Invesco Global Sovereign Asset Management Study 2018

This study is not intended for members of the public or retail investors.
Full audience information is available inside the front cover.

Important information

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02 **Introduction**

04 **Key metrics**

08 **Theme 1**
Broader adoption sees equities become the largest asset class
Strategic allocations to equities are rising; in seeking a combination of bulk beta and targeted alpha, allocations are rotating from active to passive to factor – and sometimes back again.

22 **Theme 2**
Private markets are seen as the portfolio's 'all-rounder'
Introduced to capture long-term returns, illiquidity premia, and diversification benefits, sovereigns are finding that private market asset classes deliver a broader range of benefits than either equities or fixed income.

34 **Theme 3**
Sovereign investors have a commercial approach to fees and expenses
In common with other institutional investors, sovereigns are interested in reducing their fees and expenses, but sovereigns prioritise meeting their objectives over absolute fee levels. Net outcomes and alignment of interests are the main goals.

46 **Theme 4**
Central bank reserve objectives are broadening
With large and growing reserves, and rising costs of maintenance, central banks are increasingly adopting a more holistic approach to portfolios with increased use of non-traditional assets.

60 **Theme 5**
Cryptocurrencies are a watching brief
Sovereign investors do not yet see cryptocurrencies as an investible asset class – but they are open minded to the business applications and investment possibilities of cryptocurrencies and related technologies.

70 **Appendix and methodology**

Welcome to our sixth annual study of sovereign investors, which gathers unique perspectives from senior investment professionals managing the assets and reserves of sovereign wealth funds, state pension funds and central banks globally. This is a unique undertaking, being an evidence-based study with insights drawn together from face-to-face interviews which seek to capture the depth, colour and context of the thinking of these investors.

It is also unique in terms of its scale. Our 2018 study includes a broadened-out central bank sample, reflecting their growing importance and maturity as investors. As a result, some 126 sovereign investors are now represented in the study. The increase in sample size, together with the strong investment returns achieved in 2017, means these investors now manage assets of over US$17 trillion. This is a store of financial value of exceptional scale, comparable in size to the world's top 300 pension funds. This is true investing at scale, and it influences each of the themes of this year's study.

Our first theme looks at the equities asset class for the first time. Broader adoption has led to equities surpassing bonds as the leading asset class within sovereign portfolios. The use of active, passive, and factor management is fluid, with factor management the clearest near-term beneficiary.

We return to look at private markets in our second theme. Private markets are favoured by many sovereign investors thanks to the long-term and illiquid nature of many of the private markets asset classes. We found the role of private markets changing in portfolios as a broader set of benefits has emerged and investments are seen as a distinct, uncorrelated set of risk premia.

We have embraced an important commercial issue in theme three, which examines the thinking of sovereign investors in relation to fees and expenses. We find that sovereigns have well-formed views of fees, the incentives they create, and the alignment of those incentives to objectives. Sovereign investors are clear-headed about their objectives and prepared to pay for results.

Central banks are at the heart of the fourth theme. Our expanded coverage provides a more complete view of this segment and finds it in transition as reserve portfolios expand beyond what is needed for traditional purposes. Smaller central banks are moving down a relatively well-defined path for investing surplus reserves, while larger and more experienced central banks are now adopting more institutional portfolio characteristics.

Finally we conclude this year's study with a more conceptual theme in the shape of cryptocurrencies. Cryptocurrencies as an asset class are unlikely to make an early appearance in sovereign portfolios, but there is considerable interest in the practical applications of cryptocurrencies, especially amongst central banks, and the broader application and investment potential of the underlying technologies.

As always I hope you find the key themes in this year's report to be both highly relevant and informative. If you would like to discuss any of the findings or indeed have any questions, please do get in touch.

To view more content on this year's themes visit igsams.invesco.com

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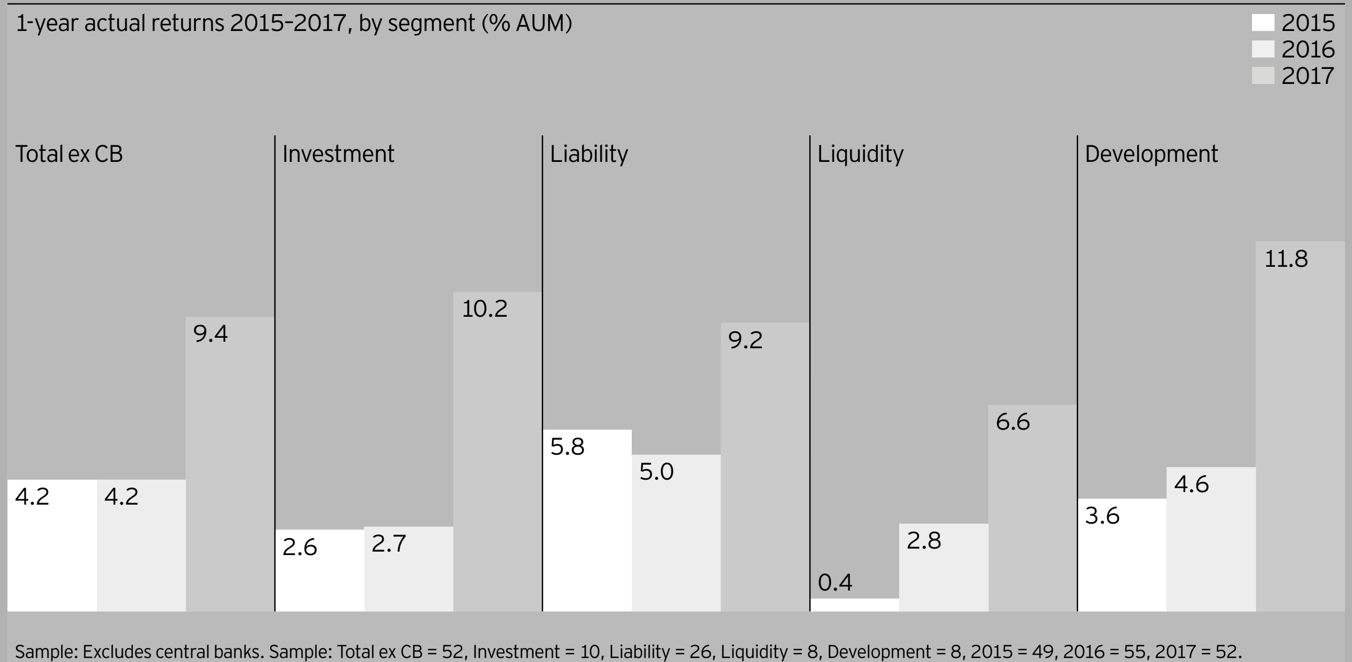
Key metrics

Performance

After two relatively subdued years for returns, the past year has seen particularly strong outcomes. Sovereign investors on average achieved a return of over 9% in 2017, with development sovereigns doing best at nearly 12%, thanks to their exposure to private markets assets. At the other end of the return spectrum, liquidity sovereigns still generated returns of around 6%, despite their defensive portfolios.

Strong equity returns in 2017 led to much higher average total portfolio returns than targeted (9.4% vs. 6.2% across all sovereign wealth funds). Despite this, and with the exception of liquidity sovereigns, 2018 target returns have crept up (6.5%), and sit above expected levels of returns for 2018 (5.8%), a recurring theme since the financial crisis.

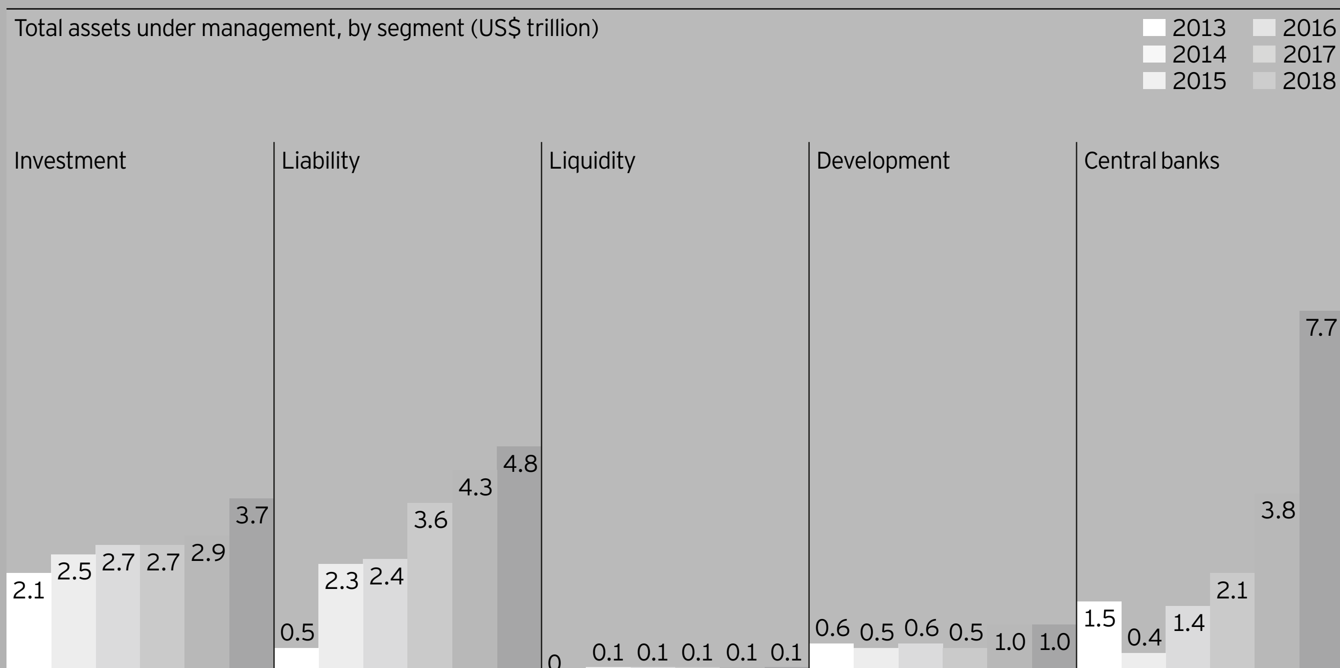


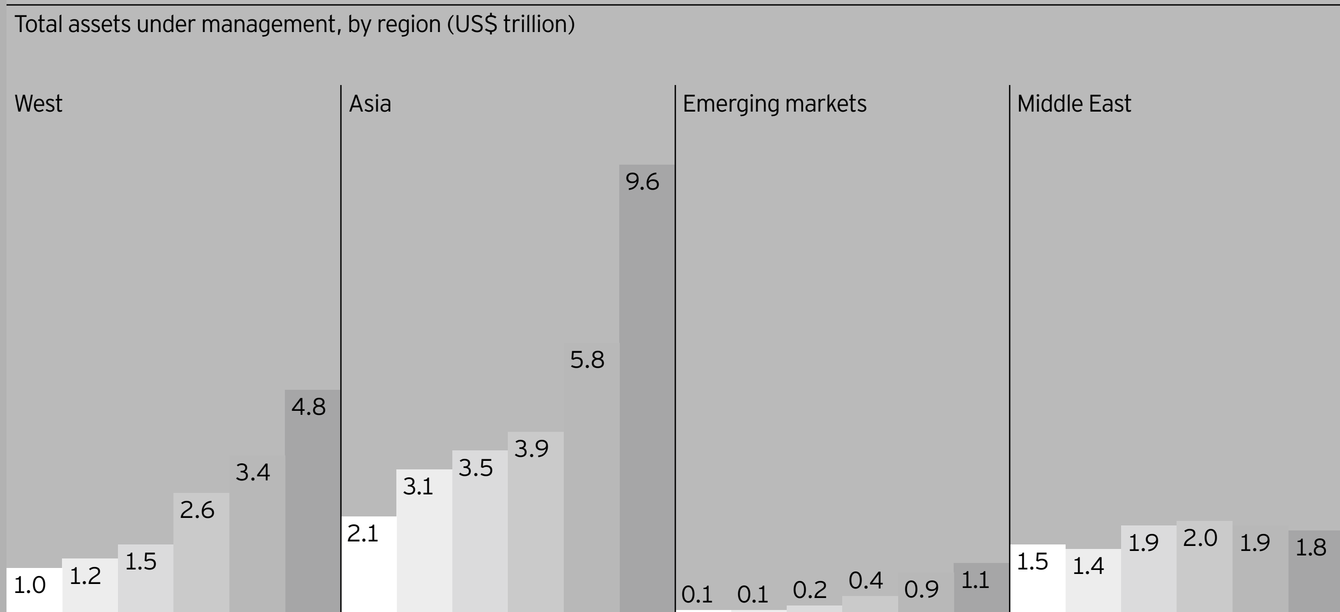
Sample: Excludes central banks. Sample: Total ex CB = 52, Investment = 10, Liability = 26, Liquidity = 8, Development = 8, 2015 = 49, 2016 = 55, 2017 = 52.

Sample: Excludes central banks. Sample: Total ex CB = 52, Investment = 10, Liability = 26, Liquidity = 8, Development = 8.

Size
The assets of the sovereigns covered by this year's study exceeded US$17 trillion (as at 31 December 2017), encompassing 126 funds. The number of sovereigns in each segment was relatively stable, with the exception of central banks, where the sample increased from 35 in 2017 to 65 in 2018. This accounted for the bulk of the increase in assets in that segment.

Over 50% of sovereign assets are owned by investors based in Asia, with another 25% represented by investors based in the West.



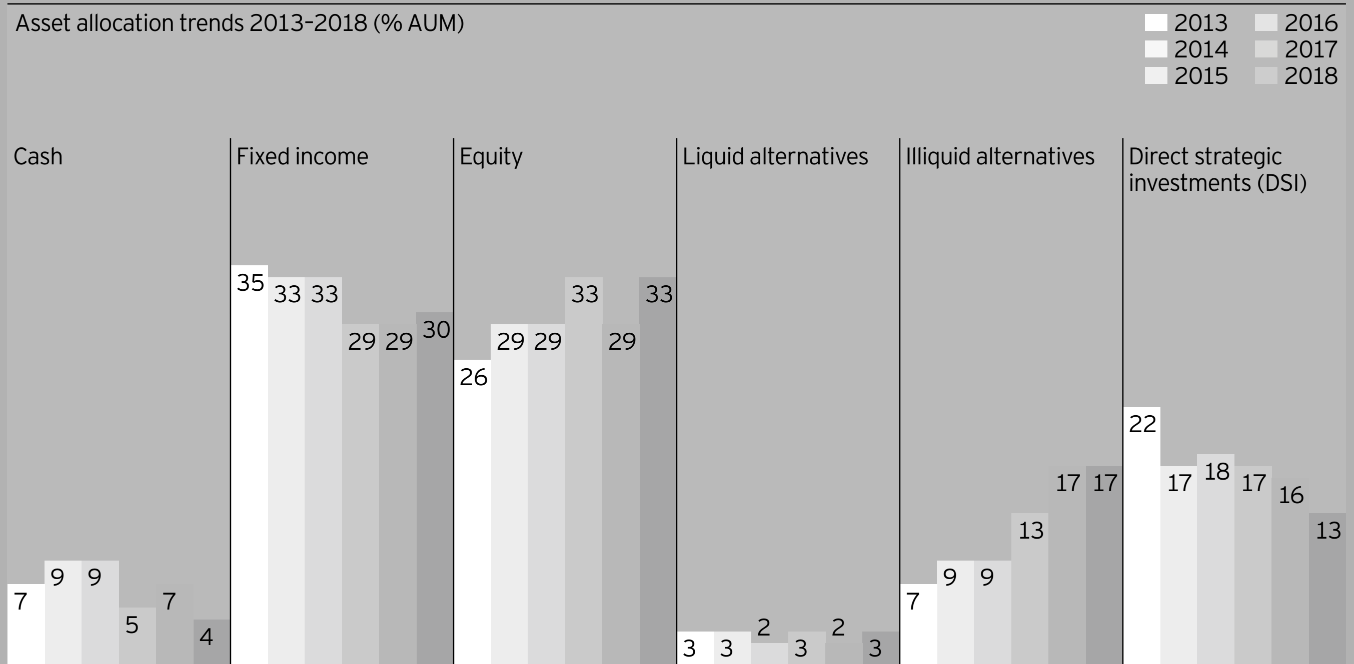


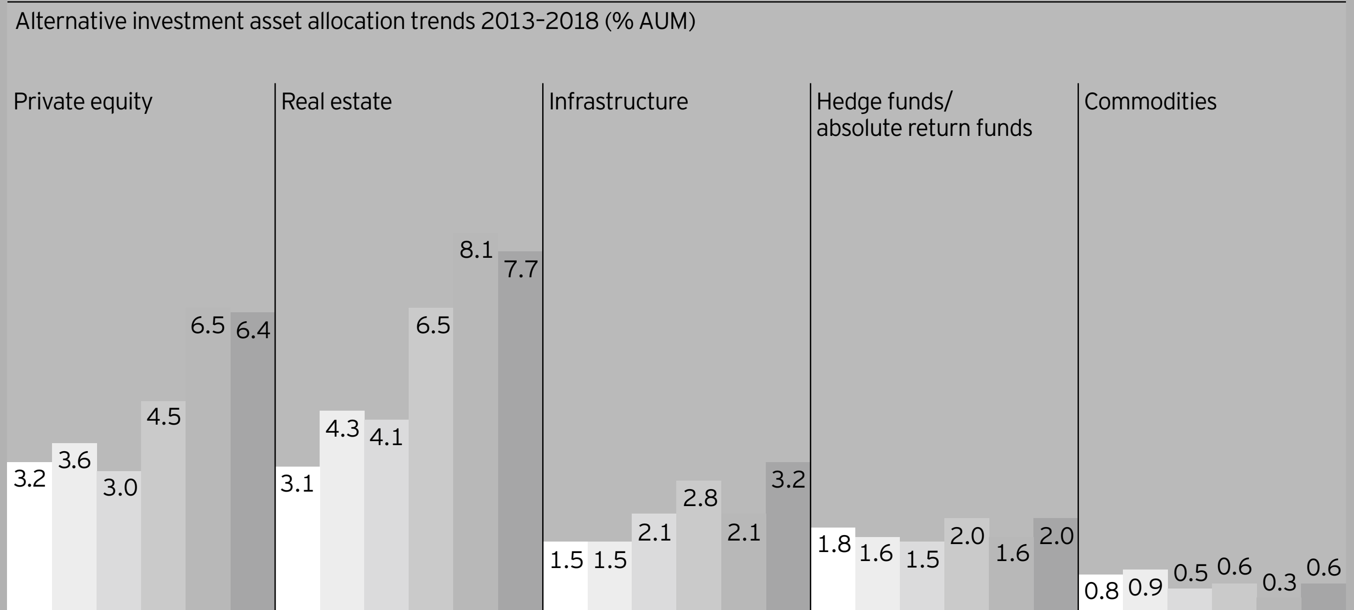
Sample: 2013 = 38, 2014 = 52, 2015 = 59, 2016 = 77, 2017 = 97, 2018 = 126.

Asset allocation

Sovereign investors now have an average of 20% allocated to alternative investments (excluding alternative credit, and also direct strategic investments, which are important for development sovereigns). The other asset class seeing an expansion of allocations is equities, which now represents a third of assets on average. Allocations to cash and fixed income have decreased over five years, while sample expansion (which has reduced the impact of development sovereign holdings) has diluted the average allocation to direct strategic investments.

Looking more closely at alternative allocations, private equity and real estate continue to be the largest sub-sectors, while the clearest beneficiary of expanded allocations has been infrastructure.





Sample: Excludes central banks. Sample: 2013 = 33, 2014 = 48, 2015 = 44, 2016 = 57, 2017 = 62, 2018 = 62.

Broader adoption sees equities become the largest asset class

Key takeaways:
- Allocations to equities have been rising and equities have overtaken fixed income to become the biggest asset class in sovereign portfolios.
- Many sovereigns have increased their strategic asset allocation (SAA) equity weightings in response to persistent gaps between target and actual returns.
- Risks to equity markets are seen to include recurrent concerns of high valuations, inflation and geo-political issues; now joined by trade war fears.
- Significant movement between investment approaches; however this is far more nuanced than a general movement from active to passive.
- Clearest medium-term beneficiary of future investment approaches is factor investing.

1

Still at the heart of portfolios

The past six years of the Invesco Global Sovereign Asset Management Study have charted the rapid adoption by sovereign investors of alternative investments, with average alternative allocations growing from 10% in 2013 to 20% in 2018.

Yet the rise of alternatives has not displaced the role of equities as the traditional growth asset class at the heart of portfolios. Although less marked, average allocations to equities have also increased, from around a quarter of sovereign portfolios to around one third over the same 2013–18 period (figure 1).

As figure 2 indicates, the increasing commitment to equities has been relatively broad, with most regions seeing a net increase in the proportion of sovereigns making incremental or material increases to equity weightings in strategic asset allocations. This is particularly pronounced in emerging markets (partly because there are relatively fewer private markets opportunities available). The only regional exception was sovereigns located in the West, where a slight net decrease occurred.

The increase in equity weightings observed since 2013 has three main drivers:

— Higher target exposures to equities within SAAs: The persistent low yield environment, and gap between target and actual returns has progressively forced the hand of investors. Many sovereigns have longer-term objectives of building out alternative allocations, but until those allocations can be placed, they have increased equity allocations (funded from cash and fixed income). Those sovereigns (predominantly the liquidity sovereign segment) which are limited in their ability to use alternative assets, are largely reliant on increasing equity exposure to close the return gap.

— Valuation effects of the equity bull market: Despite sovereign investors continuing to reduce return expectations, 2017 saw strong outcomes realised at a portfolio level (9.4% in 2017, up from 4.2% in 2016), supported by equity markets, which returned on average 8.7% amongst our respondents.

— Increased distributions: Increased distributions from realisations of private market assets in sovereign portfolios, which are often added to equities until new private market allocations are available.

As a result, nearly half of sovereign investors are now somewhat overweight to equities, with less than 15% underweight. In most cases, sovereigns are content to remain overweight rather than sell down to benchmarks given the bull run and low volatility of equity markets over the last few years.

Not all sovereigns are comfortable with the status quo however. Slightly more than a third plan to reduce SAA equity weightings over the medium term (figure 3) but the intent overall is to make small reductions rather than cut significantly. Further, most would prefer to achieve this by allowing equity allocations to dilute over time rather than sell, and potentially have to repurchase later (with two sets of trading costs) – a particularly likely scenario for investors in a net inflow position.

