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PENSIONS
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Searching for solutions

Adapting to higher-for-
longer rates, volatility
and climate change



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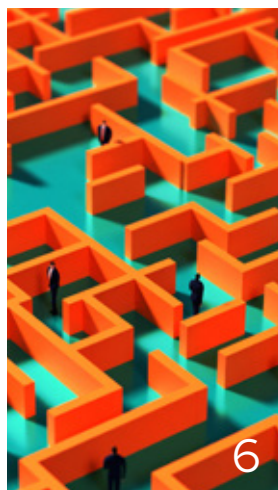
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ABOUT OMFIF

With a presence in London, Washington and New York, OMFIF is an independent forum for central banking, economic policy and public investment – a neutral platform for best practice in worldwide public-private sector exchanges.

ACKNOWLEDGMENTS

OMFIF thanks officials from the co-operating countries and cities for this publication, which will be joining us in launch partnerships around the world. We are grateful to many other associates and colleagues for their assistance and guidance.

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Company Number: 7032533. ISSN: 2398-4236

Investing with influence

Where next? The \$26tn question for public pension and sovereign funds.



Clive Horwood, Managing Editor and Deputy Chief Executive Officer, OMFIF

GLOBAL public pension and sovereign funds have an outsized influence on global financial markets. Where they put their money matters. That's not just because of the scale of the assets they own, although this is substantial: the 50 largest public pension funds and 50 biggest sovereign funds that made up OMFIF's research for this edition of the report together have \$25.9tn of firepower.

Their influence extends further than the numbers. These funds have the power to affect change through their asset allocation decisions. Where the top funds lead, others – from both the public and private sector – often follow. These leaders include the likes of Singapore's GIC, Canada's CDPQ, Australia's Future Fund and India's National Infrastructure Investment Fund, each of which has kindly contributed a thought-leadership piece to this edition of Global Public Pensions.

These funds are the prized clients of institutional investors and private equity firms. Some of them are among the most vocal and persuasive proponents of the need to finance the green transition and have allocated substantial parts of their portfolio to sustainable investments. This does not just include investment in green assets – it also includes active management of browner companies looking to transition.

Many of them have had a difficult year, and it should not be forgotten that the mission of most of these funds is to make investments that provide a

relatively low risk return that outstrips inflation.

That \$25.9tn fell slightly compared to 2022, following two years of substantial growth in assets. But the slight fall masks stark differences in investment outcome: pension funds with a high allocation to fixed income, for example, suffered dramatic losses which will take some time to recover.

Inflation is no longer the primary concern of these funds. They are now focused on how to deal with a macroeconomic environment that is stuck in a higher-for-longer interest rate cycle. They are moving into infrastructure investments and public equities and cutting back on government bonds and real estate. Some are taking a more granular, active approach. This might include more investment in emerging markets, with India preferred over China as an investment destination.

The universe of public pension and sovereign funds that OMFIF covers is very much a global one. No single region dominates. Of the 100 funds analysed in this report, there is a remarkably even split between the regions in terms of assets owned: 33% in North America, 32% in Europe and the Middle East and 32% in Asia Pacific.

Wherever these funds are located, and wherever they invest, they face a demanding period ahead. As one leading US pension fund said: 'One thing is clear, the investment strategies that worked over the last ten years may likely not work the next ten years.' •

'The universe of public pension and sovereign funds that OMFIF covers is very much a global one. No single region dominates.'



The 2023 edition of this report explores how public pension and sovereign funds are building optimal investment strategies to address the uncertain economic environment and factor sustainability into their portfolios. The report draws on surveys, discussions and written contributions from 22 global public funds across the world with combined assets under management of \$4.3tn. There are five main messages that emerge.

1. Funds are adjusting to higher-for-longer rates

Half the public pension and sovereign funds surveyed identified equilibrium real interest rates as the most important economic factor impacting their strategy over the next 5-10 years, and 63% placed it in their top three. This share has more than doubled from last year. In response to the changing macro environment, Singaporean fund GIC is adopting a more granular total portfolio approach that blends top-down analysis with bottom-up insights (p.14). Meanwhile, Australia's Future Fund has made over A\$60bn of changes to its portfolio in the past year to make it 'more resilient to multiple possible scenarios', including the prospect of 'sticky inflation leading to prolonged higher rates' (p.13).

2. Infrastructure is the asset class with the highest demand

A net 40% of respondents expect to

increase their exposure to infrastructure over the next 12-24 months – broadly the same as last year. Funds are also open to other inflation-protected assets such as inflation-linked government bonds and commodities. In contrast, a net 13% of funds expect to reduce their holdings of real estate and conventional government bonds, which could reflect an expectation that monetary policy will remain tight in the near future.

3. India is more appealing than China

Close to 40% of surveyed funds selected India as the most attractive emerging market. This was higher than any other country. India's National Investment and Infrastructure Fund is making use of the Gati Shakti initiative, which is bolstering information sharing and governance to improve India's appeal to global investors (p.21). In contrast, there is hesitation on China. No surveyed fund has a positive outlook for its economy or expects higher relative returns from Chinese assets. The majority (73%) highlighted regulation and geopolitics as the main deterrents.

4. Sustainability is being taken seriously

Almost all those surveyed integrate environmental, social and governance factors into their portfolio decisions. In contrast, our Global Public Investor

2023 survey of 75 central bank reserve managers showed that 35% do not implement ESG criteria. In an interview with OMFIF, David Morley, managing director and head of Europe at Caisse de Dépôt et Placement du Québec, explained 'ESG is completely embedded from start to finish throughout our processes' (p.22). Over a third of survey respondents expect to increase their allocation to green bonds and green real assets in the next 12-24 months and, in general, most expect to raise investments in renewables.

5. Active engagement is key for the real-world energy transition

Among survey respondents, 73% have a pledge to achieve net-zero emissions in their portfolio by 2050. However, the means is more important than the end goal. At the Global transition finance summit, organised by OMFIF and SGX Group, the consensus among public pension and sovereign funds was that active engagement is necessary for the real-world transition and the idiosyncrasies of different markets should be considered. Snorre Gjerde, lead investment stewardship manager, corporate governance at Norges Bank Investment Management, mentioned engagement is 'about listening to the challenges the companies are facing to understand how we as an owner can be supportive'. •

Key numbers

\$4.3tn

AuM of the 22 funds which contributed to the GPP, including survey respondents with \$1.7tn in assets

62%

share of the largest 50 public pension funds that suffered losses last year

47%

share of the largest 50 sovereign funds that suffered losses last year

53%

share of surveyed funds that expects a global economic recession in the next 12 months

77%

share of survey participants that selected information and data as the main barrier to further ESG adoption

63%

share of respondents that selected equilibrium real interest rates and inflation as a top-three factor impacting their 5-10 year investment strategy

16.1%

the weighted average share of alternative assets (private equity, real estate and infrastructure) among the largest 50 public pension funds, from 13.2% last year

40%

net share of survey respondents that expects to increase their allocation to infrastructure in the next 12-24 months

35%

share of surveyed funds that expects to increase holdings of green bonds and green real assets in the next 12-24 months

Key survey quotes

‘Climate change is a foreseeable factor for the next 5-10 years. Rates are an important determinant for the regime in financial markets and for regional allocation.’ – survey respondent from a European fund

‘We have focused on creating liquidity and flexibility across the portfolio to ensure we are able to direct capital to opportunities that may develop in a quickly changing macro environment’ – Craig Thorburn, director, research and insights, Future Fund

‘Our research suggests that the neutral real interest rate is likely to be around 1%, which is meaningfully higher than the 0.5% that dominated during the pre-pandemic era’ – Prakash Kannan, chief economist and director of economics and investment strategy, and Mark Tan, head of macro research at GIC

‘Improved coordination among stakeholders and enhanced transparency in project execution may further boost the confidence of global investors in increasing allocations to India.’ – Saurabh Suneja, director, strategic initiatives and policy advisory, National Investment and Infrastructure Fund, India

‘We have a negative outlook for China, but do not have a strong view on the ranking of other EM economies.’ – survey participant from an Asia Pacific pension fund

‘We’re looking for deals where there is a meeting of ESG and returns, and we don’t accept lower returns just to comply with ESG targets.’ – David Morley, managing director and head of Europe at Caisse de Dépôt et Placement du Québec

Adapting to adversity



Stagflation and higher-for-longer rates are adding to economic uncertainties, driving some global public funds to reconsider their investment approach.

Key findings

1. The assets under management of 62% of the largest 50 global public pension funds and almost half of the top 50 sovereign funds fell in the past year. And 50% of funds surveyed expect it will take over a year to recoup their losses.
2. Stagflation concerns are running high. Over 80% of surveyed funds list global economic activity and inflation within their top three near-term concerns.
3. Funds are also adapting to higher-for-longer rates. Over 60% selected equilibrium real rates and inflation as the main factors shaping longer-term investment strategies.
4. Major global public funds are amending their investment approaches in this evolving global macroeconomic environment.



53%
share of funds we surveyed that expects a global economic recession in the next 12 months.

Global public funds have faced their most challenging year in over a decade. High inflation and rising interest rates in most major economies have weighed on the valuations of fixed income and equity assets. Many of the largest public pension funds, which have high allocations to traditional asset classes, have been hit hard.

Long recovery from 2022 losses

In 2022, aggregate assets under management of the top 50 public pension funds globally decreased by 2.5% to \$14.3tn from \$14.7tn (Figure 1.1). Nearly two-thirds (62%) of this sample suffered losses last year, including six of the 10 largest pension funds. In dollar terms, Japan's Government Pension Investment Fund experienced a decline of 5.2%, the assets of South Korea's National Pension Service dropped by 16.8% and Dutch fund Stichting Pensioensfonds ABP experienced a steep drop of 23.7% in the past year. The total losses of just these three large funds are approximately \$385bn.

Sovereign funds have generally fared better. The aggregate AuM of the top 50 sovereign funds edged up by 2.3% to \$11.6tn from \$11.3tn a year before. But this is a far cry from the 25% growth experienced from 2021-22. Assets rose in the majority of the sovereign funds (53%) in the sample in the past year, with those in the Middle East driving the largest gains having benefitted from the windfall from rising commodity prices. The UAE's Abu Dhabi Investment Authority and Saudi Public Investment Corporation grew by 13.8% and 12.9% respectively, gaining over \$200bn between them (see p.40-41 for the latest figures of the largest 100 global public funds).

Corresponding with the performance of the top global public funds, nearly every fund we surveyed

experienced losses in 2022. On average, the decline was 6.6%. One respondent from a European fund attributed weaker performance in 2022 to 'market volatility'. Another respondent from a pension fund noted that the change in overall funds under management was related to a 'combination of market performance, member contributions and withdrawals'.

Pension and sovereign funds are starting to turn a corner this year. But many anticipate that it will be a long road to recovery. From those surveyed, portfolios rose by an average of 3.7% in the first half of 2023 with 21% having already recovered their losses from 2022. But half of the sample expect that it will take more than 12 months to recoup the losses from last year, with over a quarter (29%) expecting it to take 2-5 years (Figure 1.2). Accordingly, a significant share of global public funds does not expect that the challenges faced in 2022 will be abated soon.

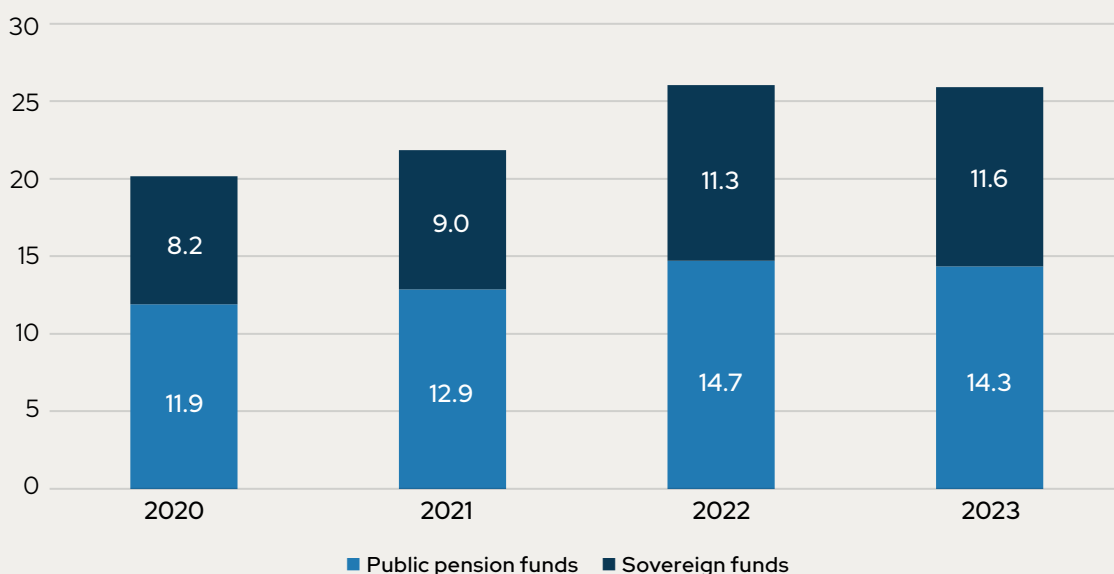
Concerns over stagflation and higher-for-longer rates

Like last year, surveyed funds are most concerned about stagflation and its impact on financial markets. As one survey comment from a European fund noted, 'Whether inflation recedes without recession will determine the course of growth and financial markets for the next 12-24 months.'

The majority of funds we surveyed (53%) expects a global economic recession in the next 12 months. Even if a technical recession is avoided, global economic activity was the top concern for surveyed funds in the next 12-24 months, with 88% listing this as one of the top three factors affecting their investment approach. Inflation was the second most common response, listed by 81% of funds

Figure 1.1. Stagnation in global public funds' AuM

Aggregate AuM of top 50 public pension and top 50 sovereign funds globally, \$tn

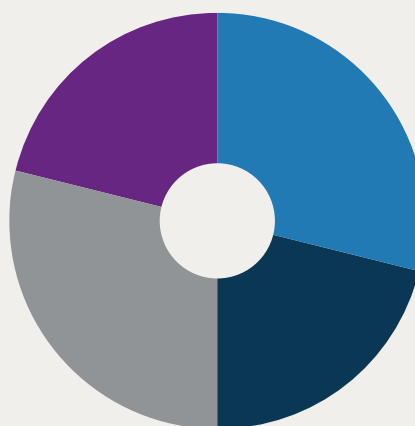


Source: Annual reports, Global SWF, OMFIF analysis

Figure 1.2. Funds diverge in recovering losses

How long do you anticipate that it will take to recover any portfolio losses from 2022? Share of respondents, %

● 0-12 months	29%
● 1-2 years	21%
● 2-5 years	29%
● 5+ years	0%
● We have already recovered our portfolio losses from 2022	21%



Source: OMFIF GPP survey 2023

as a top-three concern – with 50% reporting it as their number one issue in the near term (Figure 1.3). These figures are broadly consistent from last year, when the vast majority of respondents listed inflation (80%) and slowdown in global economic activity (79%) as one of their top three concerns.

