



*The rising attractiveness of
alternative asset classes for
Sovereign Wealth Funds*

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Foreword



Will Jackson-Moore

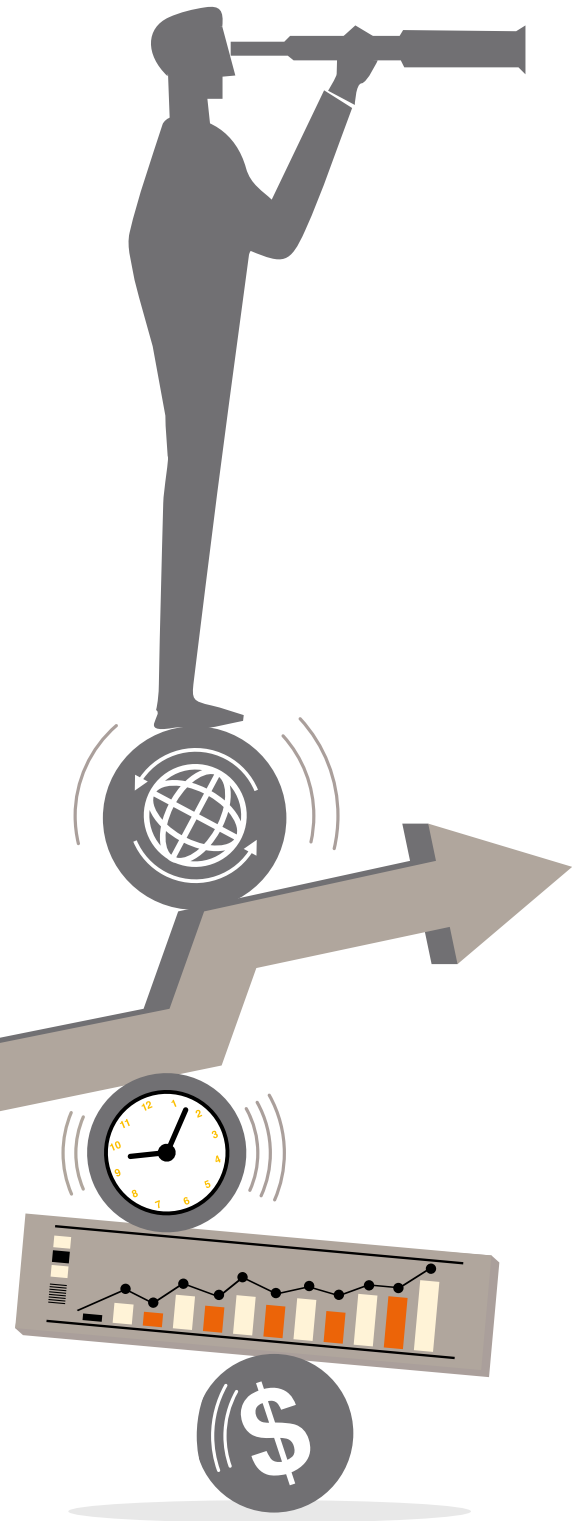
Global Private Equity, and
Sovereign Investment Funds Leader

In 2004, Sovereign Wealth Funds (SWFs) accounted for only 5% of institutional investors' assets under management (AuM), totalling USD 1.9tn. As of 2016, the share had doubled, and SWF's AuM had risen to more than USD 7.4tn. SWFs recovered particularly quickly following the Global Financial Crisis (GFC), only experiencing an asset drop in 2009.

Despite this strong growth, SWFs have faced adverse market conditions since 2014. Hydrocarbon prices dropped significantly and, as 60% of these institutions' AuM originates from this source, less capital was injected into SWFs and the pre-2014 growth pace could not be maintained. This, in conjunction with the low interest rate environment, led SWFs to broaden their investment strategies. By looking at alternative investments, such as private equity, real estate, infrastructure, commodities, and hedge funds, SWFs could have the possibility to further diversify their portfolios and enhance their returns.

The World Gold Council, the market development organisation for the gold industry, and the PwC Market Research Centre, collaborated to perform a joint study on the latest investment trends of SWFs and the relevance of alternatives for their portfolios for the future. PwC believes that the information in this report will guide the reader to a better understanding of the various alternative asset classes and their importance for SWFs' portfolios. By studying various SWFs and their investment strategies, PwC hopes to provide the reader with a thorough overview of SWFs and alternative asset classes. PwC trusts you will find this publication both insightful and compelling.

Executive Summary



It has been almost ten years since the GFC rocked the world's financial system. SWFs were not immune to the effects and experienced a drop in AuM of 3.1% in 2009, however they rebounded strongly following this, with an AuM compound annual growth rate (CAGR) of 9.1% between 2010 and 2016. This strong growth should continue in the coming years due to newly established SWFs and an increasing tendency for SWFs to derive their wealth from non-fossil sources. In line with the total growth of assets, PwC expects their investment strategies to incorporate more alternative assets into their portfolios. This has already been observed in the last 7 years, with the allocation to alternatives increasing from 19% to 23% by 2016.

This rise in alternatives can provide portfolio diversification to traditional assets such as equity and bonds, support economic development, and be used as a hedge against crises which are aligned with the long-term investment horizon of SWFs.

In recent years, we have seen one of the largest bull markets in equities and experts estimate that there could be a market correction in the short- to medium-term. Certain alternatives, such as gold, can provide protection against this downturn. In fact, over a five-, ten-, and twenty-year basis, gold has provided one of the best diversifications against stocks, with a correlation of 0.04, -0.05, and -0.07 respectively. Private equity, on the other hand, has provided a good diversification against bonds, which might be useful given the tapering of quantitative easing and normalisation of monetary policies in the future.

In addition to being a hedge against crises, gold outperformed all traditional asset classes on a ten- and twenty-year basis, with annualised returns of 6.7% and 6.8% respectively, making it an important consideration for long-term investments. Private equity outperformed all other asset classes over a five-, ten-, and twenty-year basis, with returns of 13.6% for the five-year, and 8.6% for both ten- and twenty-years. Other than gold, commodities performed poorly, with negative returns across all considered time ranges.

Although expectations of an interest rate hike loom over Europe and the United States, the increase should remain moderate, with institutional investors searching for yield and diversification likely continuing to allocate to alternatives.

Including certain alternatives into the portfolio might, however, introduce a new set of risks, including illiquidity. The majority of alternatives are highly illiquid, with the exception of gold, which has one of the highest daily traded volumes.

In the following chapters, PwC shows that alternatives have been a progressively more important part of SWFs portfolios. By incorporating alternatives into their portfolios, SWFs can take steps so that their portfolios are better able to weather external shocks and they can fulfil their mandates more effectively.



01

A changing landscape

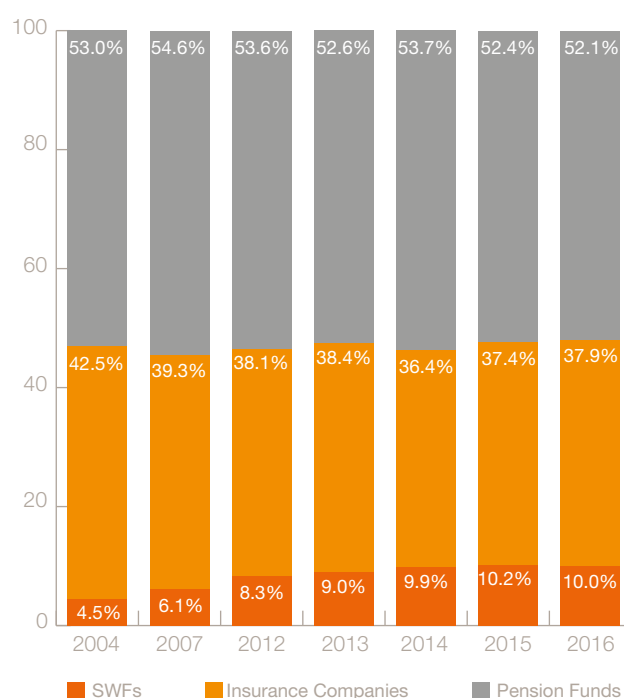


Recently, SWFs have seen a growth in importance among institutional investors, thanks to their high AuM and increasingly sophisticated investment strategies. While there are various definitions of SWFs, within this report they are defined as “pools of assets owned and managed directly or indirectly by governments to achieve national objectives”¹, in line with the OECD definition².

By steadily accumulating, preserving, and growing wealth, SWFs facilitate productivity increases as well as help to safeguard the prosperity of future generations. SWFs play an essential role in the short-, medium-, and long-term by providing governments with an important tool to stabilise the economy, exchange rates, and even act as a lender of last resort in certain cases. However, SWFs differ from central banks as they are not in charge of monetary policy. In addition, SWFs specific goals are often flexible, allowing the institutions to dynamically react to changes in the economic and political environment, making them a unique class of investor.

The relevance of SWFs on both local and international economies has grown significantly over time, with the emergence of various new SWFs in the past five years³. The establishment of new funds is not a region-specific trend, as can be illustrated by funds being set up across the globe, including Hong Kong Future Fund, Holdings Equatorial Guinea 2020, West Virginia Future Fund, and Luxembourg Future Fund.

Figure 1: Increasing share of SWFs assets among Institutional Investors



Source: PwC Market Research Centre based on IMF, SWFI, OECD, Towers Watson, World Bank data

1. OECD, “Sovereign Wealth and Pension Fund issues”, 2008
2. Although the OECD definition uses the term national objectives, certain SWFs are established on a more local level, e.g. State.
3. PwC, “Sovereign Investors 2020”, 2016; and Preqin, “2017 Sovereign Wealth Fund Review”, 2017



02



Rise in SWF assets





Assets managed by SWFs worldwide have grown significantly since 2004, from just below USD 2tn to USD 7.4tn in 2016, representing a 12.0% CAGR (see Figure 2). These inflows were largely due to the high and increasing commodity prices prior to 2014.

However, the growth of assets began to stall at the end of 2014, when oil prices began to drop, reaching its lowest point since 1998 in 2016 (see Figure 3).

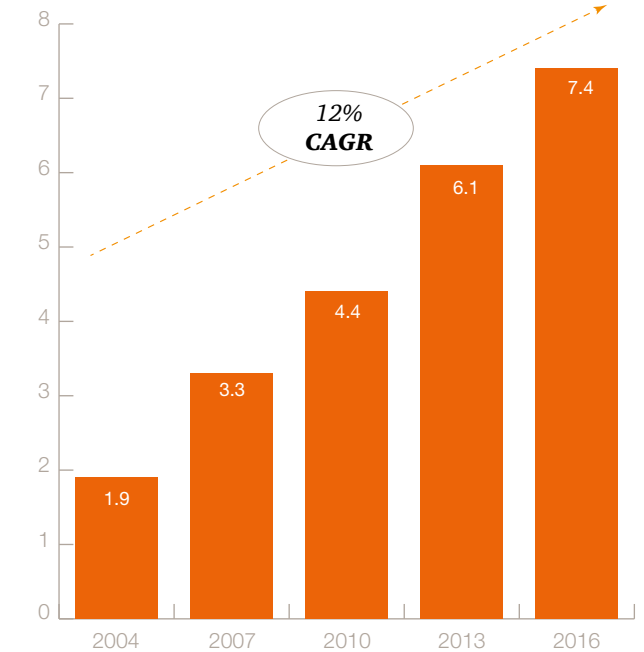
As the governments of oil producing countries continued to focus on the lower global prices and the ultimate decline of oil as a revenue source, they withdrew assets from SWFs to stabilise their economies, regardless of whether or not the primary goal of the SWF was stabilisation. The liquidation of SWFs' holdings was instrumental in offsetting public deficits, especially in Qatar and Saudi Arabia⁴.

However, SWFs' AuM is expected to grow considerably in the coming years. Despite oil prices collapsing in late 2014, and hitting the lowest point in early 2016, SWFs' assets have grown between 2014 and 2017 – although at a slower pace. The growth rate should increase in the coming years as lower oil production and a steady increase in demand drive up prices. Moreover, newly established SWFs are contributing to SWFs' assets as well. One example of a new SWF is the Turkish Sovereign Wealth Management Joint Stock Company, which aims to reach USD 200bn in the next few years⁵. In addition, a further driver of growth stems from SWFs deriving their wealth from non-fossil sources (e.g. fiscal surpluses, foreign exchange reserves, etc.). This sub-category of SWFs has posted a strong asset growth (CAGR of 14.5% between 2004 and 2016), outpacing oil- and gas-based SWFs' growth over the same period (CAGR 10.6%).

With the growing size and diversity of SWFs, we have observed their investments expanding in scope, introducing a variety of new asset classes into their portfolios. A large number of SWFs are increasingly shifting a part of their asset allocation towards alternative investments.