The rise of alternatives has not displaced the role of equities as the traditional growth asset class at the heart of portfolios.

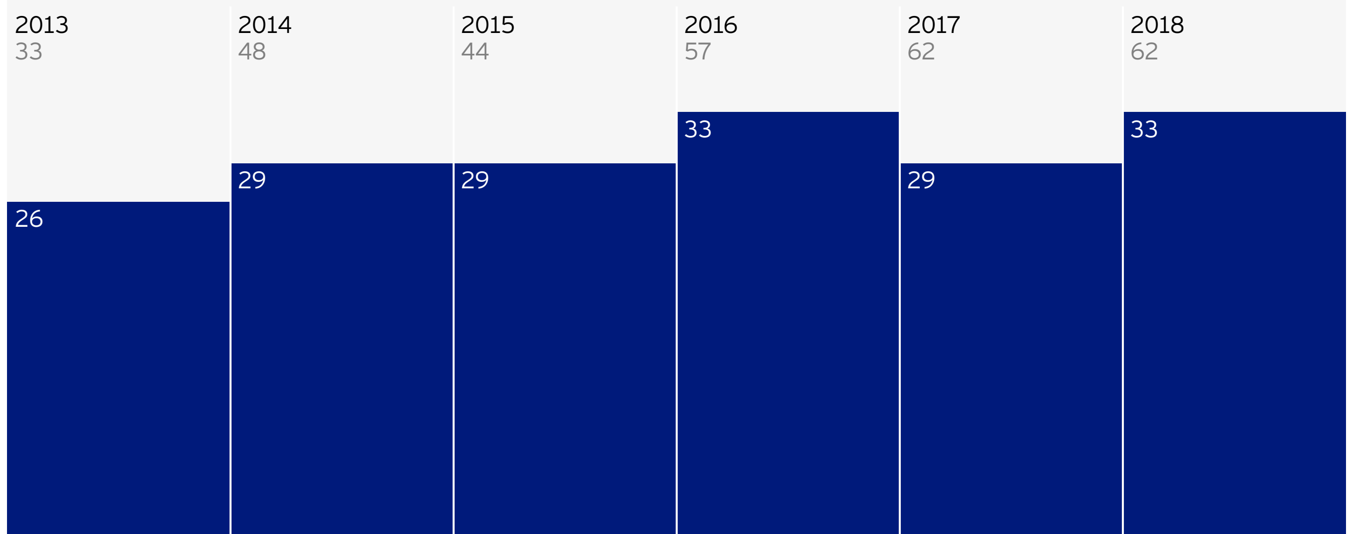


Fig 1. Equity allocations over time (% AUM)
2013
33
26
2014
48
29
2015
44
29
2016
57
33
2017
62
29
2018
62
33
Sample: Excludes central banks. Sample size shown in grey.

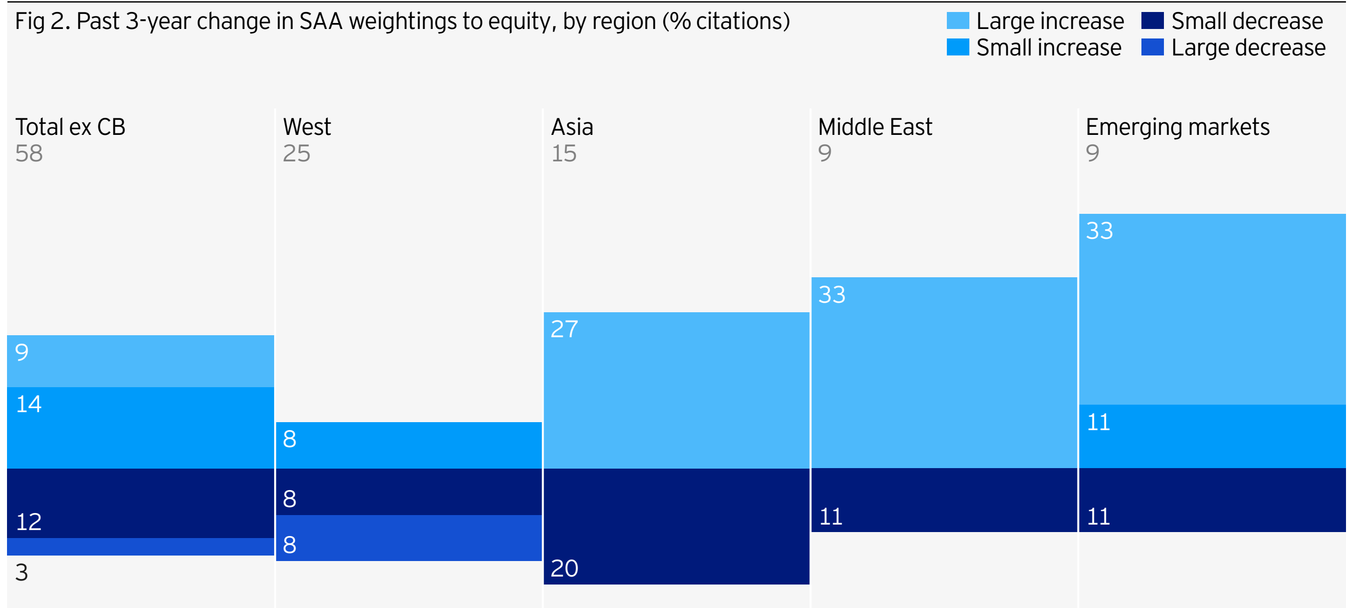


Fig 2. Past 3-year change in SAA weightings to equity, by region (% citations)
Large increase
Small increase
Small decrease
Large decrease
Total ex CB
58
9
14
12
3
West
25
8
8
8
Asia
15
27
20
Middle East
9
33
11
Emerging markets
9
33
11
11
Sample: Excludes central banks. Sample size shown in grey.

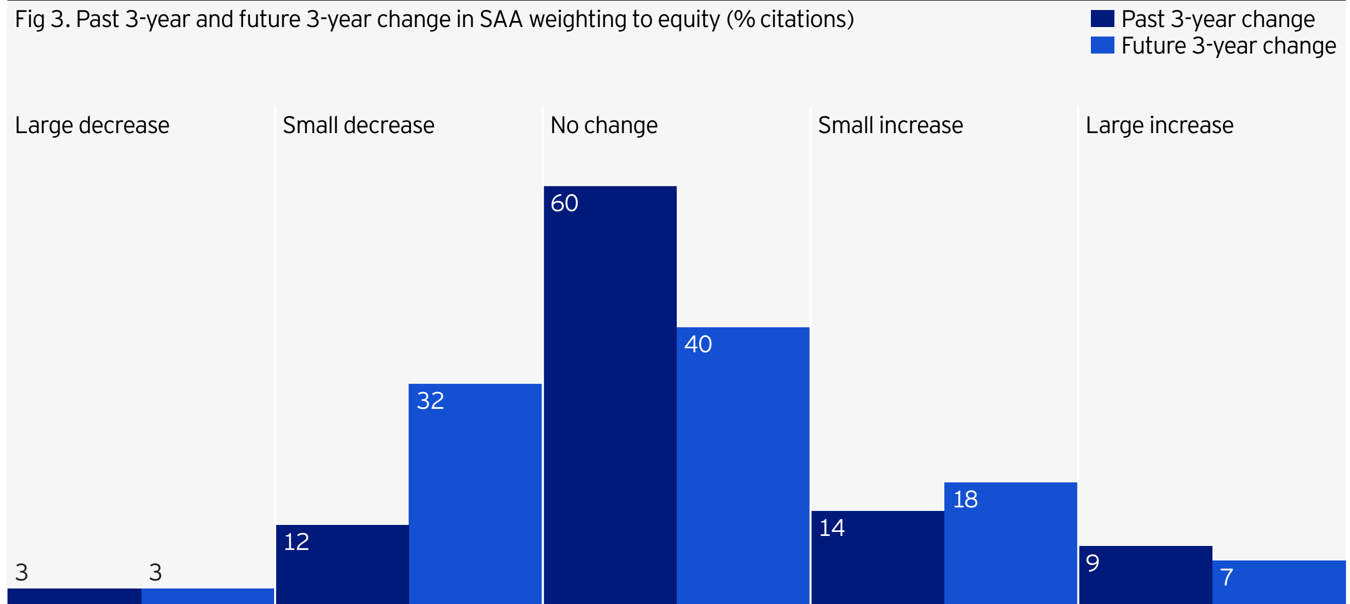
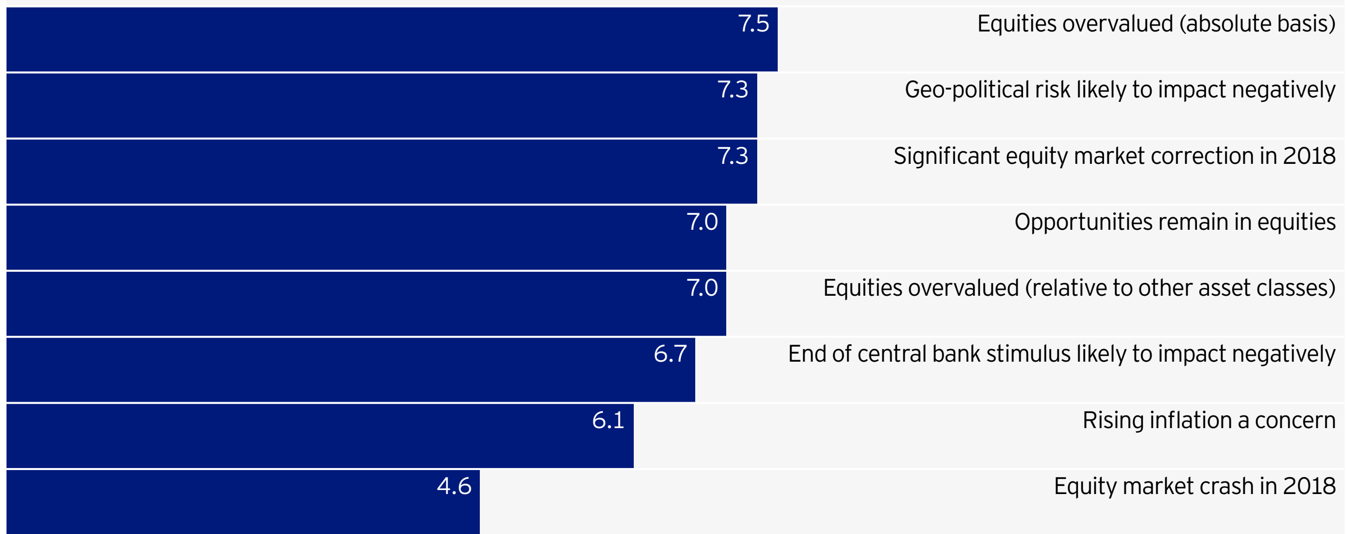


Fig 3. Past 3-year and future 3-year change in SAA weighting to equity (% citations)
Past 3-year change
Future 3-year change
Large decrease
3
3
Small decrease
12
32
No change
60
40
Small increase
14
18
Large increase
9
7
Sample: Excludes central banks. Sample = 58.

Fig 4. Strength of views on equity markets (average score out of 10)



Sample: Excludes central banks. Sample = 56. Rating on a scale of 1 to 10 where 10 is totally agree.

Fig 5. Equity market headwinds

Technology
Leverage
China
Pres. Trump
Bubble
Rising rates
Geo-political risk
House prices
Trade war
Inflation
P/E ratio
Volatility
Regulation

Sample: Excludes central banks. Sample = 45.

Sovereigns who plan to reduce SAA equity weightings are driven by views that equity valuations are high on both absolute and relative bases, and that markets are at risk of correction, either due to geo-political or economic cycle risks (figure 4).

Specific issues seen as acting as headwinds to equity markets include familiar concerns in the macro environment such as tension over the Korean peninsula, China, valuations and inflation. Making a more significant appearance in 2018 is the possibility of a trade war and the impact of the Trump administration more generally (figure 5).

Despite the concerns, faith in equites remains largely intact, at least over the next three years. There is limited concern about the potential for a crash in equity markets in the short term, even amongst those intent on decreasing equity allocations.

While wary of the late stage cycle of the US economy, and flattening yield curves, investors pointed to better than expected GDP growth, continued strong corporate earnings growth and company fundamentals, and the ability to take advantage of geographic divergences – APAC and EMEA lagging the US in their recoveries, but showing promising growth – as reasons for maintaining or increasing equity exposure.

Furthermore, around a quarter of sovereigns expect to be increasing their equity SAA over the same 3-year forward timeframe, for several reasons:

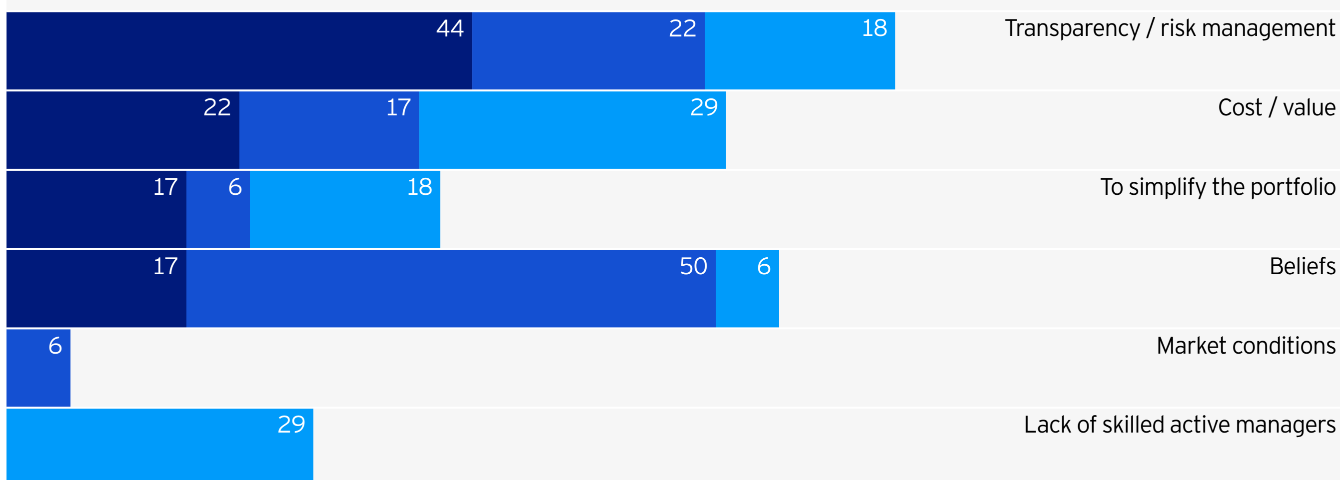
- Some (particularly liquidity sovereigns) are seeing a relaxation of investment policies which have restricted their exposure to risky asset classes, giving more scope to include or add to equities in addressing their objectives.
- Smaller sovereigns, which tend to be resource constrained, are more likely to rely on equities to generate returns, rather than make significant allocations to more complex options such as alternatives.
- In other cases, sovereigns believe that equities remain attractive on a relative basis (compared to fixed income in particular), and see scope for markets to run up further given that the economic growth outlook is good, bond yields remain low, and slack capacity remains evident in major economies.

Fig 6. Current equity portfolio approaches, by segment (% AUM)

	Total ex CB	Investment	Liability	Liquidity	Development
Sample size	53	12	27	7	7
Factor	9	11	12	3	3
Passive	47	48	47	83	7
Active	44	41	41	14	90

Sample: Excludes central banks, Sample size shown in grey.

Fig 7. Reasons for increased passive allocations (% citations)



Sample: Excludes central banks. Sample = 18. Rank 1 = most important reason, rank 2 = 2nd most important reason, rank 3 = 3rd most important reason.

Restructuring and simplifying equity portfolios

Sovereigns are, if anything, increasingly committed to equities as the core growth asset within the total portfolio. However, within equity portfolios there are significant evolutions in approach underway.

The most conspicuous recent trend has been the inroads of passive management, and increasingly factor, into equity portfolios. Over the last three years, just under half of sovereigns undertook some degree of rotation out of active strategies into passive and factor strategies, to the point where fewer than half of equity portfolios are now actively managed (figure 6).

Passive strategies have been particular beneficiaries of these changes, in part a result of structural constraints. Liquidity sovereigns, for example, have substantial allocations to passive strategies as a matter of policy. Their investment objectives prioritise capital preservation over investment returns, so where they include equities in their portfolio, their ability to incorporate active managers with higher tracking errors is limited. For some less established institutions, especially in economies where there is a need to demonstrate value for money, passive management is valued for its transparency and simplicity (figure 7).

Within equity portfolios there are significant evolutions in approach underway.

Figure 8 shows that the most committed users of active managers are located in the Middle East, although these sovereigns also allocate to passive and factor strategies. Middle East sovereigns often pursue opportunistic strategies in less traditional, less efficient markets where active management can deliver significant alpha. They also tend to have significant internal active equity teams, which means that the cost implication of higher use of active strategies is muted. Asian sovereigns have a relatively similar profile in being significant users of active management, driven largely by the perception that their local equity markets are less efficient than the US and Europe, as well as having longer average holding periods for their equity mandates.

Sovereigns located in the West have implemented the strongest rotation from active to passive equity management as part of a drive to build more efficient portfolios. Western sovereigns also typically have higher levels of oversight and public examination of portfolios, which force them to justify their use of active strategies. We explore this further in theme 4.

Emerging market sovereigns are heavy users of passive management. They include many liquidity sovereigns with little appetite for tracking error as noted; both investment and liability sovereigns located in emerging markets also tend to be smaller investors with limited internal resources and often earlier in their development journey.

Factor investing is gaining prominence, especially in Asia. However, although sovereigns in the region lead other types of regional investment institutions in their adoption of factor strategies, overall usage to date still lags sovereigns in the West and Middle East.

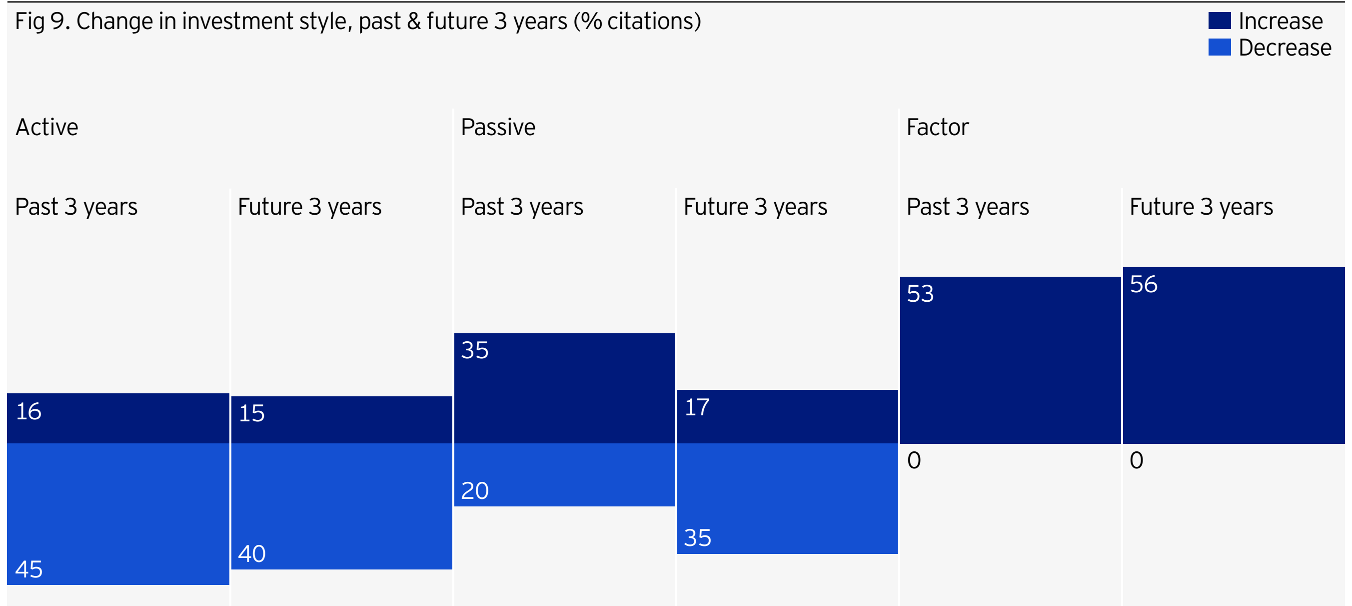
There are signs that this will change. Consistent with figure 9, Asian sovereign demand for factor strategies is growing from a desire to generate more consistent returns through the cycle. Cost reduction, which is a key driver for some investors, is less of a driver in this case. Although Asian investors are also concerned with active mangers hugging the index, this is addressed through structuring of fee arrangements, with lower base management fees and a greater focus on performance fees (see theme 3), rather than a replacement of active mandates by factor mandates. Over the long term sovereigns in Asia intend to move to more factor-based portfolio construction, but highlighted a lack of in-house capability to achieve this.

Fig 8. Equity portfolio approaches, by region (% AUM)

	Total ex CB (53)	West (28)	Asia (14)	Middle East (4)	Emerging markets (9)
Factor	9	14	6	10	
Passive	47	42	36	25	86
Active	44	44	58	65	14

Sample: Excludes central banks. Sample size shown in grey. Caution small sample size.

Fig 9. Change in investment style, past & future 3 years (% citations)



Sample: Excludes central banks. Sample = 48.

