (each with 3).

Conspicuous by its absence from this roster is Norway. With over \$845 billion in assets under management, the GPFG - among the largest SWFs – reported a loss for Q1 2016 and in January experience its first drawdown in 20 years. Managing liquidity requirements resulting from additional projected drawdowns in 2016, may in part account for a slowdown in deploying capital in direct deals in the first half of 2016. Norway's direct investments are in the real estate sector. Its mandate includes a 5% allocation to real estate, which remains partially filled at 3%. Over 75% of its real estate holdings are in the US and the UK, with 26.3% in the UK alone. This leaves open that real estate market conditions in its key markets may also account for its decision to deploy less capital in H1 of 2016. We return to this question below in an expanded discussion of Brexit. By sector, we note an increase in the pace of financial services deals when adjusted for commitments to pooled investment vehicles. Also there is some evidence that sovereign investment interest in commodity and natural resource deals may be intensifying. What is certain is that thematic investment in new technologies continues (nearly 20% of 2016 deals thus far). One investment garnering particular interest in the early part of 2016 is the \$3.5 billion commitment to Uber by the Saudi Arabia's Public Investment Fund. This deal comes on the heels of CIC's 2015

investment in Singapore's Grab Taxi and Temasek and CIC's participation in the funding rounds of China's Didi Kuadi. Placed in wide relief, it reflects a thesis among SWFs — particularly from the perspective of long investment horizons - that the forces driving innovation in disruptive new technologies, including e-commerce, offer opportunities for both enhanced returns and diversification from traditional economies and business models. This theme is taken up and analyzed in more detail in a separate contribution in this volume on sovereign venture investing.

With respect to the real estate sector specifically, we identified 21 investments accounting for 20% of our preliminary 2016 reported total. Many of these investments were in the US market, such as the CIC's purchase of a minority stake in 1 New York Plaza for US \$700 million and GIC's investment in student housing for US \$665M. The largest real estate deal we have tracked in 2016 is the Qatar Investment Authority's purchase of Asia Square Tower One in Singapore for US \$2.5 billion. Other significant transactions thus far include the Korea Investment Corporation's co-investment with Brookfield Property Partners in the Berlin property complex Potsdamer Platz and the State Oil Fund of Azerbaijan's (SOFAZ) venture into the Italian property market.

By geography, the US, India, China, Singapore, and the UK continued to attract sovereign capital yet at a pace (55%) slightly trailing 2015. Noticeably SWF real estate deal count in the UK declined in the first six months of 2016.

Brexit through Sovereign Eyes

As we prepared our analysis in the shadows of the Brexit vote, we were struck repeatedly by a lingering question: How do long-horizon sovereign investors evaluate and mitigate political risk? We thought to consider this question in the microcosm that is our dataset. We focused on a simple question: Does the data belie a sensitivity to the market risks associated with both property and currency values in the one and one half years leading up to the Brexit vote? Now several weeks removed it is interesting to return to our sector analysis with a focus on the UK. Certainly, the vote for Britain to leave the EU has precipitated much uncertainty with regard to timing, conditions, and so eventual impacts of the decision.

Moreover, with its deep linkages across EU markets, this uncertainty in the UK's economic future is exported to other facets of SWF balance sheets.

Returning to our analysis, we found that SWF investment activity in 2015 offered little indication or insight into the impending vote. The 11 deals completed by SWF's in the UK in 2015 represented a marginal increase year over year. Also slightly over half those deals

were completed in the second half of 2015. In addition, seven of the eleven investments were in the infrastructure and property sectors in which real effective returns would likely accrue long after the Brexit dust had settled.

Through June 30, 2016, we identified four additional UK deals, i.e. one behind the H1 2015 pace. This includes CIC's business park deal (US \$509M in January), as well as the KIA's London City Airport deal (\$2.8 billion in February). Year to date through June 30, the FTSE EPRA/NAREIT UK Property Index was down 13.5 percent clearly reflecting the uncertainty the Brexit vote engendered and its adverse impact on UK real estate values. Similarly, the GBP weakened by over 10% through the same period.

The weakened Sterling and depressed UK property prices prompted the GPFG to reduce the value of its UK real estate holdings by 5% at June 30. However, these pricing adjustments likely affected pipeline deals. For example, in the case of Norway, GPFG in July announced a \$164 million purchase of retail space on London's Oxford Street just 23 days after the Brexit vote.⁸ Also in July the QIA was linked to the acquisition of London's Grosvenor House as part of a 3 hotel deal. Thus, the UK real asset market may yet present buying opportunities for large SWFs who seek to deploy capital to UK property assets and who may yet be on the sidelines in wait of attractive investment opportunities. Our eventual review of the full year 2016 will allow us to complete this analysis and perhaps shed additional light on the questions we posed above.

The emergence and evolution of what would eventually become known as "sovereign wealth funds" have their genesis in the early commodity stabilization funds deployed in a public policy capacity to mitigate the adverse effects of commodity price movements on fiscal balances and to immunize national economies against overinvestment in the face of low absorptive capacity. Today, SWF mandates have expanded widely in some cases through outgrowing their asset bases, while in others to meet the discrete challenges of a specific strategic or policy remit. The decline in hydrocarbon prices, which deepened in 2015, raised real questions about the institutional viability of SWFs funded by oil revenues. As oil prices continue to seek a new equilibrium, oil exporters have taken an integrated approach to fiscal management, recognizing that SWF reserves represent one of many tools designed to support long-term fiscal sustainability. Critically, the innovation that is the sovereign wealth fund has re-emerged with further expanded mandates that include not only stabilization and savings, but also economic diversification and the catalytic function to promote inward foreign direct investment. SWFs "carried on" in 2015. As their evolution continues we should expected to see structural changes in investment behaviour that adapt to long-term secular trends in markets, while also reflecting these new institutional paradigms.

⁸ Had the Government Pension Fund Global completed the purchase on June 15th instead of July 15th, the fund would have paid 5.6% more in Norwegian Kroners than it actually did.