

The Asset Owner 100

The most influential capital on the planet | Thinking Ahead Institute | November 2022



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The Thinking Ahead Institute

Formed in 2015, the Thinking Ahead Institute is a global not-for-profit research and innovation group whose aim is to mobilise capital for a sustainable future. The Institute's members comprise around 60 asset owners and asset managers with collective responsibility for over USD 16 trillion. It is an outgrowth of WTW Investments' Thinking Ahead Group and more research is available on its [website](#).

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The Asset Owner 100

A Thinking Ahead Institute study which provides key insights and trends on the top 100 asset owners in the world

An asset owner has five qualifying characteristics:

- Works directly for a defined group of beneficiaries/savers/investors as the manager of their assets in a fiduciary capacity under delegated responsibility
- Works with a sponsoring entity (government, government affiliate, company or not-for-profit)
- Works within explicit law and possesses an implicit societal license to operate because of its societal trust and legitimacy
- Delivers mission-specific outcomes to beneficiaries and stakeholders in the form of various payments or benefits into the future
- Employs a business model that combines a governance budget (resources and processes) and a risk budget (reflecting the mix of financial assets that delivers on the mission)

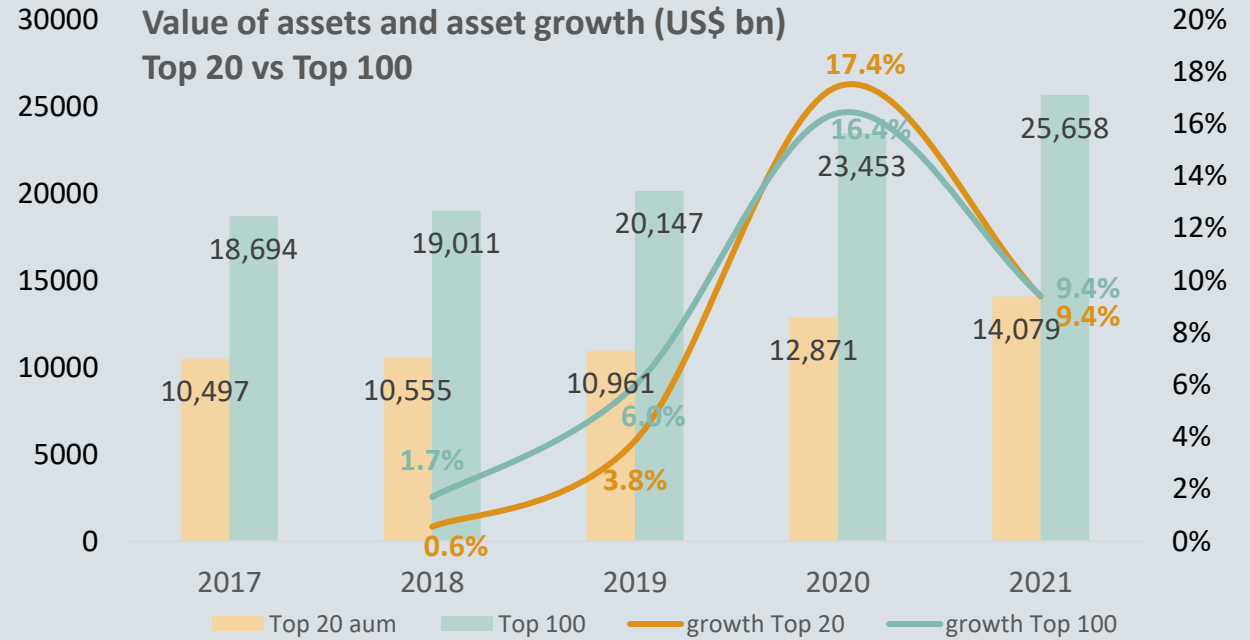
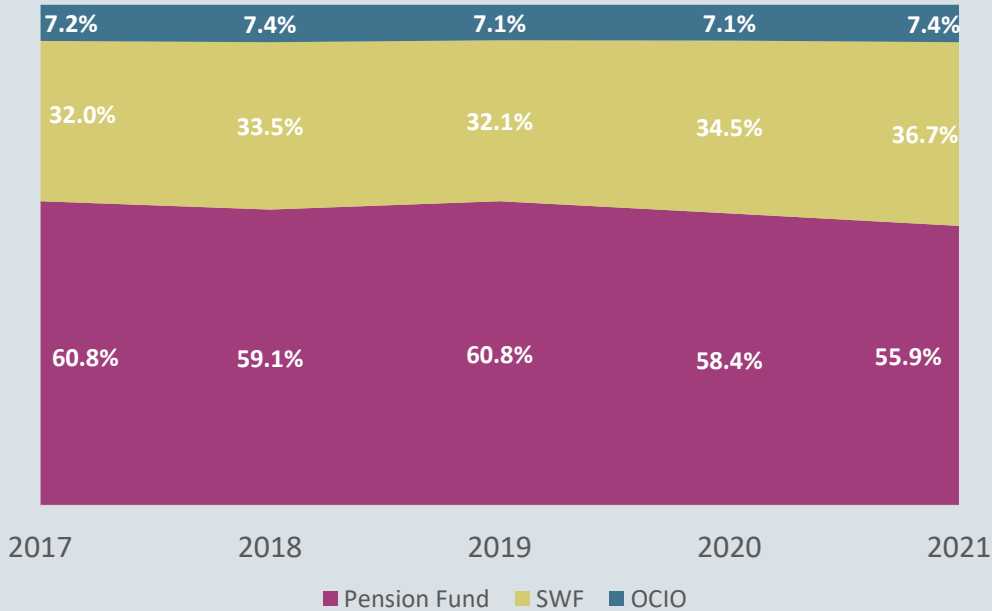
Executive summary



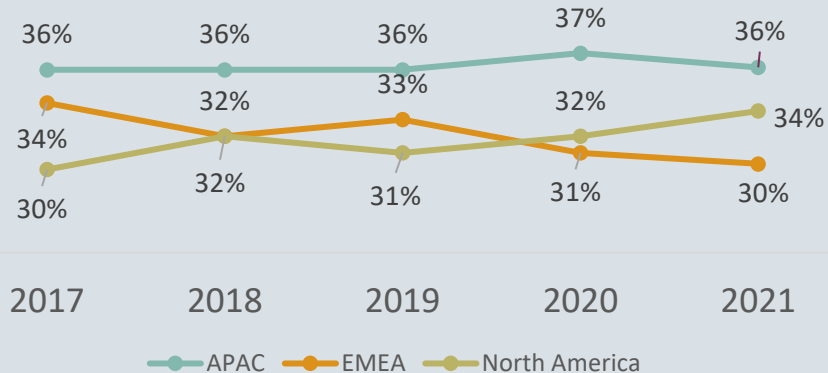
Overview and key findings

Five years of AO 100 report

Evolution by fund type



Distribution by assets



Key takeaways

- Pension funds still dominate, but the proportion of their Assets under management (AUM) has slowly decreased, while SWF's AUM gradually increased
- North American AUM has gradually increased, overtaking EMEA AUM in 2020
- The SAFE Investment Company gained the most assets, moving up the ranking from 11th to 4th
- The Japanese Government Pension Investment Fund and the China Investment Corporation have maintained their rankings of 1st and 3rd respectively



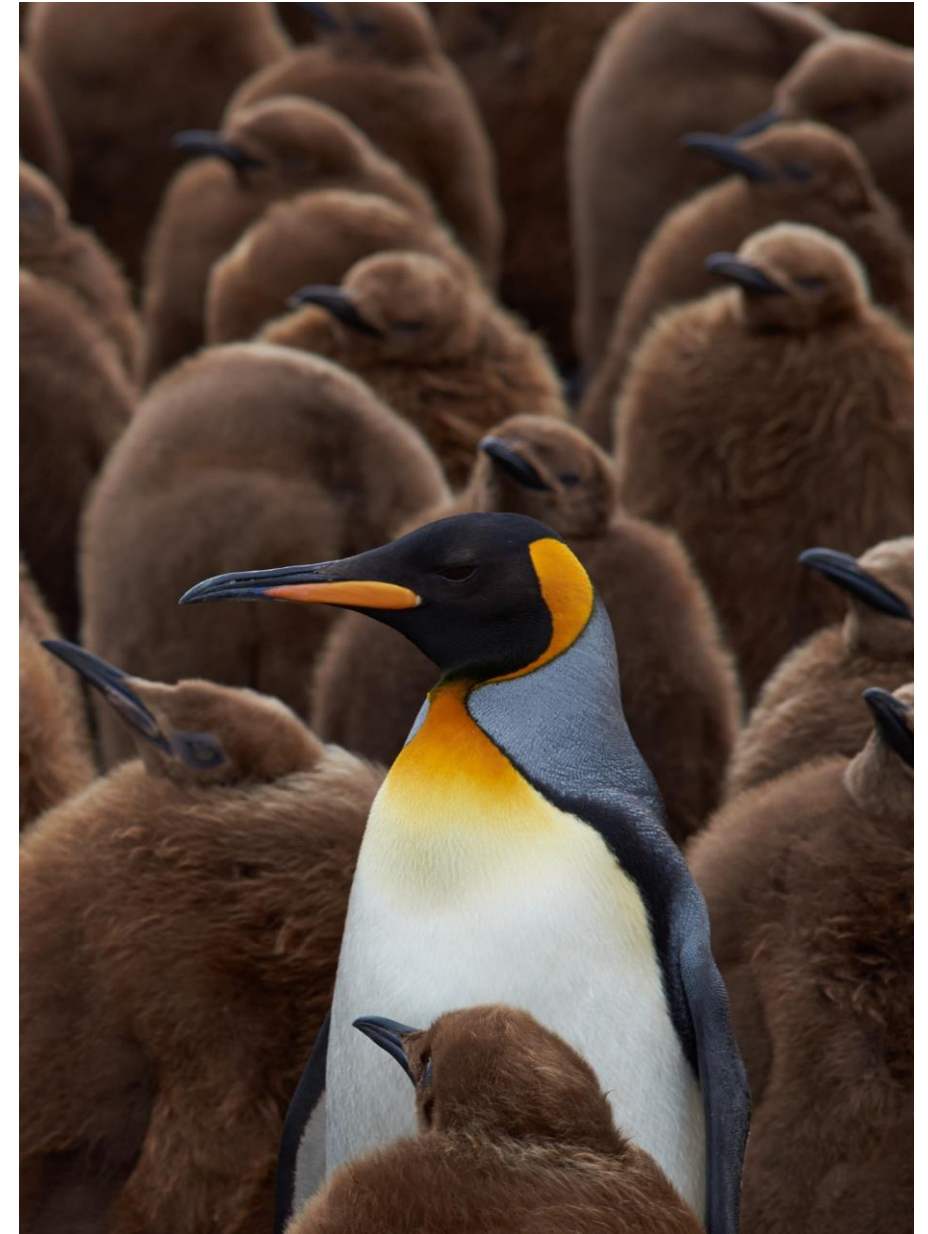
Key figures

- AUM of the top 100 asset owners totaled US\$ 25.7 trillion at end-2021; growing 9.4% from the previous year
- The top 20 assets owners made up 54.9% of total AUM in ranking in 2021 with US\$14.1 trillion
- The top 5 asset owners accounted for 24.0% of total AUM in our study with US\$6.2 trillion
- The Government Pension Investment Fund (GPIF) of Japan remains the largest asset owner in the world, with an AUM of US\$1.7 trillion
- Norges Bank Investment Management of Norway (AUM of US\$1.4 trillion) comes in second and China Investment Corporation (AUM of US\$1.2 trillion) in third

Figures to end 2021, unless otherwise stated. New sources of information were used for some countries in 2021.
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Key figures

- Asia-Pacific accounts for 36.1% of total AUM in the ranking, making it the largest region in this study
- The regions of North America and EMEA represent 33.5% and 30.3% of total AUM, respectively
- Pension funds manage 55.9%, Sovereign wealth funds handle 36.7%, and outsourced CIOs and master trusts are responsible for 7.4% of total AUM in the AO100
- Pension funds continue to dominate in North America and Asia-Pacific



Asset Owner 100

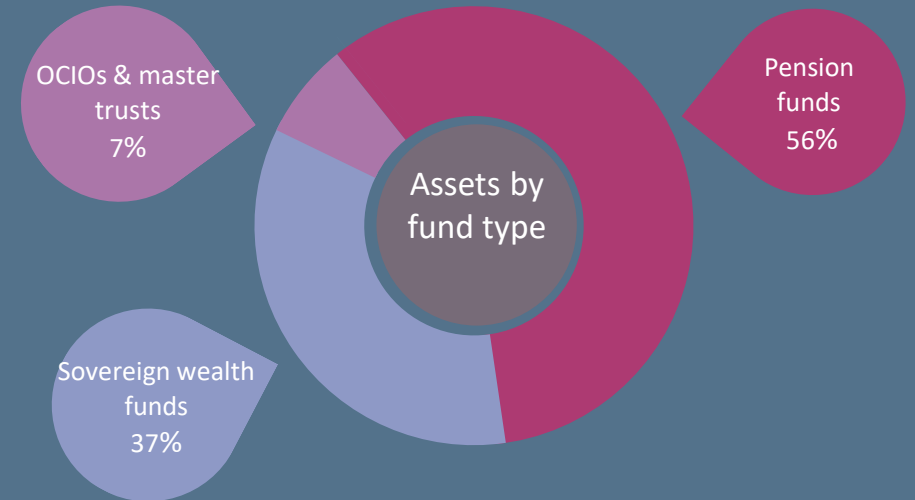
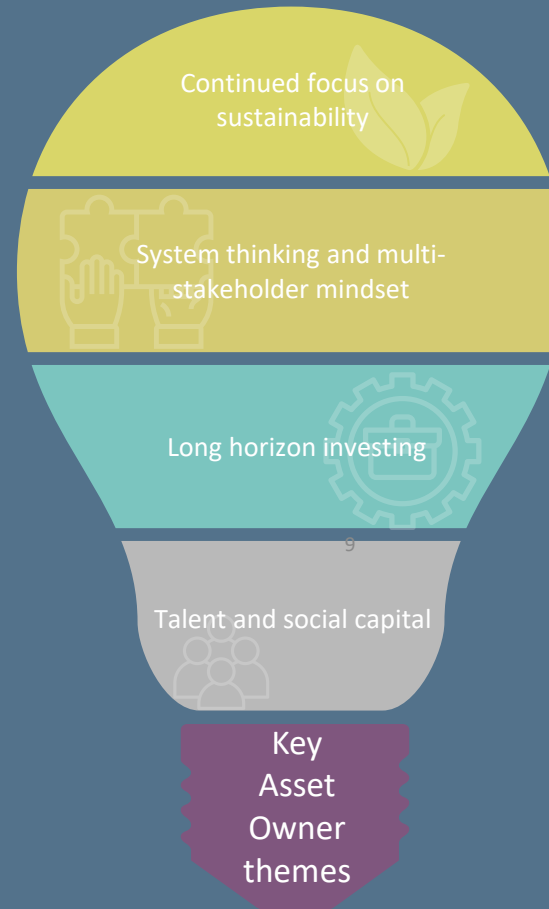
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Long horizon opportunity

AUM of the top 100 asset owners totaled US\$25.7 trillion at end-2021

Leading asset owners have the opportunity to step up, embracing a new position and commitment, to shape the future of our economies, societies and the environment

The long horizon mindset is a key feature and when present provides a key competitive edge



The top 20 asset owners made up 55% of total AUM



This small group of investors are right on the front line of the investment community's fight to become net zero

Key industry-wide observations (1)

The macro is complex and uncertain:

Uncertainty has been one of the dominant themes in the investment industry in 2022. Heightened geopolitical tension entangled with slower real economic growth and rising inflation. The likely regime change, geo-political and systemic risks compound in a VUCA-fest*. Asset owners may no longer expect a credible 3-5% real return and may have to address a period of relatively low returns.