Closely linked to these factors is the evolution of monetary policy, which is the third most common factor affecting investment strategies of global public funds. As noted by one survey respondent from an Asia Pacific fund, 'inflation and interest rates are treated as related' in their assessment of risks. Meanwhile, a respondent from Europe mentioned 'The tightening of central bank policy is a major factor that can constrain economic growth and push the economy into recession. Much depends on whether inflation comes down fast

enough for the taste of central banks.'

Monetary policy and inflation are also the top long-term concerns among global public funds. Half the funds surveyed identified equilibrium real interest rates as the most important economic factor impacting their strategy over the next 5-10 years, and 63% placed it in their top three. This share has more than doubled from last year when it was noted by less than 30%. Just over 60% selected inflation as a top-three concern this year, down from 85% last year. The upshot is that the majority of funds remain worried about persistently high inflation and are anticipating interest rates will remain higher for longer.

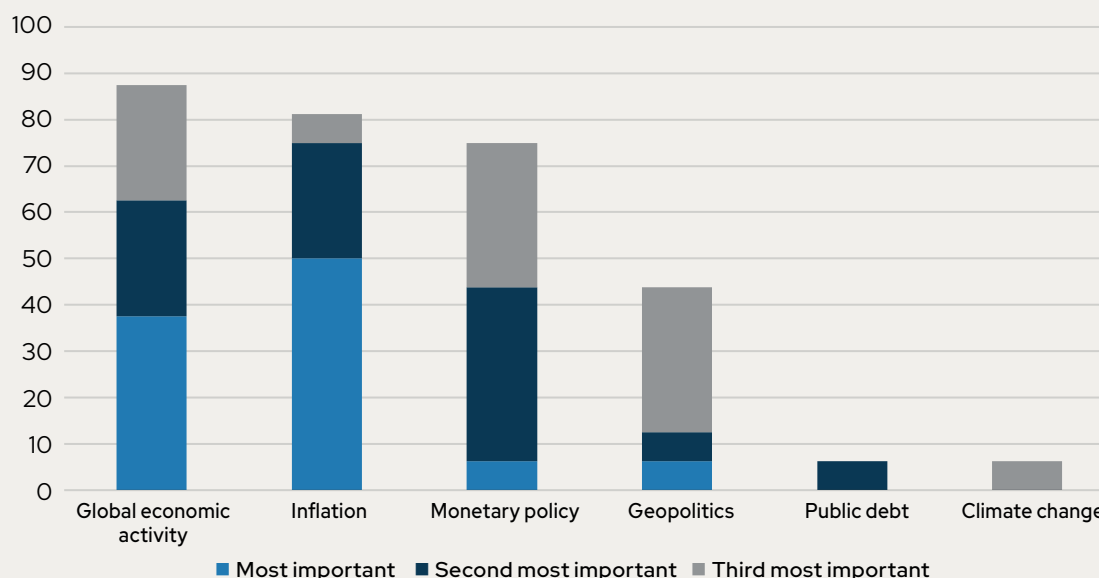
Meanwhile, half of global public funds selected geopolitics, technological change and climate change as the top-three influences of longer-

'The tightening of central bank policy is a major factor that can constrain economic growth and push the economy into recession. Much depends on whether inflation comes down fast enough for the taste of central banks.'

A survey respondent from a European fund

Figure 1.3. Stagflation fears dominate in the short term

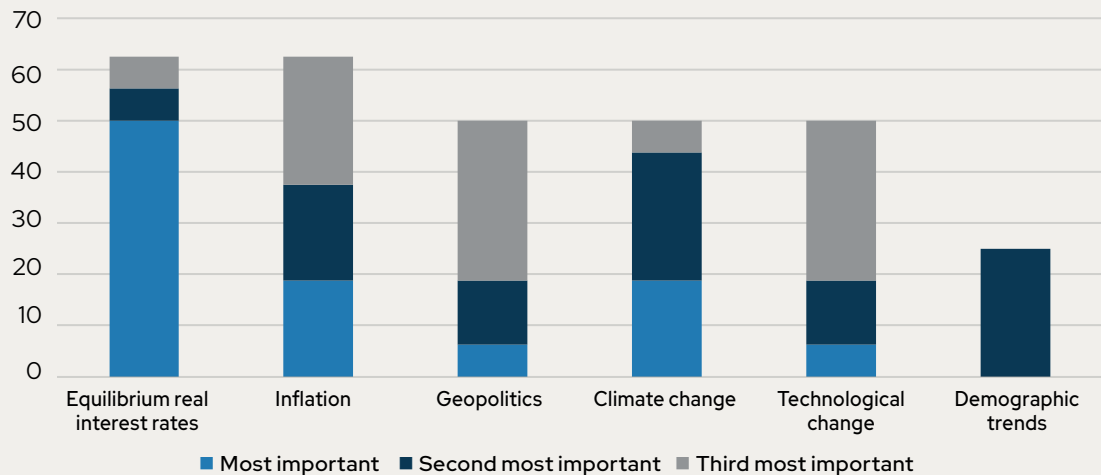
What are the most important economic factors affecting your investment approach over the next 12-24 months? Share of respondents, %



Source: OMFIF GPP survey 2023

Figure 1.4. Anticipating higher real rates and inflation

What are the most important economic factors affecting your investment approach over the next 5-10 years? Share of respondents, %



Source: OMFIF GPP survey 2023

'Climate change is a foreseeable factor for the next 5-10 years. Rates are an important determinant for the regime in financial markets and for regional allocation.'

A survey respondent from a European fund

term investment approaches (Figure 1.4).

Geopolitics was selected by 70% of funds last year and was the most important long-term factor highlighted in OMFIF's Global Public Investor 2023 survey of central bank reserve managers earlier this year. Perhaps it is less of a major concern to public pension and sovereign funds now than before as the global economic and market shock from the Russia-Ukraine crisis is subsiding.

Climate change is seen as a middling concern when compared to monetary policy and inflation. 'Climate change is a foreseeable factor for the next 5-10 years. Rates are an important determinant for the regime in financial markets and for regional allocation,' commented one survey respondent from a European fund.

Demographics, while impacting the funding ratios of pension funds in ageing economies, was seen as a top-three factor by just 25% of funds. That said, 71% mentioned they are exploring new asset classes or methods of diversification in response to changing demographics. And one fund said, 'Our investments become less risky on average if the participant population ages.' This suggests, while not the most pressing concern, demographics is one of the multitude of factors that pension and sovereign funds are factoring into their investment strategies.

Reassessing investment strategies

When taken together, the various short-term and long-term challenges facing global public funds paint a complex picture of the macroeconomic outlook. How are global public funds responding to a more challenging macro environment?

Nearly half (46%) of survey respondents listed target returns as their primary objective, similar to last year's share. But this is a significant drop from 80% of pension and sovereign funds listing target returns as their primary investment objective in 2021, when funds' biggest concern was lower-for-longer

interest rates. Instead, ensuring liquidity, capital preservation and risk and volatility reduction have become more pressing objectives for funds.

Global public funds are adopting various investment approaches to address these challenges. Some have opted for a more patient approach, tolerating losses in the short term as they anticipate that inflation and interest rates will come down and that valuations in traditional asset classes will recoup. As one survey respondent explained, 'In our strategy, a large allocation goes to capital preservation assets such as government bonds. For the rest, we try to optimise risk/return, but we do not have a specific target return.' This reflects the 'wait-and-see' approach taken by many funds.

Other funds, that are looking to more actively bolster returns, are adapting their investment approach in the current environment. Singaporean fund GIC, for example, is adopting a more granular total portfolio approach that blends top-down analysis with bottom-up insights (p.14-15). This approach is helping GIC to construct a diversified portfolio with the aim of building resilience.

Australia's Future Fund has also changed their investment approach (p.13). By moving away from traditional portfolio construction, the fund is taking a more active approach to investment, seeking higher alpha returns as beta returns become more uncertain. Future Fund's new strategy also entails more regional differentiation and carefully considered asset class diversification.

If macroeconomic uncertainty persists, more global public funds are likely to recalibrate their investment approaches as balancing resilience with returns becomes more difficult. As summarised by Paul Greff, chief investment officer of Ohio Public Employees Retirement System, in the fund's annual report, 'One thing is clear, the investment strategies that worked over the last 10 years may likely not work the next 10 years.' •

Evolving for resilience



Shifts in the long-term investment environment require a new approach to portfolio strategy, writes Craig Thorburn, director, research and insights of the Future Fund of Australia.

OVER the past few years, a range of paradigm shifts have impacted global financial markets and investment portfolios. These include inflation regimes, deglobalisation, populism, climate and decarbonisation and changing correlations. This means the longer-term investment environment – the new investment order – is expected to be more complex, volatile and challenging for investors. Forward-looking returns will be more difficult to earn, and we need to refresh how we invest to continue to achieve our investment purpose.

We have evolved our portfolio to make it more resilient to possible scenarios. This has involved making over A\$60bn of changes over the last year, with repositioning occurring across all asset classes. Over the 2022–23 financial year, the bulk of portfolio activity centred on building resilience to the risks presented by the new investment order, including sticky inflation leading to prolonged higher rates, higher geopolitical risks and the risk of a global recession. However, we also executed investment opportunities to generate long-term returns.

We continued to position the portfolio at around the middle of our risk range and made changes towards investments that rely on investor skill rather than market risk. This included a shift back to active management in listed equities, with a focus on Australian small cap equities.

We continued our investment in early-stage venture opportunities through our private equity managers. A rerating of property valuations also occurred throughout FY23, although we did add some new property managers to position us for opportunities ahead. We continued to combine our rich portfolio datasets with new technology-based tools to enhance our understanding of the drivers

of returns being delivered by investment managers, to better identify skill.

We maintained our preference for domestic assets with their ability to hold value in a higher-inflation environment and those that are well-positioned to assist the energy transition. Examples include investment in Sydney Airport and an additional investment in Tilt Renewables, which went to funding the construction of the Rye Park Wind Farm in New South Wales. We reduced our exposure to China, reflecting increased intervention in market sectors and the accumulation of challenges to their economic growth model. We grew our exposure to private lending opportunities in Australia, participating in the growth of non-bank lending in this market.

We have focused on creating liquidity and flexibility across the portfolio to ensure we are able to direct capital to opportunities in a quickly changing macro environment. This has included increasing the amount of developed market

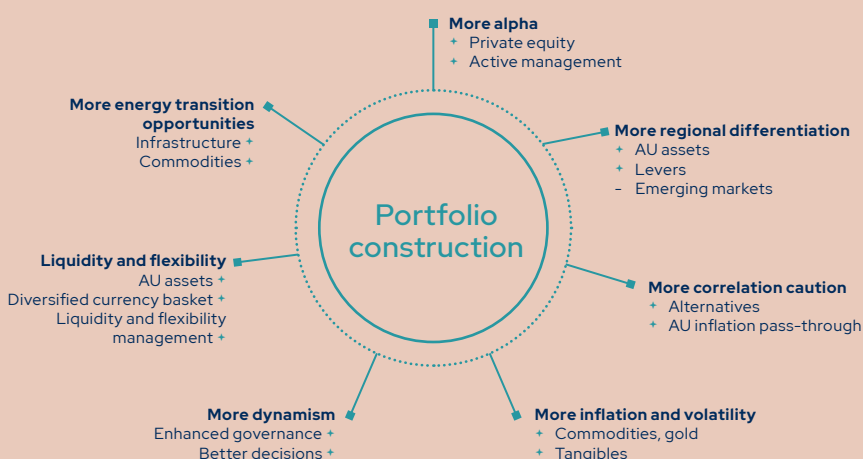
currency we hold, reducing our foreign exchange hedging requirement and increasing the amount of domestic assets in the portfolio. We have also expanded the remit of our treasury management function to include flexibility management to allow us to harvest more investment opportunities when they arise.

We have refined our investment delegations and governance arrangements to ensure our investment decision-making is fit for purpose in a more volatile investment environment. We have also refined our dynamic asset allocation process and governance to ensure flexibility and capture mispricing opportunities across liquid markets.

Consistent with the structurally higher and more volatile inflationary scenario, we made changes to our investment portfolio in rates and currency markets and built a meaningful exposure to commodities. These changes totalled more than A\$40bn across the year. Finally, our activity in the alternatives portfolio focused on reducing hedge fund exposures that were challenged by the new investment order and replacing them with ones that are truly diversifying in and generate liquidity for the total portfolio.

The investment market remains highly uncertain. This creates challenges as well as opportunities for investors. Leaning into our joined-up, whole-of-portfolio approach will stand us in good stead as we evolve our portfolio in response to the changing macro environment. •

Figure 1. Future Fund's portfolio construction process since 2020



Source: Future Fund

An uncertain global macro landscape



With changing macro narratives and structural trends, as well as heightened geopolitical risks, Singapore's GIC remains focused on the long term with a diversified and resilient portfolio, writes Prakash Kannan, chief economist and director of economics & investment strategy and Mark Tan, head of macro research at GIC.

WHILE headline inflation has eased, underlying inflation remains sticky, especially in services. Major central banks are likely to be close to the end of their hiking cycles but, given the underlying persistence of inflation, they may keep policy rates at an elevated level for some time until they see progress towards their targets.

As labour markets remain tight, we believe that the 'last mile' of reducing inflation sustainably will be especially difficult. It will most likely require growth to remain below potential through the next year in order to cool labour markets and return inflation closer to target levels. This sluggish growth environment might run the risk of tipping over into a recession for several major developed markets. Even if these economies remain resilient, they are at risk of a second wave of inflation, leading to further rate increases.