Fig 10. Geographies for which active management is used, by segment (% citations)

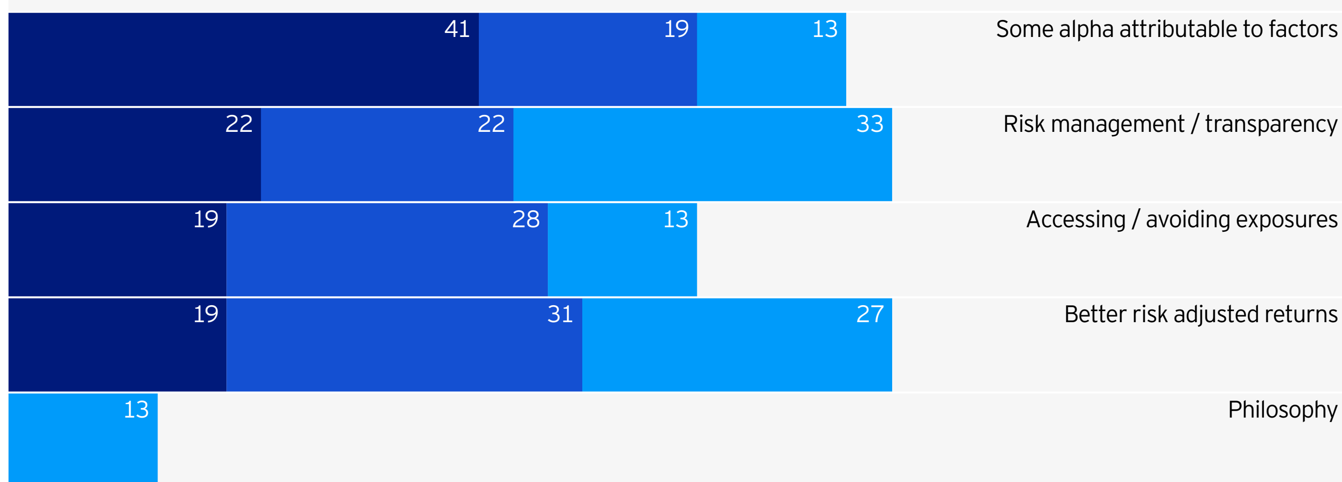
Total ex CB 43
Investment 10
Liability 20

	North America	EMEA	APAC	Emerging markets
Total ex CB	26	51	70	86
Investment	20	60	80	90
Liability	35	65	85	85

Sample: Excludes central banks. Sample size shown in grey. Note: Countries within North America, EMEA and APAC are constituents of the MSCI World Index. Emerging markets refers to countries within the MSCI Emerging and Frontier Markets Index.

Fig 11. Reasons for increased factor allocations (% citations)

Rank 1
Rank 2
Rank 3



Sample: Excludes central banks. Sample = 32. Rank 1 = most important reason, rank 2 = 2nd most important reason, rank 3 = 3rd most important reason.

The movement from active management also reflects changing views on where active management is most able to add value – seen as being very different across regions (figure 10).

Active management is still seen as highly appropriate to apply in emerging and APAC equity markets, which are considered to be relatively inefficient. These markets are often less transparent, meaning there is more basis for information advantage and should be easier for active managers to add value.

This contrasts with North American equity markets, where because of the size, transparency and research intensity of large cap US equities in particular, only a quarter of sovereigns consider it is worth applying active management in that region.

EMEA sits in between, reflecting significant variation across the EMEA region. Investors might adopt a passive approach for large cap stocks in the major European markets, but prefer active managers for small caps, smaller European, or Middle Eastern markets. Outside of the liquidity sovereigns, between a half and two thirds of sovereigns saw active management as appropriate for these regions.

This points to the view that while equities remain at the heart of sovereign portfolios, many respondents – around two thirds – see a changing role for the asset class.

The first component of changing strategy is bulk beta equity portfolios, which are used to capture the broader equity market risk premia, with a focus on doing so in an efficient, low-cost manner. This has underwritten the rotation from active to passive seen in recent years. Benefits seen in this approach include greater flexibility and control, lower tracking error, reduced fees, and decoupling of the manager selection decision from asset allocation decisions.

The second component is a more focused use of active management where sovereigns see the best sources of alpha generation, facilitated by fee and risk budgets freed up by the first component implementation. This bifurcates into two types of active management which are seen as particularly relevant in the future:

- High conviction active managers that can deliver uncorrelated alpha returns.
- Factor managers that can deliver part of what had previously been seen as active management, in a systematic way and at lower cost (figure 11).

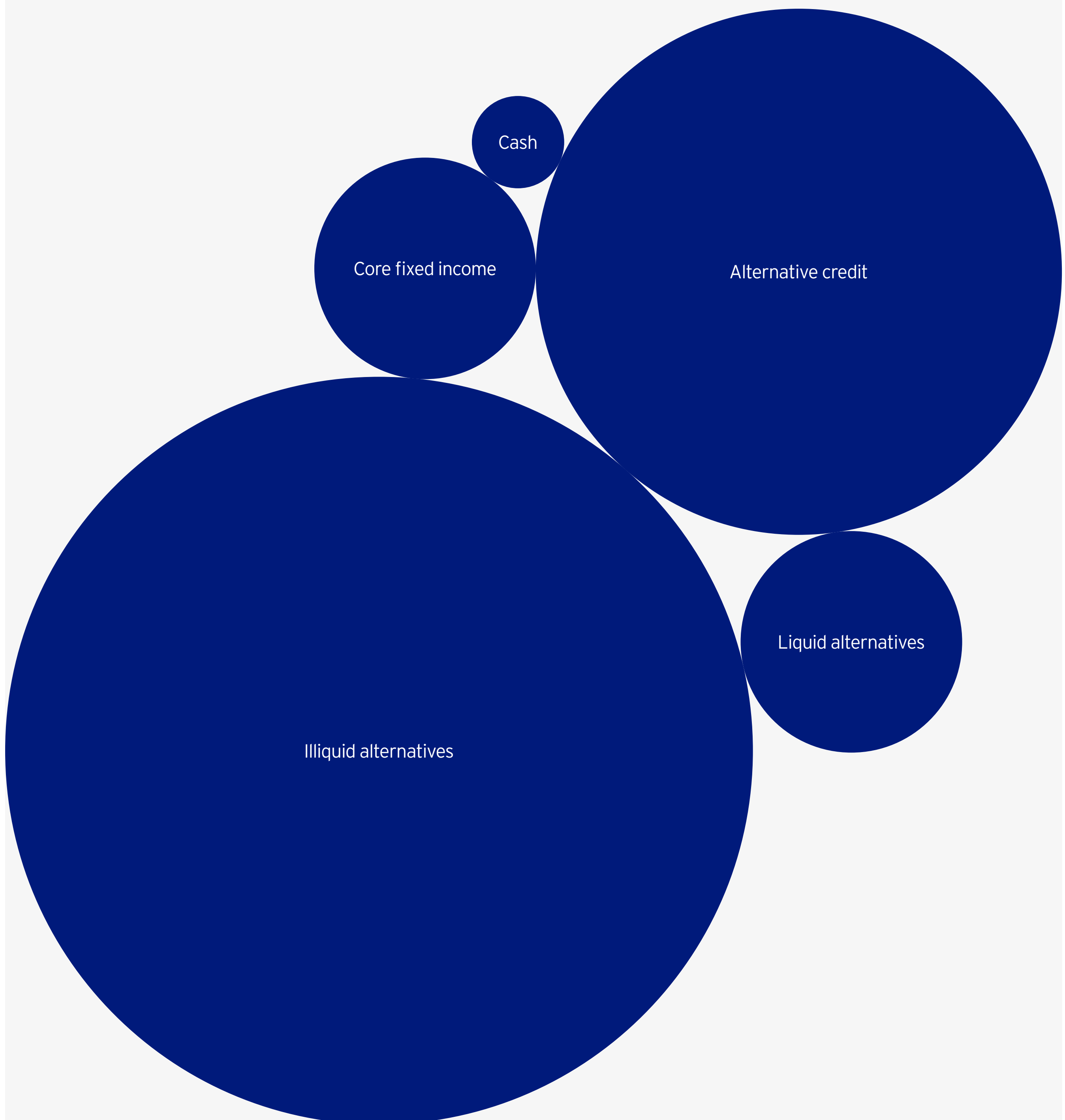
Many sovereigns remain supporters of active management, but that support has become more targeted to the investors' beliefs of where value can be added; and where applied, investors want to ensure they are not paying active fees for systematic (eg factor-based) sources of added value.

Where using active management, sovereigns are also reducing the number of mandates in favour of more concentrated portfolios. The enhanced mandate scale this approach results in delivers additional bargaining power to sovereigns to secure more favourable fee arrangements, access to additional investment opportunities, and wider asset manager resources.

While equities remain at the heart of sovereign portfolios, many respondents – around two thirds – see a changing role for the asset class.

Fig 12. Asset classes benefitting from equity SAA reduction (% citations)

Cash	10
Core fixed income	24
Liquid alternatives	24
Alternative credit	57
Illiquid alternatives	81



Sample: Excludes central banks. Sample = 21. Multiple responses.

Rotating from active through passive to factor – and sometimes back again

The rotation between active, passive, and factor strategies looks set to continue given future intentions (see figure 9 on page 15).

However, the outlook is nuanced and offers encouragement to all main equity approaches – consistent with the appetite of the sovereign segment for both the effective and the innovative.

Clearly, a description of equity portfolios as being a transition from active to passive management is an oversimplification. There will be examples of this, but passive will no longer be the sole beneficiary of changing views of how to best manage equities within sovereign portfolios.

In fact, passive may not even necessarily be a net beneficiary over the next three years. As sovereigns have accumulated experience, some have become concerned about weaknesses or biases they perceive in traditional market cap indices and sought out what they see as better designed alternatives. For example, low volatility strategies (one of the most popular factor strategies) are used by some respondents as a means of achieving returns in line with market cap indices, but with lower levels of volatility.

There is also a cyclical aspect to preferences in approach. In periods of rising markets with low volatility which have prevailed in recent years, the scope for active management may appear more limited and passive approaches gain in popularity. However, when markets turn and become more volatile, the reverse occurs and investors once more become increasingly interested in a range of active approaches.

It may be too early to call a low-water mark for active management and a high-water mark for passive management, but portfolio traffic is now moving in multiple directions. Factor strategies appear to be the clearest winners on a forward view; investors increasingly see factor as a third pillar between traditional active and passive investment.

With the decision on investment style no longer a binary one, the shift towards factor will be funded by reallocations from both active and passive, highlighting the range of motivations (risk, return, cost) behind investors increasing factor allocations. We also observed examples of intentions to shift from passive back towards active management, although along the lines of the more focused allocations discussed.

At the same time, given concerns around high valuations, some investors are looking to re-evaluate the role for equities in the portfolio. Some are taking a cautious approach, looking to weather an anticipated equities storm in cash or traditional fixed income safe harbours, as shown in figure 12. Others, buoyed by the prospects of yet greater returns, and encouraged by strong performance, are shifting allocations to private markets instead.

Factor strategies are the clearest winners on a forward view.

Private markets are now seen as the portfolio's 'all-rounder'

Key takeaways:
- Rising distributions from successful past investments are compounding the challenge faced by sovereigns in achieving target allocations to private markets.
- Private market weightings within SAAs continue to rise, as do most average deployment times.
- Valuations are seen as highest in private equity, with more attractive pricing available in infrastructure and private credit.
- Private market assets are increasingly seen as bringing a broader series of benefits to portfolios compared to other asset classes.
- As sovereigns gain in scale, they are increasingly considering opportunities in regions beyond their home market.

2

Alternative allocations continue their long-term increase

Sovereign investors continue to build their allocations to alternatives, with the average aggregate allocations reaching a new high of 20% of in 2017, more than double the average allocation of ~10% in 2013. Alternative asset classes are defined as:

— Private equity
— Real estate
— Infrastructure
— Hedge funds and absolute return funds
— Commodities
— Alternative credit (not included in the totals above)

Real estate and private equity remain the most popular alternative asset classes, however infrastructure in particular has grown in popularity, especially amongst the largest sovereigns.

Alternative credit (bank loans, collaterized loan obligations (CLOs), direct lending) is a relatively new private markets asset class for sovereign wealth funds but allocations are increasing rapidly amongst investment, liability and development sovereigns, and now make up ~4% of portfolios on average (figure 13). Alternative credit is particularly attractive to sovereigns that can tolerate illiquidity, because of its ability to generate higher yields than the core fixed income portfolios used to fund it.

As figure 13 indicates, the take-up of alternative assets is skewed with investor size. In Asia, there is particular dispersion in allocations: a few large investors have large allocations (>30% in some cases), while a long tail have little or nothing.

Large sovereigns with high tolerance for illiquidity intend to ramp up alternative allocations further – towards 50% in some cases, despite often struggling to maintain high allocations due to a paucity of opportunities. For smaller sovereigns, especially those in emerging markets, alternative asset classes are difficult to implement, often carrying significant investment and regulatory risks. In the case of central banks, introducing alternatives often necessitates the development of significant new capabilities in what are often teams with experience principally in fixed income.

Alternative credit is a relatively new private markets asset class for sovereign wealth funds but allocations are increasing rapidly.

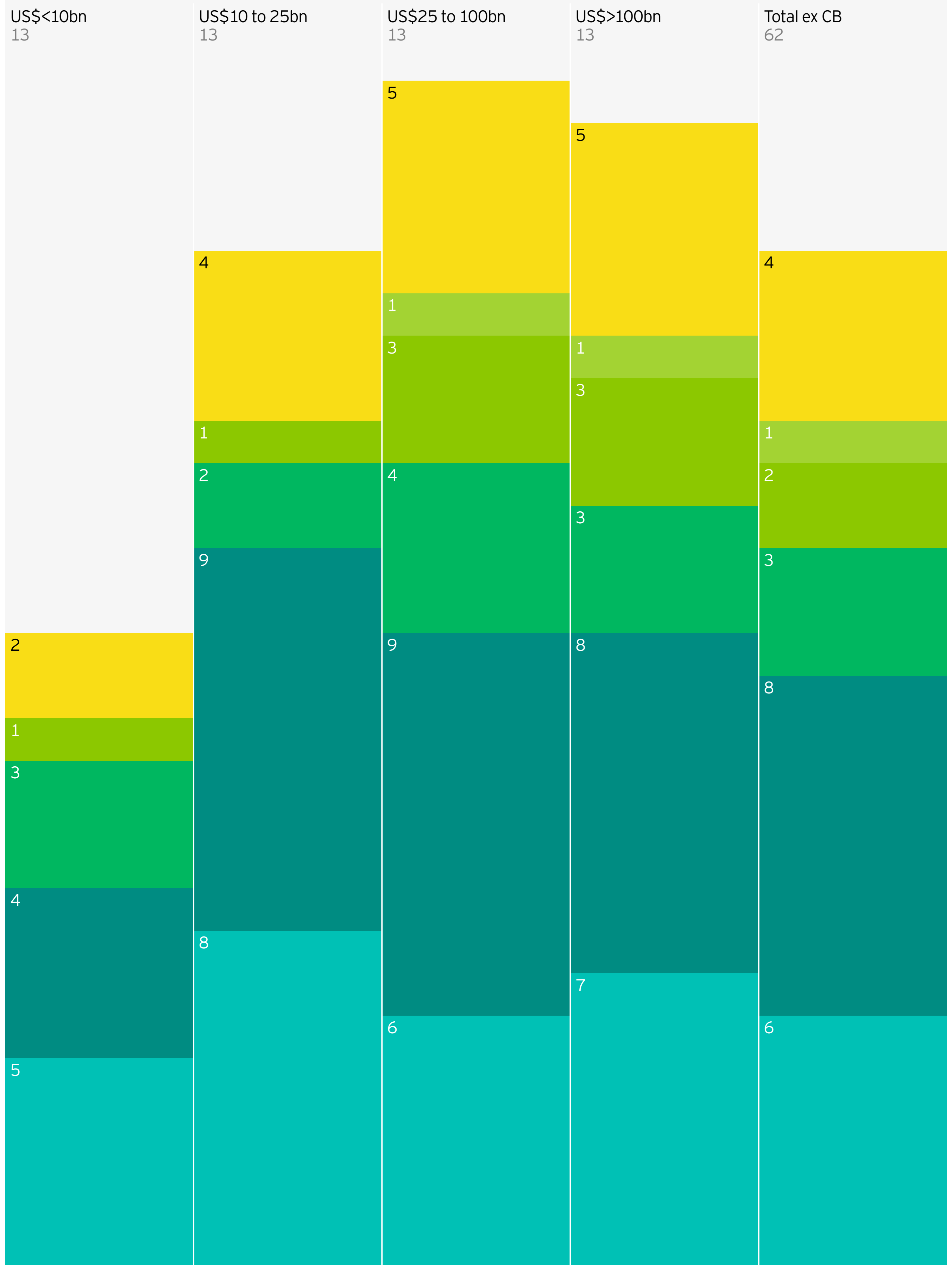


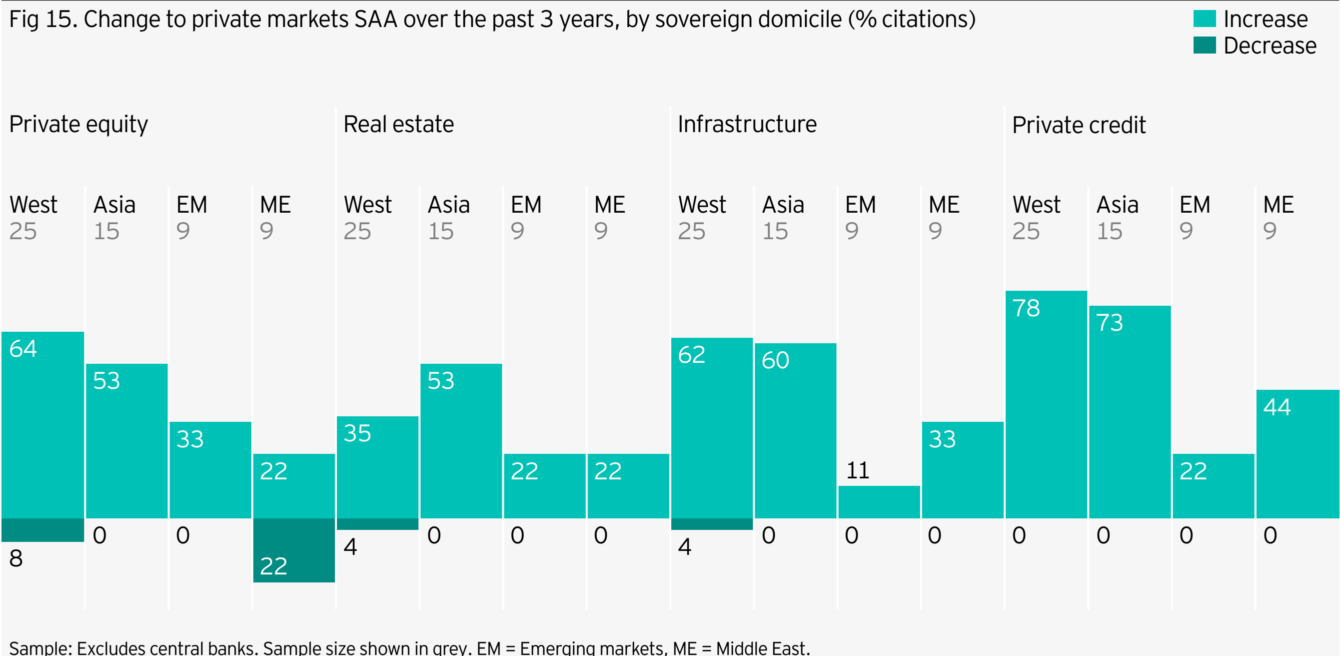
Fig 13. Current allocation to alternative sub-asset classes by sovereign size (% AUM)
Alternative credit
Commodities
Hedge funds / AR funds
Infrastructure
Real estate
Private equity
US$<10bn
13
US$10 to 25bn
13
US$25 to 100bn
13
US$>100bn
13
Total ex CB
62
2
1
3
4
5
4
1
2
9
8
5
1
3
4
9
6
5
1
3
3
8
7
4
1
2
3
8
6
Sample: Excludes central banks. Sample size shown in grey.

Fig 14. Change to private markets SAA over past 3 years (% citations)

	Private equity	Real estate	Infrastructure	Private credit
Sample size	58	59	59	60
Increase	50	36	49	63
Decrease	7	2	2	0

Sample: Excludes central banks. Sample size shown in grey.

Fig 15. Change to private markets SAA over the past 3 years, by sovereign domicile (% citations)



Sample: Excludes central banks. Sample size shown in grey. EM = Emerging markets, ME = Middle East.

Challenges of building alternative allocations in the face of rising distributions

For most private market asset classes, around half of sovereigns have been increasing their strategic allocations (figure 14). Despite the difficulties of getting and staying invested, private markets are seen as particularly suitable for the long-time horizons and illiquidity tolerance of investment and liability sovereign segments; in fact liability sovereigns see some private market assets such as real estate and infrastructure as quasi-matched to their liabilities.

As figure 15 indicates, most regions show strong demand for private markets, although there are clear distinctions:

— Sovereigns in emerging markets have lower levels of demand across the spectrum, due to capability barriers, smaller internal resources and obstacles to implementation.

— Middle Eastern sovereigns are the most targeted in their programmes, partly due to the length of their experience in private markets: interest is highest for private credit and infrastructure. In contrast, for private equity a similar number are reducing allocations in favour of other forms of private market asset classes as those making new allocations.

— Asian and Western region sovereigns have similarly strong levels of demand – particularly for private credit and infrastructure. However, there are notable dispersions in allocations among these investors, with institutions demonstrating considerable idiosyncrasies in their approaches, in particular within Asia.