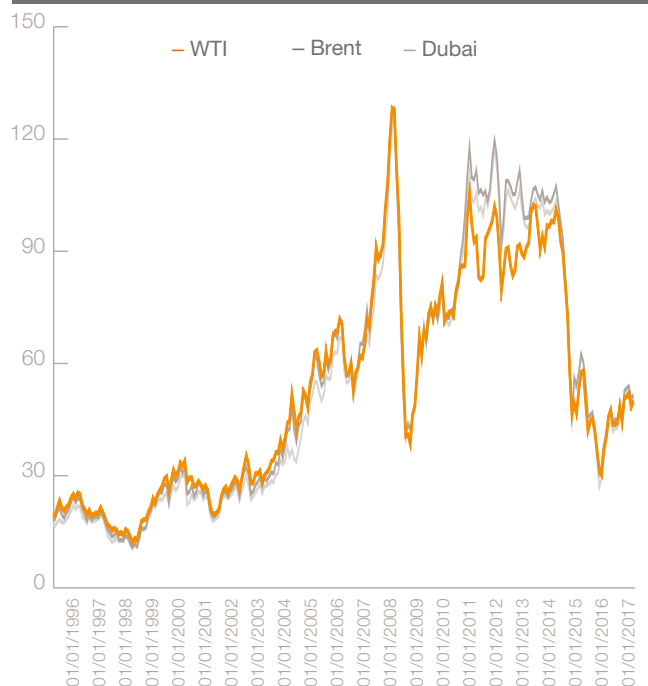
4. Financial Times, "Lower oil tests sovereign wealth funds", 2016
 5. Reuters, "Turkey transfers billions in major company stakes to sovereign wealth fund", 2017

Figure 2: Development of SWF AuM (USD tn)



Sources: PwC Market Research analysis based on The City UK

Figure 3: Crude Oil, Average Price, End of Period (USD)



Source: World Bank, 2017



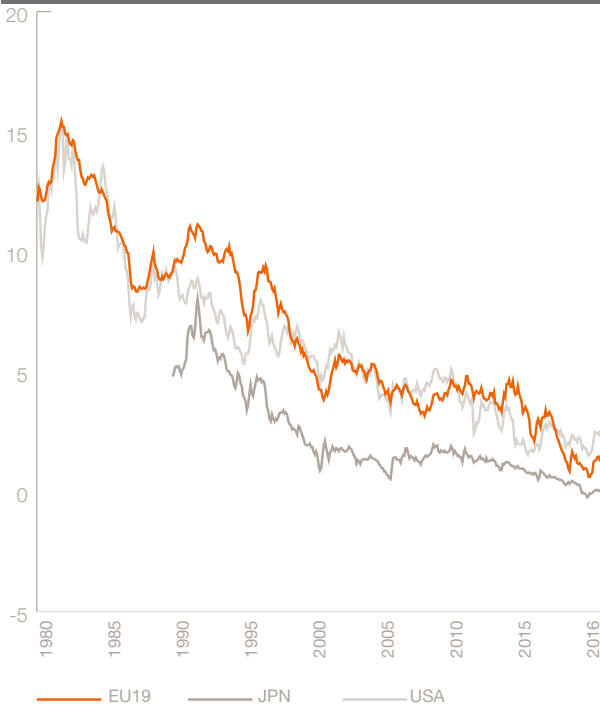
Changing asset allocation

Historically, the majority of SWFs have followed a strategy focusing, to a large extent, on fixed income. However, quantitative easing and falling interest rates in developed countries (see Figure 4) have reduced the attractiveness of fixed income products.

In order to generate superior returns under these economic conditions, SWFs have started to adjust their investment strategies by enlarging the scope of investments in terms of asset allocation, geography, and sectors. In line with the strong recovery in the stock market since 2009, the asset allocation to equities increased. Driven by the desire to diversify portfolios, SWFs have also increased their exposure to alternatives. This fits particularly well with their goals, economic incentives, and long-term investment horizon. The allocation to alternatives in SWF portfolios saw the share increase from 19% of total AuM in 2010 to 23% in 2016⁶.

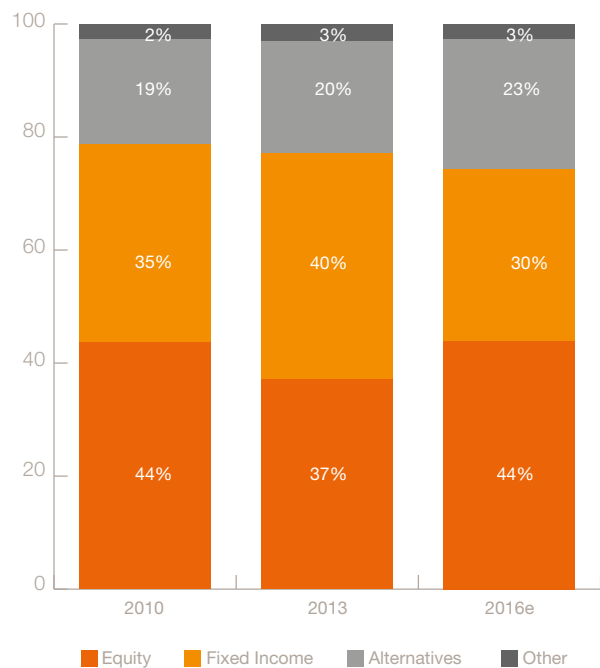
Investments from SWFs into fixed income instruments, such as government bonds, dropped notably: the share of AuM invested in this asset class decreased from the 40%-peak registered in 2013 to 30% in 2016 (see Figure 5).

Figure 4: Long-term interest rates - 10-year maturing government bonds (%)



Source: OECD, 2017

Figure 5: Evolution of asset allocation of SWFs



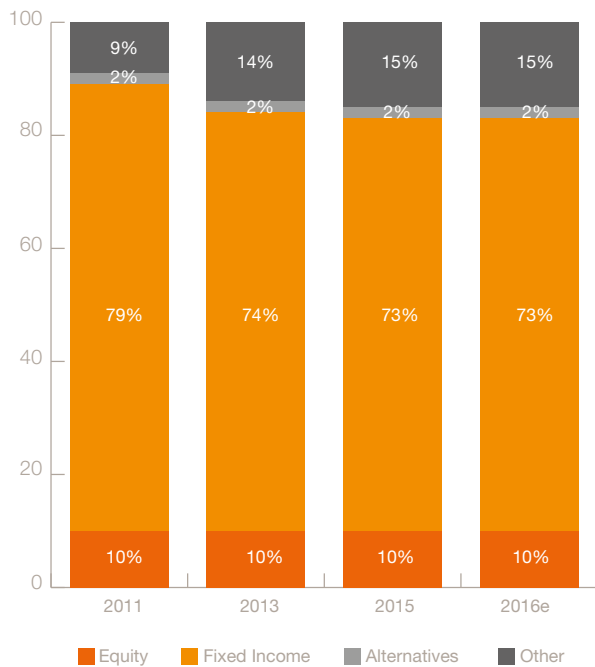
Source: PwC Market Research Centre

⁶ PwC Market Research Centre analysis - The shares are indicative, since not all SWFs disclose information on their asset allocation. PwC analysis was based on the following sample of assets: 2010 - USD 2.8tn; 2011 - USD 2.9tn; 2012 - USD 3.4tn; 2013 - USD 4.2tn; 2014 - USD 4.2tn; 2015 - USD 4.3tn.



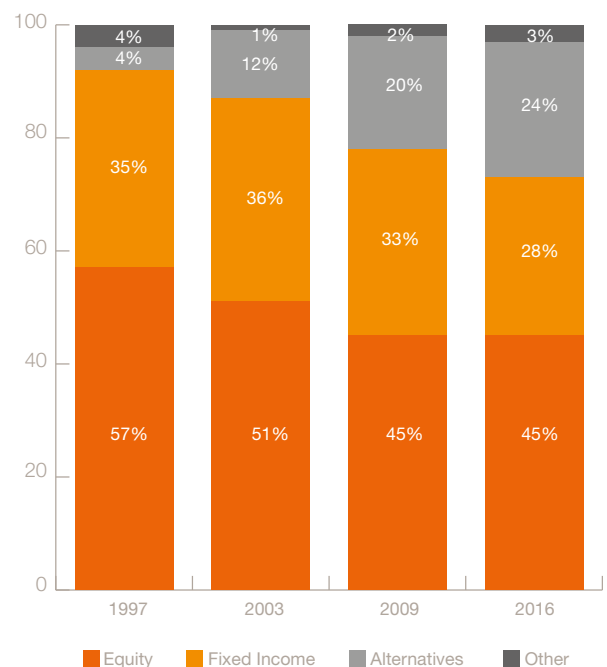
SWFs differ significantly from other large investors because of their unique ownership, governance, and mandates. It follows, then, that different regulatory requirements and investment goals are applied to their portfolio composition. Consider that, for reasons of liquidity and capital adequacy, insurance companies need to maintain high levels (more than 70%) of bonds and other fixed income assets (see Figure 6). SWFs have no such constraints: they tend to have broader objectives and longer-term investment horizons than private insurance companies do, allowing them to accept more risk in their portfolios. SWFs show stronger similarities with pension funds (see Figure 7). Like pension funds, SWFs can allocate resources to less liquid investments such as alternatives. The broader scope and government backing contribute to a wide range of portfolio choices for SWF managers.

Figure 6: Evolution of insurance companies asset allocation



Source: OECD, 2017

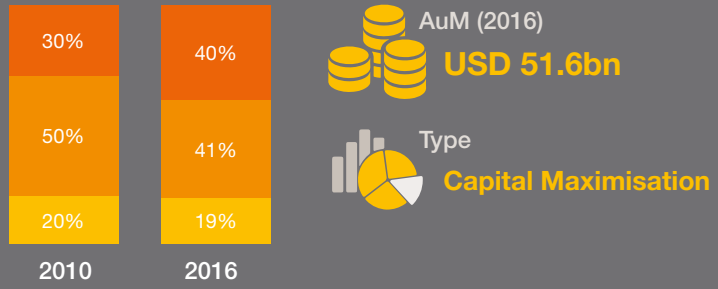
Figure 7: Evolution of pension funds asset allocation



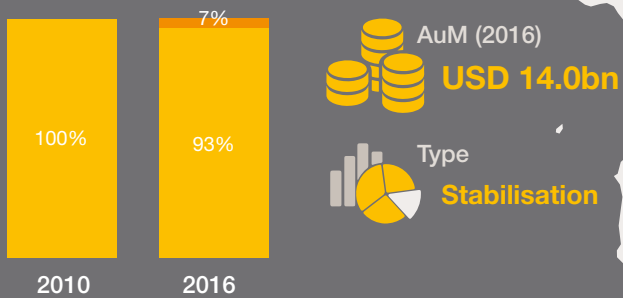
Source: Towers Watson, 2017

Figure 8: Asset allocation of selected SWFs

Alaska Permanent Fund Corporation (USA)



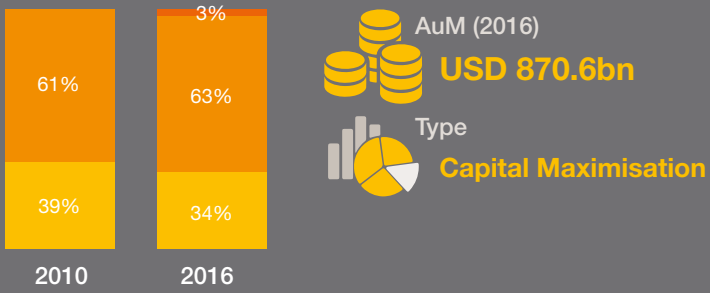
Economic and Social Stabilisation Fund (Chile)



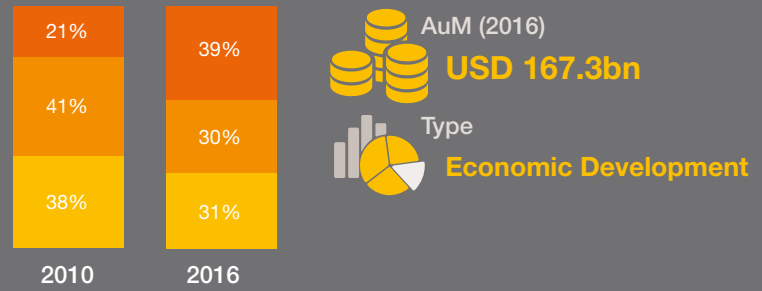
Alternative Equity Fixed Income Other

Sources: SWFs' Annual Reports, 2010-2017

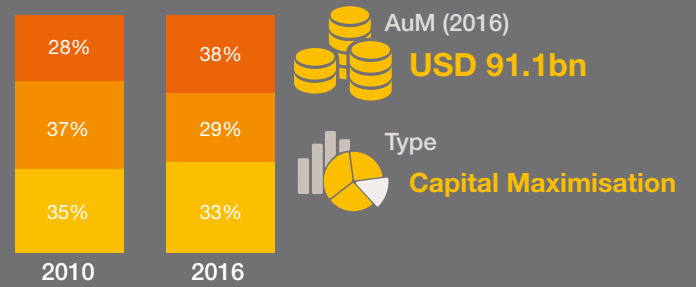
Government Pension Fund Global (Norway)



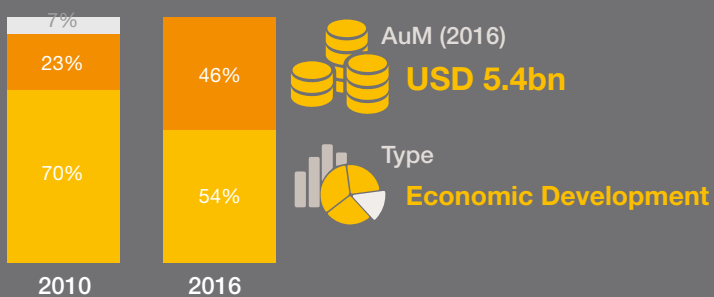
Temasek Holdings (Singapore)



Australian Government Future Fund



Pula Fund (Botswana)





03

Varying objectives,
varying strategies



Sovereign Wealth Funds are a highly heterogeneous form of institutional investor, with diverse policies and economic objectives. Varying types of SWFs exist, ranging from classifications such as Stabilisation or Savings Funds, to Reserve Investment or Development Funds. However, based on their overall objectives, SWFs can be grouped into three broad categories:



Capital Maximisation: SWFs in this category aim to build a risk-adjusted capital base for the growth and preservation of national wealth. This economic goal has three different objectives: balancing intergenerational wealth, managing fund future liabilities, and investing reserves. In line with their objective, SWFs invest with a long-term horizon in mind, allowing them to withstand short-term volatility in capital markets, as well as benefit from liquidity premium.