More volatile longer-term macroeconomic outlook

There are three broad trends that are likely to define the longer-term macro environment. These trends will alter the global macro landscape from one with sluggish demand (pre-pandemic) to one that involves more supply shocks, leading to higher and more volatile inflation, shorter cycles and higher interest rates.

First is the decarbonisation of the global economy needed to arrest the rise in global temperatures. Based on the International Energy Agency's 'Net Zero Emissions by 2050' scenario, transition in the real economy will require an additional \$126tn until 2050. The transition is likely to entail higher costs, including those from higher carbon taxes and higher prices for fossil fuels,

as investments in this sector fall in the interim. It will also require the continued development of technologies for both climate mitigation and adaptation.

Second, the risks of geoeconomic fragmentation have risen due to reduced confidence in the benefits of globalisation and intensified great power rivalries. Such geopolitical fragmentation results in the reconfiguration of supply chains towards greater resiliency as well as higher defence spending, which will lead to higher investments and inflation.

Third is the rise of artificial intelligence. It is still relatively early, but the adoption of generative AI has the potential to boost productivity growth



while reducing inflation. This could partially counter some of the adverse economic effects from ageing demographics, changing globalisation and the green transition. However, we think the impact is unlikely to be significant or expedient enough for this cycle. There are also potential pitfalls, including the possible displacement of workers as well as threats to cybersecurity.

Together, these three factors point to a world that is likely to feature more shocks to supply relative to the pre-pandemic period, which was widely dubbed the 'Great Moderation'. A world with more supply shocks might see shorter cycles as central banks will need to be more active in trying to achieve their inflation targets from above rather than from below. Higher macro volatility for financial markets will lead to higher risk premiums being priced in, both in equities and bonds.

Higher neutral real rates

The post-2008 financial crisis environment was dominated by deleveraging dynamics across households and financial institutions. After an initial increase in public spending, several economies also shifted to austerity measures. There was a large segment of economic agents saving more which, coupled with weak investment, kept equilibrium interest rates low.

This dynamic has changed. Going forward, we will see higher investment spending as well as higher fiscal deficits and debt. There are several reasons for this development.

First, the trend towards higher investment flows is supported by rising capital expenditure in the green transition, higher defence expenditure and the push towards greater supply chain resiliency. Second, there has been a shift towards lower savings, as pressure to deleverage private sector balance sheets relative to post-2008 lessens, while cyclical demands on fiscal policy to be more active increase. This occurs alongside higher structural demands due to ageing and healthcare costs.

Our research suggests that the neutral real interest rate is likely to be around 1%, which is meaningfully higher than the 0.5% that dominated during the pre-pandemic era.

Emerging markets' growth prospects

Emerging markets with the strongest growth prospects in the medium to long term have lower gross domestic product per capita with more catch-up potential. They have demographic tailwinds and investments in infrastructure and productive capacity, and they have had positive reform progress over the last five years or more.

Moreover, these countries are also likely to



benefit from secular tailwinds. For example, Vietnam and India are well-positioned to benefit from the diversification of global supply chains. This supply chain realignment should attract more foreign investment to these economies. Similarly, countries like India and Indonesia, which are sizeable markets on their own, should benefit as corporations look for alternative sources of growth. There is good momentum and ample runway for digitalisation and financial deepening in these economies. Indonesia will also benefit from having a rich pool of commodities necessary for the green transition.

Investment implications

GIC's objective is to generate good investment returns above global inflation over the long term. We do so while adhering to our client's risk tolerance. To navigate the changing macro landscape, we are taking a more granular total portfolio approach, where top-down analysis is merged with bottom-up insights, and both alpha and beta return drivers are considered. This enables us to design and implement a diversified portfolio with the potential to cover a variety of risk-return profiles across different asset classes and strategies. Ultimately, we aim to build resilience in the total portfolio while delivering good risk-adjusted returns. •

'A world with more supply shocks might see shorter cycles as central banks will need to be more active in trying to achieve their inflation targets from above rather than from below.'

Protecting from inflation

Funds signal a continued tilt towards infrastructure but show hesitation over China.

Key findings

1. The share of alternatives in the total assets of the largest 50 pension funds has edged up over the past year.
2. Infrastructure is once again the asset class with the highest demand. A net 40% of surveyed funds expect to increase their exposure to this asset class in the next 12-24 months.
3. India is the most attractive emerging market among respondents, while the majority (73%) identified regulation and geopolitics as hurdles to investing in China.
4. Surveyed funds predominantly use external managers to access new or complex assets (81%) and for knowledge transfer (75%).

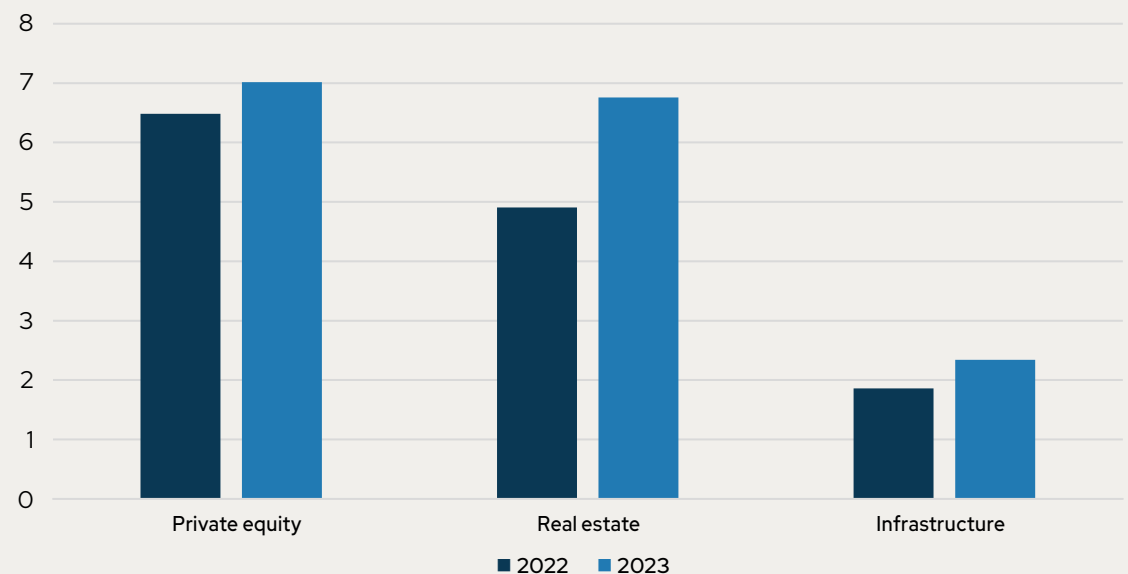


LAST year's GPP revealed that over 40% of surveyed funds expected to increase their allocation to infrastructure and real estate over the next two years – higher demand than for any other asset class. This shift towards real assets seems to be playing out. Based on our analysis of the annual reports of the 50 largest public pension funds, the aggregate share of assets made up of real estate and infrastructure has increased in the past year. The same is true for private equity holdings, indicating a general move towards alternative assets as funds seek greater diversification and inflation protection (Figure 2.1).

It's worth noting that valuation effects partly explain the increase in the share of alternative assets in total portfolios. As mentioned in the 2023 annual report of Canadian fund Public Sector Pension Investment Board, 'While stocks and bonds posted negative to moderately positive returns, private asset classes remained resilient. Real assets were notably helped by their strong link to inflation.' In any case, many major funds are strategically tilting their portfolios towards alternatives. In its latest annual report, Ontario Teachers' Pension Plan highlighted 'increased exposure to real assets from \$52.4bn to \$67.9bn (from 22% of net investments to 28%), with the majority of this growth coming in the infrastructure portfolio (which grew from \$26.1bn ➤

Figure 2.1. Allocation to alternatives grows

Weighted average allocation to alternative asset classes, %



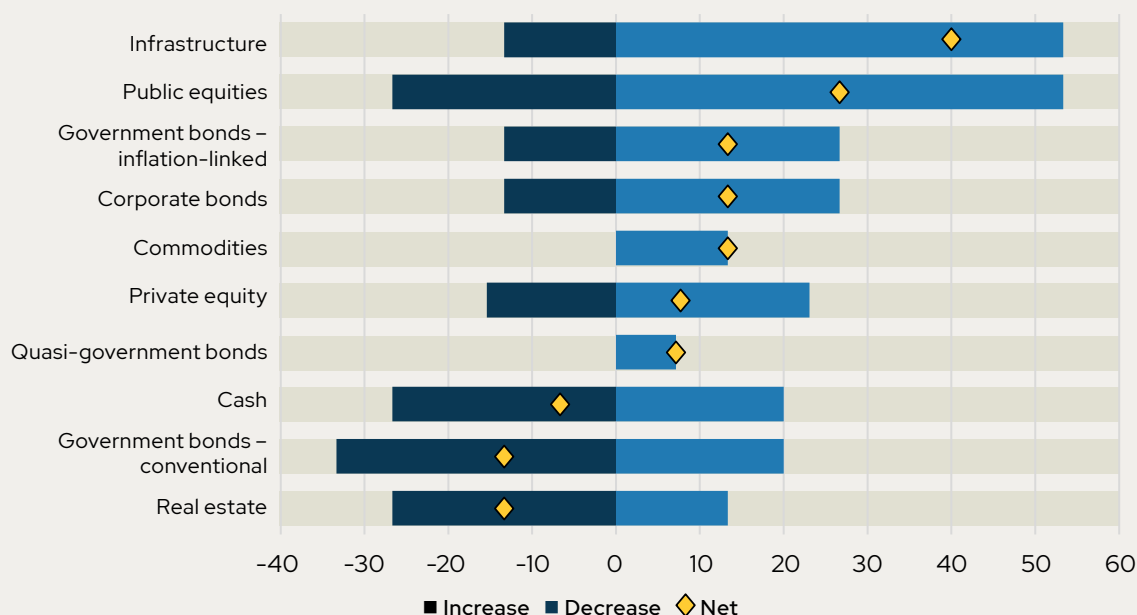
Source: Annual reports, OMFIF analysis

Note: Based on sample of 50 largest public pension funds

85%+
All surveyed investors use external managers for public equities, and over 85% use them for investments in infrastructure and private markets.

Figure 2.2. Infrastructure most in demand

Over the next 12-24 months, do you expect to increase, reduce or maintain your allocation to the following assets classes? Share of respondents, %



Source: OMFIF GPP survey 2023

to \$39.8bn), to gain further diversification and access to reliable inflation-linked cash flows'.

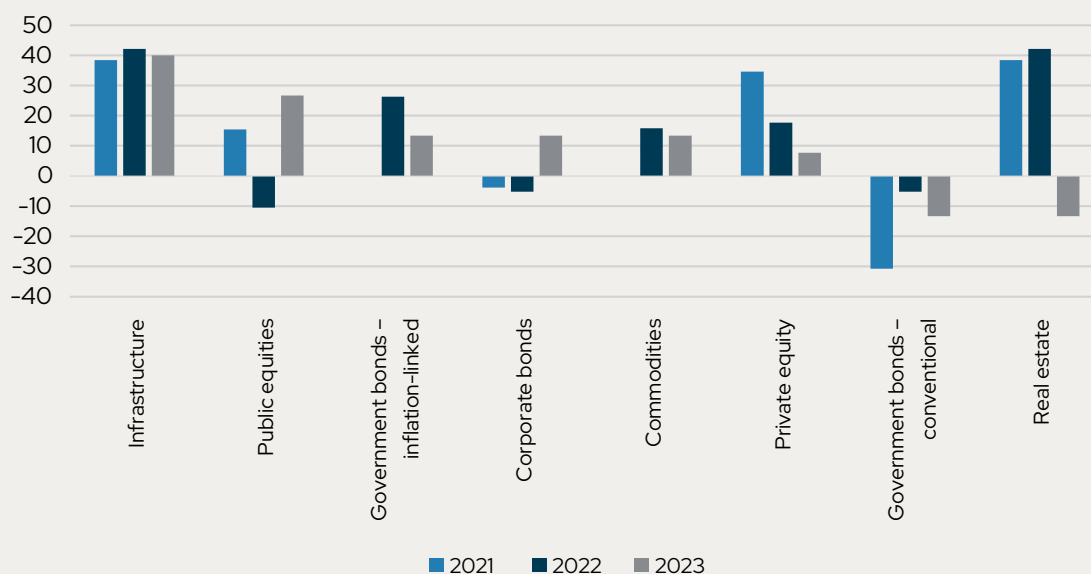
This year's survey points to a continuation of this trend towards inflation-proofing portfolios. As highlighted in Chapter 1, inflation remains a key concern for global public funds in the near and long term. Consistent with this, infrastructure is once again the asset class with the highest demand. A net 40% of surveyed funds expect to increase their exposure to this asset class over the next 12-24 months (Figure 2.2). Other inflation-protected assets are also in

demand. When asked if they are considering adding new asset classes to their portfolios, one Latin American respondent answered 'more inflation-linked strategies like commodities, inflation-linked bonds'. More broadly, in net terms, more than 10% of surveyed funds indicated they will increase their allocation to these two asset classes.

Corresponding with fears of persistently high inflation, more funds in our sample expect to decrease than increase their allocation to cash and conventional government bonds. The latter is in

Figure 2.3. Waning demand for real estate

Net expected increase in allocation towards asset classes over the next 12-24 months. Share of respondents, %



Source: OMFIF GPP survey 2021-23

contrast to the findings from our parallel survey of central bank reserve managers, for which net demand for conventional government bonds was higher than all other asset classes. While this group of global public investors is looking to take advantage of higher yields, pension and sovereign funds seem wary that rates will need to stay higher for longer in the coming years to rein in inflation, which may weigh on government bond valuations.

The expectation that monetary policy will remain tight presumably explains why, in stark contrast to last year, surveyed funds now indicate a shift away from real estate assets. A net 13% of survey participants expect to reduce their exposure to this relatively rate-sensitive asset class. There is also lower net demand for private equity than in previous years. Respondents highlighted illiquidity (71%) and valuations (57%) as the primary barriers to investing more in private markets.

Another key difference to last year is that there is renewed demand for risky assets. Public equities are the asset class with the second-highest demand, chosen by a net 27% of funds, while a net 13% expect to add to corporate bond holdings. There had been a net drawdown anticipated last year for these assets (Figure 2.3). One pension fund respondent from Asia Pacific mentioned their ‘expectation of a global recovery over 1–2-year timeframe’, which may favour riskier asset classes.