Fig 16. Average time to deploy committed capital, by sub-asset class (years)

2016
2017
2018

Private equity

2.3
2.4
3.2

Real estate

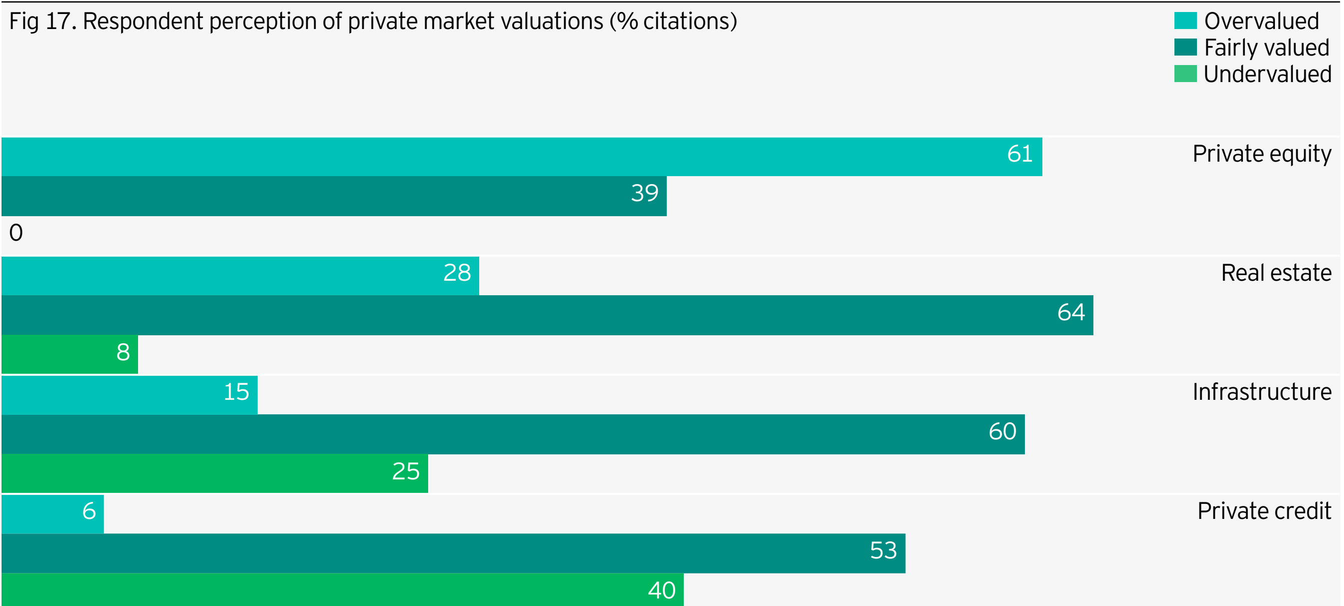
2.0
2.0
2.6

Infrastructure

3.5
4.0
3.2

Sample: Excludes central banks. Sample: 2016 = 21, 2017 = 35, 2018 = 47.

Fig 17. Respondent perception of private market valuations (% citations)



Sample: Excludes central banks. Sample = 62.

Getting invested in private markets has been a consistently observed problem for sovereign investors. Traditionally this has been seen in terms of access to deal flow; this is now aggravated by rising distributions of returns and capital from successful investments back to those sovereigns which managed to get invested in past years. Many investors found that private equity distributions have outweighed capital calls as a result of high multiples prevailing at both exit (encouraging sales) and new entry (discouraging new allocations).

As a result, many sovereigns remain underweight in private markets, and average time to deploy capital is rising, in most cases to beyond three years. Some of the largest sovereigns have responded by increasing efforts to source assets directly, including by opening 'on the ground' offices with local staff, in both international financial centres (such as the CIC's office in New York), and in target markets (ADIA's Hong Kong office being a good example).

Putting capital to work in private credit has been the easiest private market strategy to implement in recent years, in part due to less capital competing for these assets, and in part due to the post-financial crisis withdrawal of banks from certain forms of risky lending, with asset managers and institutional investors filling the void. Activity in real estate remains fairly strong, while a pick-up in infrastructure deal activity over the last year has seen an improvement in deployment time for that asset class (figure 16), driven in large part by the developing economies in Asia pushing ahead with large scale infrastructure projects where they are turning to institutional investors for capital.

Private equity deployment time has increased sharply, but this is partly by choice. While investors remain willing to deploy capital, this is moderated by their view of prevailing valuation levels. There is some concern among sovereigns that private markets generally are becoming overvalued, but particularly so in private equity.

Respondents reported that they and their fund managers are seeing fewer attractive opportunities in private equity because of higher levels of dry powder (off the back of a number of years of record fund raising), leading to increased competition for assets and bidding up of prices, including from a corporate sector fuelled by low-cost capital. Combined with a less certain external environment and more volatile markets, this makes for reduced appeal.

Despite these concerns, most sovereigns continue to allocate to private markets, taking a long-term approach. Good opportunities are still seen as being available within infrastructure (with Asian government-backed programmes like the Chinese Belt and Road initiative) and private credit (Europe and North America).

Getting invested in private markets has been a consistently observed problem for sovereign investors.

Rethinking the management of private market portfolios

As more sovereigns gain experience in acquiring and managing private market assets despite increasing competition for those assets, they are rethinking how they approach the management of private markets, and the role they play in wider portfolios. An important learning has been identifying a broad 'all-rounder' set of benefits that private market assets are seen to bring to portfolios. This 'all-rounder' characteristic is clearly evident relative to equities (figure 18).

For sovereign investors, investment in equities is principally about maximising returns. For investment in private markets, diversification is the leading benefit, but there are perceived to be similarly strong benefits encompassing returns, inflation protection, portfolio duration, and accessing illiquidity premiums. Income generation is not far behind, and plays a more prominent role for liability sovereigns that are using private markets, in particular infrastructure and real estate, as quasi-matching assets against their liabilities. Given such a strong value proposition, ongoing demand for private market assets is unsurprising.

In an overall portfolio context, sovereigns are increasingly using a risk premia approach for portfolio construction, usually in parallel with traditional asset allocation. Investments are viewed as a distinct, uncorrelated set of risk premia driving the portfolio risk profile. Taking a holistic approach enables sovereigns to be more dynamic in managing exposures, liquidity, and accessing thematic or innovative investments.

To achieve this holistic approach, more active ownership and increased flexibility are being built into sovereigns' private market portfolios, resulting in:

- Widening geographical opportunity set.
- Changes to the structure of investments.
- Shifts in the risk structure of investments.
- Strategic partnerships with GPs.

As a result, sovereigns are focusing more attention on opportunities in new regions. Most sovereigns have historically had a home bias but as implementation difficulties persist (particularly for sovereigns located in smaller home markets), they acknowledge the need to access a wider pool of opportunities with regional diversity. Divergence in the pace of the post-financial crisis recovery, and subsequent central bank policy differences across regions, are also encouraging sovereigns to look abroad.

Regional interest is well spread as figure 19 demonstrates:

- North America is strongly favoured for private credit (being the largest market for that asset class), private equity (capital raising and deal flow), and real estate. While currently viewed as less attractive for infrastructure, there is a potential for re-emergence if the Trump administration implements its mooted infrastructure plan.
- EMEA, especially non-core EMEA markets, is also seen as highly attractive for private credit opportunities, followed by real estate, as large North American investors seek to diversify away from home market assets, acknowledging the return and diversification benefits of being able to draw from a wider pool of opportunities.
- Large infrastructure initiatives (e.g. Belt and Road initiative in China) have made APAC attractive. Large-scale government backed infrastructure comes with implicit government support, reducing regulatory and political risk.
- In emerging markets, the relaxation of capital controls and improving economic and political stability conditions are creating more opportunities, particularly within private equity and infrastructure. As emerging market allocations can be difficult to maintain given the small size of regional capital markets, large infrastructure deal sizes can be a way in which sovereigns can lift their weightings.

Taking a holistic approach enables sovereigns to be more dynamic in managing exposures, liquidity, and accessing thematic or innovative investments.

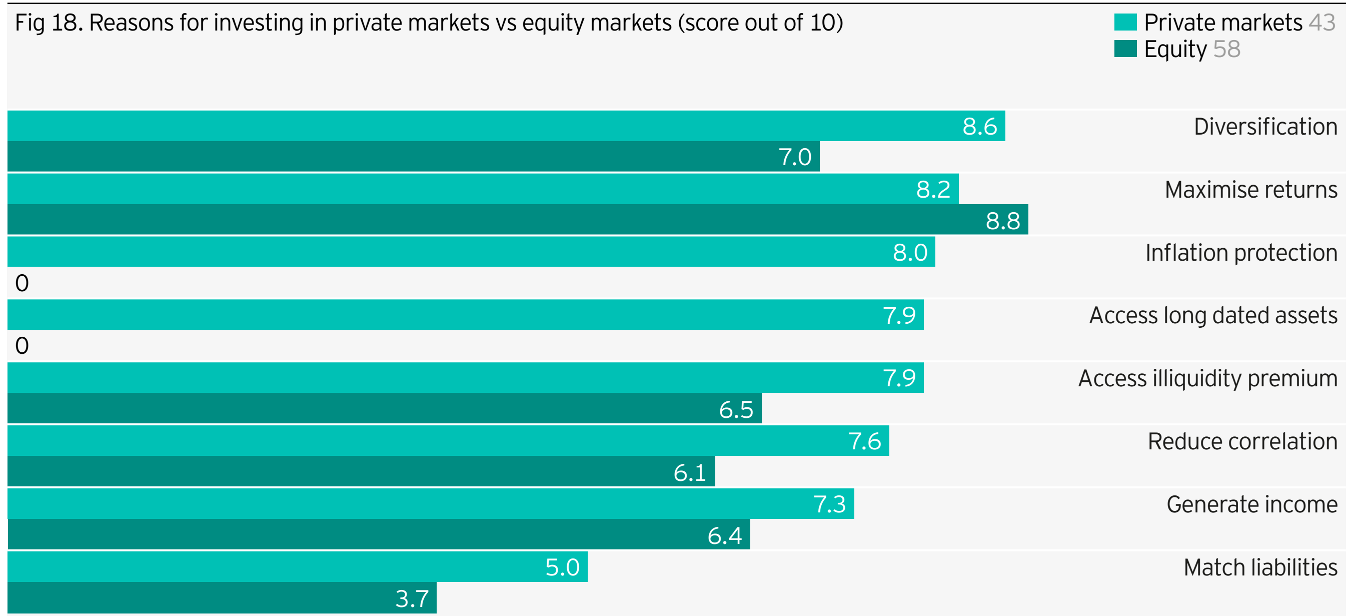


Fig 18. Reasons for investing in private markets vs equity markets (score out of 10)

Sample: Excludes central banks. Sample size shown in grey. Rating on a scale of 1 to 10 where 10 is complete agreement.

Fig 19. Regional attractiveness of private market sub-asset classes (% citations)

	North America	EMEA	APAC	Emerging markets
Private equity 46	52	33	46	57
Real estate 48	50	63	48	23
Infrastructure 39	41	38	64	56
Private credit 46	83	83	57	25

Sample: Excludes central banks. Sample size shown in grey.

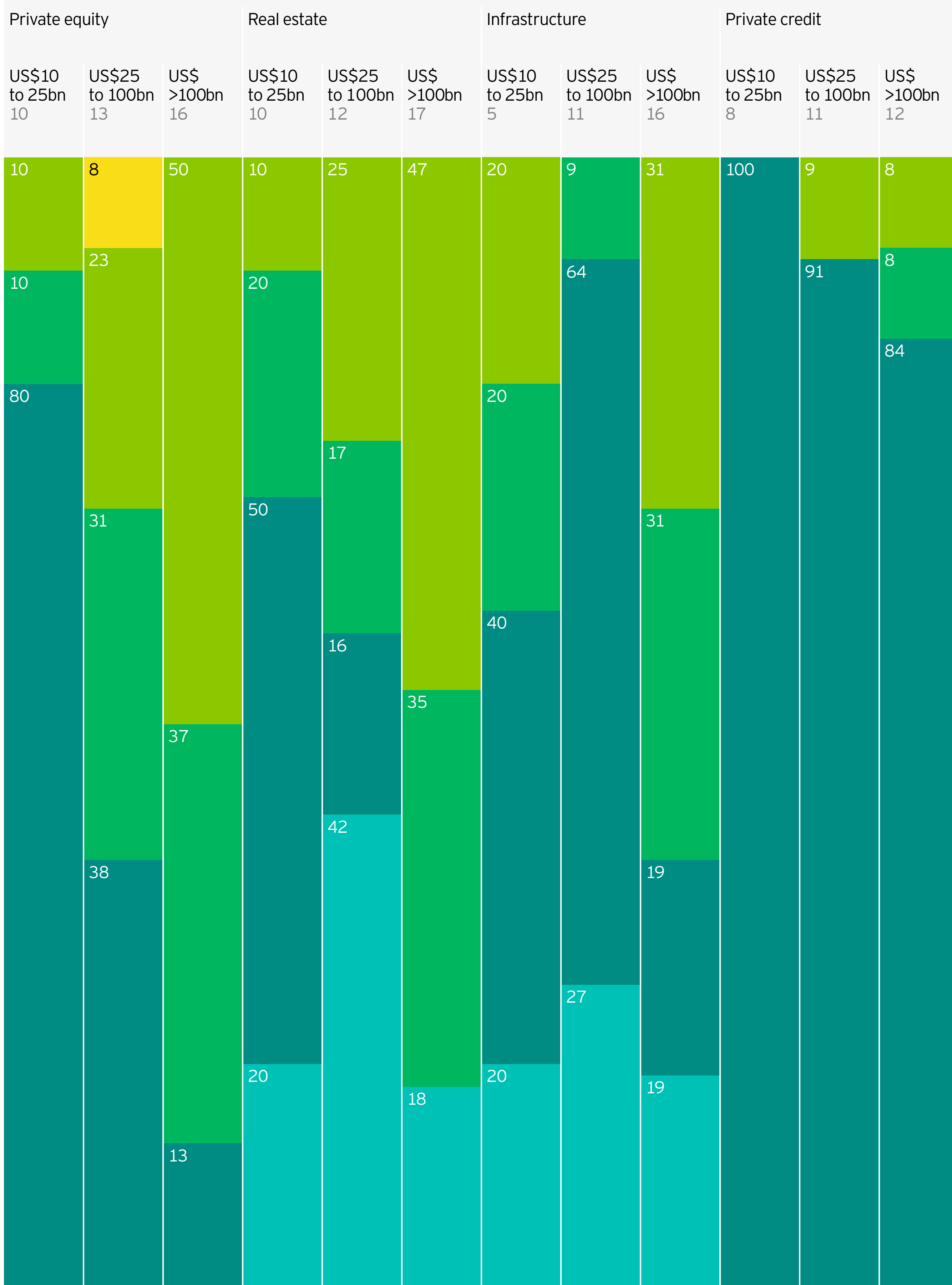


Fig 20. Preferred investment vehicle, by size of sovereign (% citations)
No preference
Direct
Co-investment
Fund
Separate account
Private equity
Real estate
Infrastructure
Private credit
US$10 to 25bn 10
US$25 to 100bn 13
US$ >100bn 16
US$10 to 25bn 10
US$25 to 100bn 12
US$ >100bn 17
US$10 to 25bn 5
US$25 to 100bn 11
US$ >100bn 16
US$10 to 25bn 8
US$25 to 100bn 11
US$ >100bn 12
10
10
80
8
23
31
38
50
37
13
10
20
50
20
25
17
16
42
47
35
18
20
20
40
20
9
64
27
31
31
19
19
100
9
91
8
8
84
Sample: Excludes central banks. Sample size shown in grey.

The other key change is how sovereigns gain access to private market assets. As sovereigns begin to view private market portfolios more holistically, they also seek better alignment of interests, reduction of agency issues, and cost efficiencies. Notably this is not just about alignment between the sovereign and general partner in a fund context, but also between the sovereign and other investors at an asset level.

For example, closed funds are typically structured to liquidate over 7–10 years and to distribute returns and capital progressively back to investors. Some investors in private markets may value this return profile, but many sovereigns have an indefinite desired holding period for certain assets, particularly unique assets in monopoly situations (such as airports, ports, and toll roads). For them, the traditional closed-end fund context and the presence of co-investors with different time horizons are unappealing. The desire to improve alignment, along with increasing investor scale, is reflected in a migration from funds to more direct forms of participation. Figure 20 highlights the preference for investing direct, especially amongst large sovereigns, a trend that our respondents noted has increased in the last few years.

With less use of funds, sovereigns are also reducing the number of private markets asset manager relationships, but increasing their tolerance for larger individual asset exposures within individual private market asset classes (diversification is achieved across the entire portfolio). Within private equity, sovereigns are seeking more control over the sourcing and structuring of assets (eg control over leverage), as well as the ongoing management of portfolio companies (for example, board representation), to realise as much additional value as possible (eg margin expansion).

In real estate, sovereigns are developing strategic partnerships to better align interests and increase control over their exposures, mostly through the use of separate accounts. These structures allow not only for a more targeted approach to deal sourcing, but also a greater role for often dedicated internal teams in the management of the portfolio.

Greater direct involvement also allows more control of liquidity and more ability to achieve targeted exposure levels. Increasingly a diversified approach to liquidity is sought by combining greater use of secondary market sales and open-end funds to offset the J-curve effects of closed-end funds and direct investments that have extended capital call and holding periods.

Sovereigns are increasingly minded to invest on a global basis as they outgrow their domestic economy, and increasingly capable as they develop an international footprint. With their long-term investment perspective, they should prove to be attractive partners for spending-constrained governments and others looking to develop or recycle private market assets.

As sovereigns begin to view private market portfolios more holistically, they also seek better alignment of interests.

Sovereign investors have a commercial approach to fees and expenses

Key takeaways:

- Sovereign investor expense ratios vary from ~3bps to over 100bps, with 24-45bps being a typical range.
- A majority of sovereigns are seeking to reduce fee expenses, mainly by reducing base fees in favour of performance fees.
- Amongst traditional sovereigns, there is strong acceptance of performance fees as aligning the interests of investors and managers.
- The most common view of equitable fees is that a 25-30% share of alpha achieved should be paid to asset managers as total base and performance fees.
- Central banks have a contrasting perspective; with their limited risk appetite and higher need for manager support, most prefer higher base fees and limited use of performance fees.

3

Sovereign investors are prepared to pay for results
Sovereigns are large and increasingly sophisticated investors which apply a wide range of traditional and innovative strategies to achieve their objectives. This year we explored the price side of the decision – in the search for market access and performance, what do sovereigns think is a fair price to pay? We investigated expense ratios and how sovereigns think about them, what sovereigns think about fee levels and structures, and their preferences for fee arrangements with asset managers.

We found a wide range of approaches, a broad desire to reduce base fees and expenses, but equally, that sovereigns recognise the need for skill of external parties to reach their objectives – and are prepared to pay for performance.

Sovereign expense ratios vary widely
We observed enormous variation amongst sovereigns when it came to fees – between traditional sovereigns and central banks, between sovereign segments, and within segments.

It is difficult to describe a typical sovereign fee budget as a result. A common range is 25–45bps, but our respondents cited total expense ratio (TER) equivalents which stretched from a few basis points to over 100 (see figure 21). Much of the wide spread is explained by asset allocation, as the extremes indicate: very low TERs are associated with portfolios heavily weighted to passive fixed income (especially central bank reserve portfolios), while high TERs are typically associated with portfolios heavily weighted to private markets which are more expensive to manage (typically non-liquidity sovereigns).

The philosophical approach of a sovereign to fees and expenses often reflects its origins. Sovereigns are typically public institutions, so their operating model, with its implications for attitudes towards costs and the use of internal vs external resources, will often be heavily influenced by the specifics of local public-sector practices. There are sovereign investors which are close to fully internally managed, others which are close to fully externally managed, and many mixed models.

Beyond the local operating environment, variations in expense ratios are a function of:

- Transparency and accountability standards – sovereigns located in countries with greater public-sector accountability usually face higher pressure to both reveal expenses and manage them down.
- Active vs passive beliefs of public markets – sovereigns tend to have clear views about the ability of active management to add value in equity and bond markets, which flow through to allocation decisions and expense ratios.
- Scope to allocate to private markets – sovereigns are typically keen on investing in private market assets in order to capture the illiquidity premium, but may not be permitted to do so; sometimes this is due to perceptions of high fees in private markets relative to public markets, where fees can more easily be managed.
- Choice of implementation vehicle – smaller sovereigns and those with fewer resources are more reliant on more expensive pooled funds and funds-of-funds, especially for alternatives and private markets exposures.
- Internalisation economics and policy – internally managed models of asset management are often perceived as being cheaper than using external asset managers, but costs and complexity are often underestimated; total direct and indirect costs make internalisation economically viable only for larger sovereigns, and even then government policy may restrict or prevent this occurring.

As a broad group, over the last 12 months, sovereigns have been seeking to reduce expense ratios. That said, relatively few have a specific target objective they are aiming for, and only half formally benchmark their expense ratios.

Figure 22 indicates that benchmarking of expense ratios is highest in the West (Europe and North America) where public pension funds and state legislatures typically face a high level of scrutiny and there is a large peer group in each region which makes benchmarking worthwhile. Asian and emerging market sovereign wealth funds, by comparison, tend to have more unique objectives, structures, and portfolios, making them more idiosyncratic and harder to select a set of comparable peers against which to benchmark.

Where sovereigns have sought to reduce expense ratios, the objective has been principally to improve net returns (figure 23). This was perhaps unsurprising, given reduced forward looking return assumptions.

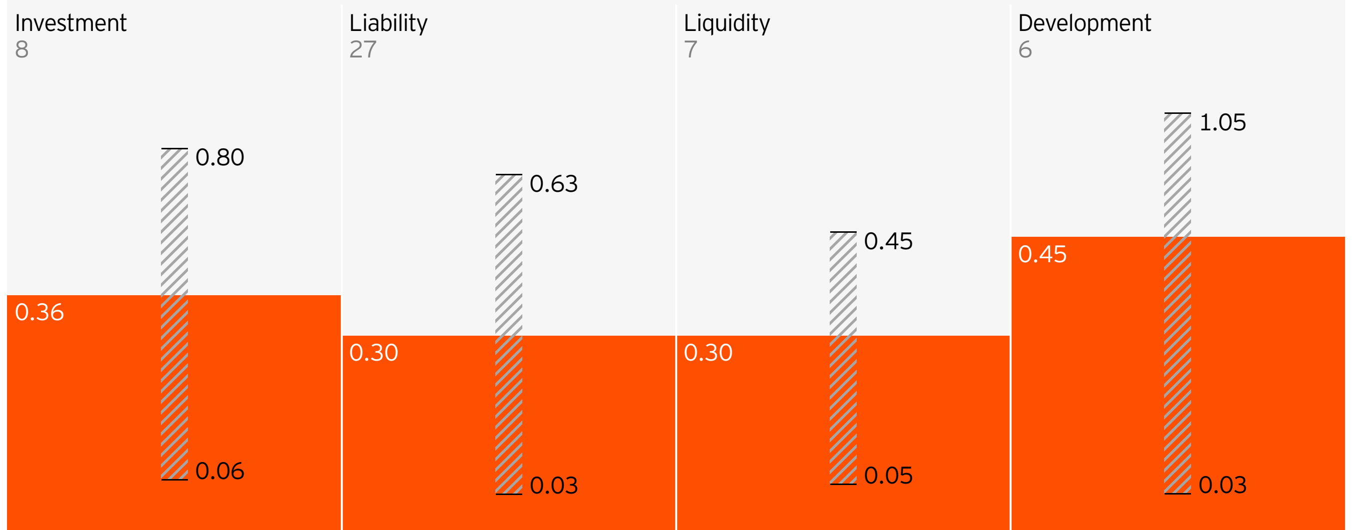
With a more difficult external return environment anticipated, sovereigns are becoming more demanding of their asset managers. Beyond lower fees, they have more clearly defined expectations of fee agreements and alignment of asset manager conduct with the objectives of the sovereign. For example, asset gathering behaviours by active managers are frowned upon, raising questions as to whether managers will be able to deliver enough additional value to warrant their higher fees.