- The Government Pension Fund Global (GPF), a Norwegian capital maximisation SWF, invests 62.4% of its total AuM in publicly traded stocks and 34.3% in bonds. However, it has not escaped the low interest rate environment and is struggling to meet its return targets. To bolster its performance, GPF is increasing its allocation to equities to 70% and turning to alternatives⁷. As a matter of fact, the Norwegian government announced a potential change in the wealth funds' investment statute allowing exposure to unlisted stocks⁸. The potential introduction of private equity into its portfolio may continue the further diversification that began in 2010, when the GPF was allowed to invest in real estate for the first time.
- The Government of Singapore Investment Corporation (GIC), also a capital maximisation SWF, is a long-term investor positioned for investments across a wide range of asset classes. GIC's investment portfolio is constructed to be resilient to economic conditions and, therefore, specifically includes alternative asset classes, such as real estate. The GIC's disciplined rebalancing investment strategy helped the fund increase its assets from approximately USD 222bn in 2010 to USD 354bn in 2016.



Stabilisation: SWFs in this category aim to facilitate the fiscal stability of their country's economy, as well as stabilise its exchange rate in certain cases, in the event of an external shock. To fulfil this objective, these funds have short investment time-horizons and tend to be liquid. This largely limits them to fixed income products, as high exposure to equities and certain alternatives could put their ability to intervene on behalf of their economy at risk.

- Chile's Economic and Social Stabilisation Fund (ESSF) is a good example of a stabilisation SWF. Founded in 2007 to repay public debt and fund fiscal deficits, it kept its original objective over the years. Until 2013, the SWF could invest exclusively in bonds and money market instruments. Given the decreasing returns delivered by fixed income, the fund's board decided to introduce important changes in the investment policy. From that year on, the SWF was allowed to invest in equities, which now represent 7.5% of the portfolio. The remaining part of the portfolio is composed of sovereign bonds (55%), inflation-linked sovereign bonds (3.5%), and money market instruments (34%).
- Another example of a stabilisation fund is the Russian Reserve Fund. The clear objective of this SWF is to balance the federal budget and ensure financing expenses, in case oil and gas revenues decline. The fund replaced the former Stabilisation Fund of the Russian Federation, and contributes to the stability of Russia's economic development. With oil price declines in recent years, the SWF's assets decreased from USD 89bn in 2014 to USD 32bn in 2016.

Economic development: The third category of SWFs is focused on boosting a country's long-term productivity. They do so by investing in physical infrastructure (roads, railways, telecommunications grids, etc.) and social infrastructure (education, healthcare, etc.), and diversifying the economy (development of strategic industries). To achieve their long-term objectives, these funds allocate significant amounts to alternatives and equities. This introduces higher risk exposure as well as potential illiquidity in the form of capital lock up in longer term projects.



- Temasek Holdings, the other Singaporean SWF, fits into the economic development category. To fulfil its objectives, Temasek invests the bulk of its AuM in equities, giving the fund a significant relevance in economic sectors, including telecommunications, energy, media, and financial services. Temasek has also supported small and medium-sized enterprises (SMEs) since 1991 via private equity investments. Finally, it pursues long-term economic development by financing infrastructure projects.
- Mubadala Investment Company is another example of an economic development SWF. This fund was created in January 2017 through a merger between the International Petroleum Investment Company and Mubadala Development Company, establishing an SWF with an AuM of USD 125bn. Although not purely investing for economic development, the stated objective of the fund is to "accelerate economic growth for the long-term benefit of Abu Dhabi"⁹. This is achieved by investing in sectors ranging from aerospace and information and communication technology (ICT) to renewable energy and infrastructure, with the aim of diversifying the economy and developing industrial champions.

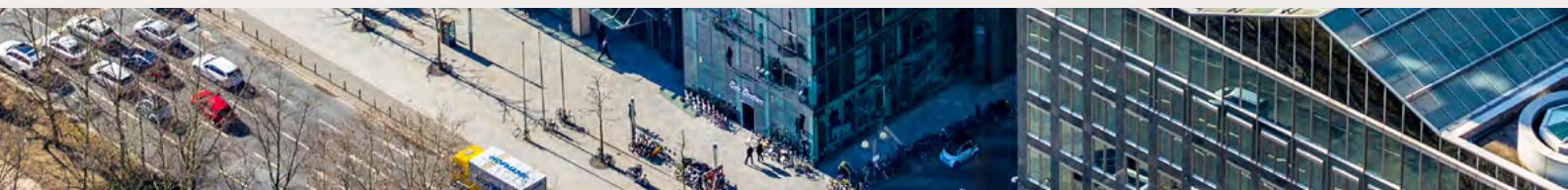
⁷ Alternative investments refer to real estate, infrastructure, private equity, commodities, and hedge funds

⁸ IPE

⁹ Mubadala, 2017



A move towards
investment in alternatives





Traditionally, portfolios were diversified by combining equity and fixed income instruments. Due to the low interest rate environment over the past decade certain SWFs began to search for better yields and are increasingly investing in alternatives.

Given that certain experts expect a correction in the market in the short- to medium-term, the relevance of both principal preservation and downside protection could become more pronounced, leading to a higher allocation to alternatives among institutional investors. Although given the normalisation of monetary policy, tapering of quantitative easing, and hikes in interest rates, these changes will likely remain moderate and therefore SWFs will continue to search for yield and diversification in alternatives.

SWFs asset allocation will be driven by a combination of the benefits of alternative investments. The inclusion of alternatives into the portfolio can significantly improve the risk-reward profile. For example, gold, which in the case of stock market downturns has a negative correlation, has provided effective protection during market turmoil. Real estate and infrastructure investments are other examples that can provide effective protection during downturns as they have offered solid returns compared to other asset classes during times of decreasing GDP¹⁰.

Another reason to introduce alternatives into the portfolio is principal preservation, which can be understood as an attempt to introduce a source of returns which has reduced market risk. This can be achieved by employing arbitrage and market neutral strategies, either through investment into a specialised hedge fund or by deploying the strategy in-house. In general, these strategies exploit observed inefficiencies in a particular market by opening both long and short positions which should eliminate or reduce market risk while producing alpha returns.

Furthermore, by introducing alternatives into the portfolio, the value of investments can be protected against a possible decrease in purchasing power of the currency the investments are denominated in. This can be done through instruments whose returns are somehow linked to inflation or have perceived intrinsic value. An example of this is real estate, where if rent increases in tandem with the consumer price index (CPI), the performance of the investment should offset the negative effect of inflation on the portfolio. Assets with perceived intrinsic value, such as commodities, should increase in price alongside CPI. In cases of extreme inflation for example, gold has historically performed well, outpacing that inflation by 10%¹¹.

However, the inclusion of some alternatives in the portfolio may also introduce new types of risks such as illiquidity, complexity, and cyclical risk. Alternative investments often require lengthy periods to repay initial investments (e.g. real estate and infrastructure projects). This time-horizon may be appropriate for certain SWFs but, as recent events show, these entities may need to liquidate some of their holdings to adjust sovereign balance sheets. Alternative investments may also be more complex than traditional asset classes. Finally, some alternative asset classes are particularly exposed to cyclical risk, requiring timely portfolio rebalancing, which can be costly and difficult to execute.

¹⁰. Deutsche Asset Management analysis

¹¹. World Gold Council, "Outlook 2017", 2017

Performance analysis of selected asset classes

The heterogeneous qualities of alternatives allow SWFs to select asset classes which suit their specific objectives. The correlation table in Figure 9 shows a five-year, ten-year, and twenty-year correlation analysis of traditional and alternative asset classes. The results are derived from quarterly returns of selected indices representing each asset class. The indices are further analysed (see Figure 10) to provide annualised average returns and volatility over a five-, ten-, and twenty-year period.

Figure 9: Correlation analysis of traditional and alternative asset classes

5-year correlations	Bonds	Equity	Real estate	Commodities	Gold	Hedge funds	Infrastructure	Private equity
Bonds	1							
Equity	-0.13	1						
Real estate	-0.06	0.53	1					
Commodities	0.16	0.25	-0.16	1				
Gold	0.75	0.04	-0.16	0.52	1			
Hedge funds	-0.12	0.67	0.31	0.47	0.03	1		
Infrastructure	0.01	0.19	0.26	0.32	0.21	0.16	1	
Private equity	-0.23	0.63	0.72	0.36	0.00	0.64	0.52	1

10-year correlations	Bonds	Equity	Real estate	Commodities	Gold	Hedge funds	Infrastructure	Private equity
Bonds	1							
Equity	-0.29	1						
Real estate	-0.35	0.49	1					
Commodities	-0.11	0.54	0.27	1				
Gold	0.58	-0.05	-0.10	0.41	1			
Hedge funds	-0.29	0.81	0.46	0.74	0.07	1		
Infrastructure	-0.09	-0.01	0.34	0.08	0.02	-0.15	1	
Private equity	-0.29	0.80	0.76	0.63	0.08	0.82	0.20	1

20-year correlations	Bonds	Equity	Real estate	Commodities	Gold	Hedge funds	Infrastructure	Private equity
Bonds	1							
Equity	-0.39	1						
Real estate	-0.29	0.36	1					
Commodities	-0.11	0.24	0.25	1				
Gold	0.28	-0.07	-0.01	0.40	1			
Hedge funds	-0.15	0.57	0.47	0.46	-0.03	1		
Infrastructure	N/A	N/A	N/A	N/A	N/A	N/A	1	
Private equity	-0.34	0.75	0.64	0.43	0.12	0.57	N/A	1

Note: We relied on the following indices/data: S&P 500; Bloomberg Barclays US Agg Total Return Value Unhedged USD; Gold price; Bloomberg commodity index; HFRX Global Hedge Fund Index; Preqin Private Equity Quarterly Index; Preqin Infrastructure Quarterly Index; Preqin Real Estate Quarterly Index. Infrastructure correlation data was calculated from 12/2007 - 06/2017.
Source: PwC Market Research Centre analysis based on Bloomberg and Preqin data.



Correlation analysis:

Among alternatives, when examining the correlation of returns with the S&P 500 index, gold is an excellent diversifier presenting the lowest correlation on a five-, ten-, and twenty-year basis (0.04, -0.05, -0.07 respectively). Except commodities returns, which are, in general, only partially correlated with stock market performance as their prices are driven by factors specific to the asset class, and infrastructure, all other alternative asset classes are fairly highly correlated to equity. Private equity has the highest correlation on a twenty-year basis (0.75), while hedge funds show the highest correlation on a five- and ten-year basis (0.67 and 0.81).

Regarding correlations to bonds, however, private equity serves as a good diversifier on a five-year basis (-0.23) and real estate on a ten-year (-0.35). While commodities in general are not correlated to bonds, gold has the highest correlation on a five-, ten-, and twenty-year basis.

When examining correlations between various alternative asset classes only, the majority are positively correlated to each other. Although commodities present relatively high correlations to most other alternative asset classes, gold has, over all considered time periods, no statistically significant correlation with hedge funds, private equity, infrastructure, and real estate.

In light of these different correlations, including a broad range of asset classes into SWFs' portfolios can offer strong portfolio diversification benefits, especially if combined with more traditional asset classes such as equity and bonds.