India more appealing than China

While many surveyed funds are looking to tilt towards riskier asset classes, there is less willingness to invest in riskier regions. Close to 30% expect to increase their allocation towards Europe and North America, but there is little demand for emerging market regions such as Latin America, Middle East and North Africa or sub-Saharan Africa.



There is important nuance within the emerging market space. Pension and sovereign funds seem to be growing more interested in India – 39% of respondents flagged it as the most attractive emerging market. Less than a quarter selected China (23%), Brazil (23%) or Mexico (15%), while none selected Indonesia, South Africa or other emerging markets (Figure 2.4).

India’s appeal seems linked to its relatively strong growth rates and demographics, and it is starting to become more open to foreign investors. The country’s government bonds will be added to the JP Morgan Government Bond Index-Emerging Markets benchmark in June 2024. Ontario Teachers’ Pension Plan recently opened an office in Mumbai ‘to unlock the many investment and partnership opportunities in India’ with its latest annual report highlighting investments in infrastructure, solar energy and healthcare in the country.

In contrast to India, there is growing hesitation around China. None of the funds in our survey said that they invest in China due to a positive outlook for its economy or an expectation for higher investment returns. Rather, 80% invest in China due to its



Figure 2.4. India is the most attractive emerging market

What is the most attractive emerging market? Share of respondents, %



Source: OMFIF GPP survey 2023

inclusion in benchmark indices. One Asia Pacific fund stated, 'We have a negative outlook for China, but do not have a strong view on the ranking of other EM economies.' The regulatory environment and geopolitics were the primary factors dissuading surveyed pension and sovereign funds from investing more in China, selected by 73% of respondents each (Figure 2.5).

Use of external managers

Many global public funds are using external managers to support their investment strategies. All surveyed investors use external managers for public equities, and over 85% use them for investments in infrastructure and private markets. For the latter, while using fund managers is the most common approach, the majority of funds surveyed also opted for co-investment (75%) and direct investment (69%).

Reasons for using external managers are clear: 80% do so to access new or complex asset classes while 75% mentioned knowledge transfer (Figure 2.6). This suggests many public pension and sovereign funds may lack the internal capacity to invest in an alternative asset that they are keen to explore. One survey respondent summarised their use of external managers as being due to their 'expertise, specialisation and operational robustness'.

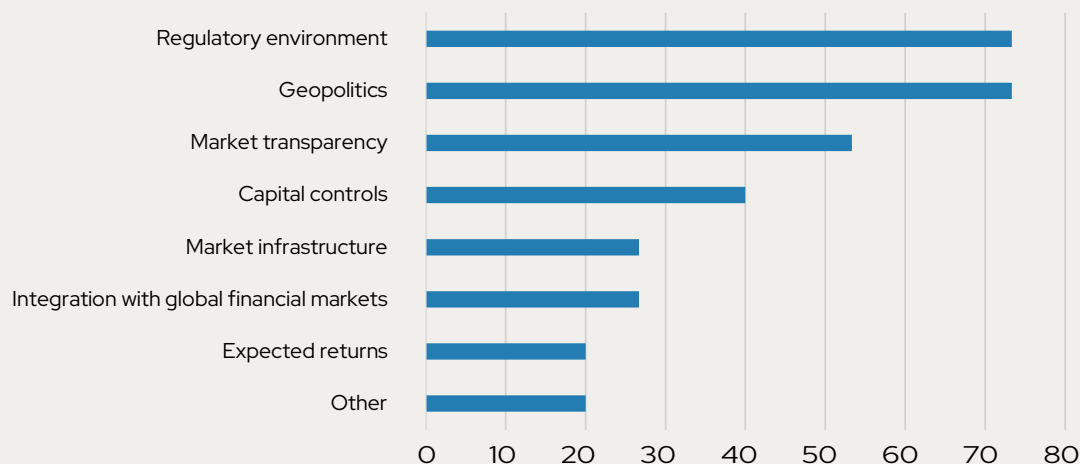
At this stage, implementing environmental, social and governance criteria is not major reason for funds to use external support. Sustainable assets are the third-lowest asset class for which funds use external managers, behind commodities and cash. That said, pension and sovereign funds are looking to expand their investments in ESG assets in the coming years, and they may increasingly use external managers for assistance on this front (see Chapter 3). •

'We have a negative outlook for China, but do not have a strong view on the ranking of other EM economies'.

A survey respondent from Asia Pacific

Figure 2.5. Funds hesitating on China due to regulation and geopolitics

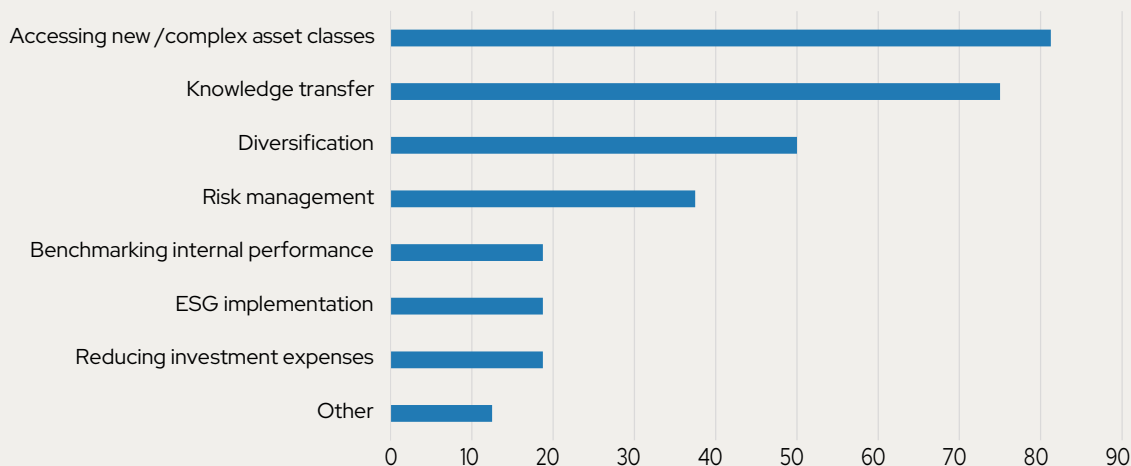
Which of the following factors discourage you from investing more in Chinese financial assets? Share of respondents, %



Source: OMFIF GPP survey 2023

Figure 2.6. External managers helping to enhance internal capacity

For which of the following reasons do you employ external managers? Share of respondents, %



Source: OMFIF GPP survey 2023

India drives investment in logistics efficiency



The Gati Shakti initiative aims to revolutionise infrastructure investment and development, explains Saurabh Suneja, director, strategic initiatives and policy advisory, National Investment and Infrastructure Fund, India.

INDIA is a sizeable and mature infrastructure market. The country's growing and briskly urbanising population, coupled with the government's commitment to improving living standards, has resulted in rapid growth in demand for infrastructure. As per the National Infrastructure Pipeline, the ministry of finance plans to invest over \$200bn in infrastructure development annually.

India has longstanding central government ministries that focus on planning and executing a multitude of projects in the core transport segments of roads, railways, ports and waterways and airports. State governments have established departments that are responsible for infrastructure development. However, there is substantial scope to enhance the efficiency of infrastructure project development.

One of the critical gaps felt by infrastructure developers and logistics operators is harmonisation of development initiatives among the different ministries and states. The Gati Shakti initiative, launched in 2021, aims to address this gap by developing a digital information sharing platform and creating a governance framework to ensure coordinated planning of large infrastructure projects.

The National Investment and Infrastructure Fund is a key investor in infrastructure and several other vital areas of the Indian economy. Through its

master fund, NIIF co-owns and actively manages portfolio companies that invest in core transport assets (roads and ports), and a large logistics platform that owns and operates a seamless and integrated freight business. Given NIIF's substantial interests in the transport and logistics space, we stand to reap significant efficiency gains from the Gati Shakti initiative.

An issue that industry players sometimes face while considering investments in large projects – such as ports, multi-modal logistics parks, industrial zones and power generation – is uncertainty around the timely development of linkage infrastructure. For instance, while an MMLP initiative may be spearheaded by a state government, rail and highway connectivity would have to be led by the central railway and the roads ministries respectively. Similarly, a renewable energy project would depend on timely development of transmission links for evacuation of power.

An important pillar of the Gati Shakti initiative is a governance mechanism through which representatives from 16 ministries work together for planning and implementation of core infrastructure projects. The 16 ministries form part of a network planning group, and projects with an estimated value of over ₹500 crore are deliberated and approved at this forum. This mechanism of coordinated planning complements the otherwise robust project-execution

capabilities of individual infrastructure ministries and states.

This coordinated development has three key benefits for the logistics sector. First, linkage infrastructure requirements for projects will be identified early and their development monitored alongside the core project. Second, missing link infrastructure projects can be identified and executed, enhancing capacity utilisation and efficiency at existing assets. Third, such joint planning can ensure that duplicative projects are avoided, reducing instances where different infrastructure departments may announce plans to develop projects that serve overlapping markets and lead to unintended competition.

Undoubtedly, the most ground-breaking feature of Gati Shakti is development of a digital master planning facility that combines close to 900 layers of information on a GIS platform. The platform is already being used for scientific planning of projects in a manner that minimises execution hurdles like requirements for special approvals, interface issues and requirement of utilities shifting. It is envisaged that for new projects this digital platform will be used to apply for clearances as well as to monitor progress.

The GIS-based planning interface, which is presently available to government ministries and departments, will eventually be opened for access to all. It will allow investors to have a bird's eye view of infrastructure service gaps and identify opportunities where new assets may be created by considering available land parcels and easy availability of complementing infrastructure. This will be a powerful planning tool for private investors.

The Gati Shakti initiative is a significant step forward for harmonisation of efforts across government agencies. It will be a tool to drive investment and operational efficiencies in infrastructure, especially for the transport and logistics sector. Improved coordination among stakeholders and enhanced transparency in project execution may further boost the confidence of global investors in increasing allocations to India. •

Looking further afield for opportunity

David Morley, managing director and head of Europe at CDPQ, spoke with Nikhil Sanghani, OMFIF's managing director of research, on the fund's dual mandate, alternative investments and private markets and sustainability considerations.

Nikhil Sanghani: Why have you grown alternative asset classes to represent such a significant share? How has this exposure helped in recent years during periods of market turmoil?

David Morley: As a global investment group and a significant fund (C\$424bn net assets under management as at 30 June 2023), a key factor is diversification. Around 25% of our portfolio is invested in Canada. However, as the fund has grown, the search for diversifications opportunities has led us further afield to seek out new and various markets and assets.

When looking at total portfolio construction, we look for the best balance of risk and return for making an investment. We consider what proportion of assets should be invested in Europe, Latin America or Asia, for example, but we don't have geographic targets. Instead, we tend to be more asset-class driven, prioritising finding the best investments wherever they're located.

This most likely differs from other pension and sovereign fund strategies because of the nature of our depositors. CDPQ has 48 depositors that are mainly public and parapublic pension and insurance funds. Depositors make decisions – with CDPQ's support – on how they allocate to the three major asset classes (fixed income, real assets and equities) in the total portfolio based on their return targets, risk tolerance and investment horizon. Some may allocate more to private equity and less to liquid markets, while others prefer fixed income and infrastructure. We then need to put all of that together, so we tend focus more on asset classes than geography.

NS: What shapes your decisions on how you invest

'Infrastructure has a whole set of new challenges that are becoming more difficult to navigate. One challenge is geopolitics.'

in private markets – directly, co-invest or via fund managers?

DM: It depends on the asset class. CDPQ is one of the longest-standing institutional investors in infrastructure. We consider controlling interests where appropriate, but we also look at co-investment opportunities and are willing to weigh any kind of structure that generates the right level of return. In private equity, we consider controlling interests and occasionally take them, but we are more likely to take a minority stake and co-investment if we can.

One of our recent co-investments in infrastructure is in Dubai. It's a \$5bn deal for us (22% stake) and one of the biggest infrastructure investments in the Middle East. We took a minority stake in three flagship assets owned by DP World, an Emirati multinational logistics company, that we have partnered with over the last six years in 14–15 ports globally. We probably wouldn't have made the investment had we not known the partner as well as we do.

NS: How do you assess valuations in private markets now? And what are some of the other barriers to investing in private markets?

DM: There are multiple barriers and it depends on the market. Private credit is a hot market without that many barriers, assuming the credit position is right and environmental, social and governance criteria have been met. There's not a lot of regulatory barriers to lending money.

Infrastructure has a whole set of new challenges that are becoming more difficult to navigate. One challenge is geopolitics.

Another is regulation. Infrastructure investors like CDPQ are looking for predictable regulatory and

'We're looking for opportunities at the intersection of ESG and returns, and we don't accept lower returns just to comply with ESG targets.'

legal regimes to invest in, because they are making investments over a 25- to 30-year horizon. There are new questions about the reliability and predictability of regulatory regimes. Are the interests of investors and consumers going to be fairly balanced? What is the right political, regulatory and legal mix for infrastructure investment? We need fresh answers to these questions.

NS: Close to 20% of CDPQ's infrastructure investments are in renewable energy. How important is sustainability to CDPQ's private investments? How else are you implementing ESG considerations?

DM: What differentiates CDPQ from other funds is the cultural importance of sustainability, both internally and among our depositors. We share an ambition to act in the interests of the community. ESG is fully integrated into our processes from start to finish, it's not just a box to tick at the end. Since 2018, we have directly linked our employees' variable compensation to achieving climate targets. Factoring in ESG means we can better assess the long-term viability of a company and more deeply understand the risks it faces. This makes our approach a mechanism for risk management, value creation and innovation.

NS: Are you optimistic that embedding ESG considerations into your investments also offers good risk-adjusted returns?

DM: Yes, we don't make ESG investments that are worthwhile but don't make money. We can't do that – we need to generate returns for our depositors. We're looking for opportunities at the intersection of ESG and returns, and we don't accept lower returns just to comply with ESG targets. •



Three considerations for asset allocation



There are many ways for public funds to optimise their portfolios for the new macroenvironment, explain Jahangir Aka, head of official institutions, Tully Cheng, head of EMEA institutional solutions, and Niall O'Sullivan, chief investment officer, EMEA – multi-asset, Neuberger Berman.