Sustainability:

The world's top 100 asset owners have become more prominent in integrating ESG in pursuit of improved long-term sustainable returns. This approach will gather strength as regulations reinforce the reporting transparency and discipline that are critical for this type of investing to be genuinely effective. But fighting climate change can be just about managing climate risks. Some asset owners are stepping up and moving beyond the impact of these ESG risks on the portfolio to consider the impact of the portfolio and the assets on the world. This step forward comes from a new mind-set, model and measurement framework, consistent with the theory and principles of universal ownership. The model shift means employing the [3D investment model](#) in which risk, return and real-world impact are integrated.

* VUCA ~ volatile, uncertain, complex, ambiguous

The likely regime change, geo-political and systemic risks compound in a VUCA-fest*

Investing sustainably reflects asset owners justifying their license to operate and a step-up is necessary to fight climate change

Key industry-wide observations (2)

Stakeholders' increasing demand:

Multi-stakeholders increasingly frame asset owner direction of travel. The stakeholder ask of investment organisations grows in breadth and depth. Societal context has changed, stronger stakeholders have emerged, investor goals have multiplied and shifted. With a wider range of stakeholders involved, the management of stakeholders becomes a bigger priority.

The mandate transition bar-bells further:

Mandate transitions are evolving in the relatively low-return world with continued growth in private assets and public asset indexes, as well as private debt and infrastructure. It is also becoming more common that indexation adopts active management tilts.

Long horizon investing is maturing:

Sustainability factors are major new influences on the trend of long horizon investing with governance and culture being the critical forces. We delve deeper into this topic in the Focus Section.

Stakeholder management has become a much bigger task to address

Long horizon mindset can provide a key competitive edge

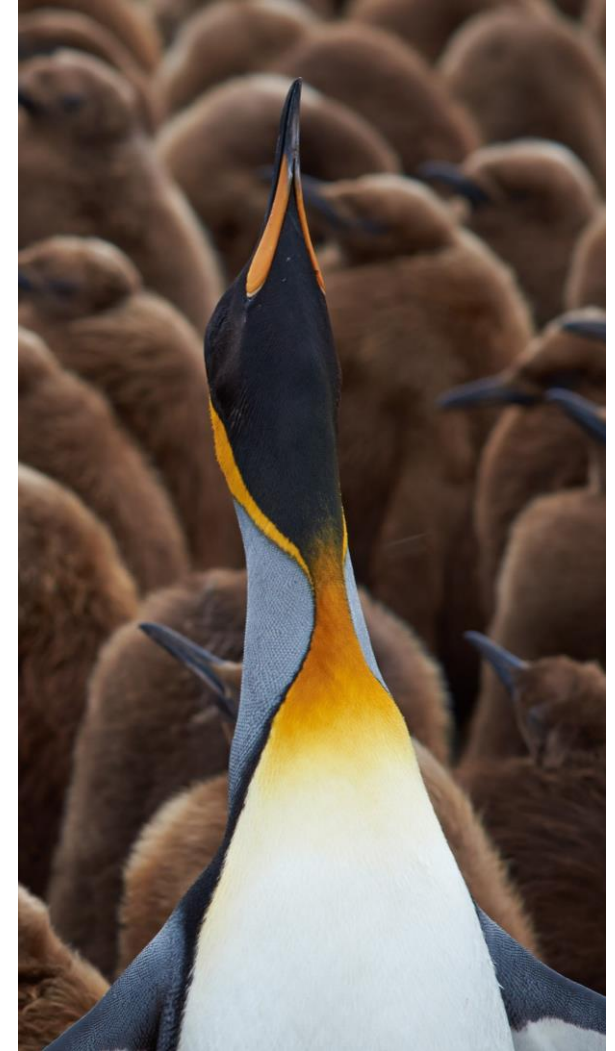
Key asset owner challenges (1)



- **Joined-upness:** Alignment of beliefs and vision within an organisation as well as with external stakeholders could be improved. Communications are layered to meet stakeholder needs, but joined-upness is difficult.
- **Governance and fiduciary:** Most asset owners are weighed down by governance burdens and fiduciary concerns that reduce their sustainability ambitions.
- **Systemic risk:** Systemic risks in the future are increasingly from climate, environmental and social sources. Pricing these risks is near impossible (high uncertainty/low tractability), but it is likely to be orders of magnitude bigger than prior versions. There is a potential for a global 'polycrisis' where systemic risks combine and synchronise with consequences for risk amplification and acceleration.
- **Social capital:** Social capital is an investment into future productivity and is central to good outcomes. Current hybrid working arrangements appear to have resulted in weakened culture and declined social capital. More distant networks have shrunk with associated costs to innovation and creativity and trust.

Key asset owner challenges (2)

- **Technology:** Technology is extending its reach/power in the investment industry, with data analytics, dashboarding and data-judgement interfaces all evolving. But concerns around data and cyber security are also on the rise.
- **Talent:** While talent is everywhere it is unnecessarily scarce. The aggregate shortages of and costs of global talent are sky-rocketing while the costs of it showing up anywhere in the world have just sky-plummeted. In addition, meeting the increased demand from sustainable investing requires people with T-shaped skills.
- **Defined benefit (DB) schemes:** The most recent liquidity crisis associated with the liability-driven investment (LDI) funds in the U.K. DB market probably has shaken the confidence of asset owners in other countries. The disruption has raised questions over the future of DB, with funds maturing and frozen plans.



Key asset owner challenges (3)

Long horizon investing – the future (future coverage in section 11)

With the macro being complex and uncertain, long horizon investing principles provide a crucial set of guardrails

Uncertainty has been one of the dominant themes in the investment industry in 2022 from heightened geopolitical risk and increased volatility, requiring investors to work within a more disciplined framework

With sustainability being a bigger part of the investing model, the time horizons should naturally be extended to deal with this

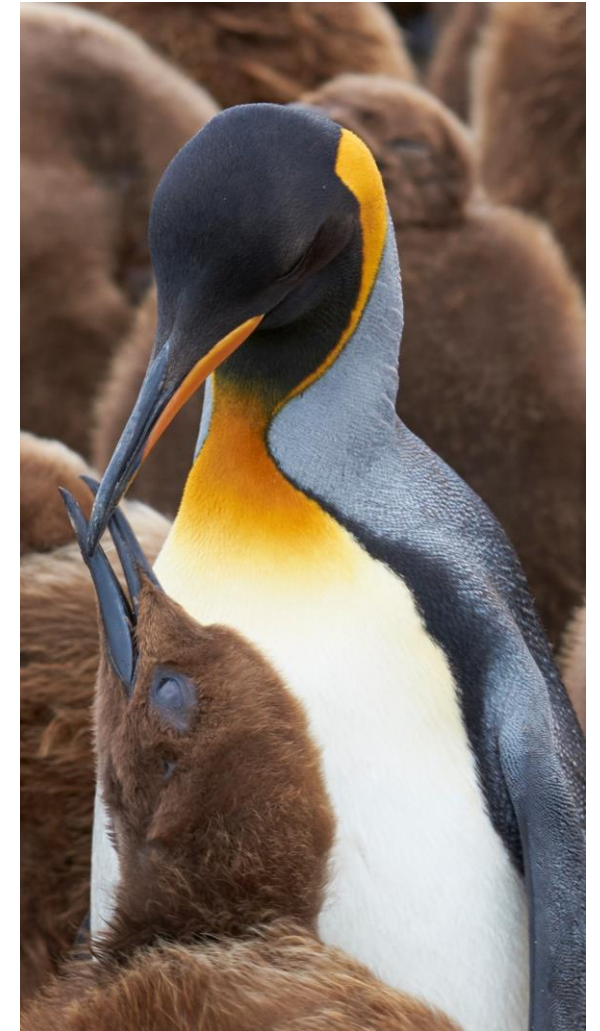
Sustainability issues often play out over periods spanning several market cycles

With systemic risks being a bigger part of long-term risk, the development of integrated models that makes allowance for the differentiated features of systemic risk becomes critical

Investment models have to date been designed around a risk framework that is normally shaped and linear. It does not line up with systemic risks that are different in being pervasive, inter-connected, and non-linear, and not capable of being hedged but may be subject to mitigation

With more recognition of the human and governance factors limiting long horizon effectiveness, quantitatively-driven methods, including AI, will have a growing future

Most successful models involve a combination of human and technological intelligence



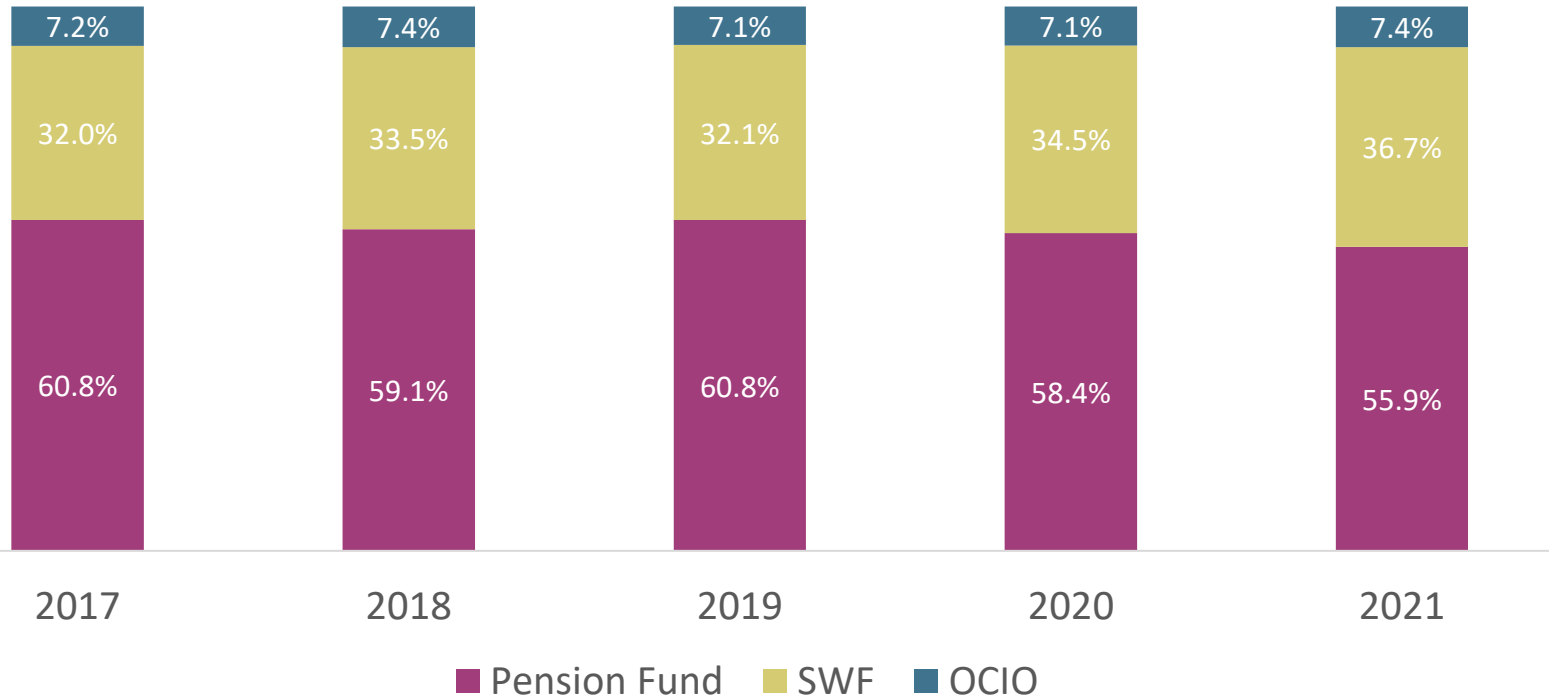
Section 1 | Total value of assets



Evolution by fund type

Total value of assets

Distribution of total AUM

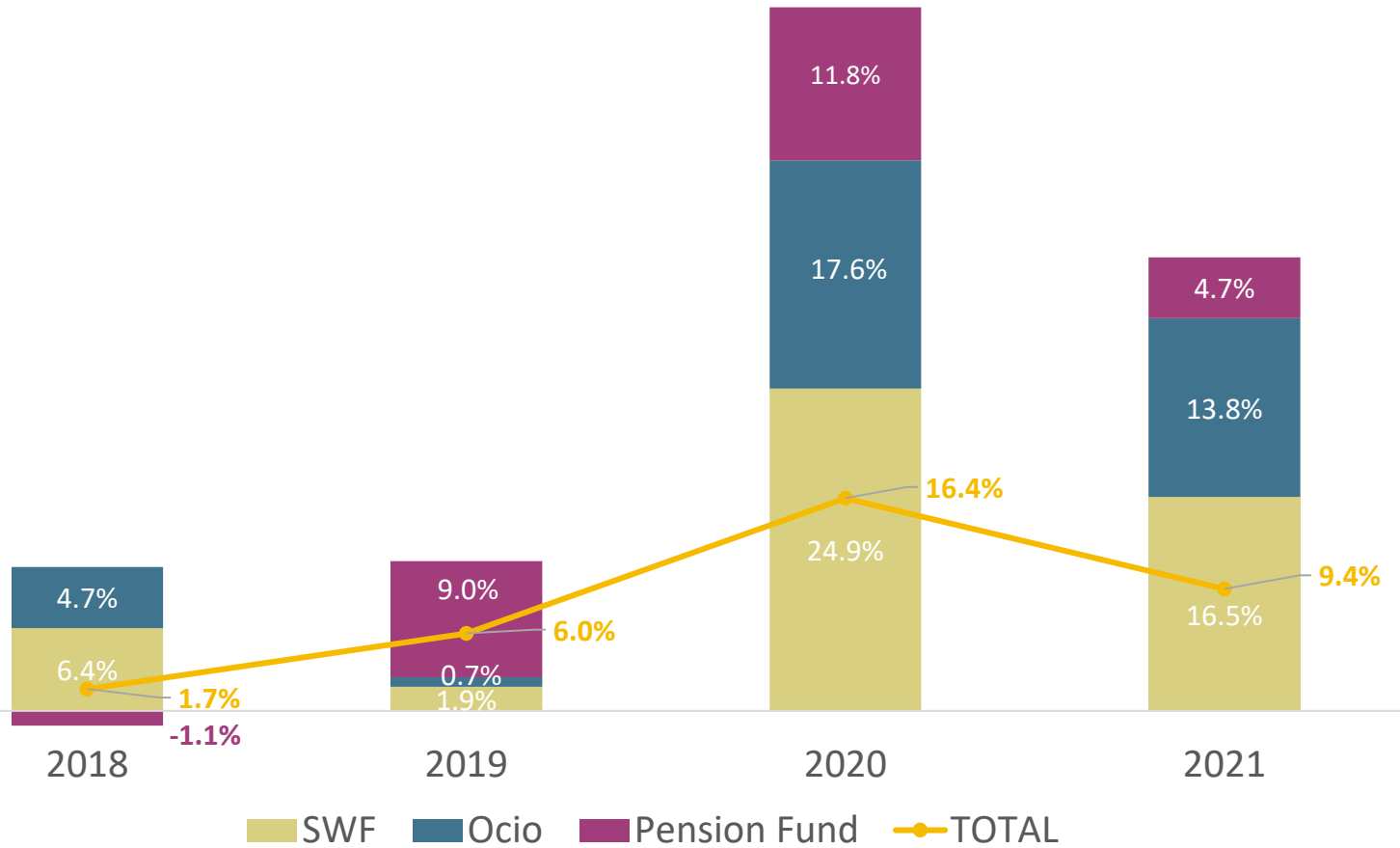


Pension funds dominate the AO100 and manage 55.9% of total AUM (US\$ 14.3 trillion)