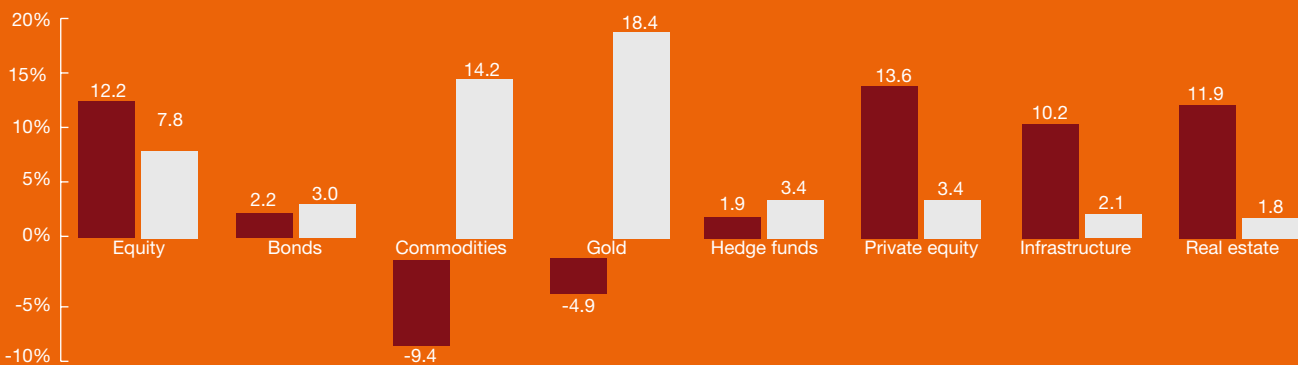


Performance analysis:

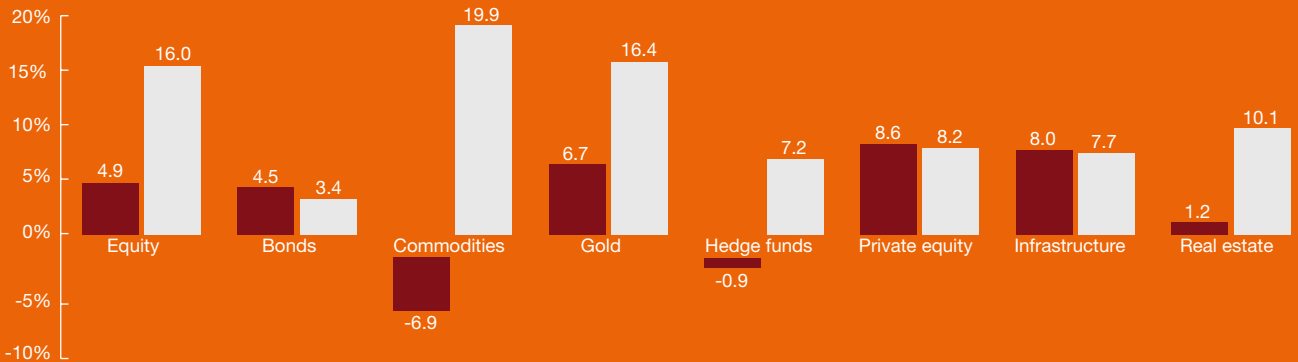
On a five-year basis, private equity outperformed all asset classes in the sample, with returns averaging 13.6%, closely followed by stocks with 12.2% (see Figure 10). Commodities performed the worst, averaging -9.4%. On a ten-year basis, gold, private equity, and infrastructure outperformed traditional asset classes with returns of 6.7%, 8.6%, and 8.0% respectively. Under a twenty-year perspective, the majority of alternatives outperformed equity and bonds, with private equity, real estate, and gold showing the highest returns. Hedge funds, on the other hand, posted lower returns than both equities and bonds. Only commodities returns were negative during this time period (see Figure 10).

Figure 10: Performance and volatility analysis

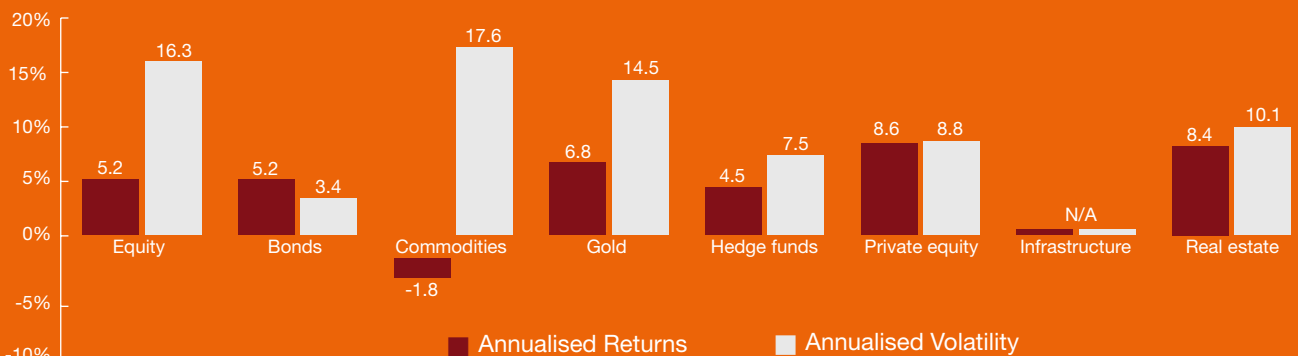
Five-year basis



Ten-year basis



Twenty-year basis*



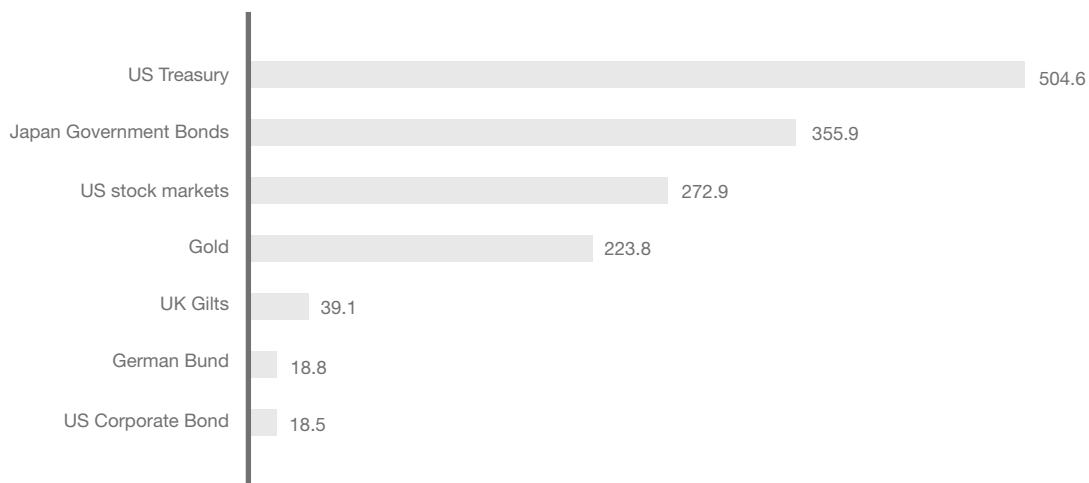
*Hedge funds, Private equity, Infrastructure, and Real estate returns and volatility are calculated on the following time bases, respectively: 12/1997 - 06/2017; 12/2000 - 06/2017; 12/2007 - 06/2017; 12/2001 - 06/2017.

Note: Returns were calculated based on the underlying index value on an average quarterly basis and then annualised.

Source: PwC Market Research Centre analysis based on Bloomberg and Preqin data.



Figure 11: Average daily volume exchanged in 2016 (USD bn)



Source: PwC Market Research Centre, BIS, SIFMA, Deutsche Finanzagentur, UK Debt Management Office, World Gold Council

From a liquidity point of view, traditional asset classes can benefit from being traded on well-established market infrastructure. More than half a trillion dollars in US Treasuries was exchanged on a daily basis in 2016, while US stock markets averaged USD 273bn per day. Figure 11 depicts the liquidity of traditional asset classes, and one alternative asset class – gold – as it is difficult to measure other alternative asset classes’ liquidity. However, compared to traditional asset classes, most alternative asset class liquidity presents a major drawback. Gold is the exception. Adding alternatives to a portfolio will diversify it, but often at the cost of making it more illiquid. Due to the intrinsic features of these alternatives, long-term investments are required. This illiquidity is heightened during times of crisis, as shown by the subprime mortgage credit crunch¹².

¹². Financial Times, “The liquidity risk alternative investments”, 2015



05

A deeper dive into
alternatives



Private equity

The private equity industry recovered strongly following the GFC, when AuM stood at USD 1.47tn in December 2007. Rising consistently over the last six years, AuM totalled USD 2.49tn as of June 2016 (see Figure 12). Dry powder¹³ reached an all-time high of USD 869bn in June 2016 fuelled by particularly favourable credit conditions. With such a large amount of ready-to-be-invested assets, private equity as an asset class is likely to become far more relevant to investors. On the other hand, the unrealised value¹⁴ in vehicles dropped marginally compared to 2015, standing at USD 1.6tn in June 2016, mostly due to decreased valuations in invested companies.

Investments in private equity are becoming a mainstream option for SWFs, with 61% of them holding the asset class in their portfolios. In 2016, private equity accounted for 6.1% of SWFs' assets, compared to 3.7% registered in 2011. This translates to an increase from USD 178bn to USD 451bn in 2016 in terms of AuM, an impressive growth rate of 20.5% (see Figure 13).

Figure 12: Dry powder and unrealised value (USD bn)

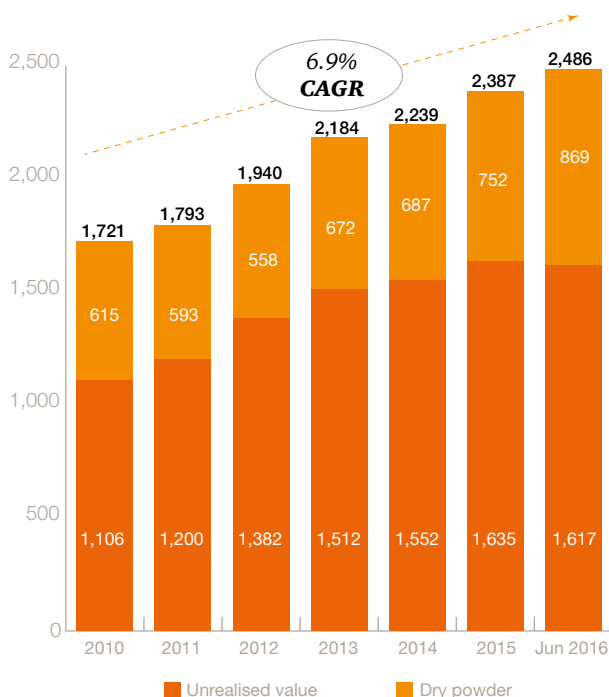
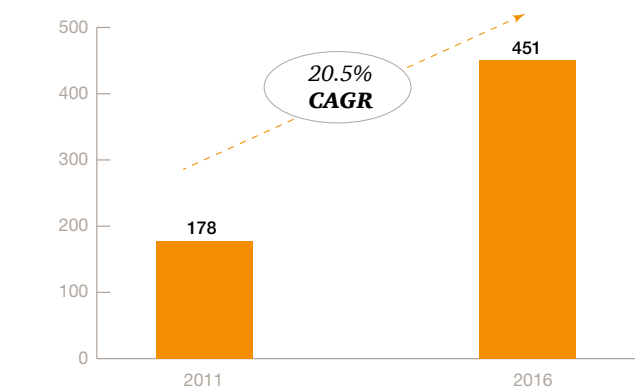


Figure 13: SWFs' AuM invested in private equity (USD bn)



Sources: PwC Market Research Centre based on Preqin and SWFI, 2017

Source: PwC Market Research Centre analysis based on Preqin, 2017

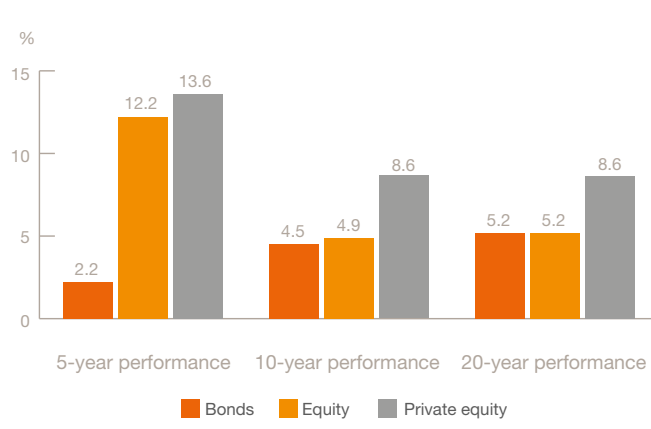
13. Dry powder is available capital to fund managers for investment, i.e. committed capital that has not yet been called up.
14. Unrealised value is the remaining value of assets still held in the fund portfolio i.e. the value of the portfolio companies.



Key drivers will shape the future of SWFs private equity investments. First, the strong results of the asset class may explain why institutional investors increasingly allocate to private equity. Private equity saw lower returns, when compared to the five-year average, over the last ten- and twenty-years largely due to poor market conditions between 2007 and 2009, however the recovery that followed was particularly impressive. Focusing solely on the last five years, private equity has performed particularly well, with annualised returns averaging 13.6% (see Figure 14). Although, risks prevail in this asset class given elevated valuations and dry powder, investors are currently willing to pay higher prices.