THE first half of 2022 brought profound macroeconomic change, especially the return of high inflation, which triggered the start of a broad re-pricing of virtually all financial assets. As we approach what is likely to be the upper reaches of this cycle's bond yields, how should official institutions respond to these changes in their strategic asset allocations?

At Neuberger Berman, we used our latest capital market assumptions, adjusted with some investor-specific constraints on variables like portfolio turnover, illiquidity and certain asset allocations, to create optimised hypothetical portfolios for two different types of institutional investors – sovereign funds and public pension funds. The premise was to find 'proposed' portfolios that raised estimated return relative to illustrative 'current' SAAs without meaningfully changing volatility, duration or fixed income rating.

Sovereign fund optimisation

Let's look at the sovereign fund first (Figure 1). Our example has a dual mandate to diversify national revenues with return-seeking investments while also financing domestic infrastructure projects and strategic businesses. It therefore has a set allocation

to 'local projects' and local private equity venture and growth investments.

In addition, we froze dollar cash at the current allocation of 2.6% and applied a minimum allocation of 5% for gold. To maintain reasonable portfolio liquidity, we capped asset-backed securities, mortgage-backed securities and collateralised loan obligations exposure at 5% each and private assets at 15%, while specifying that 30% of any

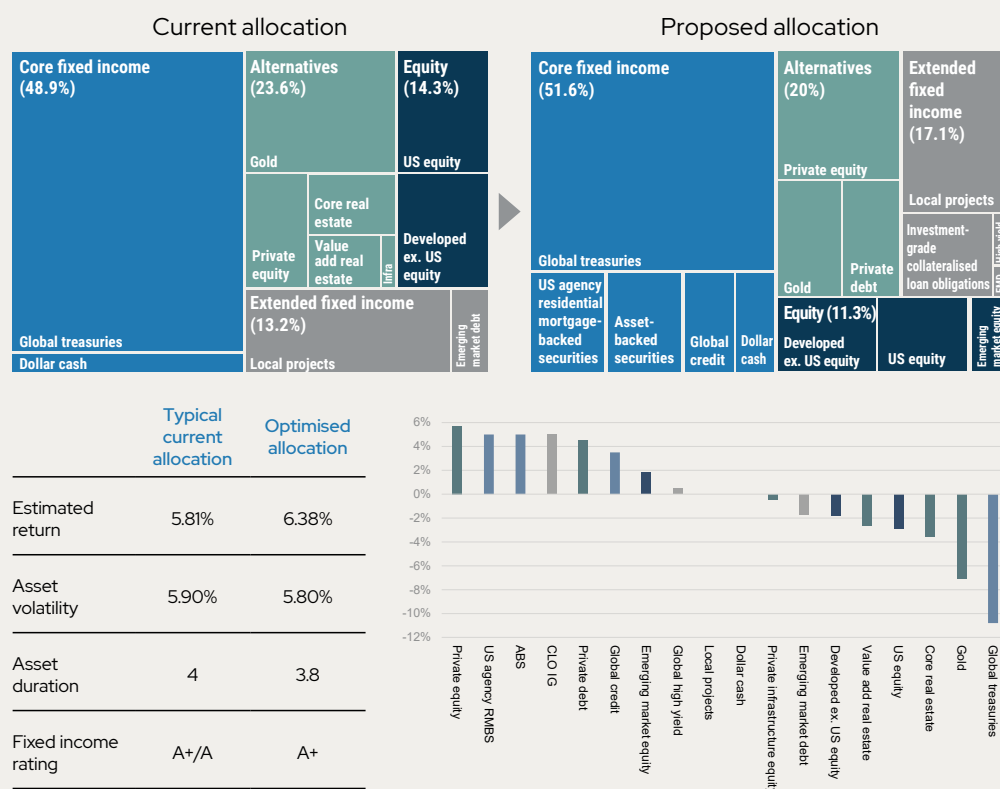
new private-asset investments must be allocated to cash-flow generating private debt. We applied the US tax on effectively connected income, which slightly reduced the favourability of (US-tilted) private debt in the optimisation.

Three themes stand out from the changes in asset allocation. First, the proposed sovereign fund allocation explores a broader fixed income and credit universe.

Government bonds and gold are cut in favour of high-grade structured credit, MBS, ABS and CLOs (while still adhering to the institutional limits on these extended credit allocations).

Second, the proposed allocation takes more liquidity risk. Private equity and private debt allocations rise (although real estate and infrastructure, which are lower-returning and increase the risk inherent in local projects, are slightly

Figure 1. Adding credit and emerging markets equities



Source: Bloomberg, JP Morgan, MSCI, NAREIT, NCREIF, HFRI, Cambridge Associates, Credit Suisse, Neuberger Berman. Data as of June 2023.

reduced). Finally, the proposed sovereign fund allocation invests more globally, reducing developed market equity and re-allocating to emerging markets.

Public pension fund optimisation

Our illustrative PPF relies on domestic investment-grade bonds and core real estate for both cash flow and liability matching (Figure 2). We limited, to five percentage points each, the amount that could be taken away from the allocations to domestic government bonds, corporate bonds and core real estate.

That said, this investor also has a mandate to grow its assets to meet the pension promises made to a largely younger, working population.

Cash flow is currently quite tight, as advance drawdowns were allowed through the pandemic, but the growth mandate remains a key determinant of the asset allocation. As such, while ABS, MBS and CLOs were capped at 5% of the total allocation, real estate was capped at 10% and private assets were limited to 15% to preserve liquidity, we put an 8% floor under the public-market equities allocation.

This optimisation showed that the proposed pension fund allocation benefits from a more diversified fixed income and credit universe: allocation to government bonds and global credit is reduced by 13%, and instead is re-allocated to ABS, MBS and CLOs (which would have been higher if not for

institutional limits). This proposed allocation also takes more liquidity risk: the alternatives allocation is reduced and concentrated somewhat into private equity and private debt at the expense of liquid hedge funds, US core real estate and infrastructure. Finally, as for the sovereign fund, the proposed pension fund allocation invests more globally: emerging market debt holdings are increased, and a US- and emerging markets-focused equity portfolio is diversified to include more developed ex-US allocations.

Three critical considerations for increasing returns

These optimisations show considerable overlap and

suggest three critical things for institutional investors to consider as they attempt to balance risk and estimated return, given current macroeconomic challenges.

First, though many official institutions are sceptical of fixed income assets due to inflation, at current levels of yield and equity valuation, our capital market assumptions make fixed income and credit quite competitive against equities. Our optimised portfolio allocations suggest diversifying fixed income exposure rather than reducing it.

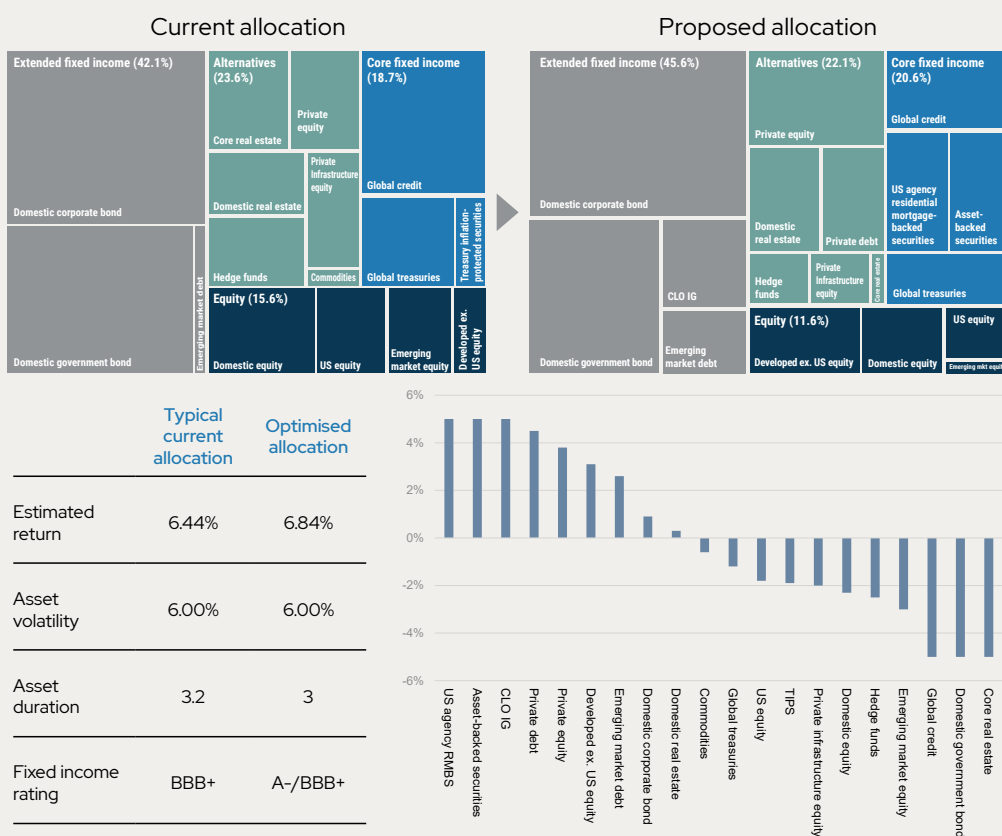
Second, our optimisations do favour risky over risk-free fixed income assets, but they do so especially in the form of structured credit. The hypothetical portfolio allocations tend not to favour equity, but where they do, it is primarily as private equity in a general move toward illiquid markets.

Third, though real estate and infrastructure are popular among institutional investors, perhaps due to their potential to mitigate the impact of inflation, our hypothetical portfolio allocations suggest that these asset classes may not be optimal for the move toward more illiquid markets, because of their relatively low estimated returns.

In short, these optimisations suggest there is a lot that pension and sovereign funds can do to optimise portfolios for the new environment, and not all of these factors are being actively considered yet. •

Special thanks to Flora Xu, client strategist, and Zhengyang Su, institutional solutions, who contributed to the analysis for this paper.

Figure 2. Going global and adding alternatives



Source: Bloomberg, JP Morgan, MSCI, NAREIT, NCREIF, HFRI, Cambridge Associates, Credit Suisse, Neuberger Berman. Data as of June 2023.

Taking action on climate

While not a priority, funds are increasing their exposure to sustainable investments.

Key findings

1. Half of survey participants mention climate change as a top-three factor affecting their 5-10 year investment approach, compared to above 60% for equilibrium real interest rates and inflation.
2. Just over 30% expect to add to their exposure to green bonds and green real assets, (i.e. sustainable infrastructure) in the next 12-24 months.
3. Close to 80% are looking to increase investment in renewable energy, while half are divesting from fossil fuels to assist the green transition.
4. The most common issue to further environmental, social and governance integration is once again insufficient data and information, mentioned by 77% of respondents.



73%
of survey
respondents
have a pledge
to achieve net
zero emissions
in their
portfolio by
2050.

FOR the most part, sustainability considerations are factoring into the plans of global public pension and sovereign funds. Among survey respondents, 73% have a pledge to achieve net-zero emissions in their portfolio by 2050. That said, climate change is a middling concern when compared to monetary policy and inflation. Half of survey participants list it as one of the top-three factors affecting their 5-10 year investment approach, compared to above 60% for equilibrium real interest rates and inflation (Figure 3.1). A survey respondent from Europe stated, 'Climate change is a foreseeable factor for the next 5-10 years. Rates are an important determinant for the regime in financial markets and for regional allocation.'

While it's not the most pressing concern, there is widespread action being taken by global public pension and sovereign funds on sustainability. Almost all those surveyed integrate environmental, social and governance factors into their portfolio decisions. In contrast, our Global Public Investor 2023 survey of 75 central bank reserve managers showed that 35% do not implement ESG criteria (Figure 3.2). This group tends to have more restrictive mandates and focuses more exclusively on capital preservation or ensuring liquidity.

Among pension and sovereign funds, the most common approaches to ESG implementation are corporate engagement, negative screening and disclosure. These practices are undertaken by 80% of funds surveyed. The importance of active engagement with portfolio companies is a theme explored in more detail in Chapter 4.

Some funds are looking to do more on this front. The annual report of Taiwanese pension fund Bureau of Labor Funds described plans to 'gradually promote the implementation of shareholder activism in all existing domestic discretionary mandate contracts and urge listed companies to compile sustainability reports'.

Data remains the big hurdle

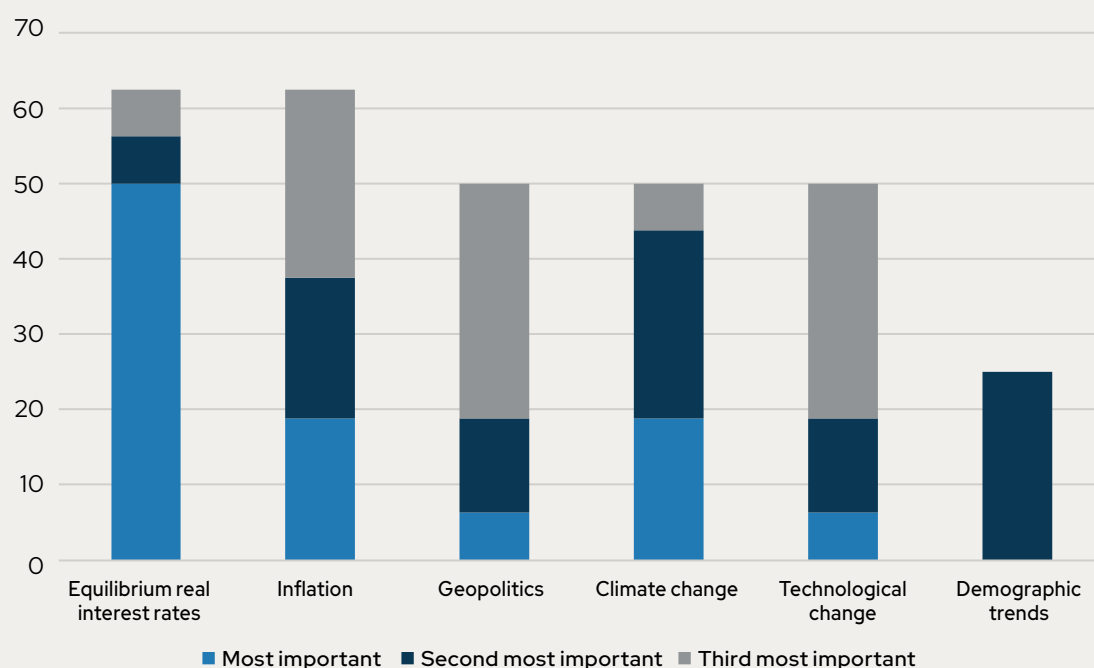
However, there is some reluctance for public investors to go a step further and actively invest for ESG purposes. Less than half of funds surveyed implement positive screening (investing in companies based on their ESG performance) or impact investing (allocating capital with the intention of generating positive ESG outcomes).