This is most prevalent in public market asset classes where sovereigns split into philosophical believers in active management vs those who don't believe value can be added, especially in well-researched markets such as US large caps.

In the more specialist end of public markets (such as credit) and in private asset markets, belief in the value of active management and persistency of superior manager performance over time is much more widespread, which translates to stronger pricing power for asset managers and more willingness to pay by sovereigns.

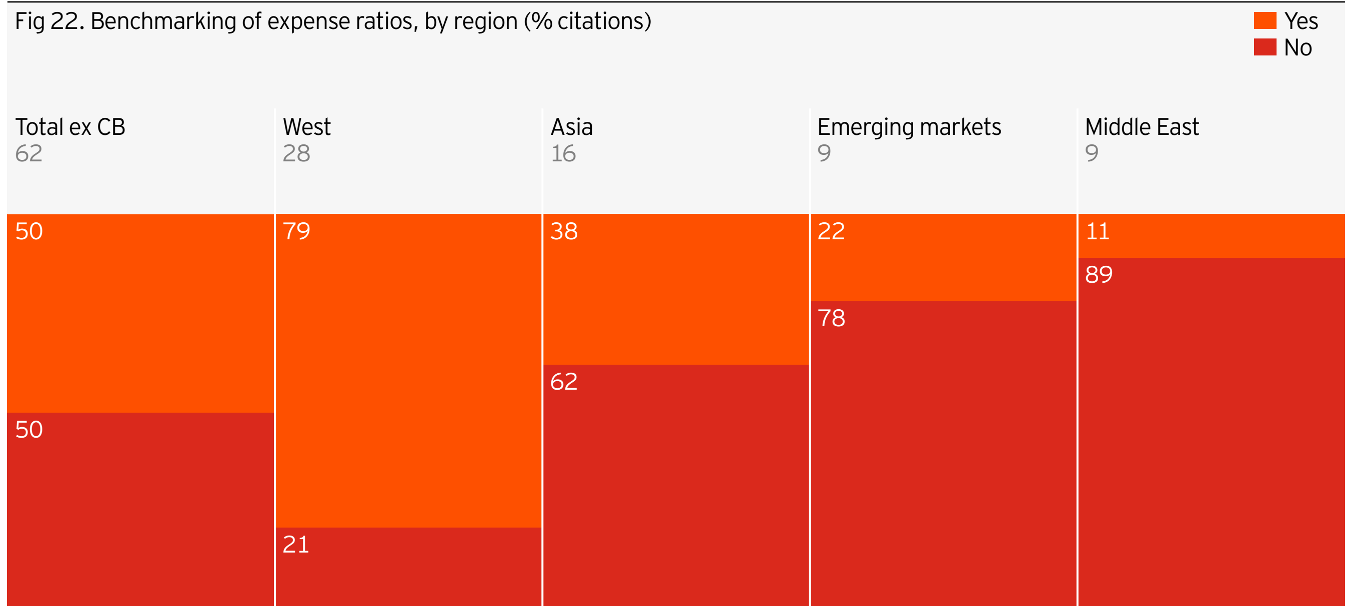
A common (fee budget) range is 25–45bps.

Fig 21. Total expense ratio (TER), by segment (% AUM)



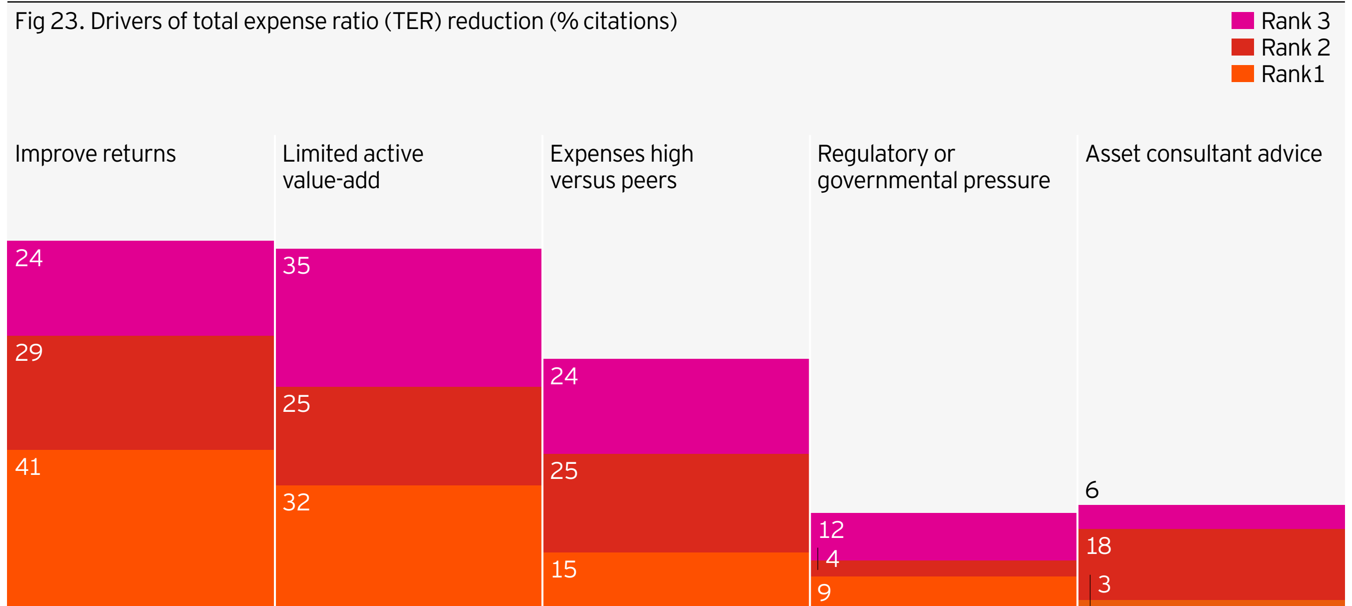
Sample: Excludes central banks. Sample size shown in grey. This box and whisker diagram shows the maximum, minimum and average TER quoted by respondents.

Fig 22. Benchmarking of expense ratios, by region (% citations)



Sample: Excludes central banks. Sample size shown in grey.

Fig 23. Drivers of total expense ratio (TER) reduction (% citations)



Sample: Excludes central banks. Sample = 34. Rank 1 = most important, rank 2 = 2nd most important, rank 3 = 3rd most important.

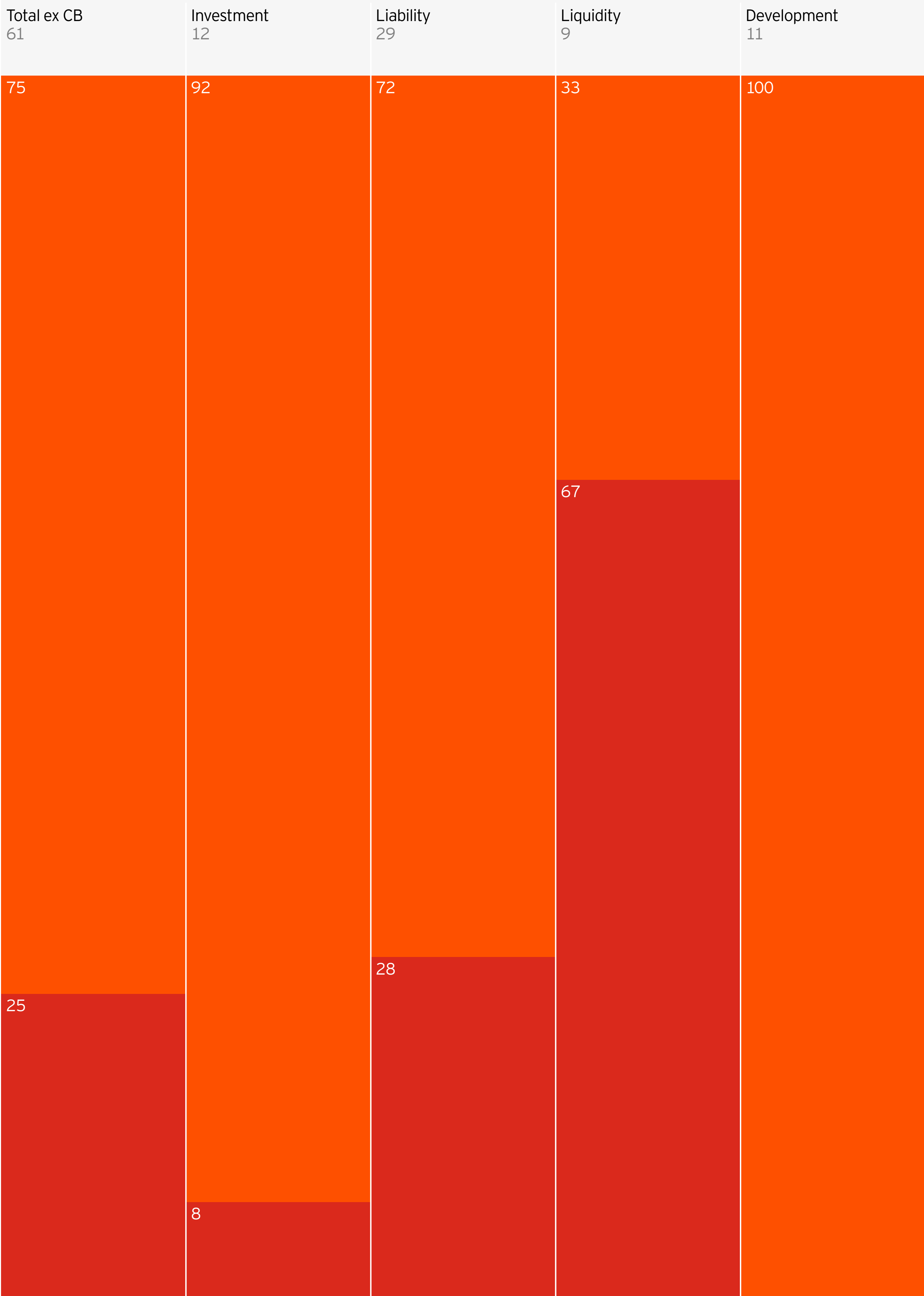


Fig 24. Performance fees aligning interests of investors and asset managers (% citations)
Agree
Disagree
Total ex CB
61
Investment
12
Liability
29
Liquidity
9
Development
11
75
92
72
33
100
67
28
25
8
Sample: Excludes central banks. Sample size shown in grey.

Base fees giving way to more emphasis on performance fees

Reconciling the desire to reduce costs, together with a preparedness to pay for performance, a common fee approach of sovereigns has been to reduce base fees paid for active management and make more use of passive and other buy/hold strategies. There has been an effort to simplify portfolios by reducing the number of active mandates within public markets, and increasing the dollar size of the reduced number, using the increased scale to negotiate lower base fees.

Migration from traditional active to passive mandates over the past three years as discussed in theme 1 has also reduced portfolio turnover and non-fee transaction expenses, another reason sovereigns are favouring longer-term buy-and-hold strategies over high turnover active mandates.

As sovereigns increasingly use active and alternative managers to target alpha which is less correlated to markets or factors, they also exhibit a strong belief that fee structures should be increasingly weighted towards performance fees.

Respondents cited that base fees should be sufficient to cover manager operating costs, but that material profit margins beyond this can provide incentives for managers to gather assets at the potential expense of alpha generation.

Accordingly, as shown in figure 24, over 70% of sovereigns believe that performance fees are effective in aligning the interests of asset managers and investors – the exception being liquidity sovereigns, which have a similar fee perspective to central banks (see figure 29).

Over 70% of sovereigns believe that performance fees are effective in aligning the interests of asset managers and investors.

Given the preference for performance fee structures for active managers, there was widespread acknowledgement of the need to structure fee arrangements carefully to ensure the right incentives and a fair split of outcomes between asset manager and asset owner.

The ability to achieve this reflects the realities of the balance of bargaining power (figure 25), which is seen as very different in public and private markets. Only 45% of sovereign investors believed they possessed significant bargaining power in private markets, where factors constraining investor bargaining power include:

— Performance persistence by investment managers is seen as most convincing.
— Fewer access routes to market.
— Limited asset availability (especially trophy assets in infrastructure and real estate).
— Limited manager capacity and strong demand for capacity (especially for managers who have displayed performance persistence).

Sovereigns (even smaller sovereigns) conversely perceived a much stronger bargaining position in public markets; 74% believed they have strong bargaining power for public market mandates. Relative to investment managers in private markets, the argument for performance persistence is seen as weaker, there are many routes of access to market, assets are largely fungible, and capacity is less of an issue (in global, large cap and broad fixed income mandates in any case).

In terms of appropriate fee shares to asset managers, the highest incidence of responses (and the respondent average) fell in the 25–30% of alpha range (figure 26). However care should be taken in interpreting this range as it incorporates:

— Combined base and performance fees.
— Both public and private market mandates.

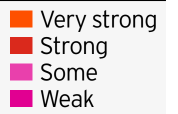
Accordingly, while this is representative of the overall sample portfolio approach, it is not necessarily indicative of any particular mandate type.

Beyond preserving equity between the parties, performance pricing structures are also increasingly being designed to help guard against excessive risk taking or closet index/factor tracking. Solutions cited by sovereigns included capping performance fees, creating customised benchmarks, and having a rolling period for performance measurement.

In common with other types of institutional investors, sovereigns also have to manage stakeholder and public perceptions of performance fees. When managers achieve exceptional performance, TERs can be pushed up materially; some stakeholders may be uncomfortable with managers being paid significant performance fees even though the sovereign investors are far better off as a result. Resistance tends to be magnified when outperformance occurs in falling markets; the combination of rising TERs and negative portfolio returns can be a difficult discussion to manage.

While comfort with performance fee structures is relatively high, around a quarter of sovereigns have sought to develop what they see as more appropriate or innovative fee structures. To date these are mainly bespoke agreements between sovereign investor and asset manager, tailored to specific objectives or leveraging longstanding relationships and reputations.

Fig 25. Perceived bargaining power (% citations)



Public markets

51

24

14

11

Private markets

24

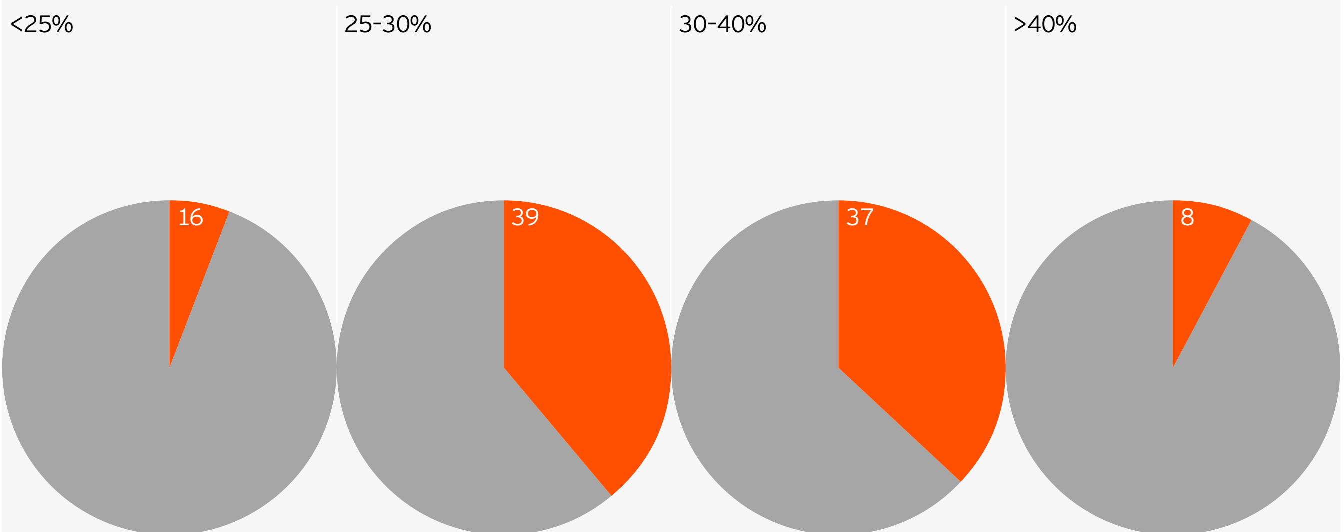
21

38

17

Sample excludes central banks. Sample = 58.

Fig 26. Respondent views on the level of alpha that should be paid to asset managers (% citations)

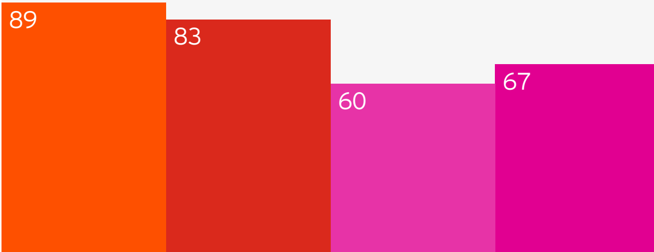


Sample: Excludes central banks. Sample = 49.

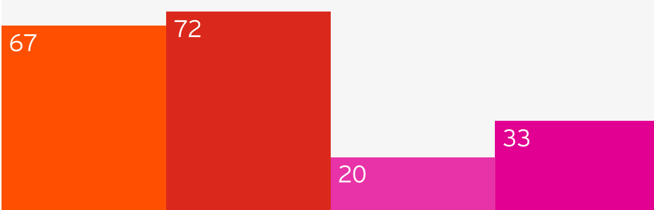
Fig 27. Alternative provisions sought when negotiating fees (% citations)

INV 9
LIA 18
LIQ 5
DEV 3

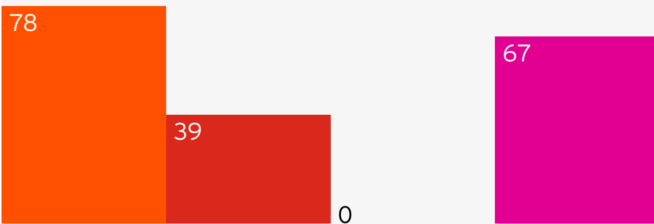
High water mark



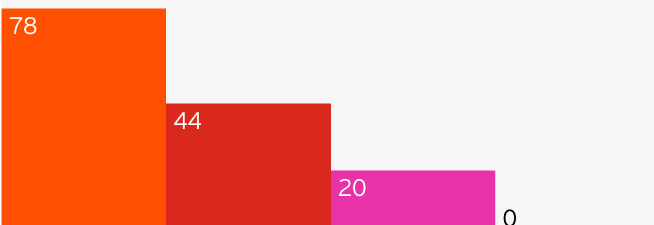
Hurdle



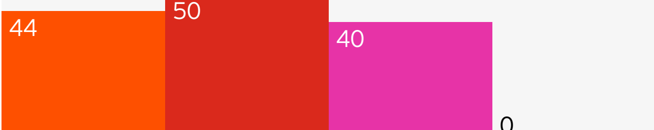
Co-investment



Deferred element



Clawback

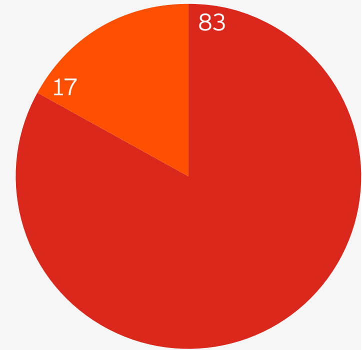


Sample: Excludes central banks. Caution low sample sizes. Sample size shown in grey. Caution small sample size.

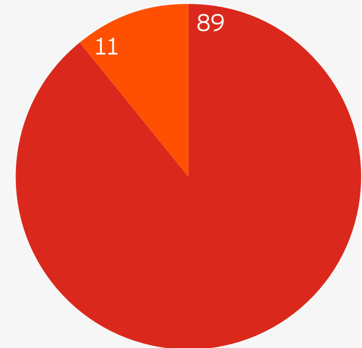
Fig 28. Support for implementation success fees, by size (% citations)

No
Yes

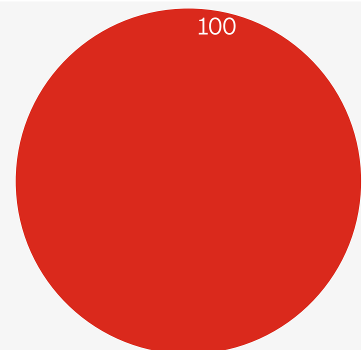
Total ex CB
47



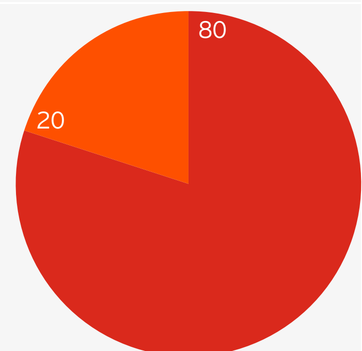
US$<10bn
9



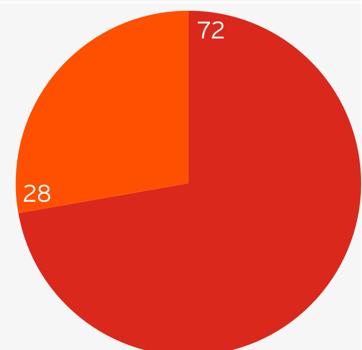
US$10 to 25bn
10



US$25 to 100bn
10



US$>100bn
18



Sample: Excludes central banks. Sample size shown in grey.

Sovereigns in this category which are seeking custom clauses in fee agreements have a range of different purposes they are working towards (figure 27):

- Ensure performance fees are paid only once on the same return (high water mark (HWM)).
- Ensure a minimum return is achieved before performance fees are payable (hurdle).
- Require the manager to put its own capital at risk with the investor (co-investment).
- Encourage generation of sustainable returns (deferred element).
- Punish ephemeral outperformance (clawbacks).