A second driver of future private equity investments is their negative correlation with fixed-income instruments, which stood at -0.23 over the last five years, -0.29 over the last ten, and -0.34 over the last twenty. Nonetheless, private equity may be a suboptimal diversifier in portfolios relying heavily on publicly-traded equity. The correlation with equity has been high over the last five-, ten-, and twenty-years, mainly as a result of poor returns both in stock markets and private markets between 2007 and 2009 (see Figure 15).

Figure 14: Performance of private equity compared to bonds and equity (annualised returns)



Source: PwC Market Research Centre based on on Preqin and Bloomberg data

Figure 15: Correlation of private equity monthly returns with equity and bonds

	5 years	10 years	20 years
Correlation private equity - equity	0.63	0.80	0.75
Correlation private equity - bonds	-0.23	-0.29	-0.34

Source: PwC Market Research Centre based on on Preqin and Bloomberg data

The asset class presents an additional challenge. The long-term horizon of private equity allocations represents a major drawback for some investors. While the medium-to-long time-horizon fits the features of capital maximisation and economic development of some SWFs particularly well, other SWFs still prefer not to add the asset class to their investment portfolio. Stabilisation funds (such as Chile’s Economic and Social Stabilisation Fund and Russia’s Reserve Fund) exclude private equity from their portfolios as these SWFs are expected to keep liquid positions to meet future, unexpected liabilities.

Looking forward, as SWFs gain expertise and capabilities in private equity, their direct investments in private equity should increase, which could result in potentially higher returns and diversification against fixed-income instruments. However, an increase in private equity investments could also potentially increase their risk due to the illiquidity of the asset class and the high correlation to stock markets.



How to invest in private equity: the case of GIC

Singapore's GIC Private Ltd has a well-established private equity strategy. Its long-term horizon, along with its focus on Singapore's economy, make the SWF particularly attracted to investments in unlisted stocks.

Active in the private equity scene since 1982 through its subsidiary, GIC Special Investments (GIC SI), this SWF invests more than 47% of its alternative investment portfolio in private equity via fund commitments and direct investments in non-listed companies. With 9% of its total holdings, amounting to USD 31.5bn¹⁵, represented by this asset class, GIC is one of the largest investors in the private equity market. The SWF's long-term target is to ensure this asset class makes up 15% of its total holdings, which would require a further USD 21bn to be invested in private market deals.

Currently, GIC SI has stakes in more than 400 companies and fund partnerships that are managed by seven subsidiaries, each specialising in a specific region (e.g. Asia Private Equity Group) or economic sector (e.g. Global Technology Group). Most of these investments target Japanese, Chinese, South Korean, Indian, and Australian unlisted companies, keeping a flexible approach in terms of industry of preference.

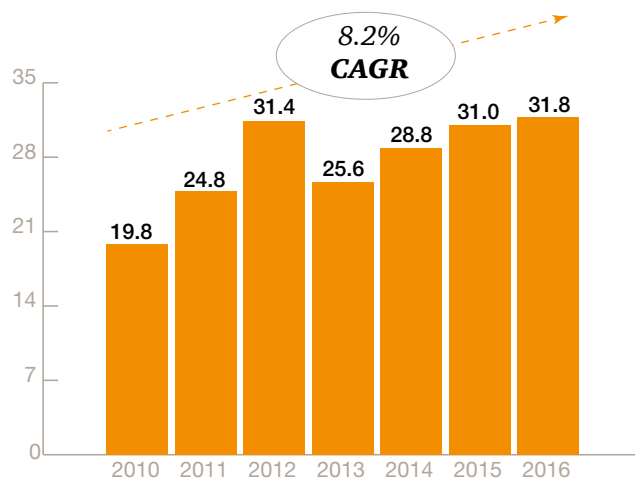
In most cases, GIC SI enters firms via minority stakes and mezzanine financing¹⁶ in buyouts. The SWF's subsidiary usually accesses private equity investments via buyouts, but it also invests in growth, venture capital, direct secondaries, and distressed vehicles. In February 2017, GIC committed to purchase ChrysCapital VII, a growth vehicle focused on India¹⁷. One month later, they agreed to buy Allfunds Bank (the world's largest B2B fund platform) with the private equity firm Hellman & Friedman¹⁸.

The example of GIC might suggest that private equity is an easy-to-enter asset class. However, institutional investors need to be careful when approaching private equity investments. Given the complexity of the asset class, the search for higher yields should also focus on costs. If the required know-how is not available in the SWF's resources, allocating assets to private equity investments may come at a considerable price in terms of asset management outsourcing.

Co-investing is well established among SWFs, with 63% of them allocating assets in private equity via co-investments¹⁹. In early 2017, the Public Investment Fund (PIF, Saudi Arabia) reached out to global leading private equity firms to help manage its portfolio of companies, and develop these businesses through know-how and expertise²⁰.

Through developing investment practices, institutional investors are beginning to directly invest in unlisted companies and add them to their portfolios²¹. By establishing specific internal structures to study markets, detect and purchase suitable targets, and increase their valuation via improved management, institutional investors are ensuring that private equity firms are no longer the only ones directly targeting untapped potential in the private markets²². SWFs have already begun to follow this pattern, with the Abu Dhabi Investment Authority (ADIA) and PIF developing dedicated internal teams. This has allowed these institutional investors to not only have more transparency and bargaining power on the final deal pricing, but also to count on a more flexible mandate. Direct investments also enable SWFs to exit the investments more easily, especially during economic downswings.

Figure 16: GIC's AuM invested in private equity (USD bn)



Source: GIC Annual Reports, 2013-2016

15. Preqin, "The 2017 Preqin Sovereign Wealth Fund Review", 2017
16. Mezzanine financing is a hybridisation between debt and equity financing, providing high-yielding loans that rank only above equity in cases of default.
17. Economic Times, "ChrysCapital raises \$600 million from GIC and other investors", 2017
18. Reuters, "Santander, Intesa Sanpaolo to sell Allfunds Bank in 1.8 billion euro deal", 2017
19. Preqin, "The 2017 Preqin Sovereign Wealth Fund Review", 2017
20. Bloomberg, "Saudi Fund Said to Weigh Offering Billions for Buyout Expertise", 2017
21. Reuters, "Sovereign funds increasingly do their own private equity deals", 2017
22. PwC, "Sovereign Investors 2020", 2016

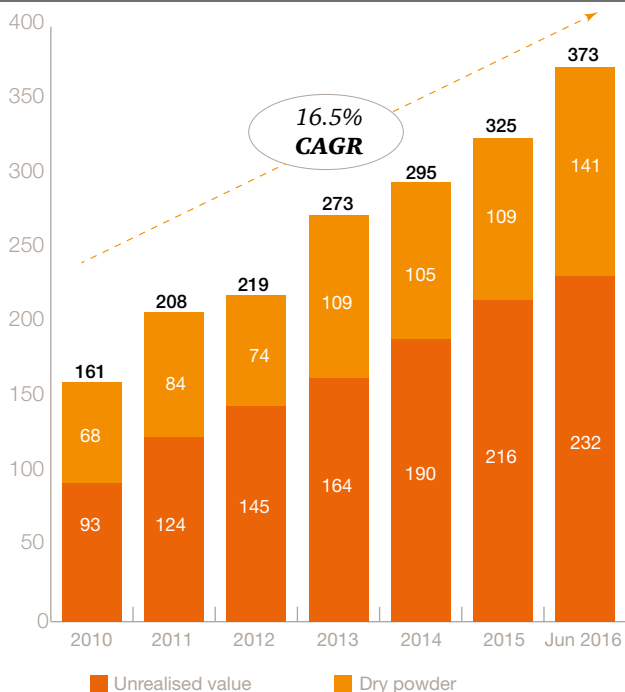


Real estate and infrastructure

Close ties exist between real estate development and infrastructure and they often overlap in investment definitions, especially as the real estate market further develops, in turn leading to the need for more infrastructure. Governments are attempting to ensure that they keep pace with developments in the private investment space by supporting²³ the modernisation of real estate and infrastructure, or by updating legislation²⁴ to enable private investments into their infrastructure sectors.

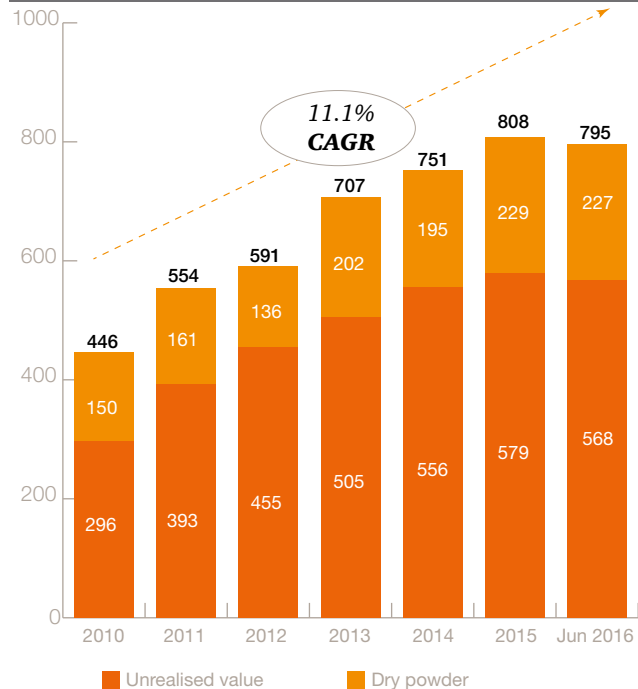
Following unstable market conditions due to the GFC, investments into real estate and infrastructure exhibited strong growth. Unlisted infrastructure²⁵ AuM increased at an impressive 16.5% CAGR between 2010 and June 2016 (see Figure 17), most likely associated with the volatile returns seen in traditional investments²⁶. Unlisted infrastructure AuM growth was driven by the 29% increase of dry powder²⁷ in the first six months of 2016. On the one hand, this trend signals the growing interest of investors in the asset class. On the other, increasingly higher levels of dry powder are spurring the run for landmark infrastructure projects, thus raising their valuations and reducing net returns from the asset class²⁸.

Figure 17: Unlisted infrastructure AuM (USD bn)



Source: PwC Market Research Centre analysis based on Prequin data, 2017

Figure 18: Closed-end private real estate AuM (USD bn)



Source: PwC Market Research Centre analysis based on Prequin, 2017

23. The Diplomat, "What China's PPP-Fueled Investment Boom Means for the Economy", 2017

24. World Economic Forum, «Creating New Models », 2014

25. "Unlisted infrastructure" refers to assets that are not exchange-listed; conversely, "listed infrastructure" would refer to shares of listed infrastructure companies.

26. Prequin, "2017 Prequin Global Infrastructure Report", 2017

27. Dry powder is available capital to fund managers for investment, i.e. committed capital that has not yet been called up.

28. Prequin, "The Q3 2016 Prequin Quarterly Update – Infrastructure", 2016

Investment into closed-end real estate²⁹ has also increased, albeit at a slower rate. Recording a 11.1% CAGR between 2010 and June 2016, it rose from USD 446bn to USD 795bn (see Figure 18). The market experienced a slight drop in 2016, mainly due to dividends paid to investors that was higher than investments into the market³⁰.

Both infrastructure and real estate investments are now at substantially higher level than their pre-GFC figures. Their AuM stood at USD 99bn (infrastructure) and USD 407bn (real estate) as of December 2007³¹, thus suggesting the impressive development of this space in the last ten years.

The low interest rate environment, as well as volatile and uncertain equity markets, has led to SWFs to shift their interest to real estate and infrastructure. Since the latter asset classes have displayed relatively stable results over the last few years, 63% of SWFs invested in both asset classes in 2016, up from 59% in real estate and 60% in infrastructure two years before.

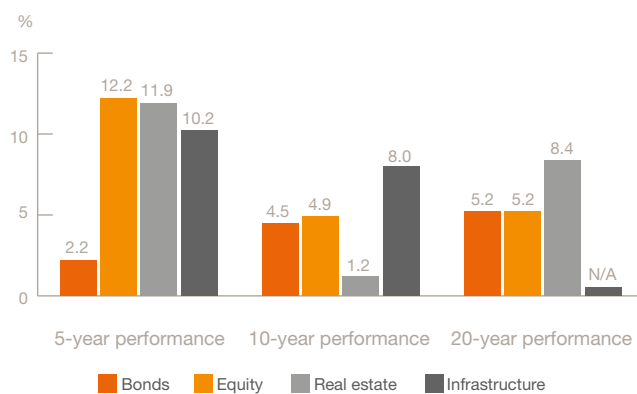
In coming years, real estate and infrastructure could become an essential part of SWFs' investment strategies and their market presence could have a large impact on prices and development plans. With mass urbanisation and the associated economic growth in emerging regions, and the renewal of dilapidated infrastructure in developed countries, this asset class might play a larger role in the future.

Past performance has made these asset classes an attractive alternative investment solution for SWFs, despite the fact that the subprime mortgage crisis substantially lowered the 10-year returns of real estate. In the aftermath of the

GFC and the following global recession, both asset classes posted substantial results, with real estate and infrastructure averaging 11.9% and 10.2% annualised returns between 2012 and 2017 (see Figure 19).