In general, many public funds are constrained by their fiduciary responsibility to deliver returns rather than looking to drive decarbonisation. In an interview with OMFIF, David Morley, managing director and head of Europe at Caisse de Dépôt et Placement du Québec, mentioned, 'We're looking for deals where there is a meeting of ESG and returns, and we don't accept lower returns just to comply with ESG targets' (p.22-23).

That said, this is not the biggest constraint. Less than half of surveyed funds identified lack of suitable investments or expectation of lower returns as the main hurdles to further ESG integration. The most common issue, mentioned by 77% of respondents, is insufficient data and information. This is consistent with the findings from last year, as well as the 2023 GPI survey. Greenwashing concerns are the

Figure 3.1. Climate change is becoming a core concern

What are the most important economic factors affecting your investment approach over the next 5-10 years? Share of respondents, %



Source: OMFIF GPP survey 2023

second-biggest barrier, selected by 62% of survey participants (Figure 3.3). In many ways, this links to the lack of suitable data and standards to clearly delineate between portfolio companies that are making the green transition and others that may be 'gaming' the system.

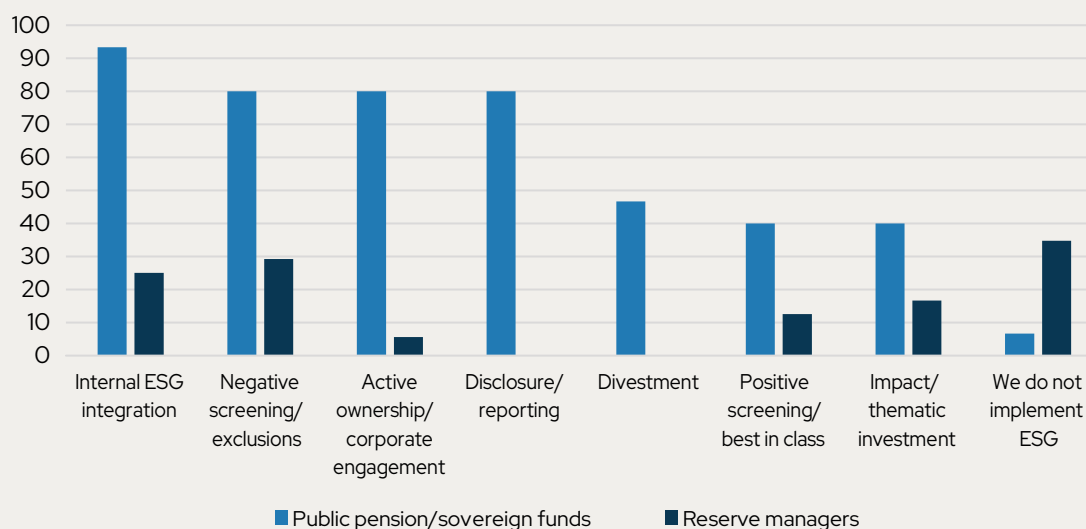
Focus on green bonds and renewables

Despite these constraints, it's clear that public

pension and sovereign funds are looking to add to their sustainable asset holdings. Among survey respondents, green bonds and green real assets (i.e. sustainable infrastructure) are the assets with the highest demand. Just over 30% expect to add to their exposure of these assets in the next 12-24 months, while only a handful will increase holdings other ESG bonds (social, blue or sustainable) or sustainable public or private equity. It's notable ➤

Figure 3.2. Global public funds go further than reserve managers

In which of the following ways do you implement ESG criteria? Share of respondents, %



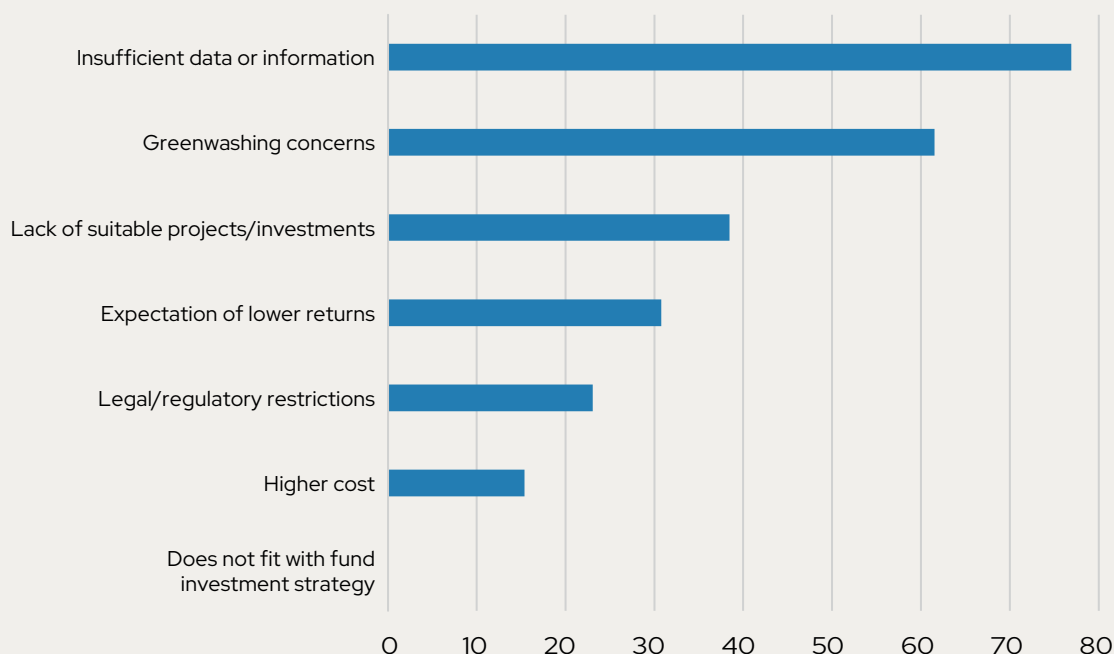
Source: OMFIF GPP survey 2023, OMFIF GPI survey 2023

Note: Disclosure/reporting and divestment were not available options for reserve managers

80%
of survey respondents undertake corporate engagement, negative screening and disclosure approaches to implementing ESG.

Figure 3.3. Data issues persist

What are the main barriers to ESG adoption/further integration in your portfolio? Share of respondents, %



Source: OMFIF GPP survey 2023

that no respondent indicated they will decrease their exposure to any of these sustainable asset classes (Figure 3.4).

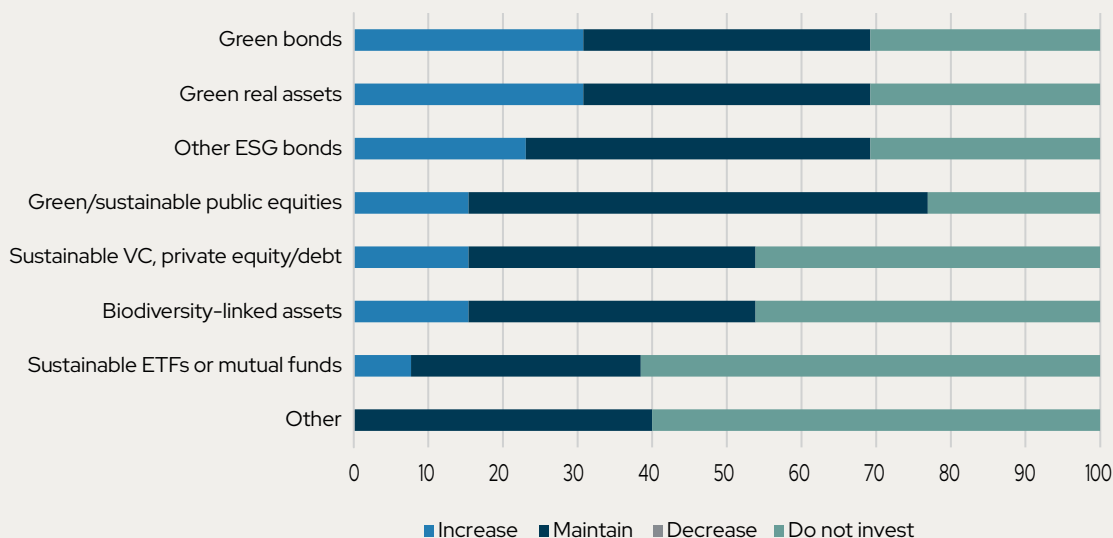
Beyond the 12- to 24-month horizon, many funds have medium- to long-term strategies to invest in sustainable assets. One survey respondent from Asia Pacific mentioned a 'commitment to have 10% of the portfolio invested in climate solutions, like renewable energy and sustainable property, by 2030'.

This seems to be a widespread approach to the green transition. Close to 80% of respondents are increasing their investment in sustainable industries and 64% are also investing in transitioning industries. Only half are actively divesting from 'brown' investments, including one fund that said 'coal investments are excluded'. This suggests the most common approach to the transition is investing in green industries rather than divesting from fossil fuels. •

One survey respondent from Asia Pacific mentioned a 'commitment to have 10% of the portfolio invested in climate solutions, like renewable energy and sustainable property, by 2030'.

Figure 3.4. Green bonds and real assets most in demand

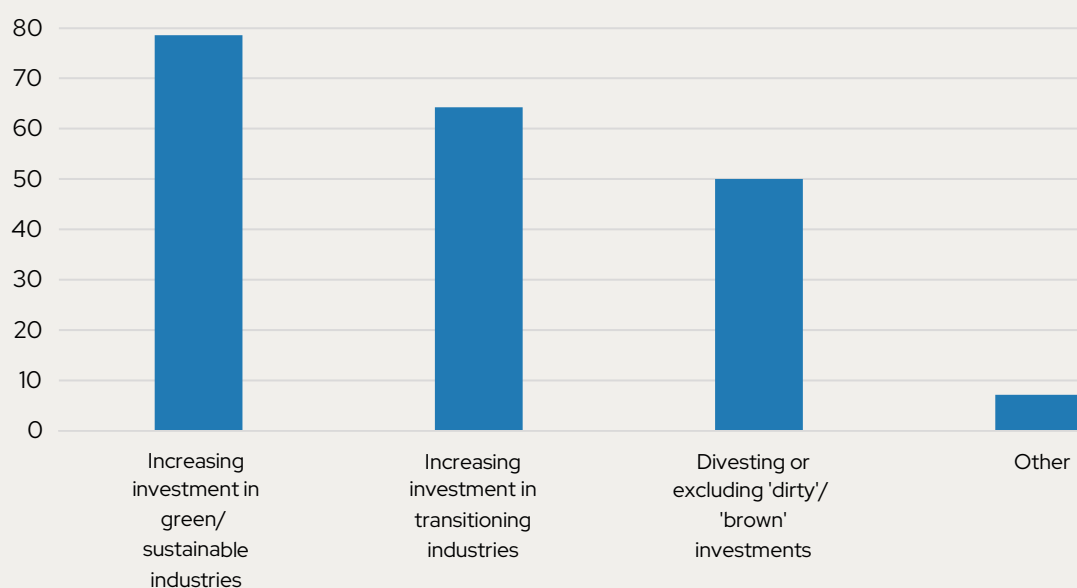
Do you plan to increase, reduce or maintain your allocation to the following sustainable assets over the next 12-24 months? Share of respondents, %



Source: OMFIF GPP survey 2023

Figure 3.5. Renewable investment ahead of divesting

How is the green transition affecting your investment plans? Share of respondents, %



Source: OMFIF GPP survey 2023



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Development finance in emerging markets



The development finance asset class presents a new opportunity for pension funds, writes Manfred Schepers, founder and chief executive officer, ILX Management.

IN recent years, pension funds and other institutional investors have significantly increased their sustainability-related investments in developed markets. However, it is also widely recognised that a transition to net zero by 2050 demands a significant increase in climate-related investments into emerging markets, as these regions are disproportionately affected by climate change and expected to account for the bulk of global emissions growth.

Against this background, pension funds are increasingly aiming to allocate a larger portion of their portfolio to support the United Nations' sustainable development goals and climate targets. In parallel, multilateral development banks and development finance institutions, with mandates to support emerging markets in achieving their development goals and improving investment capacity, are urged to help channel private capital into these markets.

Private loans originated and structured by MDBs and DFIs can provide pension funds with high-impact investment opportunities. These offer compelling risk-adjusted returns and diversification compared to traditional emerging market sovereign or corporate debt markets, while ensuring measurable and transparent SDG-related outcomes.

However, large-scale allocations to investments structured by MDBs and DFIs – the so-called 'development finance asset class' – by institutional investors are still lagging. This is mainly due to the perceived risks of investing in emerging markets, stemming from limited public risk information and the characteristics of the development finance

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asset class that currently don't fit within many pension fund mandates.

To provide a solution to the lack of institutional capital flowing to emerging markets, in early 2022 ILX Management launched the ILX Fund I, a \$1.05bn SDG-focused emerging market private debt fund. On behalf of several leading Dutch pension fund investors, ILX Fund I co-invests alongside MDBs and DFIs in development finance assets, with a belief that investors will benefit from the MDBs' and DFIs' emerging markets investment track records.

The role of development finance in emerging markets

Since the 2008 financial crisis, international banks have, to a certain extent, retracted from providing long-term finance to emerging markets. Emerging markets often lack well-established and deep local bond and equity markets to finance the required long-term climate and other development-related investments. The role of MDBs and DFIs in providing long-term finance to emerging markets is critical, as was recently emphasised in the G20 Triple Agenda report.

MDBs and DFIs are uniquely equipped to systemically address SDG- and climate-related challenges at scale. With over 50 years of emerging markets investment experience and environmental and social safeguards in place, these institutions have extensive knowledge in credit, country, sector, sustainability and environmental, social and governance-related risks. Their experience and local presence have made them multi-faceted experts in this field.

One of the key ways that MDBs and DFIs can

help secure this funding is through mobilising private capital, which currently stands at \$60bn per annum. This amount falls short of the \$240bn annually needed by 2030 if the SDG and climate targets are to be reached. MDBs and DFIs can share, transfer or sell part of their own exposure to institutional investors. By doing this, they expand their own risk capacity to invest in new markets or extend financing to new and existing clients, thereby increasing their development impact.