There is also a material minority open to alternative fee models, including a longer rolling performance period, or extending the definition of performance to metrics such as achieving implementation success (figure 28) in private market assets (with appropriate checks and balances which discourage overpaying for assets to achieve this).

This provides further evidence for the view that sovereigns are more interested in enhancing the status quo when it comes to fees rather than significantly changing it. They are prepared to pay fees which give asset managers reasonable profit margins, so long as asset managers contribute to the sovereign's objectives – via skill rather than simply translating market returns.

Sovereigns are more interested in enhancing the status quo when it comes to fees rather than significantly changing it.

Fig 29. Central bank views on performance fees aligning interests of investors and asset managers (% citations)

Sample = 60.

Central banks have different fee perspectives

When it comes to fees, central banks are distinct from other sovereign investors because of their different investment priorities (capital preservation and liquidity over returns).

Base fees are much less of an issue in an absolute sense. Allocations to external asset managers are small in relation to the total reserve portfolio, so manager base fees have only a marginal impact on the reserve portfolio's total expense ratio in the first place.

Furthermore, central banks are often looking for value-added services from asset managers – benchmarking, support with the implementation of new asset classes, front middle and back office training and seminars, and access to market information and trends. They accept these are not costless to provide. As a consequence, central bank reserve managers suggested a tolerance for higher base fees, and that fees were seen more in sense of overall 'value' to the institution, rather than simply as a question of achieving the lowest possible level.

The tolerance of higher base fees also reflects that the use of performance fees by central banks has the potential to create incentives which are inconsistent with what they seek to achieve at both mandate and portfolio levels (figure 29). Where central banks use external managers, mandates are tightly constrained around a benchmark, with multiple risk limits imposed to prevent excessive risk taking – accepting that equally this severely limits outperformance potential.

Central banks much prefer modest but consistent outperformance with limited risk implications, and are happy to trade away the potential for additional alpha because of the additional risk of underperformance that would come with that profile. Accordingly, they currently in most cases favour a base fee structure with very limited or no performance-related element, as best reflecting the style of ongoing relationship and support they seek with asset managers.

That said, around a quarter of central banks have the contrary view that performance fees can help alignment between investors and asset managers. The transition of reserve portfolio management from tranches to a whole-of-portfolio approach also provides some basis for usage of performance fees if the risk of underperformance can be absorbed across the portfolio.

When it comes to fees, central banks are distinct from other sovereign investors because of their different investment priorities.

Central bank reserve objectives are broadening

Key takeaways:
- Centrals banks are increasing their focus on returns as reserves rise beyond what is required for sufficiency and the related maintenance costs increase.
- Banks with larger reserves and more experience are migrating from a tranche approach of reserve management to a whole-of-portfolio approach.
- Average central bank allocations to non-traditional assets are now ~14%.
- Currency exposure within reserve portfolios has rotated away from euros towards US dollars and a range of diversifying currencies.
- Reserve managers are looking to develop a range of capabilities, particularly relating to new asset classes and risk management.

4

Growing importance of central banks as sovereign investors

Central banks are seeing a reassessment of their place in the sovereign investor segment. Typically central banks have been seen as somewhat at the margin of the segment – controlling significant asset pools, but reflecting their origins as economic managers rather than money managers, not necessarily acting as traditional institutional asset owners.

That view is becoming dated. The asset pools – reserves – held by central banks continue to grow, and at over US$11 trillion are substantial in any sense. This is resulting in an increasingly professional and sophisticated approach brought to the management of those reserves. Components (tranches) of reserves, and sometimes entire reserve portfolios, are now being managed in a manner which would be recognisable to other types of sovereign investors.

In response, we have increased our central bank sample substantially from 35 in 2017 to 62 in 2018. This now provides coverage across the central bank spectrum from large to small, across the West, Asia, and emerging markets.

This provides a picture of common challenges confronting central banks of different size and regional domiciles, arising from growing reserves and the increasing cost of maintaining those reserves, but a diversity of approaches being applied to their management. These range from banks with very large reserves, adopting increasingly sophisticated approaches to portfolio management, to banks with relatively small portfolios taking their first steps, often in line with IMF guidelines.

Rapidly growing reserves sees attention turning to returns

Central bank reserves have grown substantially over the past two decades (figure 30). Starting around the time of the Asian financial crisis in 1998, the global total of central bank reserves grew at a compound rate of ~15% pa through to the global financial crisis in 2008. Strong growth continued through 2012 before giving way to modest reductions in 2014.

This resulted in global central bank reserves rising from ~US$2 trillion to over US$12 trillion by 2012, settling at ~US$11 trillion since the end of 2016. While it is tempting to see this increase solely as a result of central bank policy, reserve increases are in many cases a product of export-focused growth strategies, the effects of which are sometimes compounded by rising commodity prices and the increased capability of reserve managers.

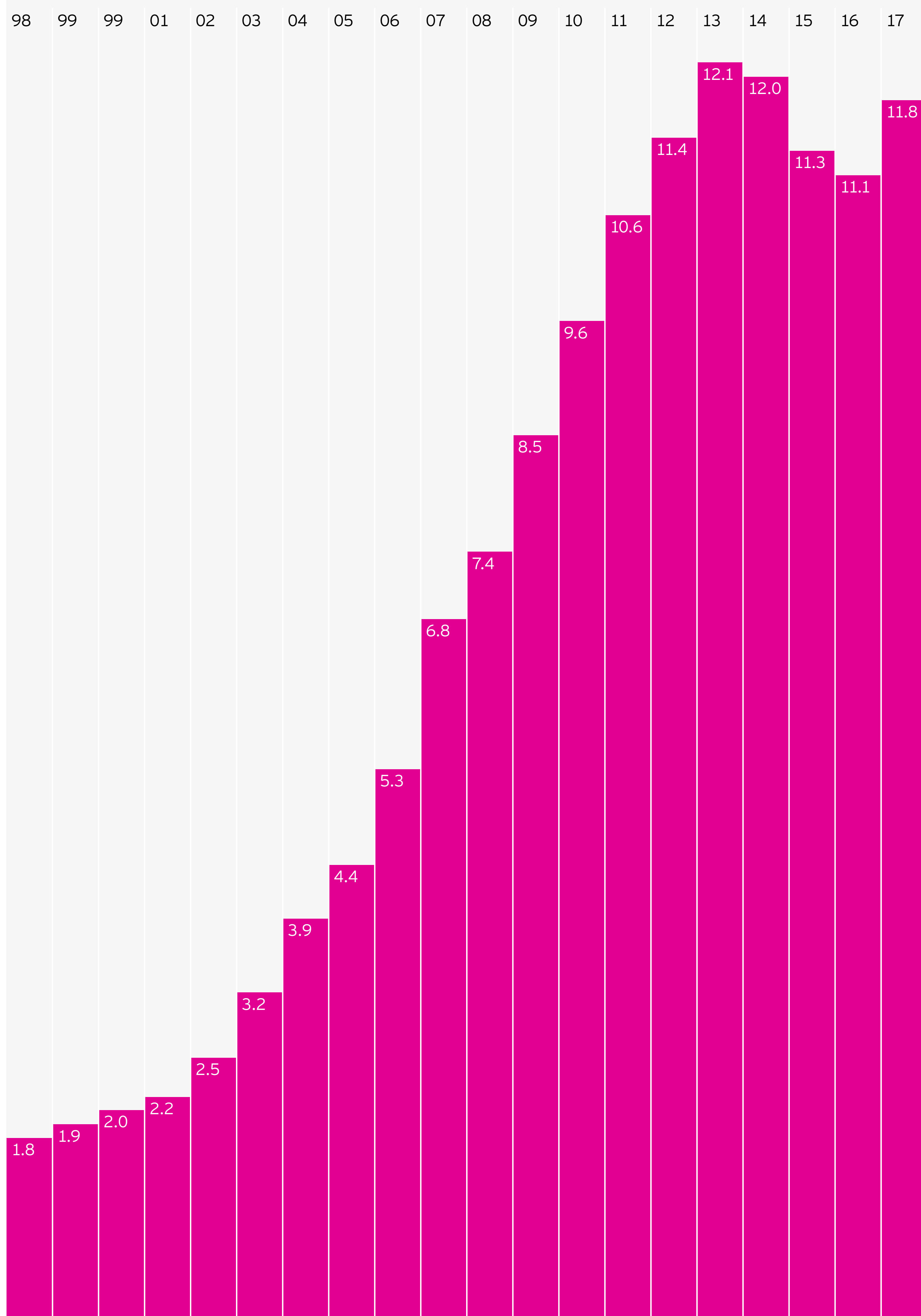
Central banks do however face significant headwinds as the yields on traditional assets remain low, incurring the risk of negative carry. For some central banks, as we highlighted last year, this has been an opportunity to expand the range of investible assets, with many introducing a broader range of fixed income securities.

In the past year we have seen this deepening and expanding beyond fixed income, with central banks beginning to look at equities for inclusion in reserves. While a significant development, allocations to equities and other non-traditional assets will be only incremental given the need to maintain liquidity in the investment tranche (as discussed in Invesco's Central Bank previous white papers[1]), especially as QE begins to wind down.

Central banks also face a changing external environment with the IMF recently redefining the Special Drawing Rights (SDR) basket. While exposure to the United States Dollar (USD) rose this year due to interest rate differentials, it is clear that many central banks are looking to diversify away from both the dollar and euro.

[1]White papers are available at: www.igsams.invesco.com

Fig 30. Aggregate central bank reserves (US$ trillion) 1998-2017



Source: Total reserves excluding gold, US dollars. World Bank.

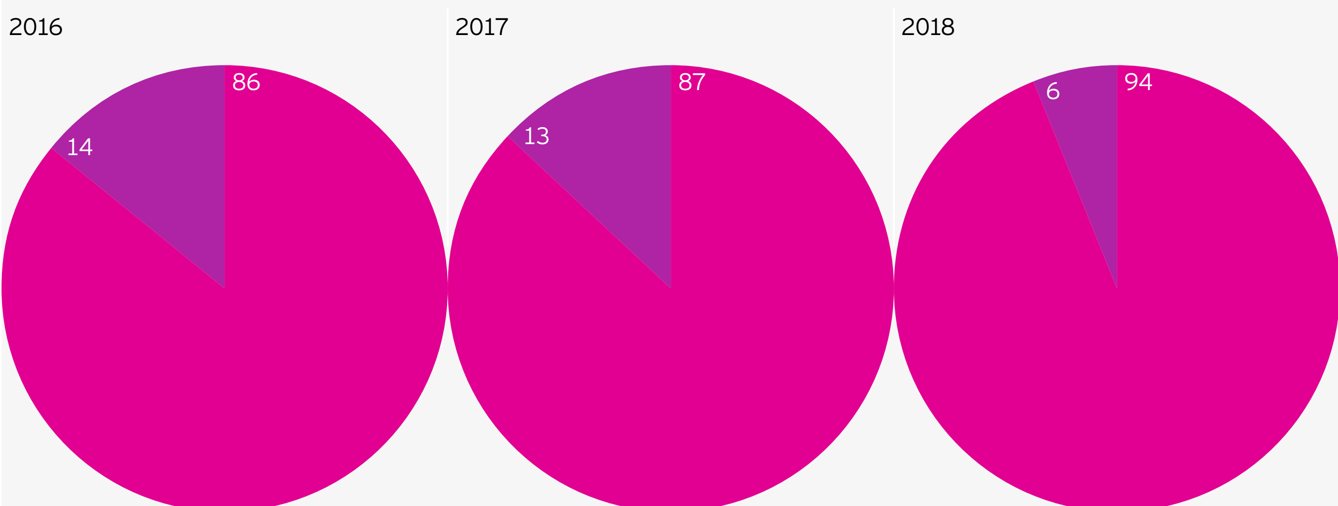
Fig 31. 2017 change in reserves and 2018 expectations (% citations)

	Large increase	Small increase	Stay the same	Small decrease	Large decrease
2017	30	42	8	17	3
2018	16	49	23	8	4

Sample comprises of central banks only. Sample: 2017 = 60, 2018 = 49.

Fig 32. Low returns on government bonds driving diversification (% citations)

Agree
Disagree



Sample comprises of central banks only. Sample: 2016 = 14, 2017 = 31, 2018 = 49.

Traditionally, central banks have held reserves principally to manage national foreign exchange rate policies and to facilitate foreign exchange operations such as payments for imports and foreign debt. Study respondents cited that these drivers have been augmented by other forces:

— Globalisation of financial markets (eg relaxing of capital controls in India), encouraging central banks to hold higher reserves reflecting increased levels of trade and capital movements.
— Significant currency intervention (e.g. the Swiss National Bank), which requires large reserves in order to send credible signals to the market.
— Liquidity buffers for times of crisis.

Notwithstanding the apparent plateauing of central bank reserves since 2013, many respondents see this as a hiatus. Over 70% saw small or large increases in reserves in 2017, and over 60% were expecting further increases over the course of 2018 (figure 31). The growing level of reserves has caused central bank thinking about reserves to evolve in several ways:

— Where the size of reserves provides buffers beyond what are seen as adequate levels, this allows central banks to take on more risk, either within the buffer, or weighted across the portfolio.
— Increased reserves facilitate, and necessitate, additional risk diversification (via other higher performing asset classes, and asset classes with different risk characteristics) if capital preservation objectives are to be sustained. However, as we noted last year, this is usually more attractive for banks in economies with low exposure to financial markets, which are less correlated to these markets, and consequently seek instead to generate excess returns to address long term adequacy.
— For eurozone central banks, monetary union obviates the need for an independent currency intervention capability, removing one of the traditional objectives of reserves and allowing managers to increase focus on generating returns.

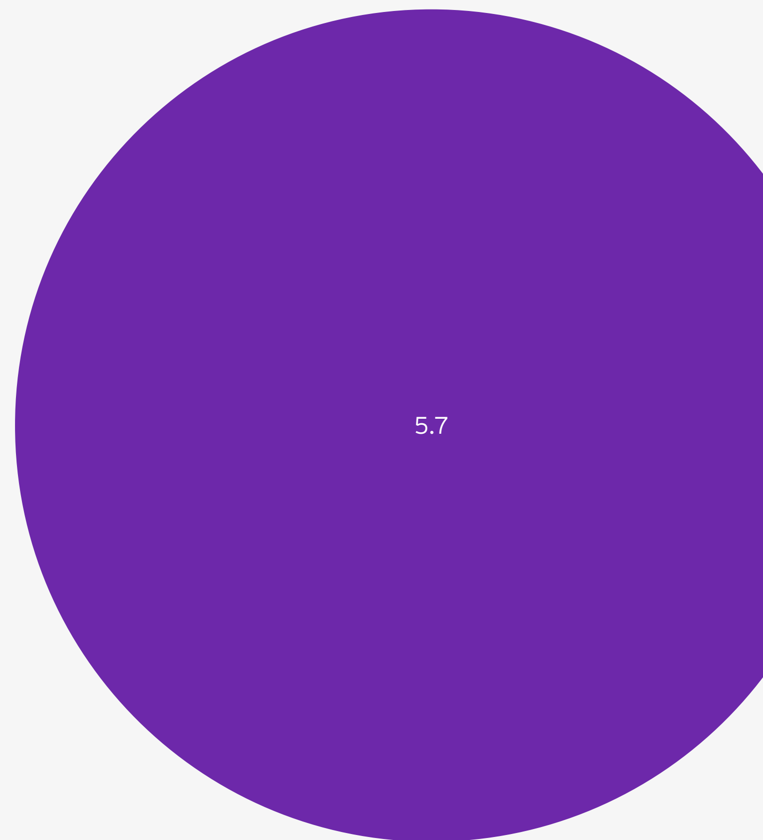
While larger central bank reserves offer significant benefits in terms of larger buffers as protection against future adverse events, this is not costless in an ongoing sense, both due to the risk of negative carry and wider opportunity costs to the economy.

These cost issues have been exacerbated by post-financial crisis developments, both global quantitative easing (with yields on government bonds reaching historic lows including negative yields in many European countries), and global bond purchasing programmes (which have increased concentration risk on larger central bank balance sheets).

Expanding reserves and increasing maintenance costs are therefore driving central banks' reserve managers to consider extending beyond their traditional asset comfort zone of US and eurozone sovereign bonds (figure 32).

Central banks remain focused on the traditional reserve portfolio objectives of preservation of capital and maintaining liquidity. However, since 2016, investors have been steadily ascribing more importance to investment returns, reflected in its score creeping up over time (figure 33).

Fig 33. Absolute importance of investment returns (score out of 10)



Sample comprises of central banks only. Sample size shown in grey.
Rating on a scale of 1 to 10 where 10 is the most important.

2016 18
2017 35
2018 62
6.8
6.5

From tranches to integrated portfolios
In the 2016 Invesco Global Sovereign Asset Management Study, we discussed how central banks were applying tranching to their reserve portfolios; ie dividing the portfolio into a highly liquid and secure tranche to match liabilities, and a second investment tranche where more risk could be taken to improve returns.

That approach continues, particularly for emerging market central banks, and other banks with few 'non-traditional' asset classes in the portfolio. Central banks in emerging markets often still have important operational roles in managing foreign currency payments (particularly relative to central banks located in developed markets, where this role has often been superseded), and they are usually at an earlier stage of thinking about improving returns.

For those central banks with little or no exposure to non-traditional asset classes, in line with IMF recommendations, banks use tranches to guide the implementation of new asset classes within investment portfolios, which are carved out and given distinct objectives and benchmarks.

However larger, more sophisticated central banks with existing investment tranches and allocations to non-traditional assets are now on the next stage of the journey, moving beyond tranching towards a more integrated portfolio management approach with the portfolio managed as a single whole more akin to other types of institutional investors. Their accumulation of experience and growing size of reserves means they can introduce new asset classes without negatively impacting risk characteristics across the overall reserve portfolio. These central banks are mostly located in developed markets, but not exclusively so (figure 34).

Central banks have distinctive features as investors which give them certain advantages in both traditional and non-traditional assets. For traditional assets, central banks are naturally long their home currency and/or US dollars and can supply currencies in times of elevated demand or supply shortage. For non-traditional assets (especially fixed income) the long-term perspective of central banks and their lack of leverage means they can benefit in periods of distress in credit markets by adding such securities to their portfolio.

This is not a simple evolution and central banks in this category have typically undergone significant recent restructuring of internal teams, particularly risk management functions, as they change their approach to managing reserves.

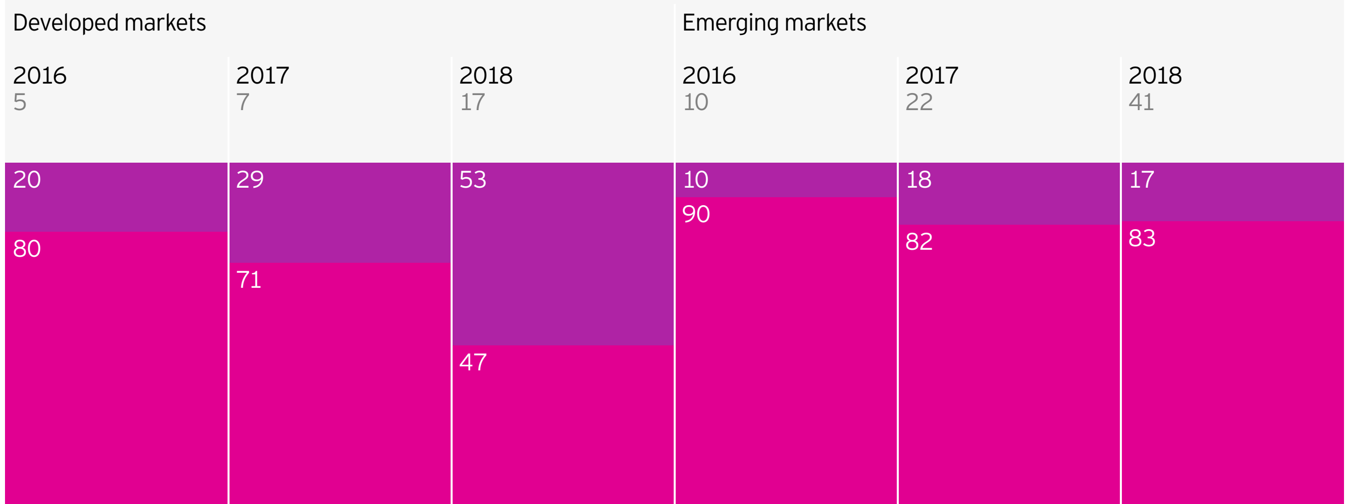
Over the last couple of years this has seen central banks increase and broaden allocations to non-traditional assets, particularly government agencies, emerging market debt and corporate bonds (see figure 35; note that the chart shows equity allocations have declined in 2018 which is due to the expansion of the central bank sample). Reserve managers have also increased the use of derivatives, and where asset class diversification has been limited, have used cross-currency basis-trades to generate additional returns.

Despite equities comprising a tiny part of reserve portfolios, those banks with equity allocations attributed ~90% of their 2017 returns to that component, followed by tightening of spreads in the corporate bond market.

The rising allocations to non-traditional assets are being driven by a vanguard of larger central banks increasing allocations, supplemented by smaller central banks in the initial or early stages of reserve management evolution. Central banks in developed markets have higher average allocations to non-traditional assets of ~16%, while for emerging markets central banks the average is ~10%.

Despite equities comprising a tiny part of reserve portfolios, those investors with equity allocations attributed ~90% of their 2017 returns to that component.

Fig 34. Use of tranching vs. holistic approach to portfolio construction (% citations)



Sample comprises of central banks only. Sample size shown in grey. Note: small sample sizes.

Fig 35. Allocations to non-traditional assets (% AUM)

2016 15
2018 55

US Agency MBS
0.7
5.4

Corporate debt
3.4
3.5

Equities
5.9
2.7

EM debt
0.5
2.2

Sample comprises of central banks only. Sample size shown in grey.

So far non-traditional asset class introductions have been restricted: in 2017 only 16% of respondents introduced any new asset classes, and focused on emerging markets debt (mostly renminbi) and asset-backed securities where they did so. However this can be seen as a precursor to a wider range of activity. Behind the scenes in 2017 central banks were updating portfolio management and risk systems, structures and processes as part of the evolution towards more sophisticated portfolio management.