In addition, increasing investments in real estate and infrastructure are due to the inflation hedging properties of these asset classes. In fact, institutional investors can pre-emptively make these returns predictable and immune from inflationary episodes. To do so, rental and infrastructure contracts may contain either clauses or pass-throughs linking returns to sudden increases in inflation. As a result, institutional investors such as SWFs can meet their desired return levels more easily and enhance their control on revenues.

Figure 19: Performance of real estate and infrastructure compared to bonds and equity (annualised returns)



Source: PwC Market Research Centre based on Prequin and Bloomberg data

²⁹. "Closed-end real estate" funds refer to mutual funds investing in real estate projects and allowed to issue a fixed number of shares
³⁰. Prequin, "2017 Prequin Global Real Estate Report"
³¹. Prequin, 2017



While real estate and infrastructure provide investors with an alternative investment source, often providing better yield during times of rising inflation, they are not free from risk. Besides traditional risks, such as market, currency, and interest rate, asset specific challenges need to be considered.

Real estate and infrastructure both have a valid role as a diversifier. Real estate is negatively correlated with bonds on a five-, ten-, and twenty-year basis (-0.06, -0.35, and -0.29) and infrastructure has a negligible correlation over all considered time periods. Moreover, the returns on real estate have followed fairly significantly equity returns (see Figure 20). The opposite pattern applies to infrastructure, whose correlation with equity is effectively zero, except on a five-year basis (see Figure 21).

Entering investments in real estate is increasingly challenging due to high demand and very limited supply of prime locations. Many actors have already discounted the fact that properties in core prime cities can be bought only by paying a significant premium, and they are focusing on other destinations. However, second-tier real estate markets are also experiencing important inflows from institutional investors, suggesting a fierce competition each time new prime targets are available.

Looking to the future, as the shape and purpose of cities alter, SWFs can play a large role through their investments in real estate and infrastructure. These changes provide SWFs with the opportunity to shape the environment and derisk their investments through their long-term focus on these asset classes.

Figure 20: Correlation of real estate monthly returns with equity and bonds

	5 years	10 years	20 years
Correlation real estate - equity	0.53	0.49	0.36
Correlation real estate - bonds	-0.06	-0.35	-0.29

Source: PwC Market Research Centre based on Precjin and Bloomberg data

Figure 21: Correlation of infrastructure monthly returns with equity and bonds

	5 years	10 years	20 years
Correlation infrastructure - equity	0.19	-0.01	N/A
Correlation infrastructure - bonds	0.01	-0.09	N/A

Source: PwC Market Research Centre based on Precjin and Bloomberg data



Real estate and infrastructure geographical trends

SWFs investing in real estate and infrastructure seek returns, but place great importance on the volatility and overall risk involved. Typically, emerging economies offer a high growth potential. However, these markets lack the security required by long-term investors. China's possibly slowing economy, low commodity prices, and overall geopolitical climate are regarded as key factors for the unbalanced returns³². As a consequence, recently SWFs have been reallocating investments to stable markets, in search of safer locations to shelter their assets. Alternatively, certain SWFs turned their attention to domestic infrastructure projects³³, as they directly impact their home country and avoid the need to hedge currency (lowering the risks involved).

The heat map (see Figure 22) highlights infrastructure investments and the regions of interest for institutional investors. The US has become one of the leading investment destinations for SWFs due to the established and growing economy. The strength of the US currency and the positive changes to the US tax legislation (Foreign Investment in Real Property Tax Act) have encouraged sovereign investments in real estate and infrastructure. Nevertheless, the increasing protectionism voiced in the US raises concerns about foreign investments in the country³⁴.

Despite Brexit, there has been ongoing sovereign commitment to long-term alternative investments in the UK. According to a survey performed by Invesco, many SWFs noted that they were unlikely to cancel UK assets in the near future, instead renewing their commitment in projects such as Thames Water and Heathrow Airport³⁵. However, survey respondents stated that their investments are long-term and they are unlikely to alter them until the UK's position as a preferred investment destination becomes clear.

In Continental Europe, SWFs have continued investing within the region, showing strong activity in Germany and Italy. In 2016, investment activity of SWFs in Germany increased due to domestic economic strength, especially in the industrial sector. This potential growth offers a stable platform for investments. SWFs are, furthermore, exploring opportunities in rebounding markets, such as Italy, due to the real estate market's robust recovery³⁶. Furthermore, the Italian government tends to encourage and stimulate sovereign investments by creating an advantageous legislative and fiscal environment.

In emerging markets, while China still offers opportunities for experienced investors, deals are increasingly hard to find. This is in part due to a possibly slowing economy and rising competition due to enormous amounts of domestic capital seeking a home in real estate assets³⁷. India, on the other hand, outperformed in this industry during 2016. The country continues to produce strong GDP growth and as a result, SWFs are seeing returns from its rapid urbanisation³⁸.

As most SWFs employ global strategies³⁹, their investment style is directly affected by the market temperament. Markets are set to continue their volatility in the short-term due to uncertainty caused by key political events (i.e. ongoing Brexit negotiations, US political agenda, escalating situation in Southeast Asia, etc.). Therefore, conservative and secure investments are expected for the short to medium term.

32. Telegraph, "New fears of China slowdown sparked by disappointing data", 2017

33. IPE & Stirling Infrastructure, "Institutional Infrastructure Survey", 2016

34. Invesco, "Global Sovereign Asset Management Study 2017", 2017.

35. Invesco, "Global Sovereign Asset Management Study 2017", 2017.

36. Financier Worldwide, "Real estate investment for sovereign wealth funds", 2016

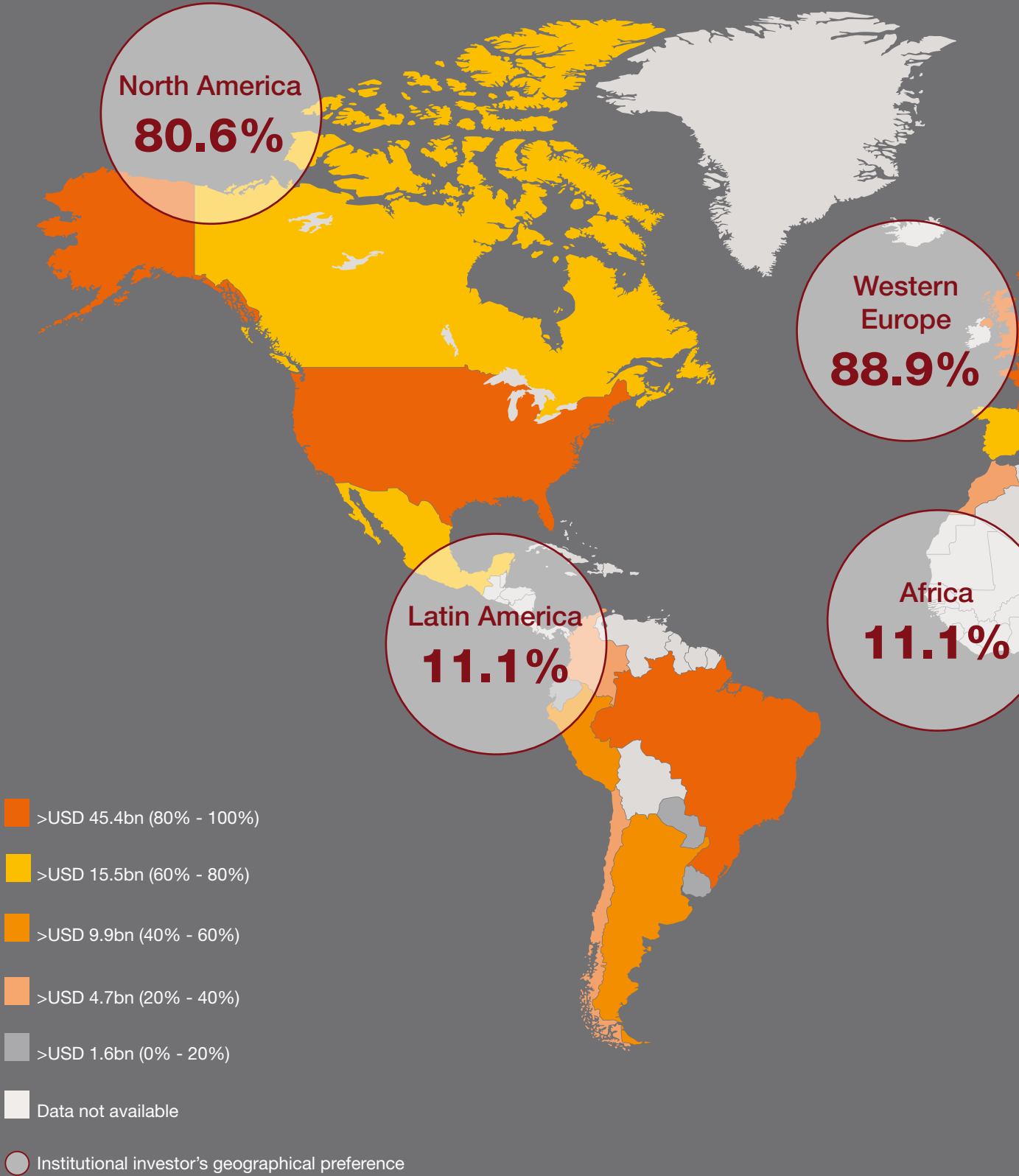
37. PwC, "Emerging Trends in Real Estate", 2017

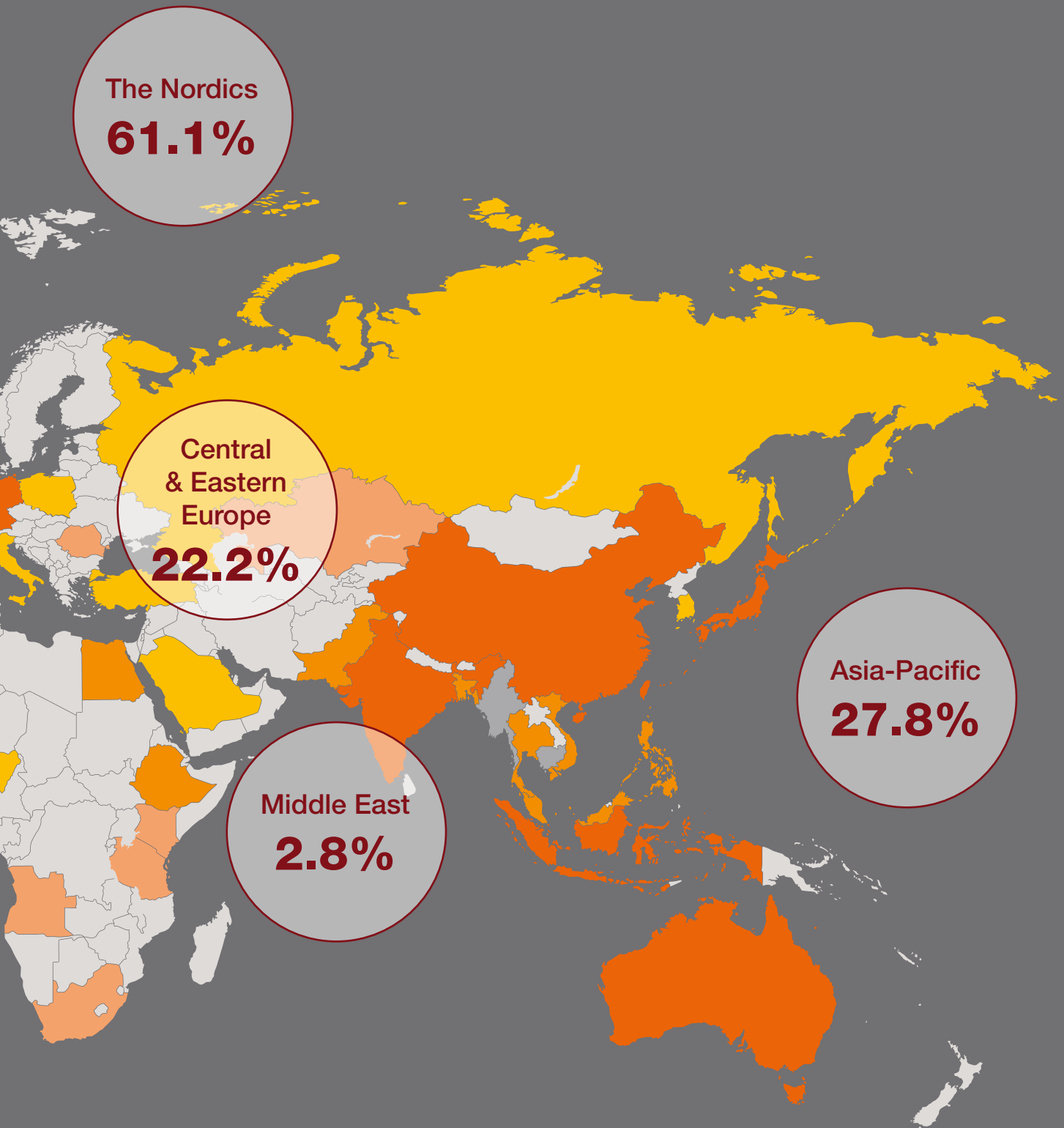
38. Invesco, "Global Sovereign Asset Management Study", 2017

39. Preqin, "Sovereign Wealth Funds Investing in Infrastructure", 2016

Figure 22: Total infrastructure investment by country, 2016

The indicator represents the percentage of respondents interested in investing in specific regions.