Sovereign Wealth Funds follow with 36.7% of total AUM (US\$ 9.4 trillion)

Over the last 5-year period we can observe a trend of slow decrease in the proportion of pension funds' assets and slight increase in the SWF funds' assets in AO 100

Annual growth by fund type



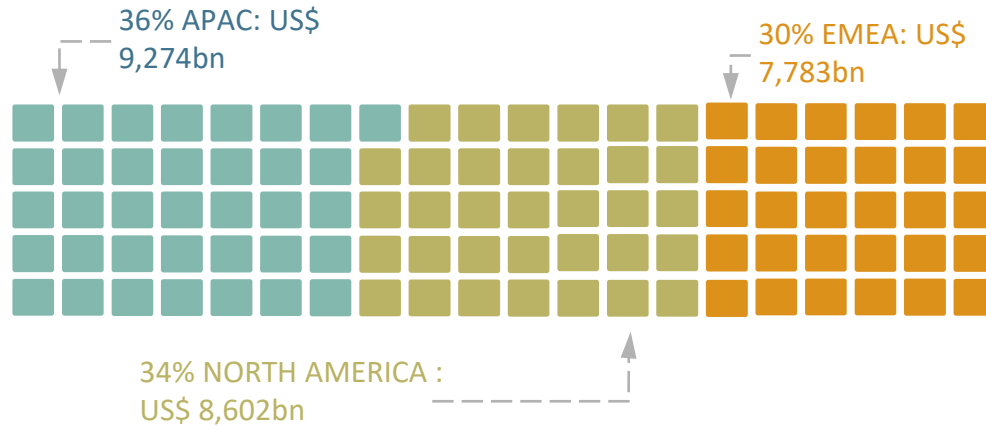
AUM's growth slowed down for all types of funds in 2021

Sovereign wealth funds experienced the strongest growth with 16.5% y/y

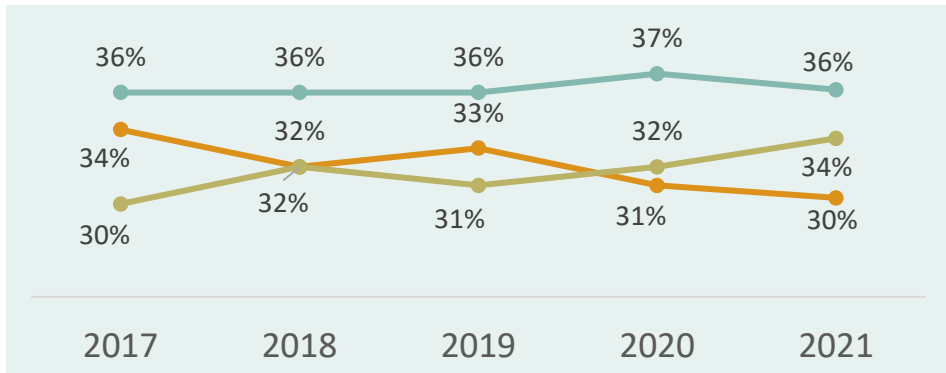
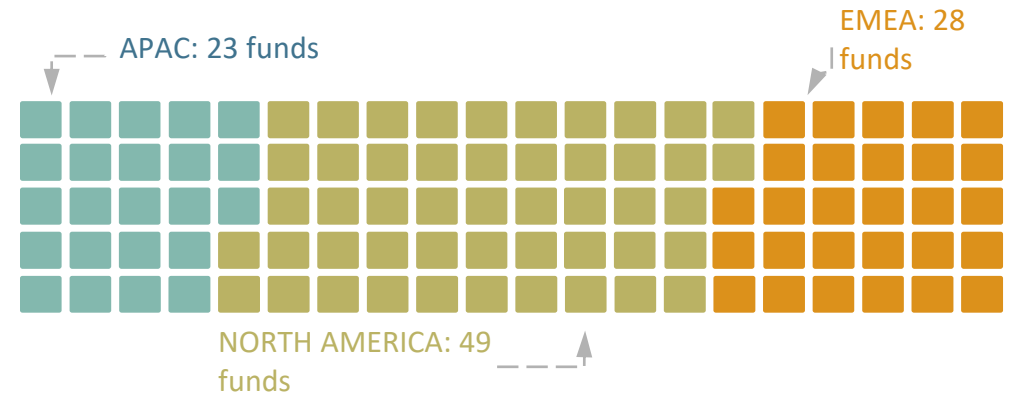
Changes in AUM are caused by a combination of organic growth and sample composition

Evolution by region

Distribution by assets



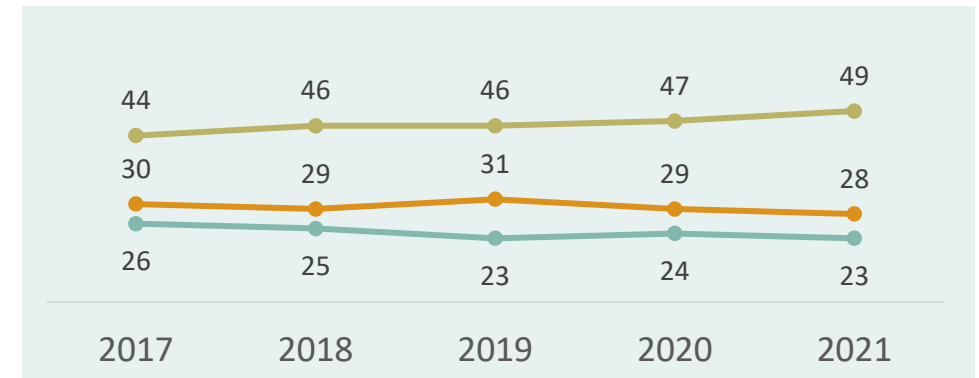
Distribution by number of funds



APAC

EMEA

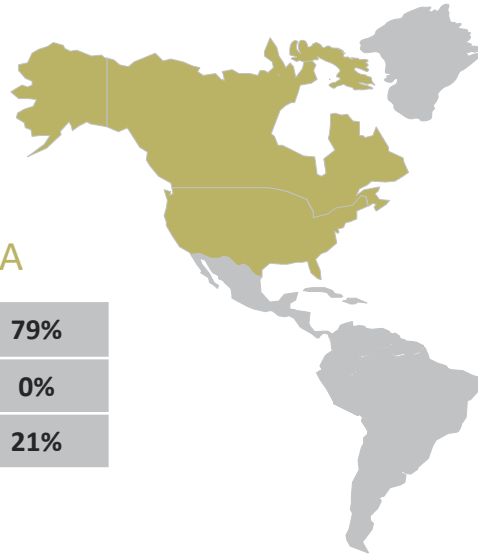
North America



Split by fund type and region

NORTH AMERICA

Pension funds	79%
SWF	0%
OCIO	21%



EMEA

Pension funds	34%
SWF	66%
OCIO	0%



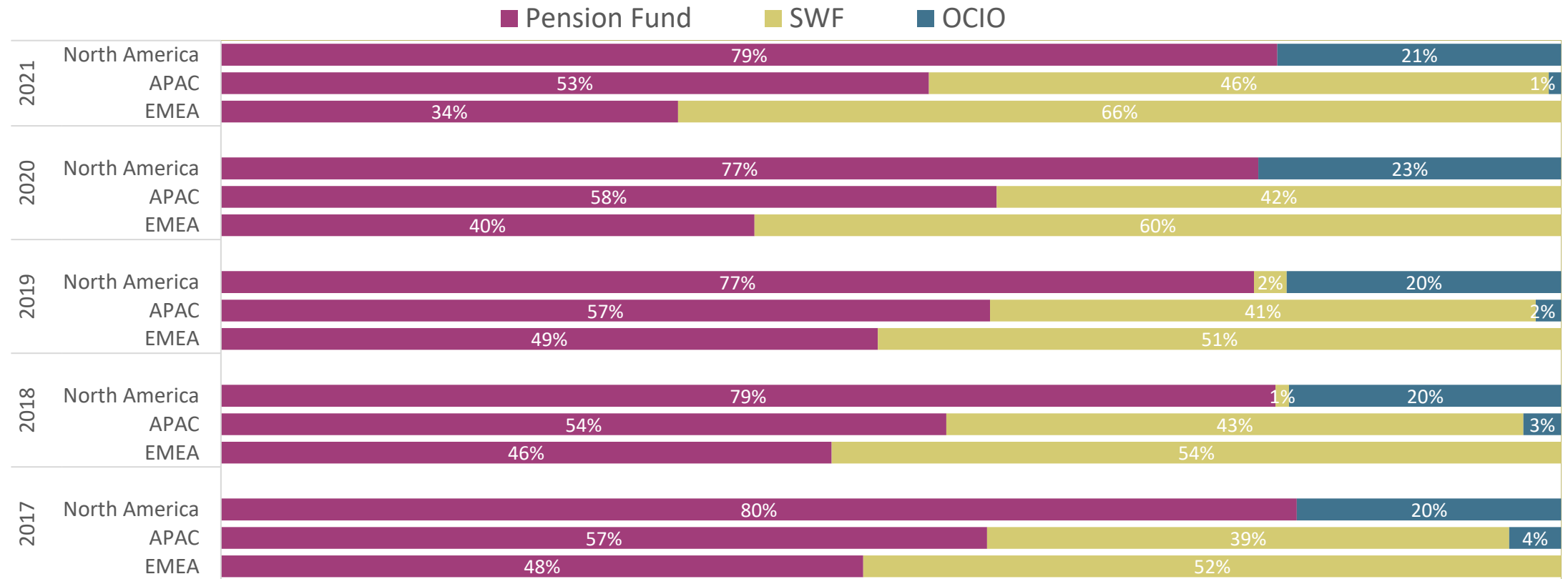
APAC

Pension funds	53%
SWF	46%
OCIO	1%

- Pension funds dominated in North America where they represent 79% of assets. Pension funds also dominated in APAC although to a smaller extent with 53%.
- Sovereign Wealth funds accounted for a significant share of the assets in the EMEA region (66%), in particular due to the Middle East sovereign funds.

Note: OCIO and Master trust assets are shown in the region of their corporate headquarters. We note that all OCIOs and Master Trusts have clients globally.

Evolution of split by fund type and region

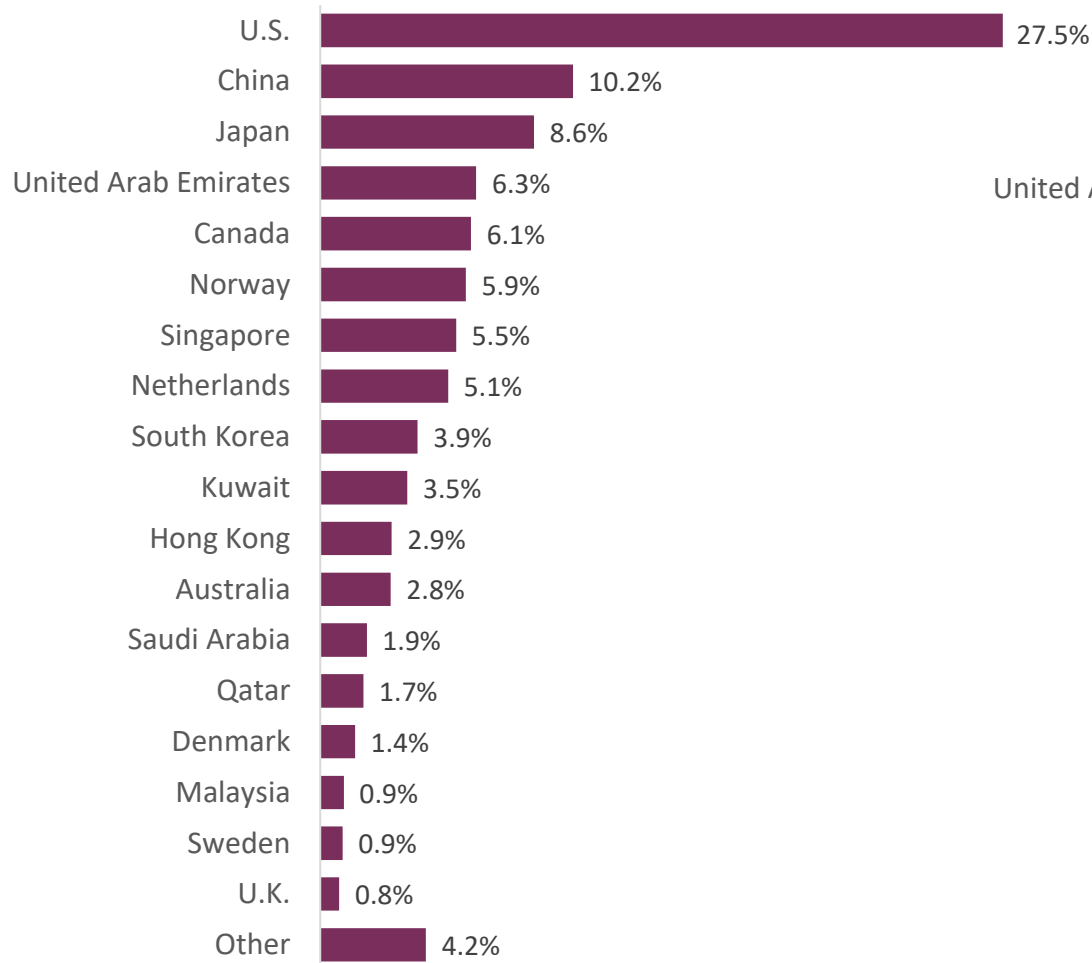


- Pension Funds continue to dominate in North America with 79% on average for the period, followed by APAC with 53% on average.
- OCIO and Master trust have more presence in North America with 21% on average for the period.