In line with other MDBs, the International Finance Corporation and European Bank for Reconstruction and Development have both stated ambitions to double their mobilisation efforts annually over the next years. Changes are already underway – the Joint Report on Multilateral Development Banks' Climate Finance showed that MDBs collectively reached a new record of nearly \$60bn in climate finance in 2022 in low- and middle-income countries.

Development finance characteristics and investor benefits

Pension funds can greatly benefit from MDBs' and DFIs' expertise in emerging markets by investing via innovative fund vehicles such as ILX Fund I. Due to similar long-term institutional strategies, pension funds are well-equipped to make long-term investments alongside these institutions in emerging markets.

Additionally, the development finance asset class provides a scalable investment opportunity with compelling market-equivalent risk-adjusted returns, particularly in comparison with traditional sovereign and corporate EM debt markets. It offers pension funds an opportunity to complement their existing portfolios with investments that cannot be sourced via public markets. The returns on these loans have proven largely uncorrelated with public market volatility. It provides additional diversification to investors' existing portfolios in terms of EM regions and sectors, such as renewable energy investments in places ranging from Latin America to Central Asia.

Moreover, in times of turmoil, the status of MDBs and DFIs – as long-standing partners of governments and the private sector in countries in which they operate – significantly reduces the risks traditionally associated with investing in emerging markets.

From a sustainability perspective, public EM bond markets often do not provide a 'use-of-proceeds' ability to ensure investments are being allocated to a certain cause and tracked to SDG and climate objectives. Through private debt

strategies such as ILX Fund I, pension funds gain access to MDB and DFI investments in clean and renewable energy, sustainable industry and infrastructure, inclusive finance and food security, with direct and measurable SDG- and climate-related results on a project-by-project basis.

Barriers to scaling up the development finance asset class

Geopolitical and perceived credit risks are often a key barrier for pension funds when considering investing in the development finance asset class. In reality, there is a discrepancy between perceived risk and actual observed risks of MDB and DFI investments, largely caused by a lack of data transparency. The risk-mitigating features in MDB and DFI loans, like high recovery rates and stable returns, are often not accurately incorporated in conventional rating models. Instead, these models focus purely on the probability of default and consider the country rating as a limiting factor, resulting in a higher perceived risk.

This information asymmetry can be addressed by initiatives such as the publication of the Global Emerging Markets Risk Database. This database, containing 33 years of anonymised credit default statistics from over 10,000 loan obligors, presents the low credit risks associated with these loans. Making these data publicly available would help to bridge the risk perception gap and support the much-needed increase of private capital flow to the development finance asset class.

To scale up the asset class, improving the data transparency of credit risk and creating a deep, harmonised, predictable and efficient market for these private debt assets is required. In line with other large-scale investment asset classes, the basis should be a granular understanding of individual risks at the country, sector, obligor and project level. This is not new – equity, credit, bond and commodity markets have all grown through a granular understanding of the risks at the company and project level. The upscaling of development finance will need to follow the same pattern if it is to become a common asset class among pension fund investors and data transparency will be key to facilitate this.

SDG needs are vast in emerging markets. MDBs and DFIs are uniquely placed to provide financial support to these countries while providing pension funds and other institutional investors with the opportunity to invest in high-impact, well-structured and attractively yielding development finance loans, through scalable private debt funds like ILX Fund I. •

'The Joint Report on Multilateral Development Banks' Climate Finance showed that MDBs collectively reached a new record of nearly \$60bn in climate finance in 2022 in low- and middle-income countries.'

Funding a green global economy

Active engagement is a crucial tool for public investors to drive the transition.

TO fund the innovation and infrastructure required for a sustainable global economy, an additional \$126tn in transition finance will be needed from now until 2050. Asset owners are a key link in mobilising this capital. Voluntary carbon markets must be established, private capital moved at scale and multilateral development banks must work together to release more capital for climate action.

OMFIF and SGX Group brought together asset owners, insurers, asset managers, multilateral development banks and standard-setters to discuss these issues at the Global transition finance summit 2023 in Singapore. Among the many speakers on the day were senior representatives of major public pension and sovereign funds.

The importance of active engagement

Speakers at the summit raised the importance of differentiating between achieving net-zero portfolios and actively driving the energy transition. 'If you want to get to portfolio decarbonisation it's called divestment... The ultimate question is does that really help the world to decarbonise?' said Liew Tzu Mi, chief investment officer of fixed income and multi-asset at GIC.

This message was echoed by Thijs Aaten, chief executive officer of APG Asset Management Asia, who stated 'You can make your portfolio green by just diverting your flows... the hard work is in helping companies make this transition and have a real-world impact.' For asset owners to make a difference, they will need to ensure industries become 'greener' rather than simply exit positions in carbon-intensive sectors.

Active engagement is key to achieving this goal and dialogue with portfolio companies should

consider the idiosyncrasies of different markets. Liew from GIC said 'if you impose a top-down approach for a decarbonisation pathway across every part of your portfolio, it is neither realistic nor constructive'. Similarly, Snorre Gjerde, lead investment stewardship manager, corporate governance at Norges Bank Investment Management, stated engagement is 'about listening to the challenges the companies are facing to understand how we as an owner can be supportive'.

Such discussions can reveal tensions between different interests. Leong Wai Leng, managing director and regional head of Asia Pacific at Caisse de Dépôt et Placement du Québec, recognised that portfolio companies need 'to be accountable and be committed to subject themselves to external technical audit [to decarbonise], and to also manage the domestic stakeholders, be it local community or local government... All interests may not be specifically aligned'.

In emerging markets that rely on cheap, carbon-intensive energy, rapidly shifting towards more costly renewables would have a detrimental impact on households and firms. It is therefore important to acknowledge that 'net zero is different for different

'You can make your portfolio green by just diverting your flows... the hard work is in helping companies make this transition and have a real-world impact.'

Thijs Aaten, chief executive officer of APG Asset Management Asia



countries', observed Ridha Wirakusumah, chief executive officer of Indonesia Investment Authority of Indonesia.

Financial products and tools

Public pension and sovereign funds have the power to affect change through their asset allocation decisions. Liew from GIC flagged the potential from sustainability-linked bonds as a 'forward-looking' asset class. These are 'more encompassing' than green bonds and can incentivise companies to transition their entire operations to cleaner fuels, rather than ringfencing funding for specific green projects. Meanwhile, Leong of CDPQ stated that, alongside renewables, 'We think there is room for us to be exploring... materials and energy storage, like hydrogen.'

Clean energy investments are also of keen interest to sovereign funds in commodity-exporting countries. Wirakusumah of INA said one of the four industry verticals at the fund is renewables and it has deployed 'almost \$3.5bn' in green areas. He gave the example of a public equity investment with Masdar in the Indonesian company Pertamina Geothermal Energy. Meanwhile, Ali Al Khalifa, chief executive officer of the Bahrain Future Generation Reserve Fund, mentioned they are 'much more focused on solar energy', given the ubiquitous sunshine in the region.

The public sector has an important role in underpinning the transition. CDPQ's Leong mentioned that, within Asia, 'in emerging markets and the tier below emerging markets... blended finance will have to come in.' The provision of developmental capital from governments, multilateral development agencies and other bodies in developing economies can improve the risk-return profile and encourage the involvement of pension and sovereign funds.

Joachim von Amsberg, special adviser to the president of the Asian Infrastructure Investment Bank, pointed out that blended finance has not reached an investable scale due to the lack of carbon pricing and carbon markets, which means there is little incentivisation and the transition is de-prioritised. He also highlighted the complexity of infrastructure projects and the high-risk conditions in emerging markets leading to a lack of private investment.

To tackle this, Leslie Maasdorp, vice president and chief financial officer, New Development Bank, emphasised that the main focus of MDBs now is de-risking: using their creditworthiness and triple-A rating to take on the risk private institutions are not willing to. This is the new mandate of the New Development Bank – leading institutions to crowd in finance through helping governments reduce risk

It is important to acknowledge that 'net zero is different for different countries',

Ridha Wirakusumah, chief executive officer of Indonesia Investment Authority of Indonesia.



and bringing in private investment at scale.

Ma Jun, founder and president of the Institute of Finance and Sustainability, and Satoshi Ikeda, chief sustainable finance officer of Japan's Financial Services Agency, observed in a panel focusing on the role of regulators that Europe is high on regulation but less on incentivisation. Jun said the People's Bank of China is working to create mechanisms to reduce funding costs for higher-risk projects supporting the transition to drive more capital allocation.

Data and standards

The public sector can also help by enforcing consistent reporting rules. NBIM's Gjerde highlighted the importance of 'strong standards for... company disclosures and practices' to allow for better comparison across markets, and to harmonise the demands for portfolio companies. NBIM has been 'very supportive of the efforts of the International Sustainability Standards Board to provide a global baseline for sustainability reporting'.

Even so, Gjerde recognised that 'data is a very real challenge'. Companies are still struggling to disclose scope 3 emissions, and in emerging companies there is a huge gap between disclosure and net-zero targets.

There is heightened demand for public investors to actively engage with portfolio companies while seeking sustainable investment opportunities to assist with the green transition. This is not a simple task in the absence of clear regulation or abundant data. Amanda Blanc, group chief executive officer of Aviva, offered useful advice on this front: 'Don't let the desire for perfection be the enemy of delivering the right results.' •

'Don't let the desire for perfection be the enemy of delivering the right results.'

Amanda Blanc, group chief executive officer of Aviva



Energy transition: a 30-year megatrend



Investors can't afford to miss the opportunities offered by the energy transition, writes Mark Watts, partner, Lane, Clark & Peacock.

IT is not often you get to see a megatrend signposted so clearly and so early. We firmly believe that the energy transition is one of the great megatrends that will persist for at least the next 30 years. Our Energy Transition Investment Manager Survey provides us with important insights and underscores the need for a structured and informed approach to what will be a dynamic and fast-changing market.

To reach our net-zero targets, Bloomberg's NEF report estimates that we will need to invest \$200tn over the next 25 years. As asset owners and investors, it is incumbent on all of us to understand the transition and the opportunities that it presents. Not only will this reduce forward-looking downside risks to both the economy and financial markets, but it will also provide ample opportunity to invest in new markets with strong return characteristics.

According to Climate Action Tracker's November 2022 report, based on its current path, the world will miss the 1.5-degree limit by a sizeable margin. Modelling suggests that there will be severe impacts on both global economies and global financial markets from a failed transition and even partial progress will still not be sufficient to avoid considerable downside. Studies show cumulative global gross domestic product declines of up to 28% in the case of failed transition, and cumulative declines of up to 40% in a 60/40 bond/equity portfolio over the next 40 years. In short, we all need to do more, and do it quickly.

Opportunities in the transition

There is a wealth of opportunities across the

'Investing in the energy transition is ideally suited to asset owners that have the ability (and in some cases the need) to invest over longer time horizons.'

ecosystem in energy transition. We divide them into four main segments: generation – how energy is created; storage – how that energy is stored for later use; networks – how energy is moved around the system; and demand – how the energy is consumed.

Currently, generation assets are considered core and offer an attractive premium to traditional infrastructure. We believe that these returns can be further enhanced by the addition of carefully selected demand and storage sector allocations to boost overall return potential.

Our 2023 Energy Transition Investment Manager Survey was conducted in August and September and covers some 73 managers and 103 strategies with around \$275bn invested in the transition. The survey is a vital resource helping asset owners to understand the market and how and with whom they should invest to achieve their goals.

Dedicated energy transition managers in our survey reported return expectations in the 11% to 12% range on an internal rate of return basis. This is a healthy premium above more traditional infrastructure managers who had smaller energy transition allocations. Outside of the survey we have spoken to managers who have been achieving IRRs approaching 15% in generation when focusing on greenfield development.

On the demand side of the energy transition space, we see a meaningful increase being reported with returns in the low 20s being targeted. A well-informed strategy that blends the four segments is a robust way to diversify risk and gain access to the different revenue stream being

offered, creating a compelling investment case.

The risks inherent in the energy transition space are similar to those in infrastructure, especially in the generation, transmission and some storage sectors. These areas tend to be larger in scale, with income streams often based on long-term government backed contracts. The policy environment and cost over runs are risks on the generation side, while technological and poor adoption risks are present in the demand segment.

How can institutional investors access the energy transition market?

Investing in the energy transition is ideally suited to asset owners that have the ability (and in some cases the need) to invest over longer time horizons. This 'patient capital' is therefore more able to take positions in assets that are not liquid and reap the illiquidity premium.

In generation, storage and networks, investment activity is dominated by larger scale multi-year projects that have infrastructure-like qualities and the return opportunity can play out over a decade or more. Managers tend to focus on different points in the development journey, offering institutional investors the ability to choose where to focus. Some managers focus on investing in project platforms that provide a reliable pipeline of future deals, preferring to get those deals earlier in the process ('greenfield') and reap a premium from derisking the project. As the project matures and becomes income producing ('brownfield'), the fund can either sell outright to an unrelated third party, sell to a continuation fund that the manager runs or hold to the end of the fund's life and then sell.

On the demand side, opportunities come from acquiring businesses that are looking to scale either organically or by acquisition. There is a thriving ecosystem, where a number of players are either looking to scale by taking greater market share in their home market or by expanding internationally. Other companies are looking to bring together different solutions and technologies to present a more complete package to consumers for decarbonising the home, for example, a single point of purchase for solar, batteries and home energy management systems. The demand side is currently a very fluid and dynamic space and well suited to investment.

Our survey found that private equity structures dominated but were by no means the only way for investors to gain access. Open-ended funds, segregated mandates and fund of funds were also present. Over half of the managers that we

surveyed reported that their strategies were dedicated to the energy transition while the rest allocated from a more traditional infrastructure base.

We are encouraged by the fund sizes that asset managers reported. We collected data about where managers were in their current raise and the targets that they were expecting to achieve. We saw strong numbers, with strategies in the \$1.5bn-\$5bn range, and some exceeding \$5bn in size. We believe that this provides ample opportunity for us to build diversified portfolios of exposure across a range of clients of differing asset sizes.

The majority of managers offers global or multi-region products. European exposures play a large part in fund structures, possibly driven by a clearer regulatory environment, good transparency and clearer public policy support and objectives.