Sources: PwC Market Research Centre, Global Infrastructure Outlook, Stirling Infrastructure

Note: The heatmap was produced using the percentile rank of country's total infrastructure investment in 2016.

Institutional investor's geographical preference is based on the 2016 Institutional Infrastructure Survey conducted by IPE and Stirling Capital Partners.

The survey was based on 57 institutional investors, representing 22 countries.



Commodities

Commodities represent a wide range of assets. Broadly falling into five categories, commodities include energy (e.g. crude oil and natural gas), base metals (e.g. copper, aluminium, and nickel), precious metals (e.g. gold, silver, and platinum), livestock (e.g. live and feeder cattle), and agricultural products (e.g. soybeans, corn, and coffee). Exposure to most commodities by SWFs is gained indirectly by investing in specialised vehicles such as hedge funds and CTAs, while investments in oil and gold are often directly undertaken.

Commodities experienced a supercycle between 2000-2014 which ended due to cost and revenue factors⁴⁰; production expenditures increased and prices experienced a strong drop after 2014⁴¹. Two reasons underlie the production expenditure increase: firstly, new sites in remote areas were discovered, where extraction is costly; secondly, improved economic and living conditions made production activities more expensive⁴². In terms of revenue, prices remained fairly constant from 2011-2014, but metals, crude oil, and agricultural products did experience sharp drops thereafter.

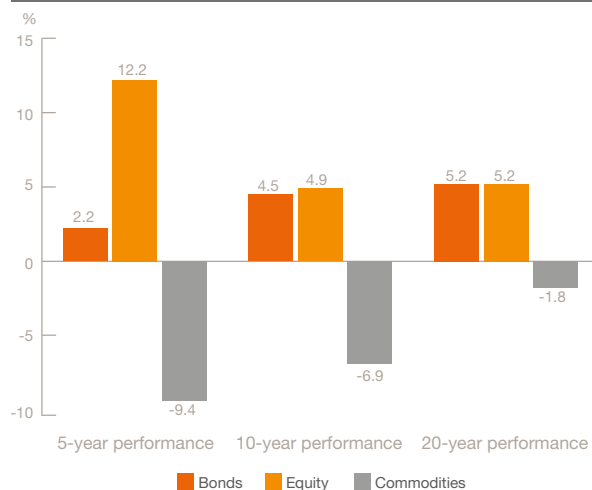
In light of this, institutional investors increased their capital in commodity investments, with more SWFs allocating to the asset class than the previous year, jumping from 47% in 2015 to 55% in 2016. While all SWFs investing in commodities have exposure to energy, only 44% of them allocate to metals & mining goods. Furthermore, SWFs investing in commodities prefer to devote resources to water and agricultural projects, with 56% and 54% of SWFs investing in these respectively⁴³.

Tough market conditions might suggest why SWFs became more interested in the asset class. Due to the low oil price environment, SWFs that relied on one commodity (such as oil) began to broaden their natural resources portfolio. Diversified investments in commodity markets allow SWFs to have a more direct impact on the economy, as these markets are partially detached from the dynamics of traditional markets. For example, commodity prices are mostly driven by supply and demand dynamics while traditional asset prices are often more influenced by other factors such as monetary policies implemented by central banks⁴⁴.

The Sultanate of Oman offers a good example of an SWF investing in commodities. The Gulf Country built its wealth over the years thanks to oil and natural gas, but began to struggle as a consequence of declining reserves and low oil prices. Due to diminishing returns from fossil fuels, the two Omani SWFs (Oman Investment Fund and State General Reserve Fund) began to diversify their portfolio. In particular, they partnered with the Oman Oil Company and the Oman National Investment Development to enter the mining sector⁴⁵. The USD 260mn venture created Mining Development Oman (MDO), a publicly listed company dedicated to new mining exploration and development.

Commodities underperformed over five-, ten-, and twenty-year periods posting negative returns over all. Comparatively, equity and bonds posted considerably higher results over all timespans (see Figure 23).

Figure 23: Performance of commodities compared to bonds and equity (annualised returns)



Source: PwC Market Research Centre based on Bloomberg data

40. The 2000s “commodity supercycle” refers to the boom and bust in most commodity prices between 2000 and 2014
 41. Focus Economics, “Commodity exporters face challenging times”, 2017
 42. CFA Institute, “Commodities as an Asset Class: Delivering Beta and Beyond”, 2016
 43. Preqin, “The 2017 Preqin Sovereign Wealth Fund Review”, 2017
 44. CFA Institute, “Commodities as an Asset Class: Delivering Beta and Beyond”, 2016
 45. Reuters, “Oman sovereign fund, others plan \$260 mln mining venture”, 2016



Figure 24: Correlation of commodities monthly returns with equity and bonds

	5 years	10 years	20 years
Correlation commodities - equity	0.25	0.54	0.24
Correlation commodities - bonds	0.16	-0.11	-0.11

Source: PwC Market Research Centre based on Bloomberg data

In addition to this, the returns of commodities are significantly correlated with equity performance, both on a twenty-year basis (0.24) and a ten-year one (0.54). On the other hand, the diversification experienced by the asset class with regards to bonds is particularly significant, -0.11 on both a ten- and twenty-year basis (see Figure 24).

Finally, adding non-renewable energy sources (oil/gas/coal) to the portfolio may bring further issues in terms of reputational risks. In line with the increased interest for Environmental, Social and Governance (ESG) strategies, some SWFs are starting to exclude investments in oil and gas from their portfolios. For example, the Ireland Strategic Investment Fund had to divest its coal, oil, and gas holdings following a parliamentary bill⁴⁶.

Gold as a re-emerging asset class

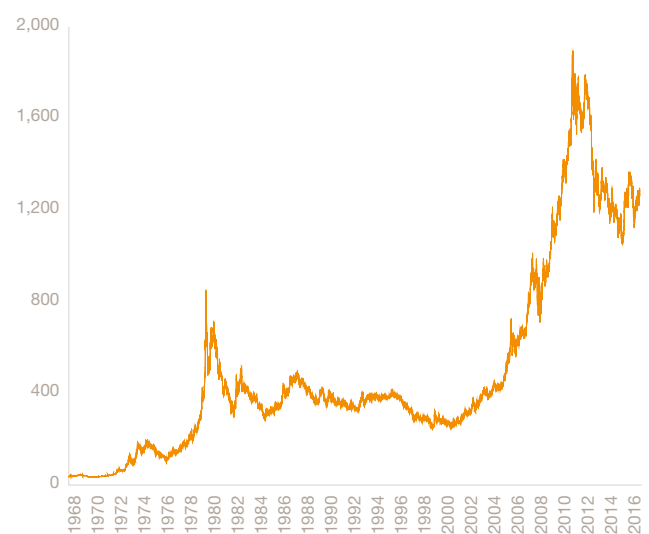
Gold is an exception, given that the commodity has a dual nature, being both a consumer good and an investment. In recent years, markets showed a high interest for gold. Behind this new run for gold, experts see the beginning of a new cycle in gold markets, following 5 bearish years in which the price decreased (see Figure 25)⁴⁷. Although the reasons behind such appetite in the asset class may have predictable explanations (e.g. heightened market uncertainty and a potentially weaker dollar), it is important to understand why investors turned to gold.

Long term outperformance to traditional asset classes.

Gold outperformed traditional asset classes as well as other commodities. On a ten- and twenty-year basis, gold averaged 6.7% and 6.8% returns respectively. These returns also managed to beat equity and bonds over the same time periods⁴⁸.

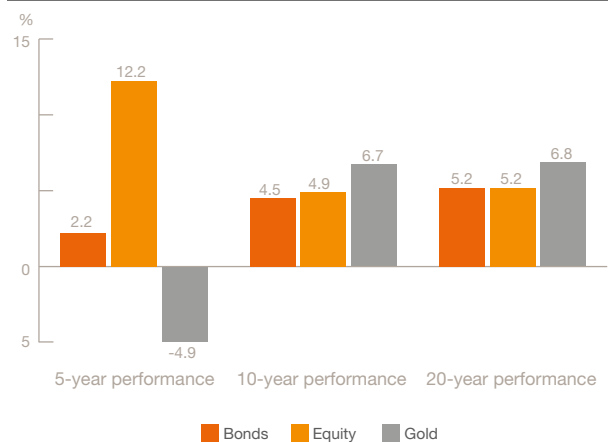
Gold's long-term performance is attributed to three factors: increased demand from emerging markets, central banks becoming net buyers, and the emergence of new products, such as gold-based ETFs, which have simplified investing and made the material more accessible⁴⁹.

Figure 25: Gold Price (USD per troy ounce)



Source: London Bullion Market, 2017

Figure 26: Performance of gold compared to bonds and equity (annualised returns)



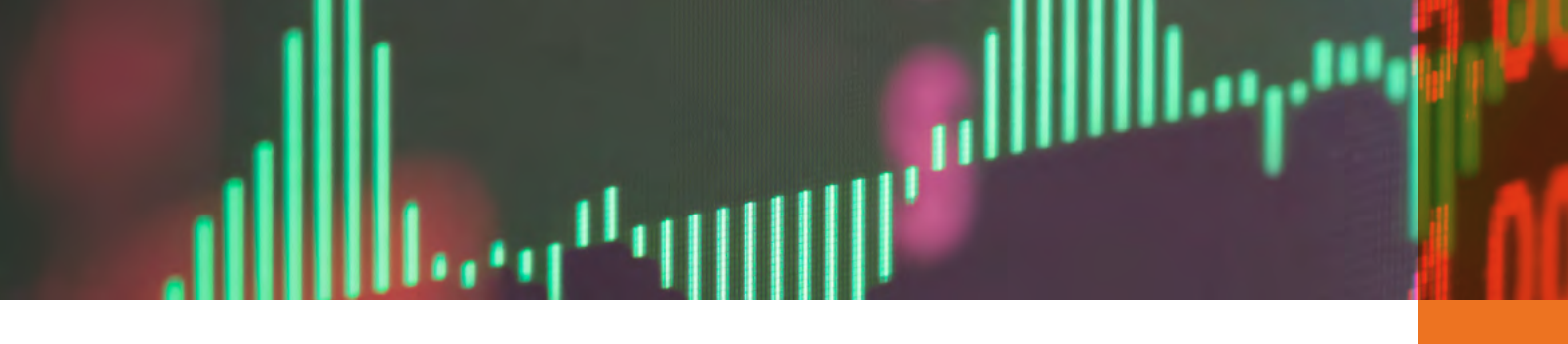
Source: PwC Market Research Centre analysis based on Bloomberg and WGC data

46. IPE, "Ireland seeks fossil fuel divestment for EUR 8bn SWF", 2017

47. Forbes, "New Commodity Super Cycle", 2016

48. PwC Market Research Centre Analysis, 2017

49. World Gold Council, "Enhancing the wealth of nations: Gold and sovereign wealth funds", 2017



Low correlation with traditional asset classes.

Gold can be a useful addition to investment portfolios compared to other commodities, due to lower correlation with traditional asset classes. Between June 1997 and June 2017, the correlation between gold and equity returns was close to zero (-0.07), thus showing its diversification benefit. The asset class maintains only a negative correlation over a ten-year period as well, standing at -0.05. Gold is more correlated with bond returns, standing at 0.58 on a ten-year basis, and at 0.28 on a twenty-year correlation (see Figure 27).

Resilient asset class during crises and instability.

What distinguishes the asset class from other asset classes is its performance during crises. Gold has delivered negatively correlated returns when equity indices, such as S&P 500, have plummeted. Figure 28, 29, and 30 show gold’s performance during episodes of acute market crisis (GFC and the Sovereign Debt Crisis I and II)⁵⁰. In these cases, the gold price started to rise significantly as the S&P 500 index decreased. Generally speaking, the gold price per ounce rose as investors perceived uncertainty in the stock markets, and decreased as these markets gave signs of normalisation. Furthermore, gold performed well during inflationary periods. For example, from 1971 to 2016, gold real returns were approximately 10% while inflation increased 4% year-over-year.

High liquidity within the alternative asset classes.

Compared to other asset classes, gold markets are particularly liquid. Even considering only futures and options, gold contracts are among the most exchanged on a daily basis. Estimates on gold ETFs, exchanges, and OTC markets reveal that an average of USD 227.1bn was traded daily in the first seven months of 2017⁵¹.