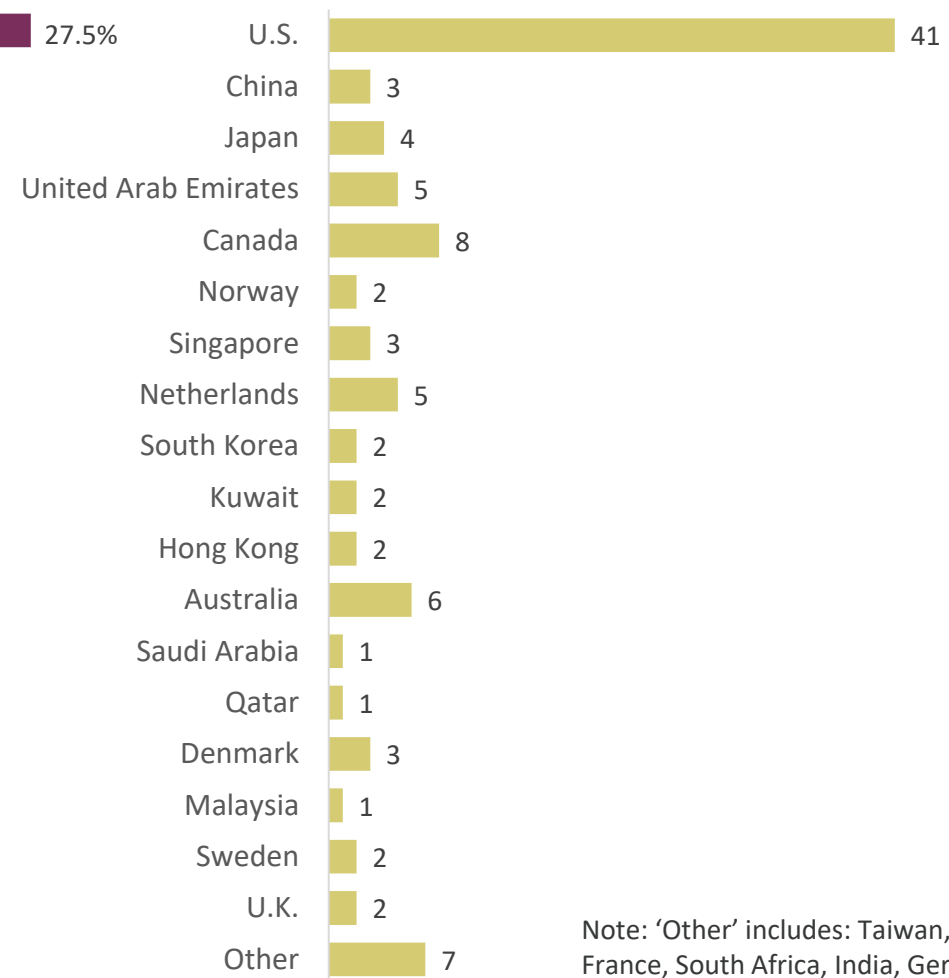
Note: OCIO and Master trust assets are shown in the region of their corporate headquarters. We note that all OCIOs and Master Trusts have clients globally.

Split by fund domicile

Share of top 100 discretionary assets



Number of funds per country



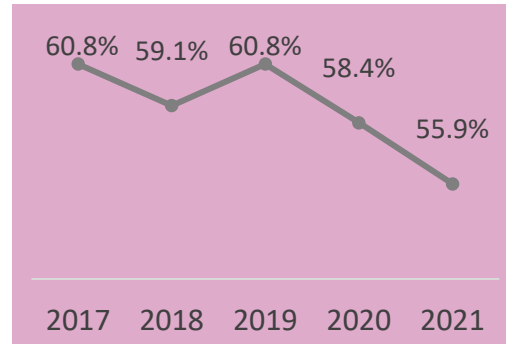
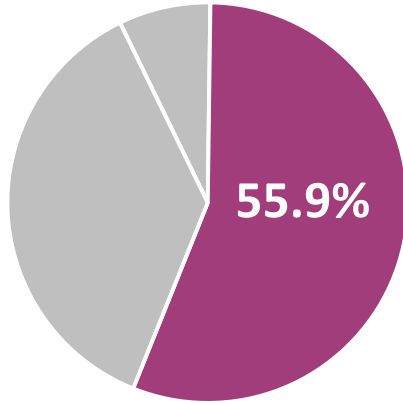
Note: 'Other' includes: Taiwan, Russia, France, South Africa, India, Germany and Iran

Section 2 | Pension funds

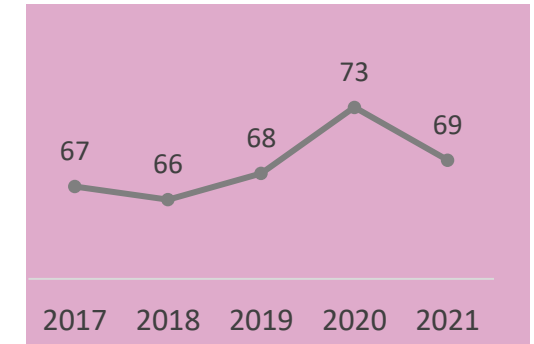
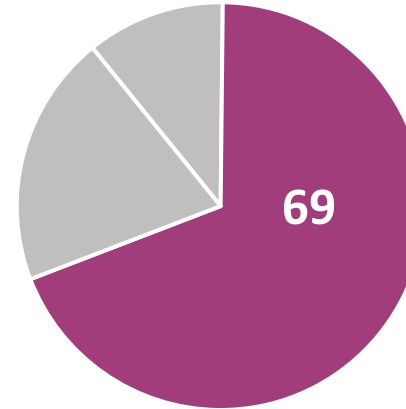


Pension funds

Percentage of assets

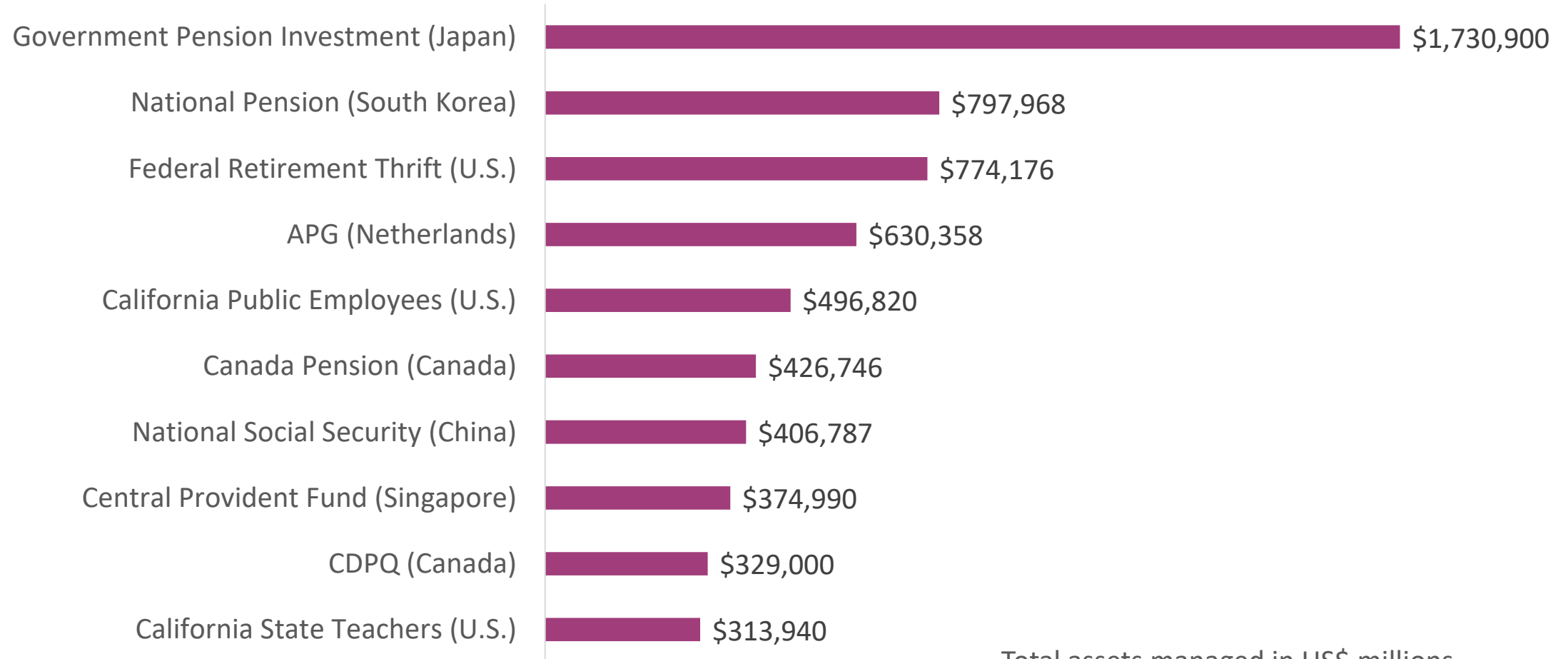


Number of funds



- Pension Funds represent 55.9% of the ranking's assets and 69 of the number of funds.
- Of the top 20 funds, 10 are Pension Funds.
- The average assets of Pension Funds account for US\$208 billion, below the average of US\$257 billion for all funds.
- Pension funds' share of assets decreased since 2017, when they represented 60.8%, even though the number of funds increased by 2 funds in the AO 100.

Top 10 pension funds



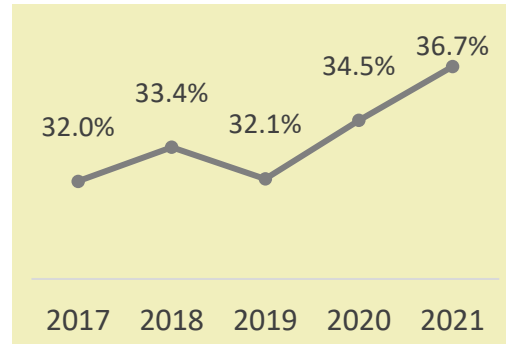
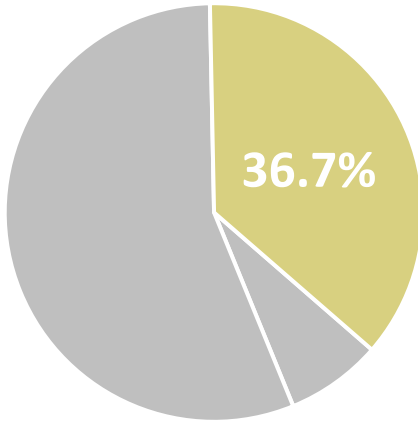
Total assets managed in US\$ millions

Section 3 | Sovereign wealth funds

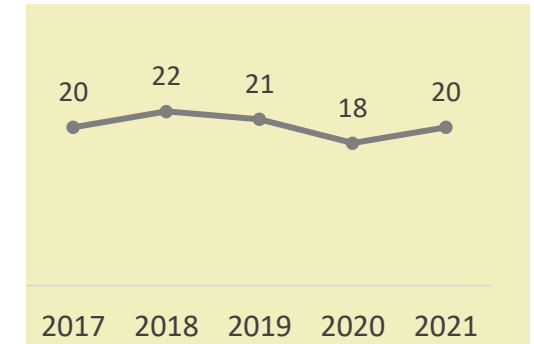
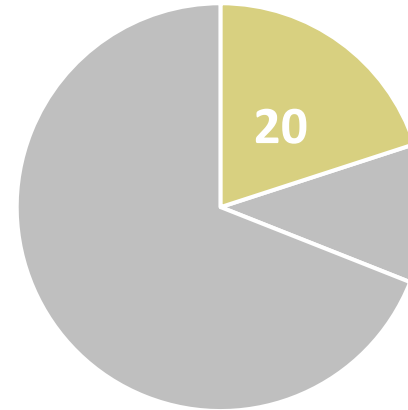


Sovereign wealth funds

Percentage of assets

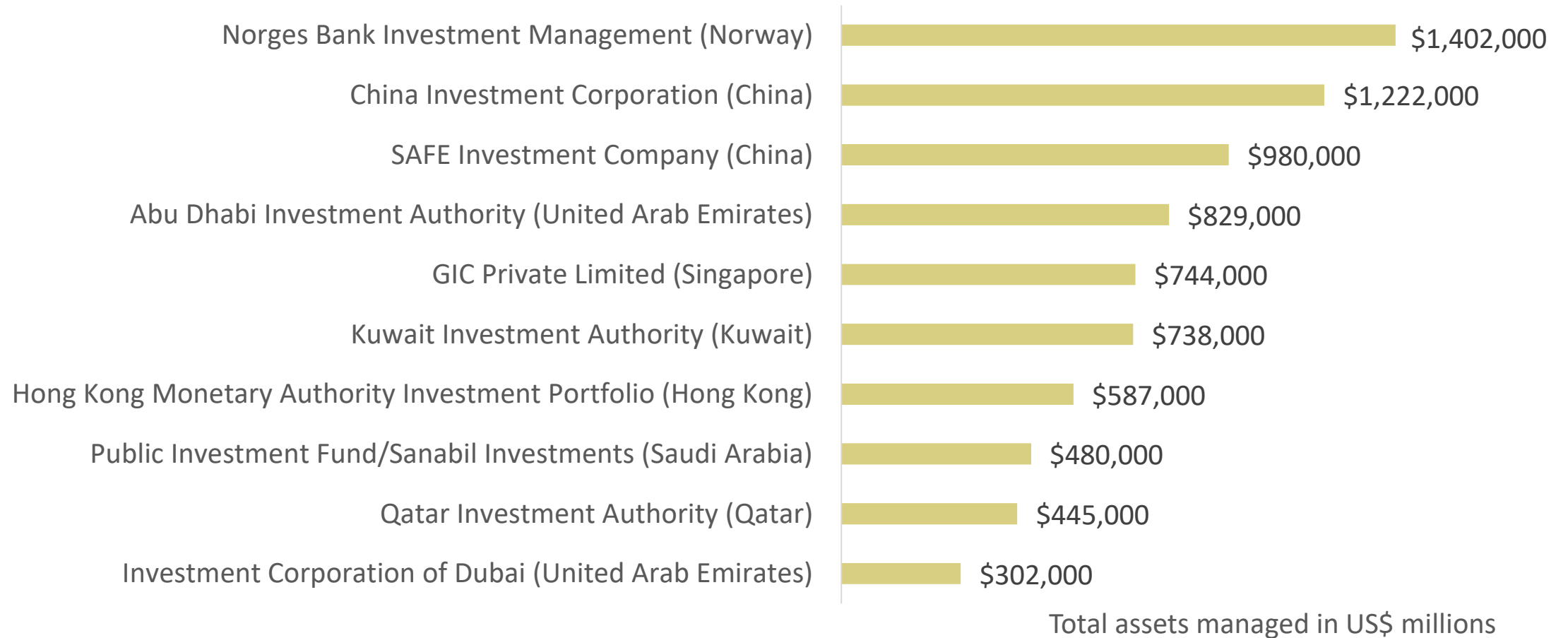


Number of funds



- Sovereign Wealth Funds (SWFs) represent 36.7% of the ranking's assets and 20 of the number of funds.
- Of the top 20 funds, 9 funds are SWFs.
- The average assets of SWFs account for US\$471 billion, above the average of US\$257 billion for all funds.
- SWF's share of assets has increased compared to 2017, while the number of funds ranked has remain stable throughout time.