Interest in emerging markets debt exposure is still rising amongst central banks. Historically central banks have been cautious in their approach due to concerns for the potential of financial contagion within emerging markets; for example the risks that a political or financial crisis in one emerging markets country may impact the financial assets of all emerging markets. This view has relaxed more recently with broader acknowledgement of the substantive differences in emerging market economies, and central banks are now more actively seeking yield in emerging market debt on a selective basis.

This is clearly evident in figure 36 which shows that over three quarters of central banks that introduced a new asset class in 2017 did so in the form of emerging market debt. Going forward our sample indicated that new asset classes are likely to be more diverse. The increased acceptance of diversified risks is consistent with central bank asset class consideration extending to corporate debt and also equities in some cases.

Changes in investment approach have not been restricted to non-traditional central bank assets. Within the traditional assets of central bank reserves, there has been significant movement in currency portfolios. The major change has been a rotation back into US dollar-denominated securities in search of higher yields at the expense of euros, given the negative rates on euro-denominated debt still prevailing at the shorter end of the yield curve.

Central banks have also been increasing allocations to alternative currencies (as seen in figure 37), looking to the Japanese Yen as well as, the Canadian dollar (CAD) and Australian dollar (AUD) for exposure to commodity-linked currencies.

Allocations to the renminbi have been supported by its inclusion in the SDR basket in 2016[2], and as capital controls have been relaxed. Respondents view the renminbi as playing an increasingly important role as a reserve currency in global financial markets, although growth in allocations is expected to be slow given concerns over limited transparency and liquidity, and the possibility of further exchange rate intervention.

Our central bank respondents noted the desire to diversify currency away from traditional assets such as the USD, but highlighted that in practice this can be difficult. At a high level, the currency composition of central bank reserves should broadly replicate the composition of its trading currencies. With the emergence of China and India as powerhouses on the global export stage, as well as wider globalisation, this would imply a reduction in the importance of the USD as the global reserve currency. However it is difficult for central banks to move away from their reliance on the USD for a number of reasons:

— With US yields rising relative to other currencies, diversification becomes an increasingly costly proposition.
— Question marks continue to hang over the political stability of the EU and long-term viability of the euro.
— Maturity of CNY markets and concerns over the stability of the currency.
— Liquidity in smaller currencies.

[2]The SDR Basket is a set of five currencies selected by the IMF to define the value of the 'Special Drawing Right', a supplementary foreign exchange reserve allocated by the IMF. The Chinese Yuan was added to the basket in October 2016.

Fig 36. New asset classes introduced in 2017 and expected in 2018 (% citations - new asset class only)

2017
2018

ABS/MBS
22
24

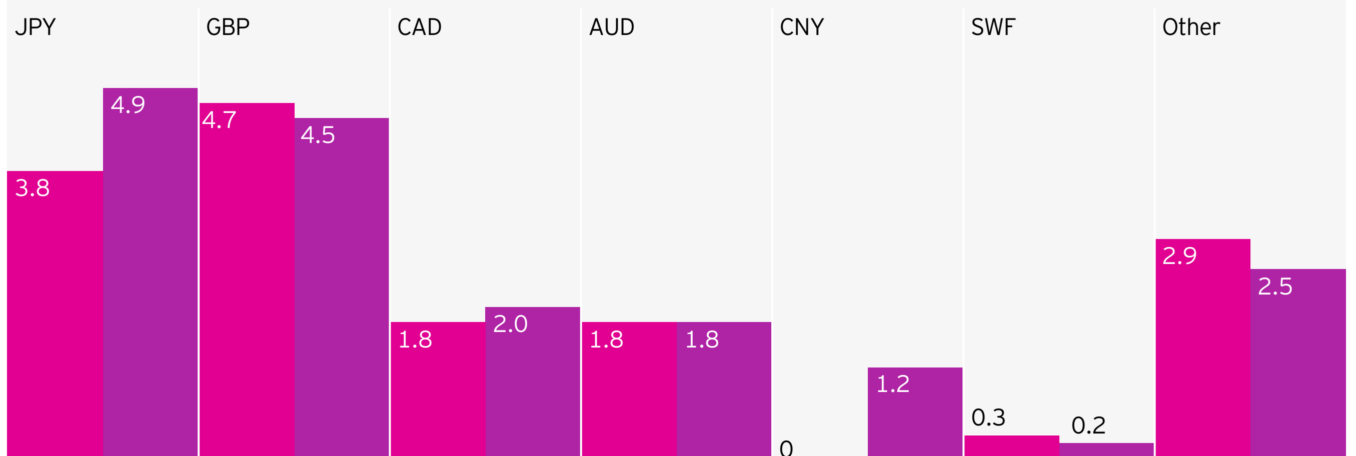
Corporate debt
11
31

Emerging market sovereign debt
78
4

Equities
0
36

Sample comprises of central banks only. Sample: 2017 = 9, 2018 = 25.

Fig 37. Average allocation to tier 2 reserve currencies (% AUM)



Source: IMF World Currency Composition of Official Foreign Exchange Reserves.
GBP = Pound Sterling, JPY = Japanese Yen, CNY = Chinese Yuan/Renminbi, CAD = Canadian Dollar, AUD = Australian Dollar, DNK = Danish Krone, NOK = Norwegian Krone, SEK = Swedish Krona. Tier 2 currency is defined as currency which sits outside of the SDR Basket.

Fig 38. Obstacles to introducing new asset classes, by region (% citations)

	Board approval		Knowledge of asset class		Incorporating asset class		Finding manager	
	Developed markets	Emerging markets	Developed markets	Emerging markets	Developed markets	Emerging markets	Developed markets	Emerging markets
Ranked (2 or 3)	35	13	24	59	35	49	65	28
Rank 1	12	46	53	21	12	31	24	3

Sample comprises of central banks only. Sample = 56. Rank split into 3 categories in descending order with rank = 1 most important.

Fig 39. Central banks seeking to develop capabilities (% citations)

Sample comprises central banks only. Sample = 54.

Governance and capability realities make for a gradual evolution

While the direction of travel towards more and broader use of non-traditional assets, whether in the form of investment tranches or as a component of integrated portfolios, appears assured for now, the process remains a gradual one.

The expertise and infrastructure of central banks is typically focused on risk, trading and accounting systems for traditional core fixed income asset classes, with large gaps existing in relation to other asset classes, whether more exotic forms of debt, let alone equity and other risky assets. As public institutions, budgets for investment in technology infrastructure and people capabilities to support new asset classes is generally limited, especially for emerging market central banks.

Even when budgets are available to fill capability gaps, the process of approval for incorporating a new asset class is a lengthy one, taking an average of nine months for developed markets central banks and 15 months in emerging markets.

Figure 38 highlights the hurdles. Governance is a key issue which consumes approval time. Central bank boards are usually cautious and particularly wary of reputational risk resulting from possible capital losses, and are often comprised of members with economics expertise or political stakeholders, rather than specialised investment knowledge. Traditional central bank objectives and the potential downside macroeconomic effects of reserve policy changes almost always take priority over the potential benefits of return enhancement.

Pension funds have gone through a similar journey of evolution as portfolios have become larger, and start being managed on a more specialised basis beyond the domain knowledge of traditional board member profiles. A common response of pension fund boards, which may be a path also considered by central banks, has been to establish investment sub-committees, with a sub-set of members drawn from the main board supplemented with members with expertise drawn from the external investment community.

Compared to emerging market central banks, developed market central banks usually feature access to better resources and infrastructure, more experienced governance, and faster decision-making. But the challenges remain. Getting approval is only one of the hurdles; developing expertise in the new asset class is even more formidable.

External asset managers play an important role in supporting central banks as they look to invest in new asset classes, and the role for external asset managers is broad:

- Learning and development.
- Reviewing and implementing new risk systems and trading processes.
- Market/trading perspectives and ideas.
- Educating board members.
- Benchmarking internal performance.
- Innovation of investment styles particularly suitable for central bank portfolios.

Central banks are looking to develop a range of internal investment capabilities (figure 39) and a number of respondents stated a desire to bring management of new asset classes in-house.

However in most cases, this is some way off as there are significant limitations in doing so, particularly when it comes to people. Central banks discussed that they tend to have advantages in hiring talented individuals post-graduation and early in their careers – the central bank is a prestigious employer, and offers broad and challenging work. However, talented central bank employees are highly attractive for private sector employers, and it is not uncommon for central banks to see their best young staff depart for more lucrative career opportunities elsewhere after a number of years.

Central banks find they regain their recruitment advantages later in the career cycle when high performance individuals want to return home and/or seek improved work/life balance. As a result there can be a barbell talent profile, with a gap of outstanding mid-career professionals who would be critical for a significant internalisation programme.

This will be important for central banks to resolve as they seek to improve the cost/benefit profile of their reserves, as well as assessing the impact of disruptive new developments such as cryptocurrencies.

Getting approval is only one of the hurdles; developing expertise in the new asset class is even more formidable.

Cryptocurrencies are a watching brief

Key takeaways:

- There is broad interest in the applications of cryptocurrencies and their underlying technologies, particularly amongst central banks.
- Consideration of cryptocurrencies as an investment has been very limited and mostly in the form of technology exposure via venture capital.
- Most sovereigns do not see cryptocurrencies as a viable investment; currently it is seen as closest in characteristics to collectibles.
- Some concerns remain that cryptocurrencies may prove to be a fraud, but most sovereigns are keeping their options open, and a material proportion are engaged in research.
- Central banks are most interested in potential payment system and related applications; traditional sovereigns in disruptive investment potential.

5

Cryptocurrencies have garnered considerable attention in the 10 years since the term 'bitcoin' was defined, and particularly since 2017 when the value of bitcoin and other major cryptocurrencies soared relative to fiat currencies. In parallel there has been a steadier increase in interest in the potential applications of distributed leger concepts and the technologies which underlie cryptocurrencies.

The engagement of sovereign and central bank investors can be seen through these two lenses. As an asset class, engagement has been extremely limited (figure 40); there is currently no direct investment by our sovereign and central bank respondents in bitcoin (or any other cryptocurrency), and a good deal of criticism of the idea that cryptocurrencies currently represent a currency at all.

However, it would be inaccurate to say there is virtually no interest in cryptocurrencies amongst sovereign investors; in fact there is a broad interest in the potential applications of cryptocurrencies and especially of the underlying technologies.

In term of consideration, the biggest practical barrier is that most sovereigns do not see cryptocurrencies as a viable investment given that markets for cryptocurrencies are considered to be very small, volatile, risky, and illiquid. To the extent that a purchase of any particular cryptocurrency was made, it would be viewed as highly speculative, with considerable reputational risk attached. This is in part due to perceptions amongst sovereigns of usage of cryptocurrencies by participants in the black economy and criminal activity.

That is a landscape few sovereigns are prepared to contemplate joining. Even for those with higher risk tolerances, formal barriers are high due to the changes that would be required to investment policies – if not government regulation and legislation. The process for adding any new asset class is not short (1–2 years in most cases), and cryptocurrencies would be expected to receive considerably more attention than other candidates.

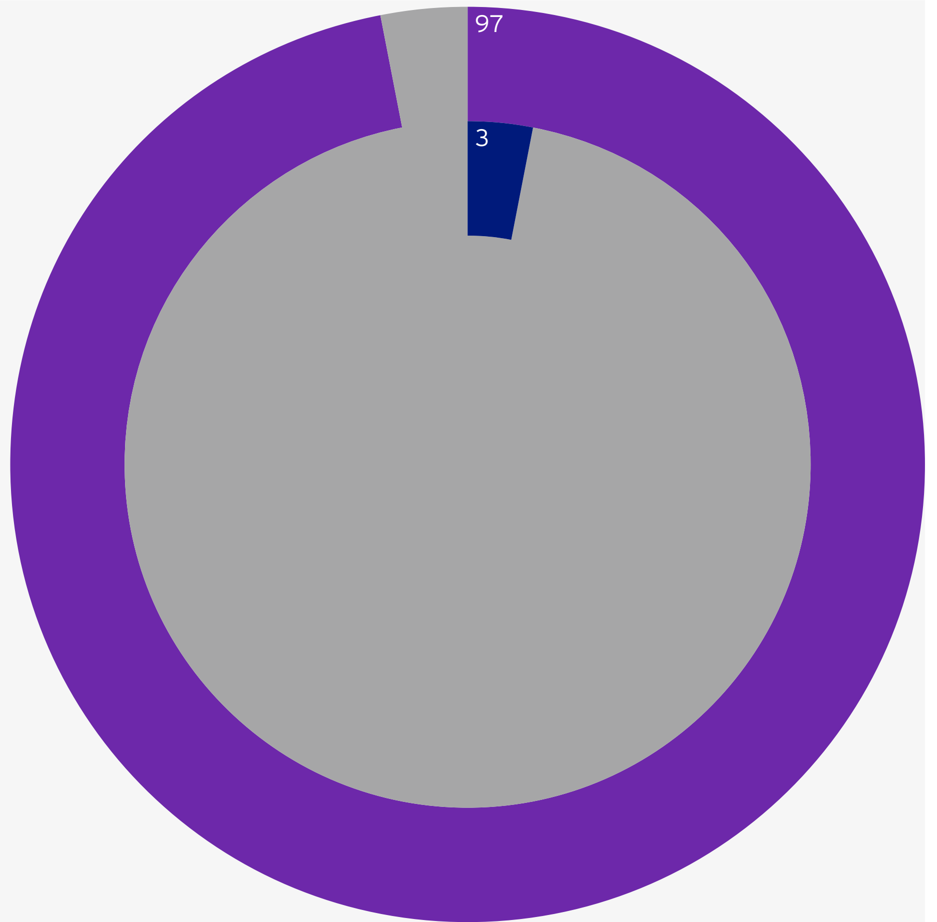
That said, we found three sovereigns with indirect exposures to cryptocurrencies (using a broad definition), via technology allocations held within illiquid alternatives as part of venture capital.

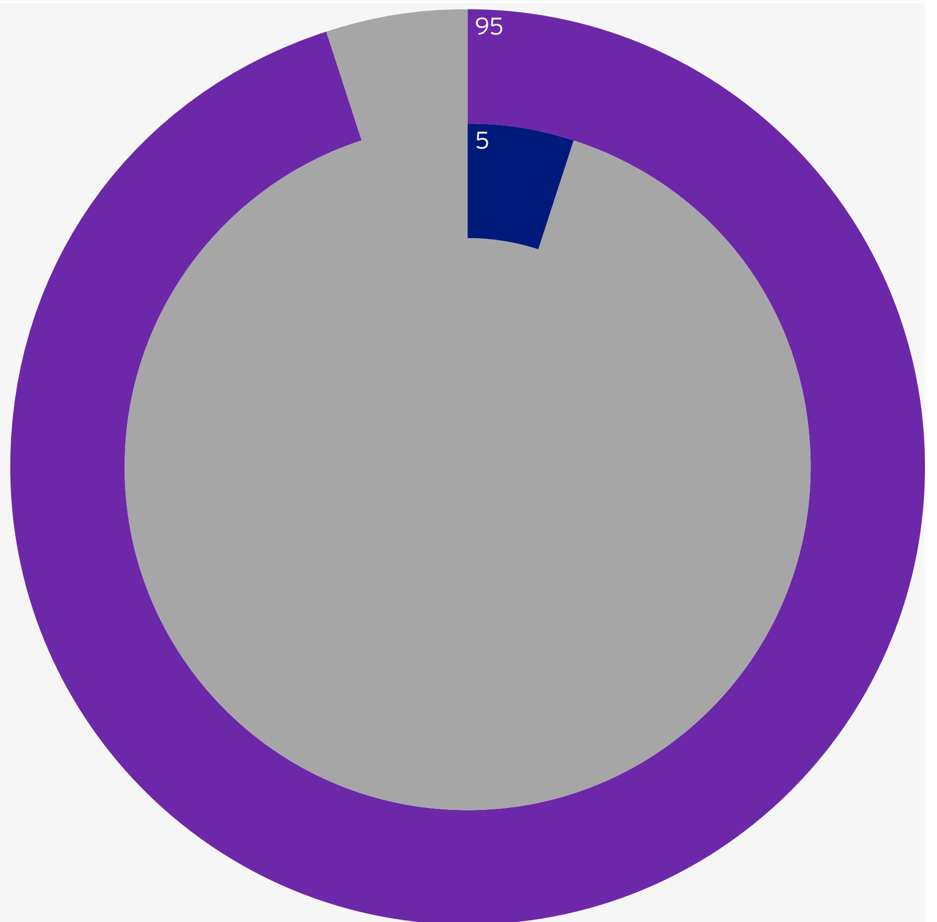
Behind these trailblazers is a material minority of sovereigns engaged with the sector in different ways. This segment is less interested in direct cryptocurrency exposures, and more excited by two main scenarios:

- Potential of underlying cryptocurrency technologies, including blockchain, to disrupt or reshape large industries, especially in financial services: a high risk but potentially high pay-off investment which has a place in a large diversified portfolio.
- Potential for cryptocurrencies to form part of the payments system: principally a central bank area of research.

There is a broad interest in the potential applications of cryptocurrencies and especially of the underlying technologies.

Fig 40. Respondents currently investing (directly or indirectly) in cryptocurrencies (% citations)





Sample sizes shown in grey.

Fig 41. Strength of views around cryptocurrencies, by segment (score out of 10, % citations)

Total ex CB 40
Central bank 53

Cryptocurrencies have a role in complementing or replacing fiat system in the future

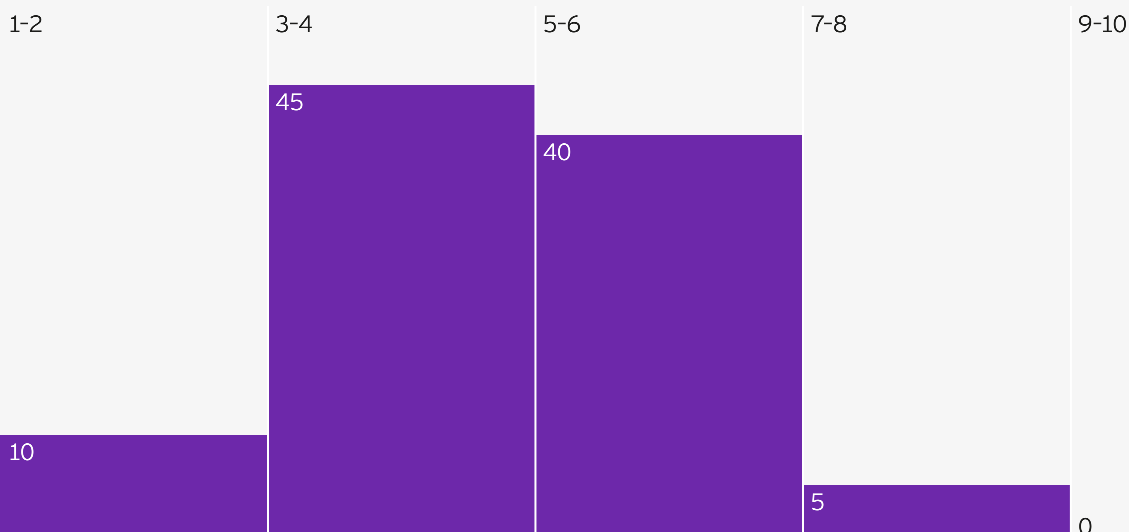
	1-2	3-4	5-6	7-8	9-10
Total ex CB	3	5	48	40	5
Central bank	6	13	34	45	2

Cryptocurrencies are akin to collectibles with no basis of valuation

	1-2	3-4	5-6	7-8	9-10
Total ex CB	0	25	48	27	0
Central bank	0	9	47	36	8

Sample size shown in grey. Rating on a scale from 1-10 where 10 is in total agreement.

Fig 42. Strength of views around whether cryptocurrencies are a fraud – non CB (score out of 10, % citations)



Sample: 40. Rating on a scale from 1-10 where 10 is in total agreement.

We found that central bank respondents were often more receptive to cryptocurrencies having a future role in the monetary system but also more critical of the concept of cryptocurrencies as an investment (figure 41). Traditional sovereigns on the other hand are keeping their options open – not yet actively engaged in most cases, but not dismissive of the potential investment possibilities either.

At this stage, cryptocurrencies as an asset class are seen as closest to collectibles. For supporters of cryptocurrencies, that is perhaps not as bad as it sounds. Being classed as a collectible makes an asset speculative but possible of contemplation.

Notably, despite the scepticism, non-central bank sovereigns are surprisingly sanguine about cryptocurrencies when asked about the strength of their view that cryptocurrencies are a fraud, as shown in figure 42. While some are very dismissive of cryptocurrencies, the majority of investors tended to exhibit more subtle views, leading to a surprising dispersion of sentiment.

The near-term investment case might be largely absent as far as sovereigns are concerned, but scepticism is not stopping engagement – figure 43 on page 66 shows a material proportion of sovereigns are dedicating resources to cryptocurrency research.