Figure 27: Correlation of gold monthly returns with equity and bonds

	5 years	10 years	20 years
Correlation gold - equity	0.04	-0.05	-0.07
Correlation gold - bonds	0.75	0.58	0.28

Source: PwC Market Research Centre analysis based on Bloomberg and WGC data

Figure 28: Global Financial Crisis

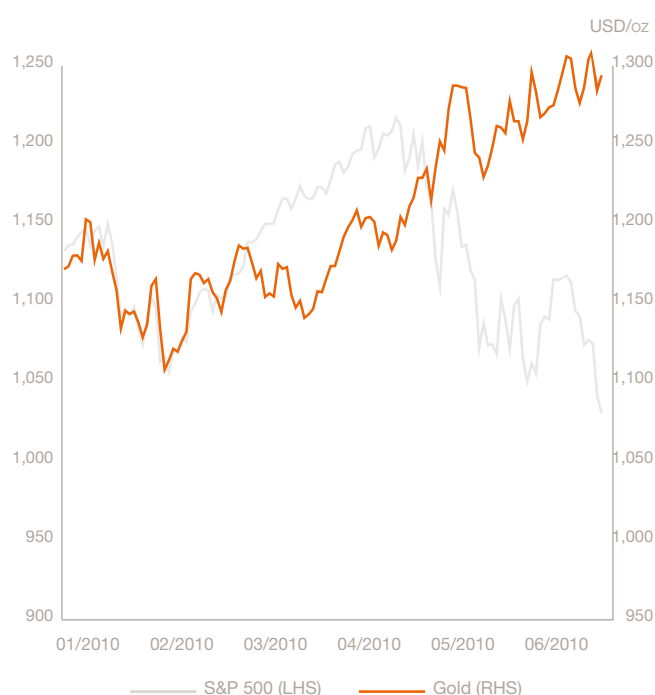


Source: PwC Market Research Centre analysis based on Bloomberg and WGC data

50. GFC – 10/2007 – 02/2009; Sovereign Debt Crisis I – 01/2010 – 06/2010; Sovereign Debt Crisis II – 02/2011 – 11/2011

51. World Gold Council, 2017

Figure 29: Sovereign Debt Crisis I



Source: PwC Market Research Centre analysis based on Bloomberg and WGC data

Figure 30: Sovereign Debt Crisis II



Source: PwC Market Research Centre analysis based on Bloomberg and WGC data

All these features suggest that gold as an investment class can offer reliable support, not only during uncertain market and political conditions, such as periods of high inflation, stock market crashes, and geopolitical instability, but also under normal market conditions. The investment case for gold, during periods of market uncertainty, has proven to be strong, with the price of gold having surged rapidly and having countered the negative effects of adverse market conditions. Hence, investors can consider gold for diversification and long-term performance.

As most SWFs have long-term investment horizons and given that gold is a strategic investment, the asset class may gain momentum among this investor class in the coming years. Stabilisation funds may, in particular, benefit from adding gold to their holdings as they are required to hold highly liquid assets to counter the effects of sudden macroeconomic shocks. Gold markets are deep and highly liquid, which fulfils this objective. In addition, capital maximisation SWFs may also benefit from investments in gold. As these actors' investments aim at balancing wealth across generations, long-term gold investments may represent an attractive solution considering the returns of the asset class over a lengthy period.

Hedge funds

Hedge fund AuM has continued to grow, reaching USD 3.2tn as of November 2016 (see Figure 31), the highest year on record⁵², representing a CAGR of 8.7%. A possible explanation of such sustained growth in assets over the years could be attributed to the increased sophistication of investors who are seeking out alternative investments. In recent years, average returns from hedge funds were below expectations. However, industry leaders delivered solid and consistent performance, even amid the market turmoil created by the GFC.

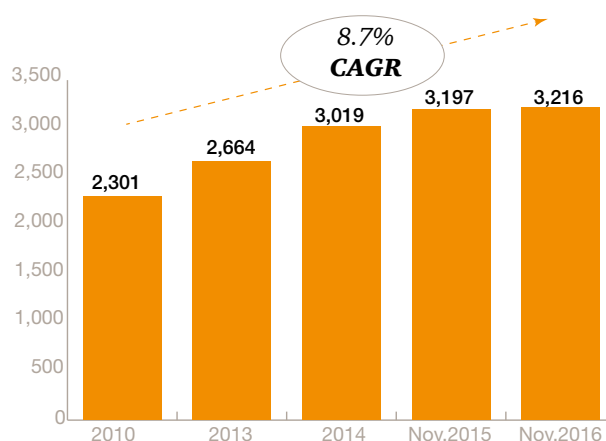
SWFs are already large players in the hedge fund industry, with 12% of capital invested into hedge funds stemming from these investors. This might increase as SWFs seek further exposure to the asset class in order to diversify their portfolios.

Out of all SWFs, 33% allocated to the asset class in 2017, a small increase from 32% in 2016. Furthermore, hedge funds weighting in SWFs' portfolios have not experienced significant fluctuations over the years, oscillating from a minimum of 6.2% in 2015 to a maximum of 7% (2014 and 2016)⁵³. Assets invested in hedge funds have followed the general growth path of SWFs' holdings, moving from USD 331bn in 2011 to USD 518bn in 2016 (9.4% CAGR).

Hedge funds typically follow the industry standard “2-20” fees rule, however SWFs are often willing to accept long-term lock-up periods, and this, along with their size of their investment, could allow them to negotiate favourable conditions with hedge fund managers. In addition, as a large amount of SWFs utilise managed accounts in their hedge fund investments, they are better able to further customise the profiles of their investment.

In recent years, hedge funds have not managed to significantly differentiate their returns from equity. As a matter of fact, the correlation with stock markets is high, standing at 0.67, 0.81, and 0.57 on a five-, ten-, and twenty-year basis (see Figure 33).

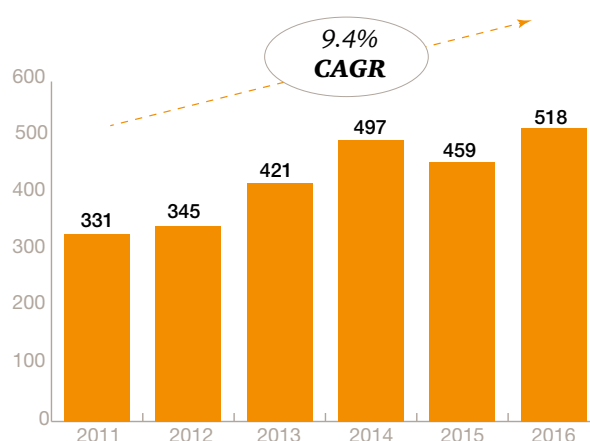
Figure 31: Evolution of hedge funds assets (USD bn)



Note: 2015 and 2016 data are released as of November, while figures refer to year-end in all other cases.

Source: PwC Market Research Centre analysis based on Prequin data, 2017

Figure 32: Evolution of SWFs' assets invested in hedge funds (USD bn)



Source: PwC Market Research Centre, Prequin, SWFI

Figure 33: Correlation of hedge funds monthly returns with equity and bonds

	5 years	10 years	20 years
Correlation hedge funds - equity	0.67	0.81	0.57
Correlation hedge funds - bonds	-0.12	-0.29	-0.15

Source: PwC Market Research Centre based on Bloomberg data and WGC data

⁵² Financial Times, “Regulation changes the way hedge funds grow”, 2013

⁵³ Prequin, “2017 Prequin Global Hedge Fund Report”, 2017

Over the last few years, the hedge fund industry was not able to deliver the level of returns expected by their investors. Hedge funds were outperformed on average by traditional asset classes on a five-, ten-, and twenty-year basis (see Figure 34). The hedge fund industry posted a negative average return between 2007 and 2017, dragged down by the GFC, and performed slightly better over the last five years (1.9%).

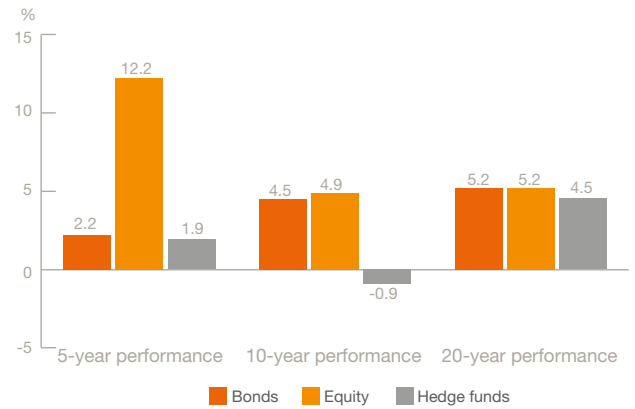
Given the scrutiny around high fees and mediocre performance in the last few years, hedge funds are currently redefining their value proposition. If they succeed in this endeavour they might see rising interest from institutional investors in the future.

SWFs require clear and transparent governance from hedge funds

SWFs' importance in the hedge fund industry has allowed them considerable influence over industry standards. In order to avoid possible issues that may arise due to adverse market conditions, the International Forum of Sovereign Wealth Funds (IFSWF) and the Hedge Fund Standards Board (HFSB) agreed on establishing a Mutual Observer relationship in April 2016⁵⁴. The agreement is designed to improve the dialogue between hedge funds and SWFs, with the goal to guarantee adequate financial positions from both sides. A mutual exchange of information was set to ensure transparency in both parties' investment practices. From such cooperation, SWFs may benefit from having greater control on their deals and practices with hedge funds; on the other hand, hedge funds are likely to enhance their business relationship with strategic partners like SWFs.

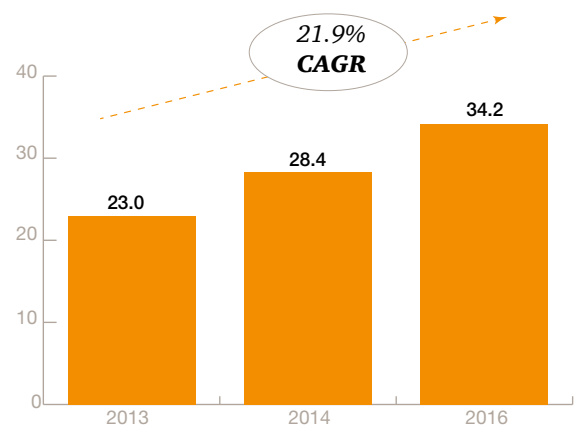
One of the most active SWFs in the hedge fund industry is China Investment Corporation (CIC). At the end of 2015, the Chinese SWF allocated USD 34.2bn in hedge funds via its subsidiary CIC International, representing 4.2% of its total AuM as of 2015, with plans to expand its investments in this asset class.

Figure 34: Performance of hedge funds compared to bonds and equity (annualised returns)



Source: PwC Market Research Centre analysis based on Bloomberg data

Figure 35: CIC's assets allocated to hedge funds (USD bn)



Source: PwC Market Research Centre analysis based on Prequin data



54. IFSWF, "IFSWF and HFSB establish Mutual Observer relationship", 2016



06

Conclusion





SWF's assets are increasing at a strong and consistent pace, reaching USD 7.4 trillion in 2016, a CAGR of 12% since 2004, and they are becoming an ever more prominent part of the institutional investor landscape. With high AuM and increasingly sophisticated investment strategies, these sovereign investors are poised to play a much larger role among institutional investors.

In terms of investment strategies, historically SWFs tended to allocate into fixed income and equities, with 44% allocating in equities, 35% in bonds in 2010, and 19% in alternatives in 2010. In 2016, the amount of AuM allocated to alternatives increased to 23%, while equity's allocation remained at 44%, and bonds fell to 30%. Although interest rate hikes loom across Europe and the United States and the normalisation of monetary policy is expected, the effects will be fairly moderate and alternative assets will remain a preferred asset class in which to invest.

PwC expects this allocation to alternatives to increase in the future as alternatives can offer increased diversification, principal protection, a hedge against inflation, and an increase in portfolio performance. However, including certain alternatives might introduce a new set of risks, including for example illiquidity, complexity, and cyclicalities. Nonetheless, the benefits seem to outweigh the costs, as the heterogenic nature of alternatives provides SWFs with the ability to select an asset class specific to their investment needs.

Gold has a minimal correlation to most asset classes and is the least correlated with equities among alternatives, making the asset an excellent diversifier. Furthermore, the asset, over the long term, has outperformed traditional asset classes – especially during times of instability and market uncertainty – as can be seen in the ten and twenty-year returns (6.7% and 6.8% respectively). Gold has also distinguished itself from other alternative asset classes as it has been more liquid, with USD 224 bn traded on average on a daily basis in 2016.

Private equity is the most allocated among alternatives, with SWFs investing USD 451 billion into the asset class in 2016. SWFs will likely continue to allocate to the asset class as their knowledge and expertise grows. Furthermore, the asset class performed well in recent years, with returns of 13.6% over the five-year period. Both real estate and infrastructure have the most allocation in number of SWFs. With their long-term investment horizons and focus on economic development, real assets may remain a popular choice.

SWFs should look to alternatives as new sources of income and returns for the future due to the benefits previously outlined. Finding the right allocation strategy for these asset classes is crucial. In addition, SWFs should keep in mind the need for continuous monitoring of their portfolios and their investments and reallocate their capital to reflect economic developments.



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



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Notes



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