Top 10 sovereign wealth funds

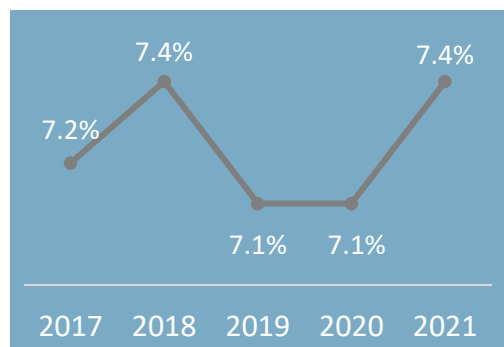
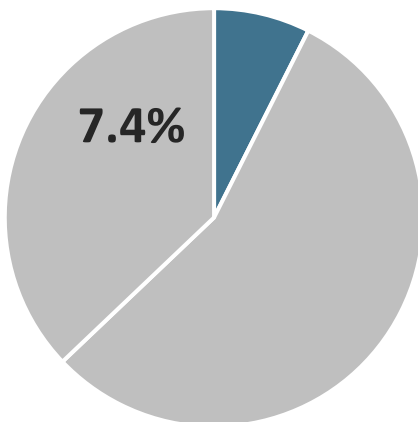


Section 4 | OCIO

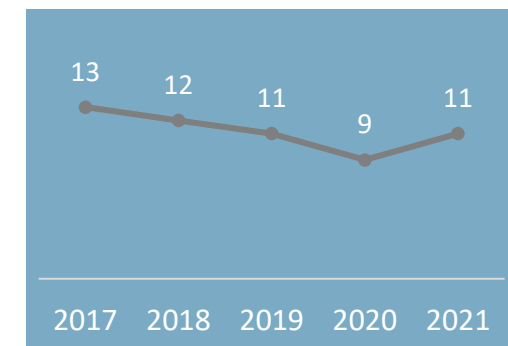
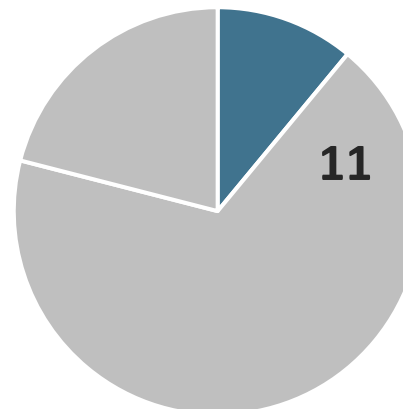


OCIOs and master trusts

Percentage of assets

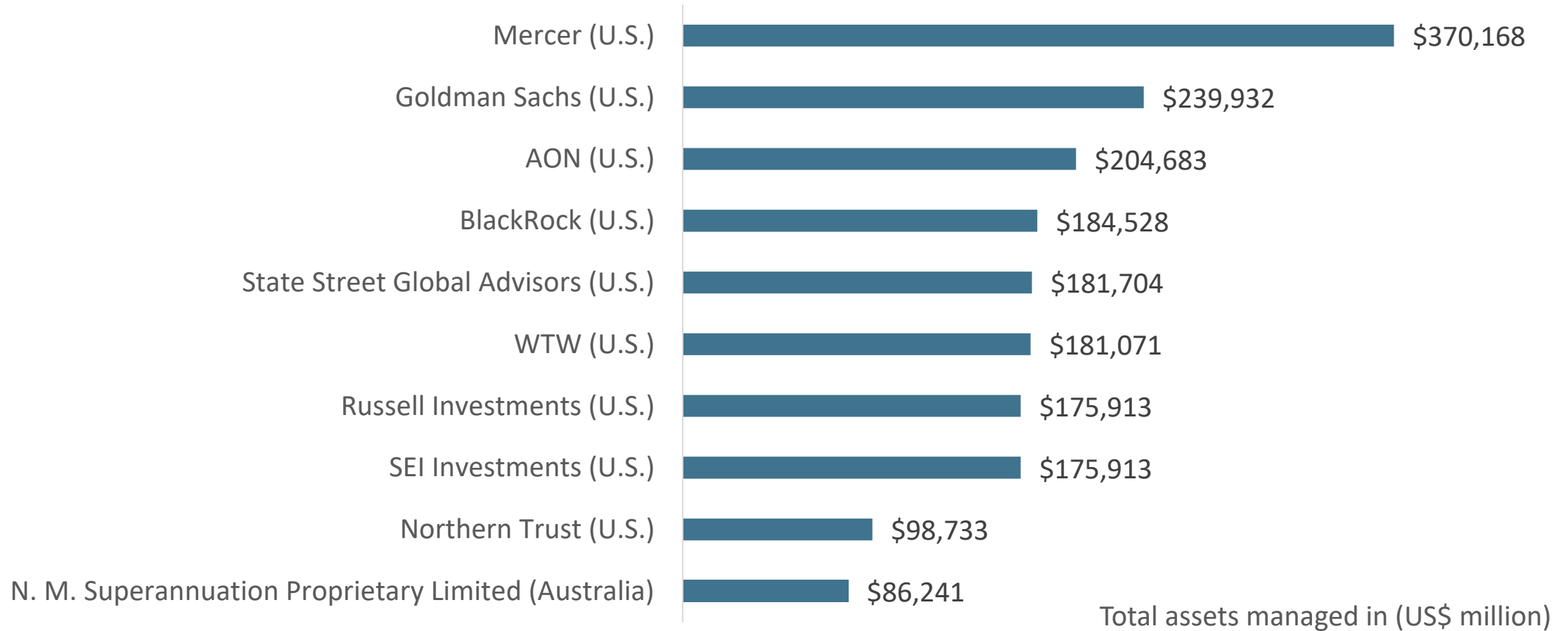


Number of funds



- There are 11 OCIOs and master trust funds in the ranking and they represent 7.4% of the ranking's total assets.
- Mercer is the only OCIO and master trust in the top 20.
- The average assets of OCIOs and master trusts accounted for US\$173 billion which is below the average of US\$257 billion for all funds.
- This year OCIOs and master trusts' assets are a slightly higher proportion of total assets compared to 2017 even though the number of funds ranked has decreased by 2 funds in the AO 100.

Top 10 OCIOs and master trusts

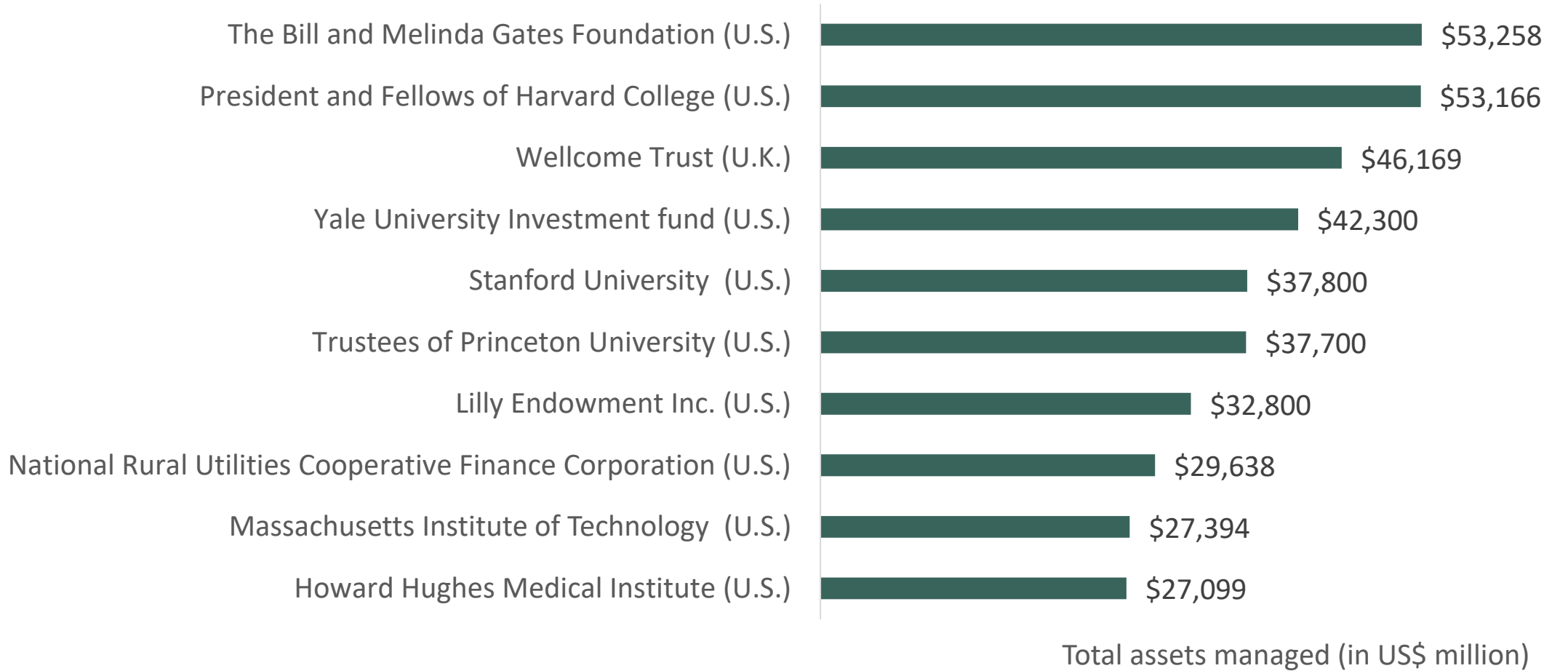


Note: OCIO and Master trust assets are shown in the region of their corporate headquarters. We note that all OCIOs and Master Trusts have clients globally.

Section 5 | Foundations & Endowments



Foundations and endowments



Note: None of the Foundations and Endowments listed above are large enough to enter the top 100 asset owners.

Section 6 | Insurers



Top 10 insurance companies



Note: Total assets presented for insurance companies include assets managed by third parties, so are not included in the top 100 ranking

Section 7 | SIP



What are State Investment Platforms (SIP)?

- State Investment Platforms are institutional investors which are entrusted with managing and investing a pool of capital from various depositors or funds; and are usually based in one country.
- These despositors/funds can range from pension funds, insurance plans, sovereign wealth funds, endowment funds and other organisations. SIP governance structures are impacted by each depositor's investment policies.
- State Investment Platforms should not be considered as a mutually exclusive category like the ones examined in above sections of this report, but as an additional layer to understand the nature of some funds.
- The considerable size of AUMs of these platforms is why they warrant special consideration in our report.

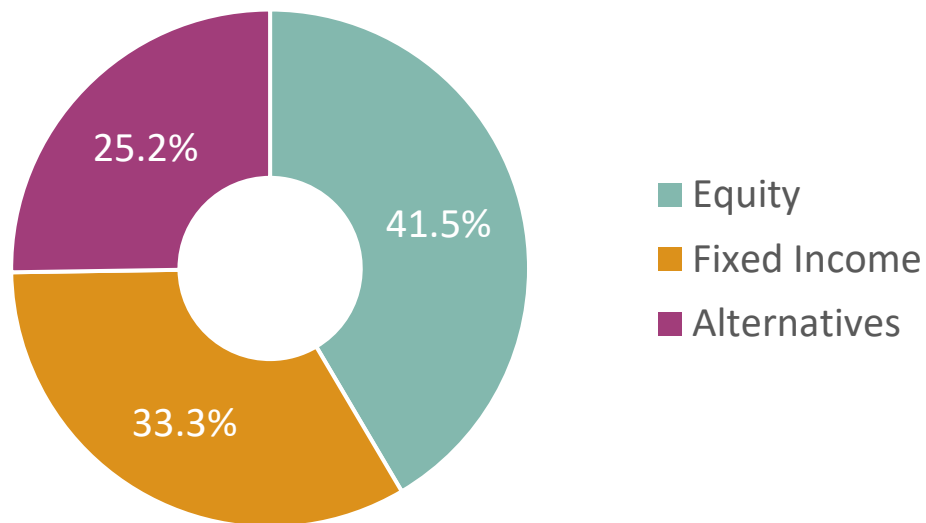
Top 10 State Investment Platforms

Ranking	Manager	Country	Total AUM million, US\$	Type of fund	Region
9	Kuwait Investment Authority	Kuwait	738,000	SWF	EMEA
10	APG	Netherlands	630,358	Pension Fund	EMEA
19	CDPQ	Canada	329,000	Pension Fund	North America
21	PGGM	Netherlands	304,000	Pension Fund	EMEA
25	New York State Common	U.S.	267,756	Pension Fund	North America
33	BLF	Taiwan	202,000	Pension Fund	APAC
35	MN Services N.V.	Netherlands	192,000	Pension Fund	EMEA
37	Future Fund Management Agency	Australia	185,000	SWF	APAC
45	Public Service Pension Investment Board	Canada	162,000	Pension Fund	North America
48	British Columbia Investment	Canada	158,000	Pension Fund	North America

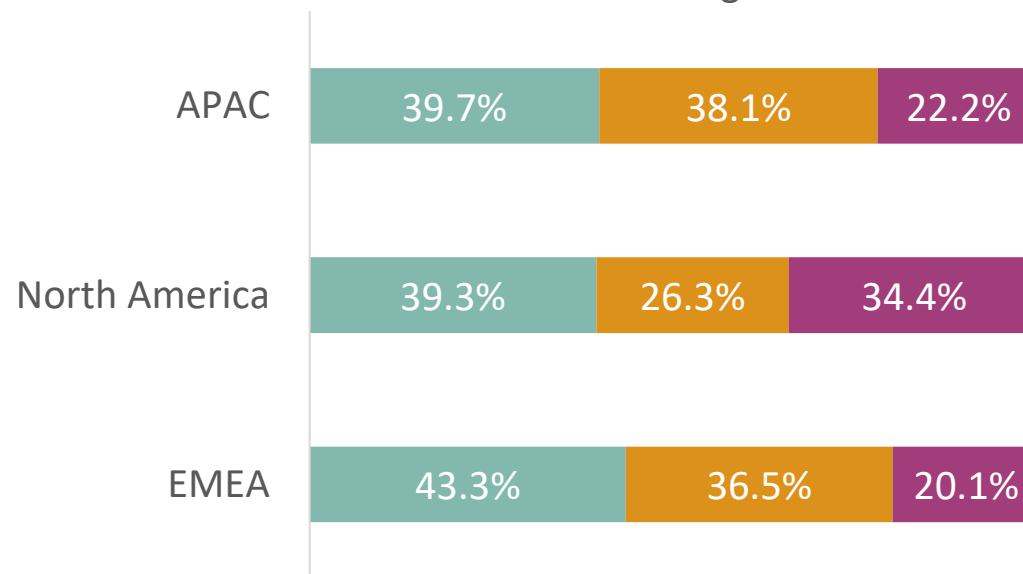
- We have identified 17 State Investment Platforms in the AO100 (based on the criteria on our previous slide), representing total AUM of US\$ 4.0 trillion.
- There is usually one fund which forms the majority of AUM in any SIP. This majority fund is used to categorize a SIP, for example, PGGM from Netherlands is an SIP and the majority of AUM are from PFZW, which is a pension fund. So PGGM is also categorized as a pension fund and a SIP.