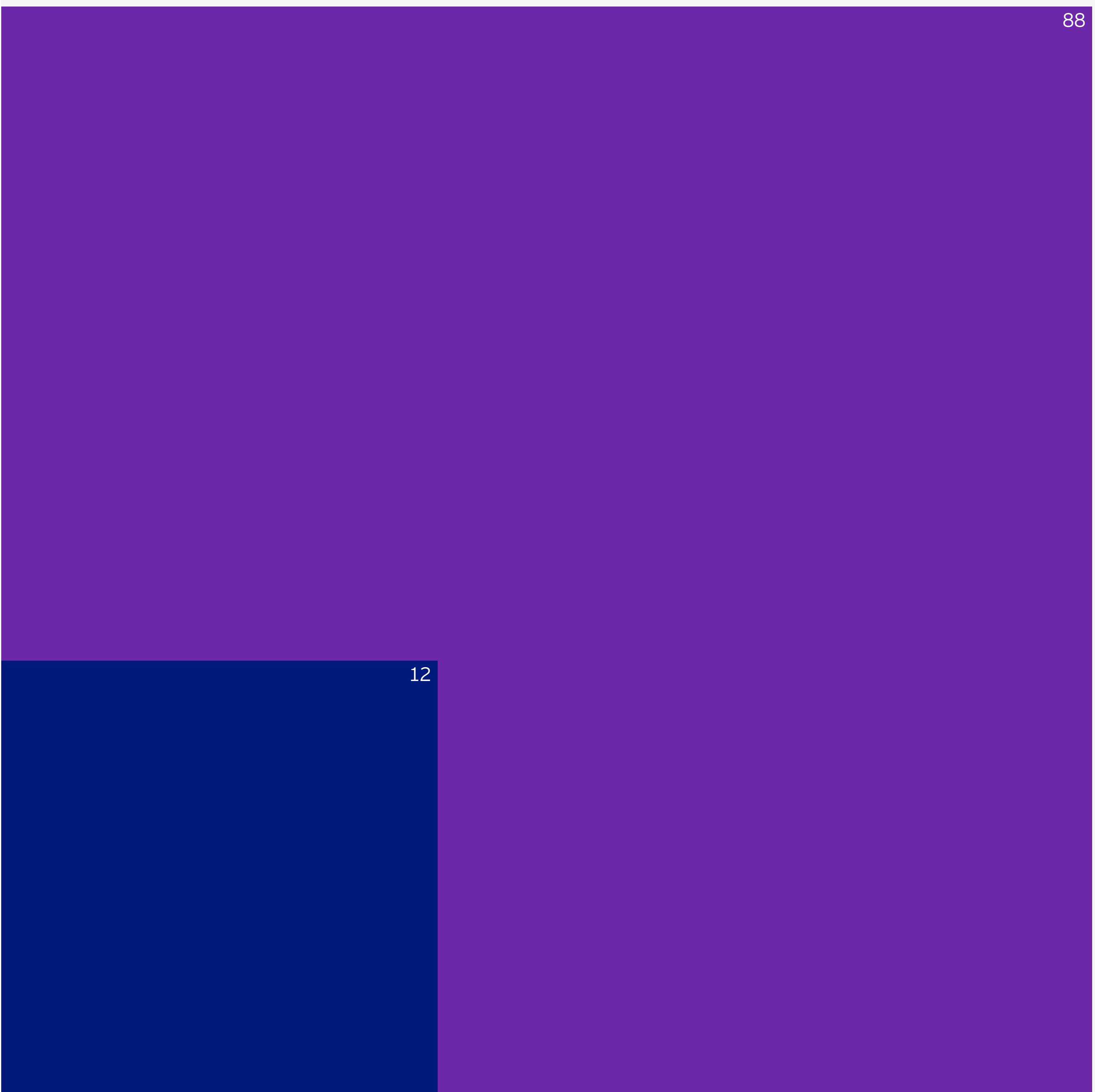
This is especially the case for central banks, where a majority are already or expecting to be performing research on cryptocurrencies and their applications. Central banks are typically coming from the perspectives of regulation, payments systems, and technology, but with no near-term implications for their reserves portfolio management.

A few central banks have gone as far as researching the incorporation of cryptocurrencies into reserves portfolios, usually with positive theoretical results (not surprising given their low correlation to traditional asset classes), but this remains research which is unlikely to be implemented in the foreseeable future. In terms of potentially realistic cryptocurrency implementations, a number of central banks, particularly in Northern Europe, are looking to develop their own cryptocurrency for settlement and payments.

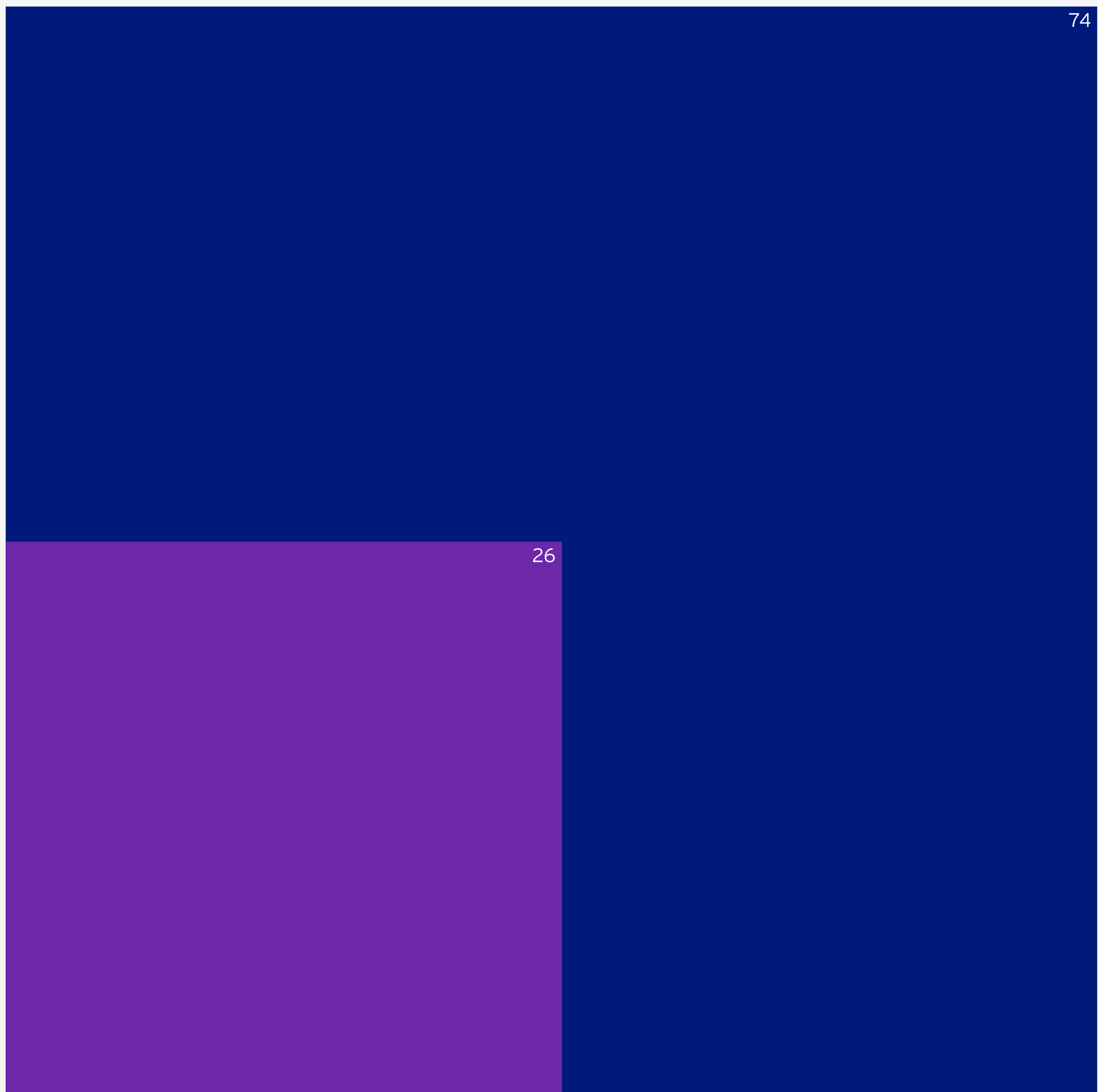
But interest is not limited to central banks – 1 in 8 traditional sovereigns have teams or working groups set up to research cryptocurrencies. For this smaller proportion of traditional sovereigns doing research, the possible investment implications are closer but currently focused on cryptocurrency technology infrastructure as a venture capital exposure.

Fig 43. Respondents intending to interact with cryptocurrencies within the next 12 months (% citations)

Will be performing research – non central bank
57



Sample sizes shown in grey.


No
Yes
Will be performing research - central bank
61
74
26

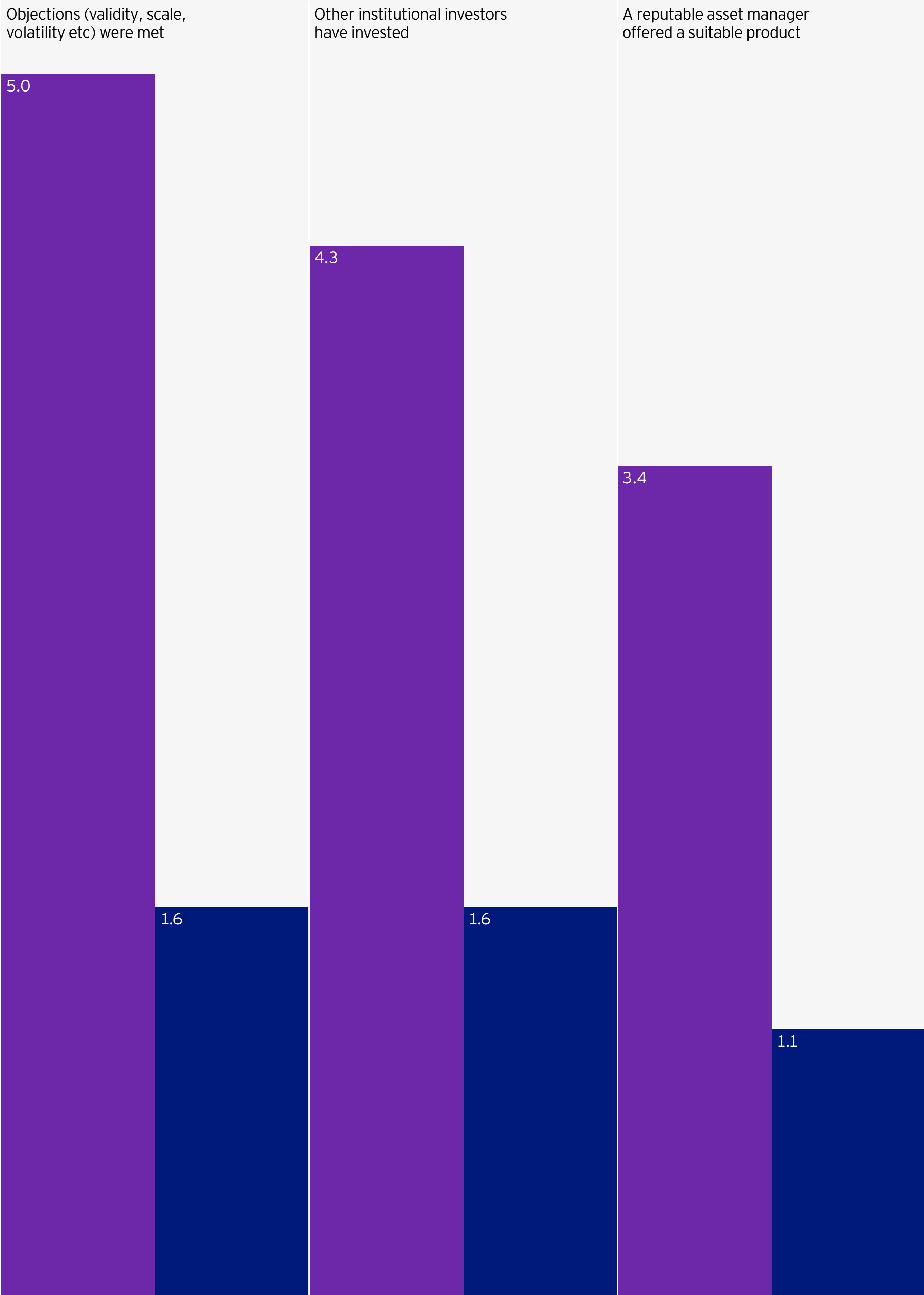


Fig 44. Conditions that would drive investment into cryptocurrencies (score out of 10)
Total ex CB 39
Central bank 52
Objections (validity, scale, volatility etc) were met
Other institutional investors have invested
A reputable asset manager offered a suitable product
5.0
1.6
4.3
1.6
3.4
1.1
Sample size shown in grey. Rating on a scale from 1–10 where 10 is in total agreement.

There remains an openness to considering cryptocurrency investments more generally if certain criteria were met, albeit far more so amongst traditional sovereigns than central banks.

The scores in figure 44 are not high, but they are significantly more than zero. Of course, it is possible that the respondent objections to investing cannot be overcome, and nor is it simply a case of a reputable asset manager developing an investible product. But at this stage there is enough interest in the significant possibilities of cryptocurrencies to keep sovereigns interested in assessing developments. This is likely to be an evolving longer-term theme for sovereigns which will be tracked in future reports.

The majority of central banks are already or expecting to be performing research on cryptocurrencies and their application.

Defining sovereign investors

There are distinct segments of sovereign investors, determined in the first instance by their objectives. This framework is outlined below.

Investment sovereigns

Investment sovereigns have no specific liabilities that they are intended to fund. This typically means this segment invests with a particularly long time horizon and high tolerance for illiquid and alternative asset classes. Long investment return objectives tend to be high, reflecting an ability to capture additional return premia.

Liability sovereigns

Liability sovereigns in contrast are intended to fund specific liabilities, Liability sovereigns are sub-segmented into those which are already funding liabilities (current liability sovereigns) vs those where the liability funding requirement is still in the future (partial liability sovereigns). Liability sovereigns generally seek to match their portfolio with the duration of the liabilities they are funding. Those where funding requirements are still well into the future resemble investment sovereigns in their approach; those with significant current funding requirements tend to still have a diverse long-term portfolio, but will be more liquid and higher yielding.

Liquidity sovereigns

Liquidity sovereigns operate so they can act as a buffer in the event of economic shocks. They are most commonly located in emerging markets which are prone to exchange rate volatility and/or in resource-based economies which are highly exposed to fluctuations in commodity prices. Because of the priority placed on being able to deploy capital predictably and at short notice. Illiquidity sovereigns invest with a much shorter time horizon and with a focus on liquidity ahead of returns.

Development sovereigns

Development sovereigns are only partial portfolio investors. Their principle objective is to promote domestic economic growth rather than achieve an optimal risk/return portfolio trade-off. This is pursued by investing in strategic stakes in companies which make a significant contribution to the local economy to promote expansion and growth in employment. They pursue portfolio strategies with their other assets which are usually influenced by the size and characteristics of their strategic stakes.

Central banks

Central banks have a range of domestic roles in their economy – banking to government, issuance of currency, setting of short-term interest rates, managing money supply and oversight of the banking system. Central banks also have a range of external facing roles, including managing foreign exchange rate policy and operations, including payments for imports/receipts for exports and government overseas borrowings. Central banks hold substantial reserves to support those functions and ensure they are seen as credible. Those reserves have traditionally been invested with a priority on capital preservation and liquidity.

Sovereign profile segmentation

Primary objective	Capital presentation & liquidity	Investment & liquidity	Investment & liability funding	Investment & development	Investment only
Global sovereign profile	Central banks	Liquidity sovereigns	Liability sovereigns	Development sovereigns	Investment sovereigns

The current macro-economic environment has unique implications for each sovereign segment.

Sample and methodology
The fieldwork for this study was conducted by NMG's strategy consulting practice. Invesco chose to engage a specialist independent firm to ensure high-quality objective results. Key components of the methodology include:

- A focus on the key fixed income decision makers within institutional investors and private banks, conducting interviews using experienced consultants and offering market insights rather than financial incentives.
- In-depth (typically one hour) face-to-face interviews using a structured questionnaire to ensure quantitative as well as qualitative analytics were collected.
- Analysis capturing investment preferences as well as actual investment allocations with a bias toward actual allocations over stated preferences.
- Results interpreted by NMG's strategy team with relevant consulting experience in the global asset management sector.

In 2018, we conducted interviews with 126 funds: 64 sovereign investors and 62 central banks (compared to 35 in 2017). The 2018 sovereign sample is split into three core segmentation parameters (sovereign investor profile, region and size of assets under management) in figure 45. The 2018 central bank sample is broken down by developed vs. emerging markets.

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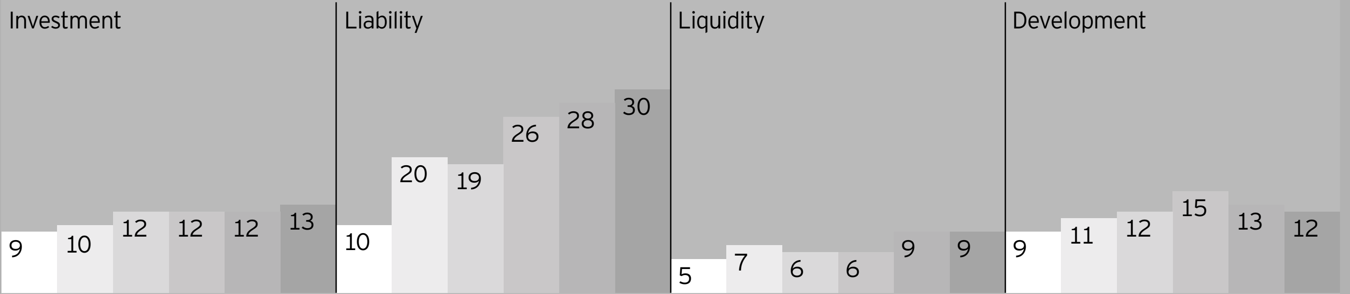
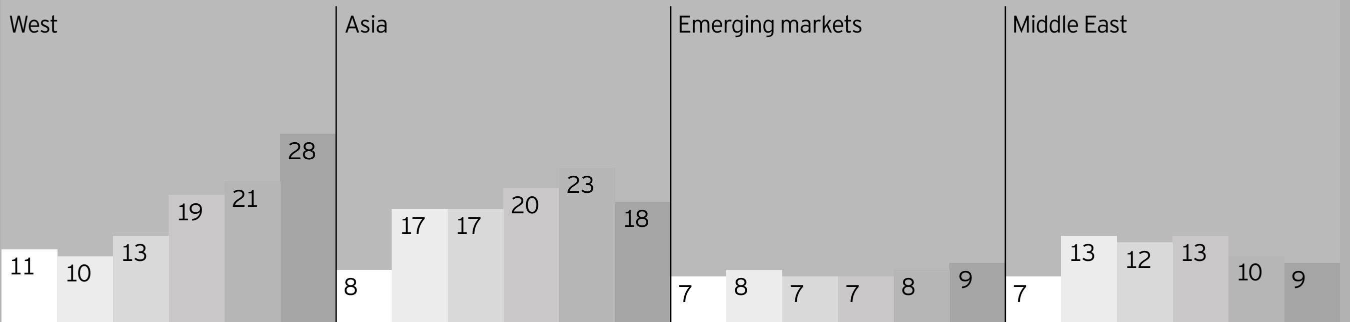
Fig 45. Sovereign investor sample

2013 2014 2015 2016 2017 2018

By segment



By region



By assets under management

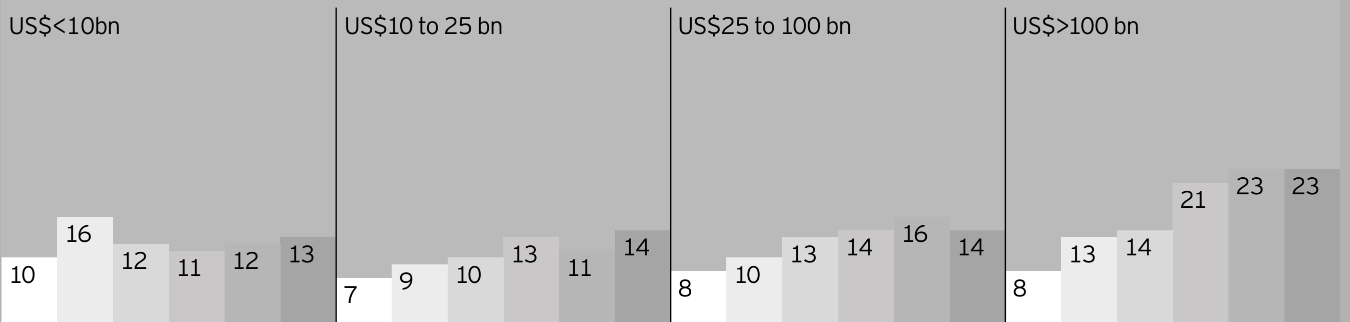
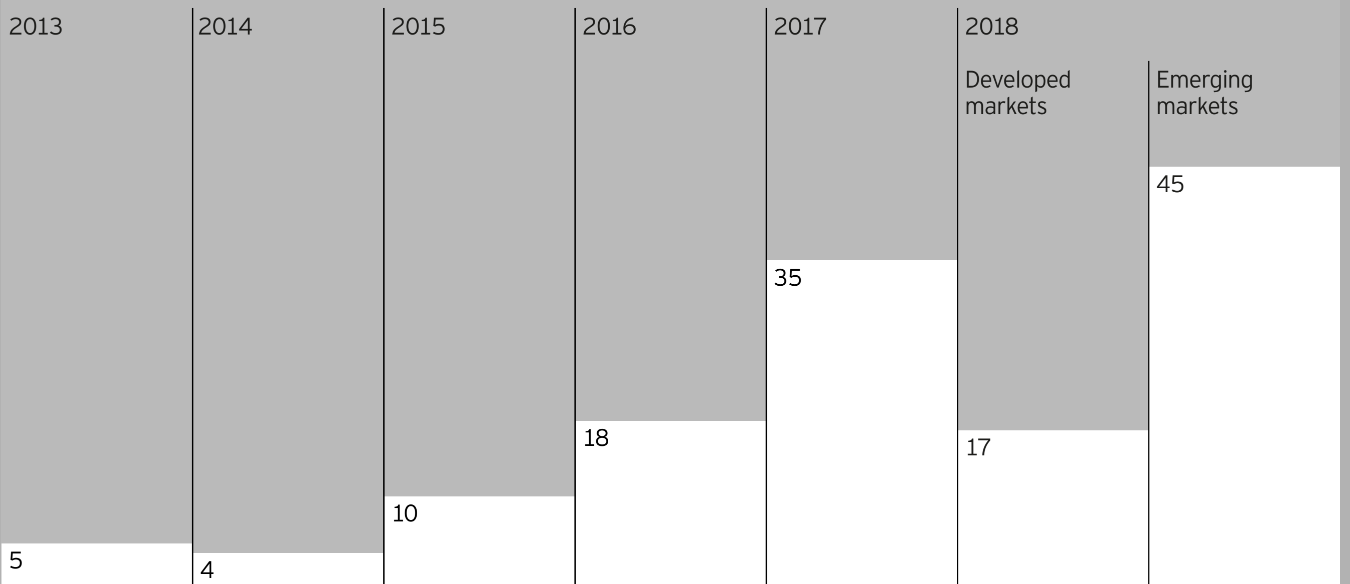


Fig 46. Central bank sample



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