Looking at the four energy system sectors, clients are placing the most money in generation at 66%, followed by networks (14%), demand (13%) and storage (7%). This is not surprising as the generation segment is large scale, tried and tested, and backed by government revenue.

Within generation, solar and offshore wind were the most popular, with a good spread of subsectors outside of that. In the storage segment, co-located battery storage was the most popular choice for managers, with a good spread of alternative technologies also gaining attention. On the demand side, we were pleased to see a good spread of opportunities being represented.

The evolution of energy transition investing

We believe that we are at the beginning of energy transition investing. For the first time in 2022, energy transition investment was equal to that of fossil fuels. We agree with the International Energy Agency that annual investment needs will triple from 2022 levels and that the need for fresh capital will continue unabated for the two decades after that, rising to five times 2022 levels. This will allow for a broadening out of investment across all four segments of the transition.

Energy transition is a megatrend that investors cannot afford to miss. There is a striving ecosystem for energy transition, the underlying technology is tested in most areas and methods of access for investors exist. We believe that the energy transition offers compelling returns for asset owners and we stand ready to assist in discovering which particular blend of exposures might be appropriate for portfolios. •

'Looking at the four energy system sectors, clients are placing the most money in generation at 66%, followed by networks (14%), demand (13%) and storage (7%).'

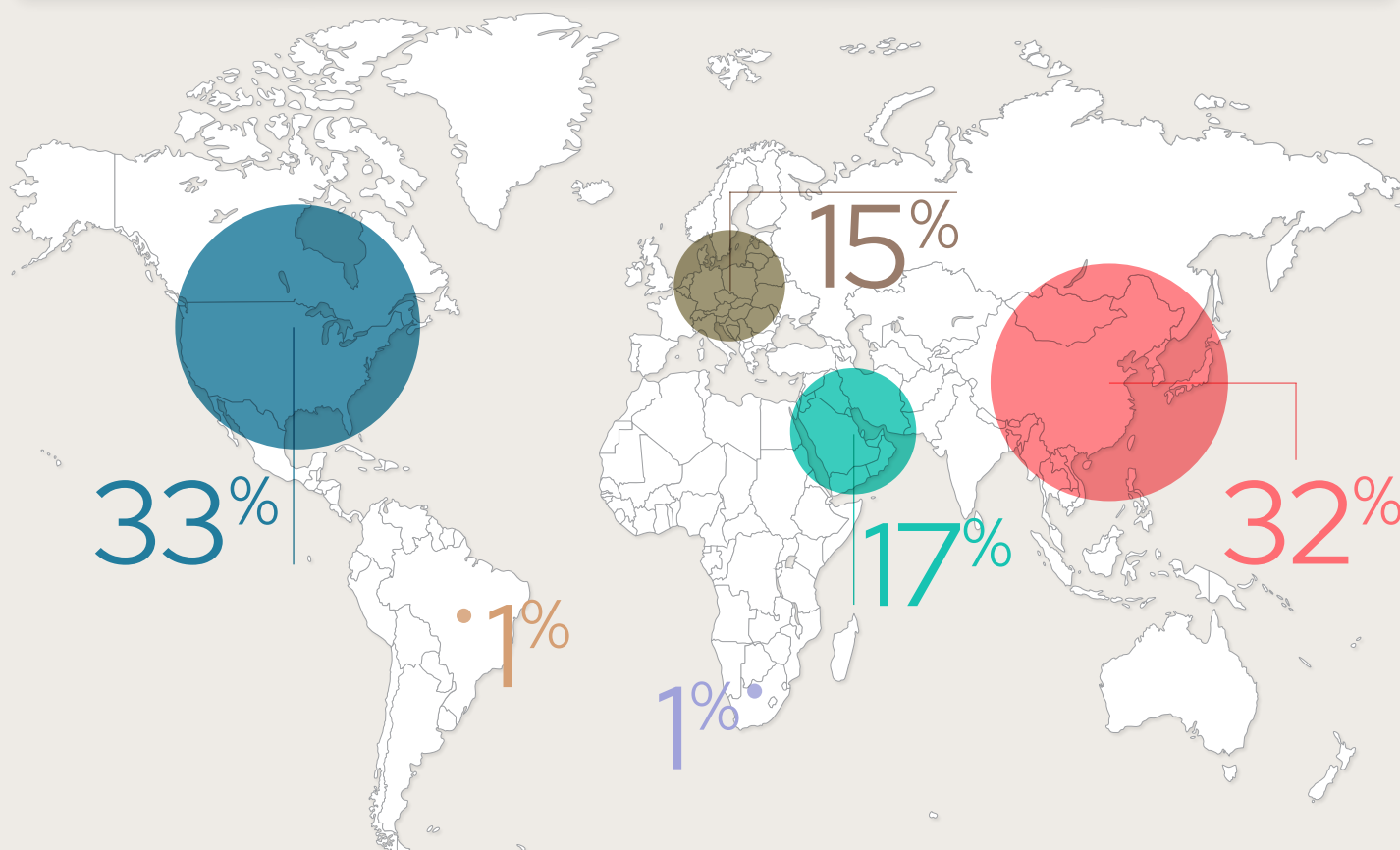
Databank

The world's institutions ranked

Global distribution of assets

Derived from global sample of top 50 public pension funds and top 50 sovereign funds by AuM

Total number of GPFs	Latest AuM (\$bn)	Previous year AuM (\$bn)	Change from previous year (%)	Change from previous year (\$bn)
100	25.9	26.0	-0.5	-0.1



Sub-Saharan Africa: 1%

Number of GPFs: 2
 Latest AuM: **\$222bn**
 2022 AuM: **\$270bn**
 Change from 2022 (%): **-17.8**
 Change from 2022 (\$bn): **-48**

Asia Pacific: 32%

Number of GPFs: 30
 Latest AuM: **\$8.3tn**
 2022 AuM: **\$8.5tn**
 Change from 2022 (%): **-2**
 Change from 2022 (\$bn): **-168**

Europe: 15%

Number of GPFs: 12
 Latest AuM: **\$3.9tn**
 2022 AuM: **\$4.6tn**
 Change from 2022 (%): **-14**
 Change from 2022 (\$bn): **-643**

Latin America: 1%

Number of GPFs: 2
 Latest AuM: **\$323bn**
 2022 AuM: **\$306bn**
 Change from 2022 (%): **5.7**
 Change from 2022 (\$bn): **17**

Middle East and North Africa: 17%

Number of GPFs: 13
 Latest AuM: **\$4.4tn**
 2022 AuM: **\$3.9tn**
 Change from 2022 (%): **15.4**
 Change from 2022 (\$bn): **594**

North America: 33%

Number of GPFs: 41
 Latest AuM: **\$8.7tn**
 2022 AuM: **\$8.5tn**
 Change from 2022 (%): **1.9**
 Change from 2022 (\$bn): **160**

Top 50 pension funds ranked

	Pension fund	Country	Region	Total assets (\$bn)
1	Government Pension Investment Fund	Japan	AP	1,666
2	Military Retirement Fund	US	NA	1,278
3	Federal Employees Retirement System	US	NA	891
4	Thrift Savings Fund	US	NA	838
5	National Pension Service	South Korea	AP	689
6	Canada Pension Plan Investment Board	Canada	NA	548
7	Stichting Pensioensfonds ABP	Netherlands	EU	497
8	California Public Employees' Retirement System	US	NA	463
9	Central Provident Fund	Singapore	AP	398
10	Caisse de Dépôt et Placement du Québec	Canada	NA	359
11	California State Teachers' Retirement System	US	NA	349
12	General Organisation for Social Insurance	Saudi Arabia	MN	320
13	Pensioenfondszorg en Welzijn	Netherlands	EU	291
14	Comisión Nacional del Sistema de Ahorro para el Retiro	Mexico	LA	271
15	New York State Common Retirement Fund	US	NA	246
16	Employees' Provident Fund	Malaysia	AP	245
17	Ontario Teachers' Pension Plan	Canada	NA	243
18	Caisse des Dépôts et Consignations	France	EU	223
19	Public Sector Pension Investment Board	Canada	NA	218
20	Pension Fund Association of Local Government Officials	Japan	AP	211
21	AustralianSuper	Australia	AP	208
22	Teacher Retirement System of Texas	US	NA	208
23	Commonwealth Superannuation Corporation	Australia	AP	195
24	Bureau of Labor Funds	Taiwan	AP	186
25	State Board of Administration of Florida	US	NA	180
26	British Columbia Investment Management Corporation	Canada	NA	179
27	Washington State Investment Board	US	NA	168
28	AP-Fonden 7	Sweden	EU	153
29	Australian Retirement Trust	Australia	AP	149
30	State of Wisconsin Investment Board	US	NA	147
31	Healthcare of Ontario Pension Plan	Canada	NA	141
32	Public Institution for Social Security	Kuwait	MN	137
33	New York State Teachers' Retirement System	US	NA	133
34	North Carolina State Treasurer	US	NA	131
35	Civil Service Retirement System	US	NA	128
36	UniSuper	Australia	AP	127
37	Oregon Public Employees Retirement System	US	NA	127
38	Minnesota State Board	US	NA	125
39	Arbejdsmarkedets Tillægspension	Denmark	EU	123
40	Ontario Municipal Employees' Retirement System	Canada	NA	120
41	Ohio Public Employees' Retirement System	US	NA	118
42	Aware Super	Australia	AP	118
43	Bayerische Versorgungskammer	Germany	EU	112
44	Universities Superannuation Scheme	UK	EU	106
45	Teachers' Retirement System of the City of New York	US	NA	99
46	Massachusetts Pension Reserves Investment Management	US	NA	99
47	New Jersey Division of Investment	US	NA	98
48	Amitim	Israel	MN	98
49	Pension Fund Association	Japan	AP	96
50	State Teachers Retirement System of Ohio	US	NA	92

Top 50 sovereign funds ranked

	Pension fund	Country	Region	Total assets (\$bn)
1	Norges Bank Investment Management	Norway	EU	1,386
2	China Investment Corporation	China	AP	1,351
3	Abu Dhabi Investment Authority	United Arab Emirates	MN	943
4	Kuwait Investment Authority	Kuwait	MN	803
5	GIC	Singapore	AP	769
6	Public Investment Fund	Saudi Arabia	MN	700
7	Cassa Depositi e Prestiti	Italy	EU	502
8	Temasek	Singapore	AP	474
9	Qatar Investment Authority	Qatar	MN	450
10	National Social Security Fund	China	AP	428
11	Turkiye Wealth Fund	Turkey	EU	360
12	Investment Corporation of Dubai	United Arab Emirates	MN	320
13	Mubadala Investment Company	United Arab Emirates	MN	276
14	Korea Investment Corporation	South Korea	AP	181
15	Public Investment Corporation	South Africa	AF	176
16	Abu Dhabi Holding Company	United Arab Emirates	MN	157
17	Future Fund	Australia	AP	146
18	National Wealth Fund	Russia	EU	140
19	Oregon Investment Council	US	NA	137
20	National Development Fund of Iran	Iran	MN	132
21	Alberta Investment Management Corporation	Canada	NA	126
22	Texas Treasury Safekeeping Trust Company	US	NA	125
23	State of Michigan Investment Board	US	NA	97
24	Emirates Investment Authority	United Arab Emirates	MN	91
25	Victorian Funds Management Corporation	Australia	AP	85
26	Permodalan Nasional Berhad	Malaysia	AP	78
27	Alaska Permanent Fund Corporation	US	NA	78
28	Queensland Investment Corporation	Australia	AP	75
29	Samruk-Kazyna JSC	Kazakhstan	AP	73
30	TCorp	Australia	AP	70
31	Texas Permanent School Fund	US	NA	61
32	Kazakhstan National Fund	Kazakhstan	AP	58
33	Tennessee Retiree Group Trust	US	NA	56
34	Brunei Investment Agency	Brunei	AP	55
35	State Oil Fund of the Republic of Azerbaijan	Azerbaijan	AP	55
36	Bpifrance	France	EU	53
37	Fondo de Garantía de Sustentabilidad	Argentina	LA	52
38	Oman Investment Authority	Oman	MN	17
39	Ethiopian Investment Holdings	Ethiopia	AF	46
40	Iowa Treasurer	United States	NA	45
41	BPJS Ketenagakerjaan	Indonesia	AP	43
42	New Zealand Superannuation Fund	New Zealand	AP	43
43	New Mexico State Investment Council	US	NA	40
44	Utah Office of State Treasurer	US	NA	40
45	Nebraska Investment Council	US	NA	36
46	Texas Permanent University Fund	US	NA	33
47	Funds SA	Australia	AP	29
48	Wyoming State Loan and Investment Board	US	NA	27
49	West Virginia Investment Management Board	US	NA	24
50	Fund for Reconstruction and Development of the Republic of Uzbekistan	Uzbekistan	AP	23

Databank

Methodology

SURVEY data collection was conducted between August and October 2023, with invitations sent to global public pension funds and sovereign funds across the world. Results include responses from 16 institutions, made up of 12 pension funds and four sovereign funds, with cumulative \$2.9tn assets under management.

We received responses from seven funds based in Asia Pacific, six in Europe, one in North America, one in Latin America and one in Africa. The ranking tables are based on OMFIF research of the latest data released in annual reports or official financial disclosures, as of October 2023. In most cases, this refers to December 2022 data. Where no such data are available, OMFIF uses reliable sources from the financial industry or news sources.

'Assets under management data' refers to gross total assets in most cases and to net assets where no gross measures were available. These figures are expressed in dollars. Throughout the publication 'dollar' refers to US dollars. Where figures are not recorded in dollars, conversion rates between the reporting currency and dollars of the month in which the latest observation was published is used.

A promotional graphic for the OMFIF Global Public Investors Summit. The background is a solid blue color. On the left, the OMFIF logo (a stylized 'm' inside a circle) is followed by the text 'GLOBAL PUBLIC INVESTORS SUMMIT' in large, white, sans-serif capital letters. Below this, the date '27 March 2024' is written in a smaller, white, sans-serif font. On the right side, there is a photograph of a hand holding a magnifying glass over a copper piggy bank. Several gold coins are shown in motion, appearing to fall into the piggy bank's slot. The piggy bank is sitting on a dark wooden surface. At the bottom left of the graphic, the URL 'omfif.org/global-public-investors-summit' is written in a small, white, sans-serif font.

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