Split by asset allocation and fund domicile

Split by asset allocation*



Asset allocation between regions*



*Weighted average

- The average portfolio for SIP shows the highest proportion of assets were invested in equities, followed by fixed income securities and lastly, alternative assets.
- North American SIP assets are invested in equity assets (39.3%), followed by alternatives (34.4%).
- EMEA SIP have invested a majority share in equities (43.3%), with 36.5% invested in fixed income and 20.1% invested in alternative assets.
- Asia-Pacific funds have allocated assets mainly in equities (39.7%) and fixed income (38.1%).

Note: Fixed income includes debt and cash; Alternatives include: private equity, real estate, hedge funds and other.

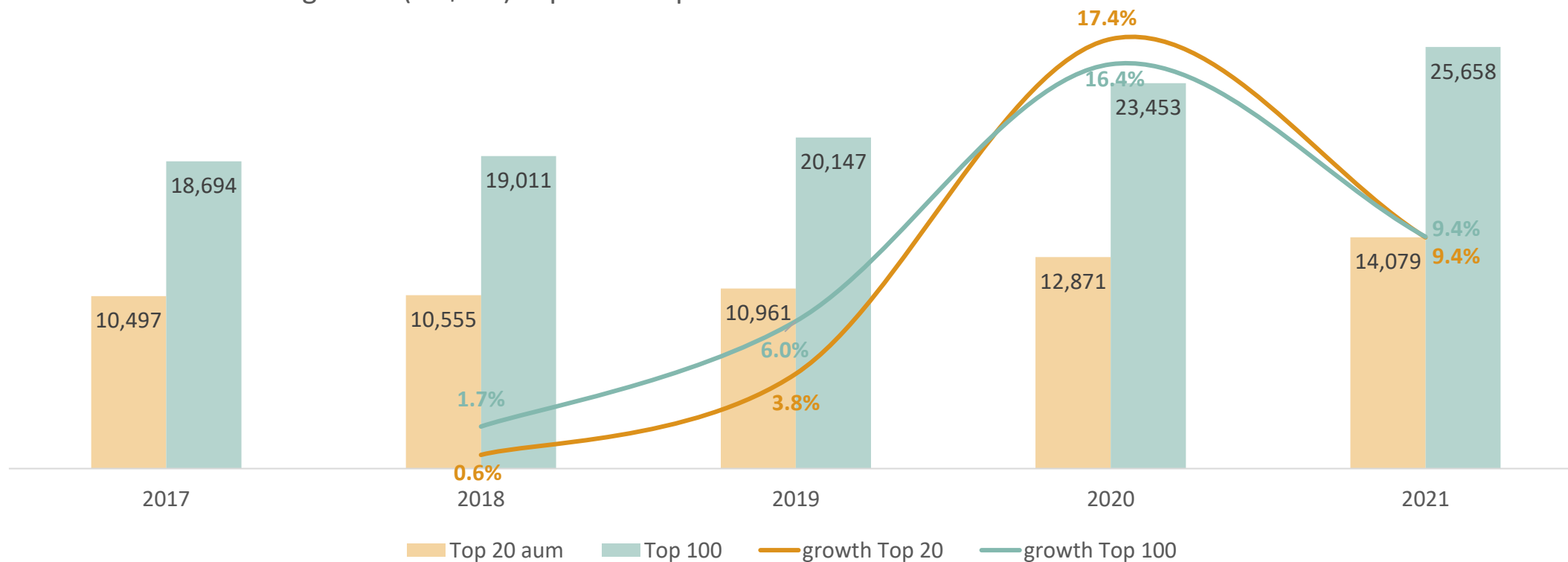
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Section 8 | Top 20 Asset Owners



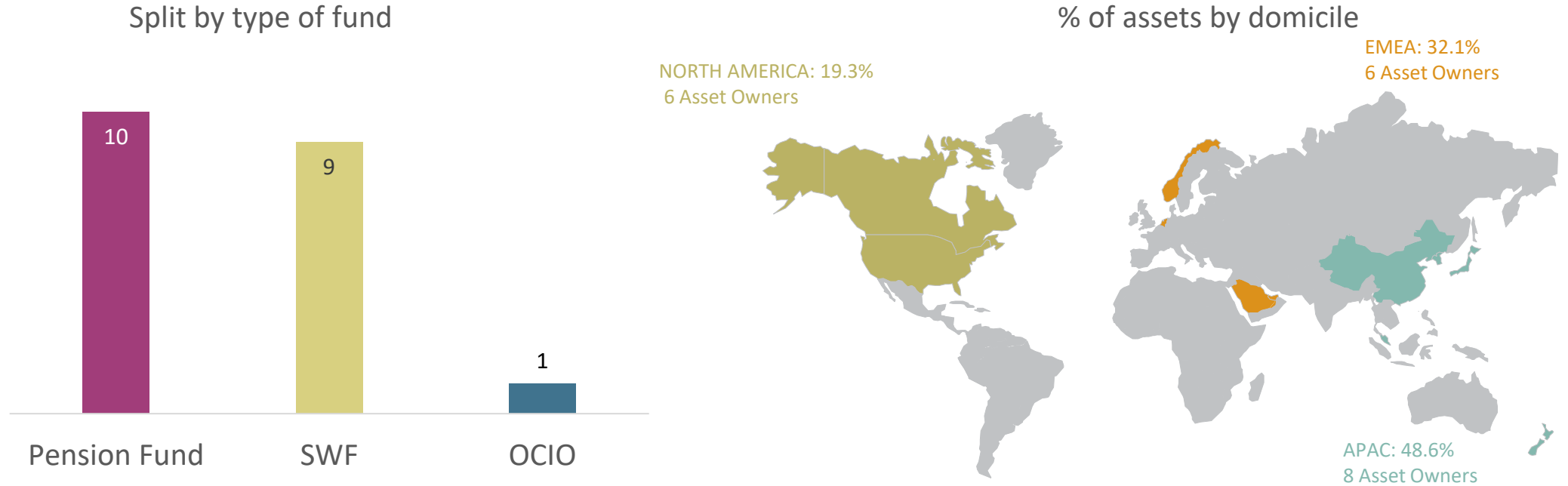
Top 20 fund assets

Value of assets and asset growth (US\$ bn) Top 20 vs Top 100



- The top 20 funds AUM totals US\$14.1 trillion and represent 54.9% of the total AUM in the AO100.
- In fact, the top 5 funds have an AUM of US\$6.2 trillion, which makes up 24% of the total AUM in the ranking.
- The 4-year CAGR of the top 20 was 7.6% versus 8.2% of the top 100.

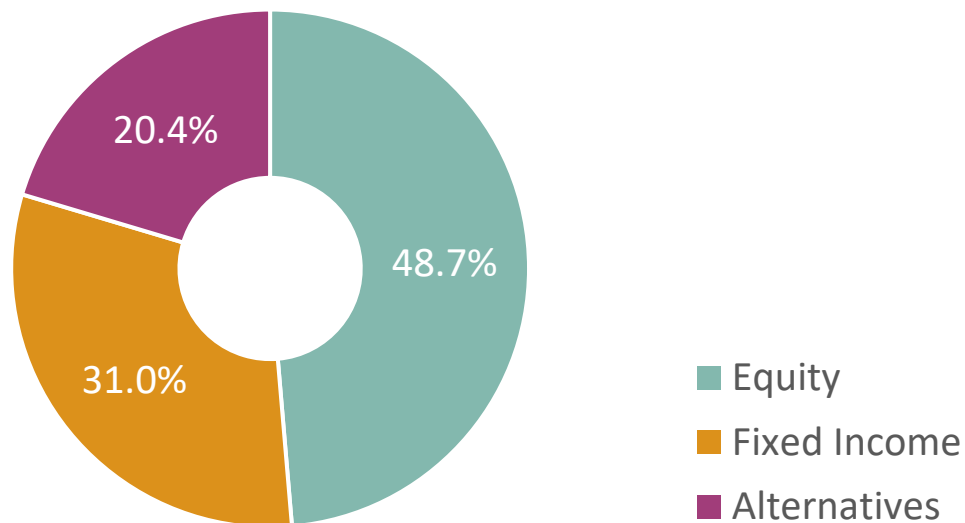
Top 20 split by type of fund and domicile



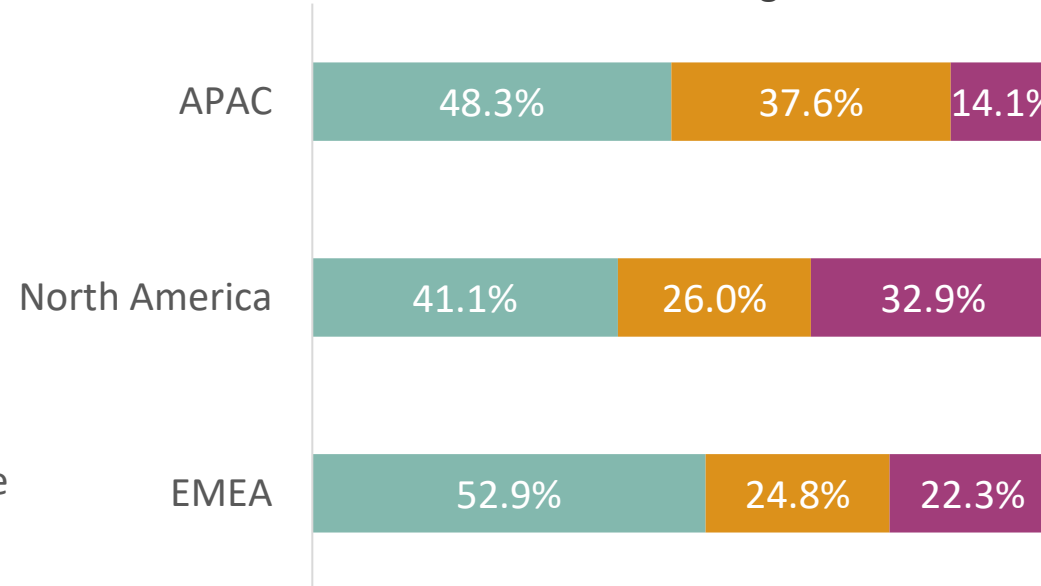
- Of the top 20 funds, 9 are sovereign wealth funds (52.8% of AUM in top 20), 10 are pension funds (44.6% of top 20 AUM) and 1 is an OCIO (2.6% of top 20 AUM).
- There are 6 asset owners from North America and EMEA and 8 asset owners from APAC in the top 20.

Top 20 split by asset allocation and fund domicile

Split by asset allocation*



Asset allocation between regions*



*Weighted average

- The average portfolio for the top 20 funds shows the highest proportion of assets were invested in equities, followed by fixed income securities and lastly, alternative assets.
- Asia-Pacific funds have 48.3% of assets allocated in equities, followed by fixed income (37.6%).
- North American funds have predominantly invested in equities (41.1%), followed by alternatives (32.9%)
- EMEA funds have invested a majority share in equities (52.9%), followed by a similar allocation to fixed income and alternative assets.

Note: Fixed income includes debt and cash; Alternatives include: private equity, real estate, hedge funds and other.

Section 9 | Universal Owners



What is a universal owner?

Universal owners are large long-term holders of index-like portfolios that are exposed to the entire market and economy

Universal owners also own a significant slice of corporate externalities which risk being internalized to their funds' net cost, now or in the future

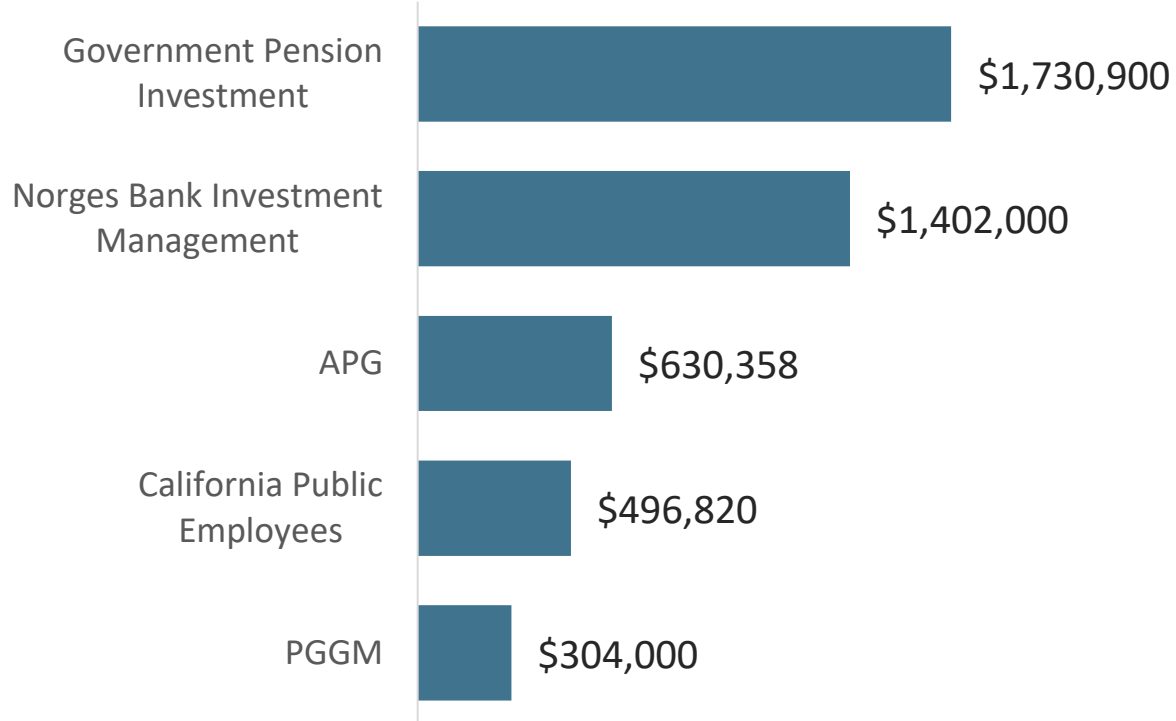
Universal owners are leadership-minded to grow the value and utility of their sponsor/member wealth by managing their long-term risk exposures inter-dependencies across the portfolio, across the stakeholders and over time

Universal owners and sustainability strategies:

- Universal owners have distinctive investment strategies regarding sustainability that aim to achieve real-world impacts on the environmental/societal system and drive better outcomes for beneficiaries (or not suffering worse outcomes)
- The activities adopted by universal investors in these strategies are both allocating to specific assets (security selection and asset allocation) and active ownership practices – voting and engagement
- The engagement here is often concerned with system-level factors to contribute to safeguarding the financial system and contributing positively to wider stakeholders
- Universal owner strategies play a key part in Paris alignment and COP26 strategies, consistent with net zero emissions by 2050
- Relatively few asset owners in this study have held claim to being universal owners (eg GPIF from Japan, NBIM from Norway, CalPERS from U.S.), while others appear to have a universal mindset

Universal owners

Top 5 Universal Owners (in US\$ million)



“ The core idea of a universal owner is a large institution investing long-term in widely diversified holdings across multiple industries and asset classes, and adapting its investment strategy to these circumstances. For universal owners, overall economic performance will influence the future value of their portfolios more than the performance of individual companies or sectors. This suggests that universal owners will support the goals of sustainable growth and well-functioning financial markets. A universal owner will also view these goals holistically and seek ways to reduce the company level externalities that produce economy-wide efficiency losses.”

Definition of universal owners comes from : Urwin, Pension Funds as Universal Owners; Opportunity Beckons and Leadership Calls | Rotman International Pensions Management Journal | Spring 2011.

Relatively few asset owners in this study have held claim to being universal owners

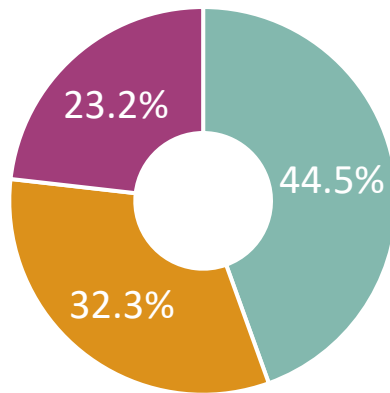
Section 10 | Asset Allocation

AO 100



Split by Asset Allocation

Weighted Average

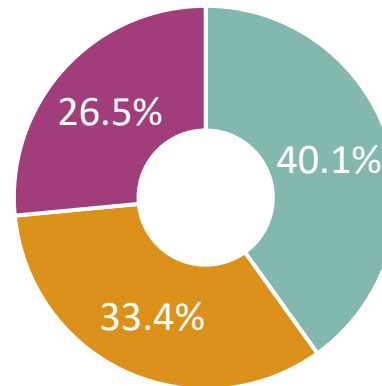


■ Equity

■ Fixed Income

■ Alternatives

Simple Average

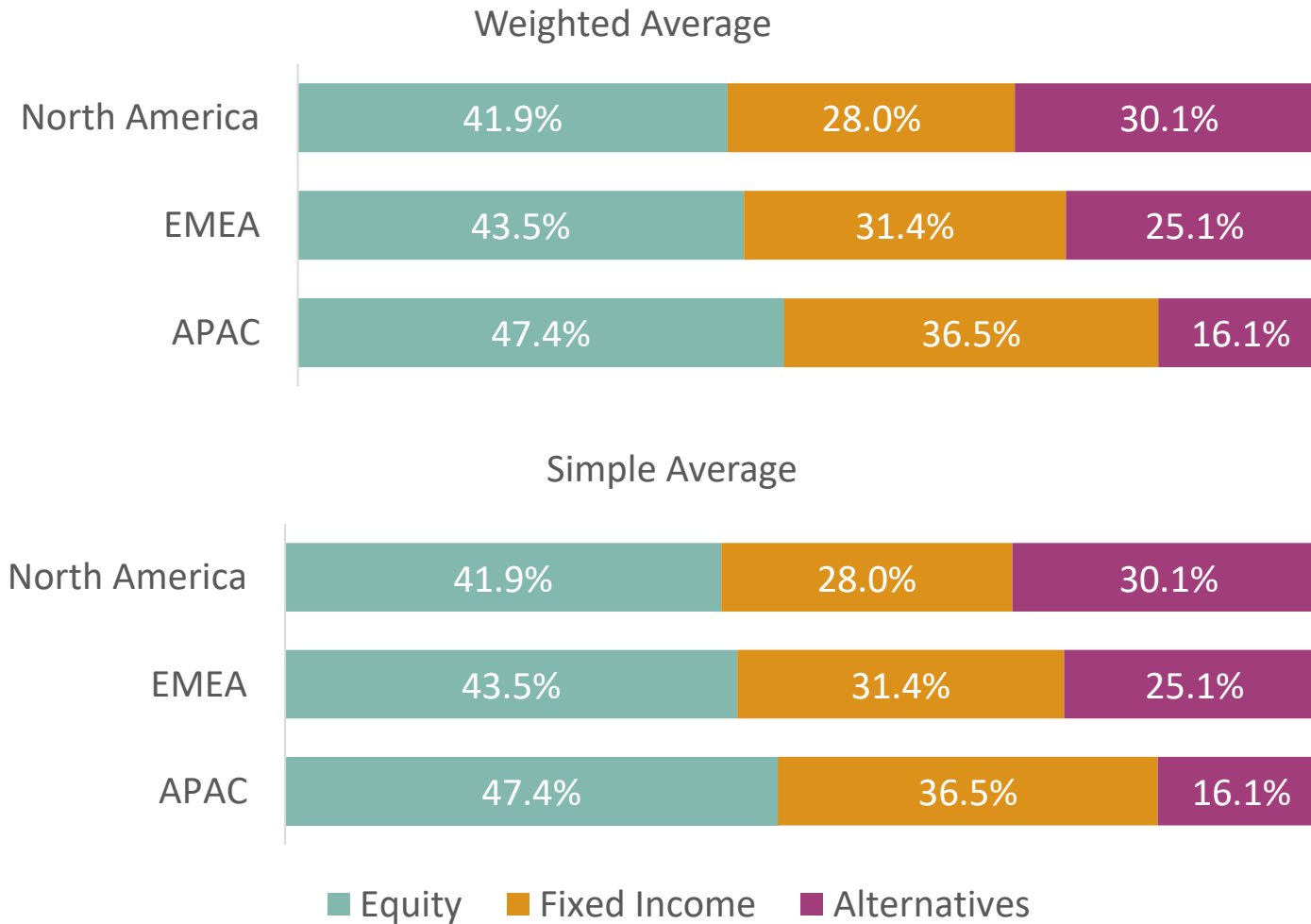


The average portfolio for the top 100 owners shows that the highest proportion of the assets were invested in equities, followed by fixed income including cash securities and the lowest allocation was to alternatives in 2021

Note: Fixed income includes debt and cash; Alternatives include: private equity, real estate, hedge funds and other.

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Split by Asset Allocation and region



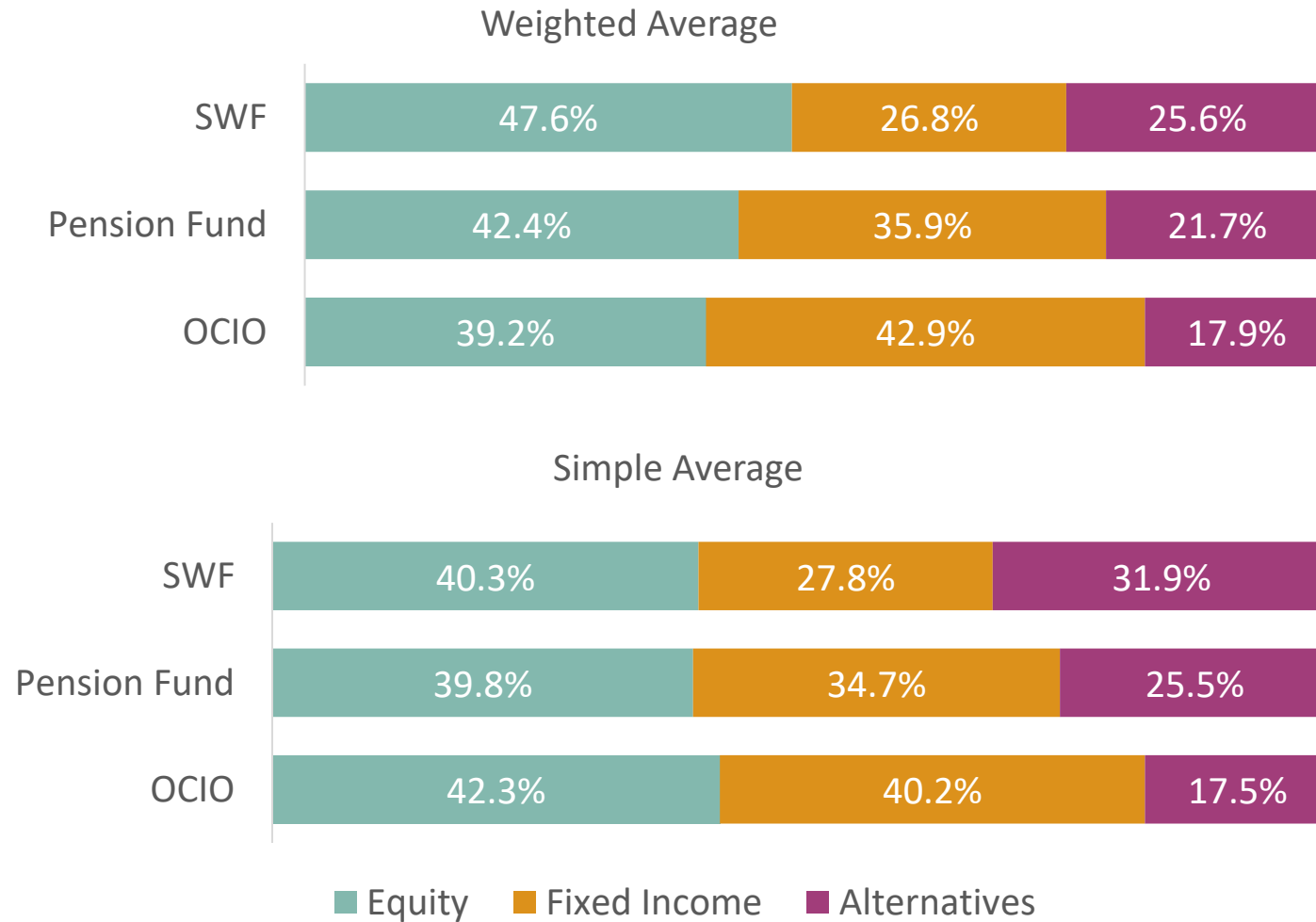
North American funds have predominantly invested in equities (41.9%), followed by alternatives (30.1%)

EMEA funds have invested a majority share in equities (43.5%), followed by allocation to fixed income (31.4%)

Asia-Pacific funds have the highest share in equities (47.4%), followed by allocation to fixed income (36.5%)

Note: Fixed income includes debt and cash; Alternatives include: private equity, real estate, hedge funds and other.
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Split by Asset Allocation and fund type



SWF have the highest share in equities (47.6%), followed by allocation to fixed income (26.8%)

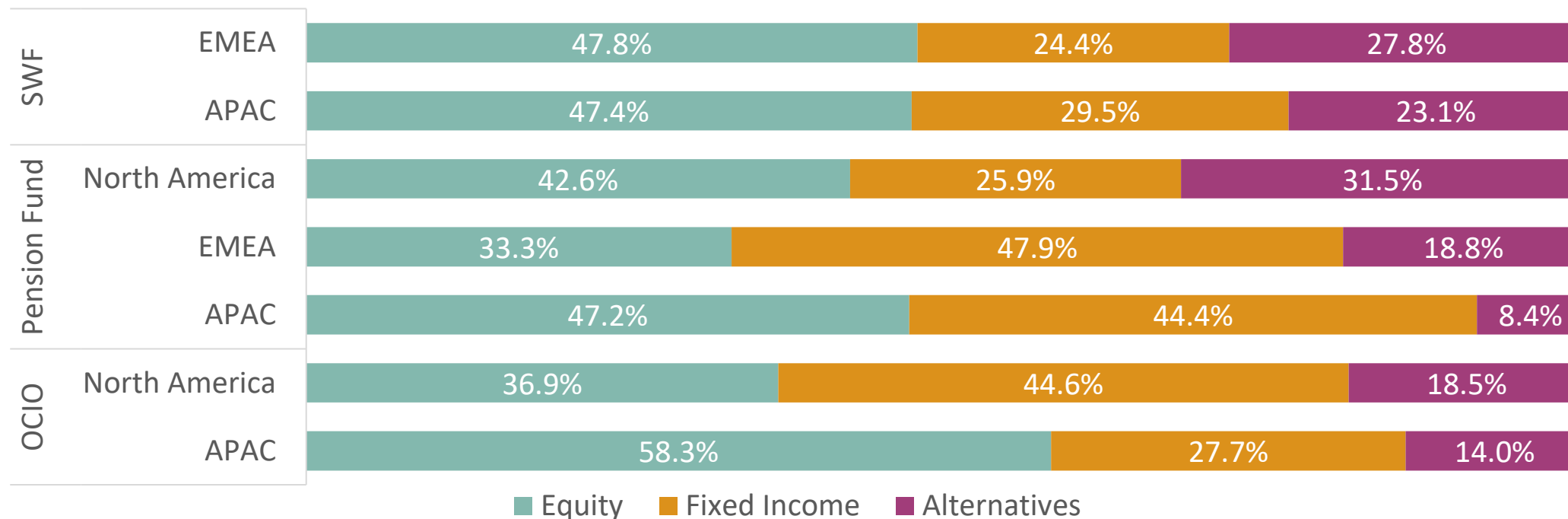
Pension funds have invested a majority share in equities (42.4%), followed by allocation to fixed income (35.9%)

OCIO's funds have the highest share in fixed income (42.9%), followed by allocation to equity (39.2%)

Note: Fixed income includes debt and cash; Alternatives include: private equity, real estate, hedge funds and other.
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Split by Asset Allocation, region and type of fund

Weighted Average



Notes: There are no North American SWFs and EMEA OCIOs in the top AO100. Information of asset allocation was available for 80 of the Asset Owners ranked in the AO100.

- OCIOs from Asia-Pacific have the highest proportion of equity at 58.3%, followed by SWFs from EMEA at 47.8%.
- Pension funds from EMEA have the highest proportion of fixed income at 47.9% followed by OCIOs from North America at 44.6%.
- North American pension funds have the highest proportion of alternative assets at 31.5%, followed by SWF from EMEA at 27.8%.

Note: Fixed income includes debt and cash; Alternatives include: private equity, real estate, hedge funds and other.

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Section 11:

Focus section: Long-horizon investing



The four parameters defining long horizon investing

No single accepted definition of long horizon investing but most definitions would reference some of these four concepts below

Liability profile

- The degree to which the investor must service short-term obligations

Investment beliefs

- Whether investors believe that long-horizon investing can improve returns

Risk appetite

- The ability and willingness of the investors to ride out short-term price fluctuations

Decision mind-set

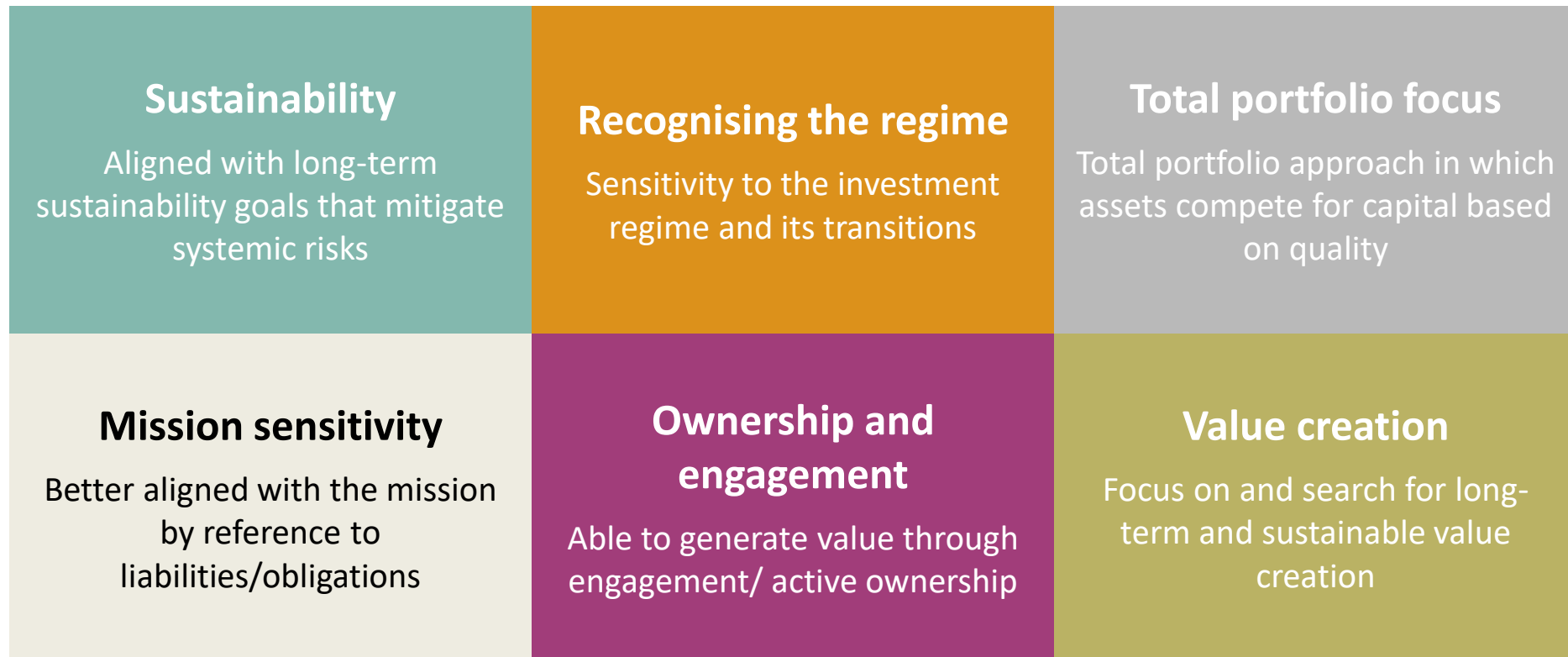
- The ability of the investment team/ agents to execute and stay on a long-term strategy

Source: [“The Future of Long-term Investing”](#), 2011, World Economic Forum

Long-horizon investing concept is not defined by holding period. It is more defined by having investment governance & culture, mandates & goals; measures & incentives, mindset & skillset associated with the long term – at least ten years, probably longer

The long horizon mindset is a key feature and when present provides a key competitive edge

The long horizon mindset is associated with a number of asset owner traits



The gaps/ slippages that characterise long horizon investing

Much research is framed in terms of failings that obstruct the delivery of long horizon effectiveness

Narrow framing

- Analysis fails to capture multiple risk facets, particularly tail risk, systemic risk, impairment risks
- Sensitivity to rotational vs trend shocks

Measurement

- Benchmark, attribution and risk metric choices have shortcomings
- Attribution fails to identify fundamental return drivers

Agency issues

- Agents manage their interests and are not aligned with their clients
- Performance attribution is storified not qualified

Mind-set issues

- Long horizon success needs joined-upness and a particular type of mindset with diversity included – which are difficult attributes to secure
- Systemic risk is not addressed

Total portfolio thinking and approaches (TPA) are supportive to long horizon success

The TPA supports the long horizon mind-set by preferring links to long-term performance objectives over benchmarks

A TPA can be thought of as reflecting *greater levels of conviction* on several components, as below:

Slider position		1	2	3	4	5		
Performance assessed vs:	Benchmarks						Fund goals	} Better decision framing
Success measured by:	Relative value added						Total fund return	
Opportunities defined by:	Asset classes						Contribution to total portfolio outcome	} Better decision making
Diversification principally via:	Capital allocation to asset classes						Allocation to total portfolio risk	
Asset allocation determined by a:	Board-centric process using ALM						CIO-centric process of portfolio quality	} Greater dynamism
Frequency of changes:	Infrequent changes calendar-time						Continuous review, changes in real-time	
Portfolio implemented by:	Multiple teams competing						One team collaborating together	

Thinking Ahead Institute's published research on long-horizon investing



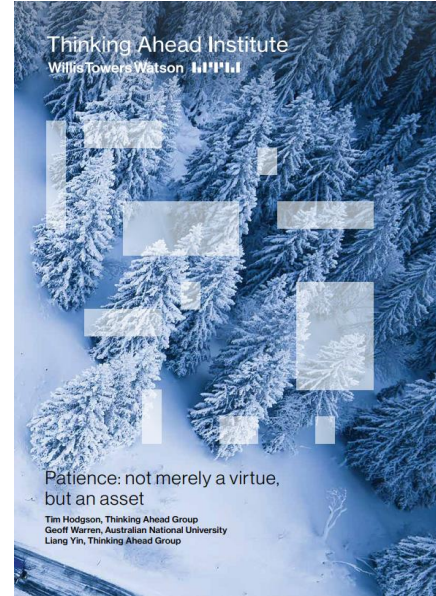
[Converting the 99](#)
[Long-horizon investing beliefs](#)



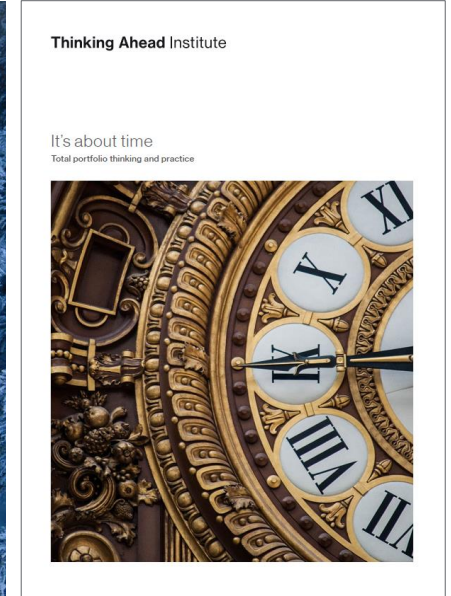
[What you think, you become](#)
[Building a long-horizon mindset:](#)
[practical guide from asset owners](#)



[The search for a long-](#)
[term premium](#)



[Patience: not merely a](#)
[virtue, but an asset](#)



[It's about time](#)
[Total portfolio thinking and](#)
[practice](#)

Section 12 | Ranking



AO 100 ranking (in US\$ million)

Rank	Fund	Market	Total Assets	Type of Fund
1	Government Pension Investment Fund	Japan	\$1,730,900	Pension Fund
2	Norges Bank Investment Management	Norway	\$1,402,000	SWF
3	China Investment Corporation	China	\$1,222,000	SWF
4	SAFE Investment Company	China	\$980,000	SWF
5	Abu Dhabi Investment Authority	United Arab Emirates	\$829,000	SWF
6	National Pension	South Korea	\$797,968	Pension Fund
7	Federal Retirement Thrift ¹	U.S.	\$774,176	Pension Fund
8	GIC Private Limited	Singapore	\$744,000	SWF
9	Kuwait Investment Authority	Kuwait	\$738,000	SWF
10	APG	Netherlands	\$630,358	Pension Fund
11	Hong Kong Monetary Authority Investment Portfolio	Hong Kong	\$587,000	SWF
12	California Public Employees ¹	U.S.	\$496,820	Pension Fund
13	Public Investment Fund/Sanabil Investments	Saudi Arabia	\$480,000	SWF
14	Qatar Investment Authority	Qatar	\$445,000	SWF
15	Canada Pension ²	Canada	\$426,746	Pension Fund
16	National Social Security ³	China	\$406,787	Pension Fund
17	Central Provident Fund	Singapore	\$374,990	Pension Fund
18	Mercer ²	U.S.	\$370,168	OCIO
19	CDPQ	Canada	\$329,000	Pension Fund
20	California State Teachers ¹	U.S.	\$313,940	Pension Fund

AO 100 ranking (in US\$ million)

Rank	Fund	Market	Total Assets	Type of Fund
21	PGGM	Netherlands	\$304,000	Pension Fund
22	Investment Corporation of Dubai	United Arab Emirates	\$302,000	SWF
23	Mubadala Investment Company	United Arab Emirates	\$284,000	SWF
24	Temasek Holdings	Singapore	\$283,000	SWF
25	New York State Common ¹	U.S.	\$267,756	Pension Fund
26	New York City Retirement ¹	U.S.	\$266,702	Pension Fund
27	Local Government Officials	Japan	\$248,572	Pension Fund
28	Employees Provident Fund	Malaysia	\$242,602	Pension Fund
29	Goldman Sachs ²	U.S.	\$239,932	OCIO
30	Florida State Board ¹	U.S.	\$213,792	Pension Fund
31	Korea Investment Corporation	South Korea	\$205,000	SWF
32	AON ²	U.S.	\$204,683	OCIO
33	BLF	Taiwan	\$202,000	Pension Fund
34	Texas Teachers ¹	U.S.	\$196,727	Pension Fund
35	MN Services N.V.	Netherlands	\$192,000	Pension Fund
36	Ontario Teachers	Canada	\$191,140	Pension Fund
37	Future Fund Management Agency	Australia	\$185,000	SWF
38	BlackRock ²	U.S.	\$184,528	OCIO
39	Russian National Wealth Fund	Russia	\$182,590	SWF
40	State Street Global Advisors ²	U.S.	\$181,704	OCIO

AO 100 ranking (in US\$ million)

Rank	Fund	Market	Total Assets	Type of Fund
41	WTW ²	U.S.	\$181,071	OCIO
42	Russell Investments ²	U.S.	\$175,913	OCIO
43	AustralianSuper ⁴	Australia	\$169,055	Pension Fund
44	CDC	France	\$166,000	Pension Fund
45	Public Service Pension Investment Board	Canada	\$162,000	Pension Fund
46	Washington State Board ¹	U.S.	\$161,517	Pension Fund
47	Public Institute for Social Security ³	Kuwait	\$159,963	Pension Fund
48	British Columbia Investment	Canada	\$158,000	Pension Fund
49	Public Investment Corporation ⁵	South Africa	\$157,000	SWF
50	ATP	Denmark	\$155,351	Pension Fund
51	MPFA	Hong Kong	\$150,000	Pension Fund
52	Wisconsin Investment Board ¹	U.S.	\$147,915	Pension Fund
53	Boeing ¹	U.S.	\$147,210	Pension Fund
54	Employees' Provident ³	India	\$144,972	Pension Fund
55	New York State Teachers ¹	U.S.	\$144,396	Pension Fund
56	North Carolina ¹	U.S.	\$137,116	Pension Fund
57	Alecta	Sweden	\$136,653	Pension Fund
58	California University ¹	U.S.	\$125,333	Pension Fund
59	Bayerische Versorgungskammer	Germany	\$122,000	Pension Fund
60	Ohio Public Employees ¹	U.S.	\$121,574	Pension Fund

AO 100 ranking (in US\$ million)

Rank	Fund	Market	Total Assets	Type of Fund
61	AT&T ¹	U.S.	\$119,539	Pension Fund
62	National Federation of Mutual Aid	Japan	\$117,055	Pension Fund
63	IBM ¹	U.S.	\$115,427	Pension Fund
64	National Development Fund	Iran	\$115,000	SWF
65	Universities Superannuation ⁶	U.K.	\$111,190	Pension Fund
66	Virginia Retirement 1	U.S.	\$110,014	Pension Fund
67	Pension Fund Association ²	Japan	\$109,824	Pension Fund
68	Raytheon Technologies ¹	U.S.	\$108,864	Pension Fund
69	ADQ	United Arab Emirates	\$108,000	SWF
70	Michigan Retirement ¹	U.S.	\$107,959	Pension Fund
71	Aware Super ⁴	Australia	\$107,511	Pension Fund
72	Royal Dutch Shell ⁷	Netherlands	\$104,495	Pension Fund
73	New Jersey ¹	U.S.	\$104,452	Pension Fund
74	Minnesota State Board ¹	U.S.	\$102,914	Pension Fund
75	PFA Pension	Denmark	\$102,709	Pension Fund
76	Alberta Investment Management Corporation	Canada	\$102,000	Pension Fund
77	KLP	Norway	\$102,000	Pension Fund
78	Kaiser ¹	U.S.	\$101,035	Pension Fund
79	Georgia Teachers ¹	U.S.	\$100,922	Pension Fund
80	SEI Investments ²	U.S.	\$100,691	OCIO

AO 100 ranking (in US\$ million)

Rank	Fund	Market	Total Assets	Type of Fund
81	Oregon Public Employees ¹	U.S.	\$100,410	Pension Fund
82	Danica Pension	Denmark	\$99,872	Pension Fund
83	Northern Trust ²	U.S.	\$98,733	OCIO
84	Massachusetts PRIM ¹	U.S.	\$98,458	Pension Fund
85	Qsuper ⁴	Australia	\$96,534	Pension Fund
86	General Motors ¹	U.S.	\$96,077	Pension Fund
87	Ontario Municipal Employees	Canada	\$95,671	Pension Fund
88	Ohio State Teachers ¹	U.S.	\$95,134	Pension Fund
89	AP Fonden ⁷	Sweden	\$94,424	Pension Fund
90	Healthcare of Ontario	Canada	\$90,524	Pension Fund
91	General Electric ¹	U.S.	\$90,464	Pension Fund
92	Bouwnijverheid	Netherlands	\$88,548	Pension Fund
93	United Parcel Service ¹	U.S.	\$86,833	Pension Fund
94	N. M. Superannuation Proprietary Limited ⁴	Australia	\$86,241	OCIO
95	United Nations Joint Staff ¹	U.S.	\$86,196	Pension Fund
96	Emirates Investment Authority	United Arab Emirates	\$86,000	SWF
97	Lockheed Martin ¹	U.S.	\$85,742	Pension Fund
98	Rothesay Life	U.K.	\$84,444	Pension Fund
99	J.P. Morgan Asset & Wealth Management ²	U.S.	\$83,919	OCIO
100	TCorp (NSW Treasury Corporation)	Australia	\$83,000	SWF

Notes:

¹ As of September 30, 2021

² As of March 31, 2022

³ Estimate

⁴ As of June 30, 2021

⁵ Public Investment Corporation (PIC) was included in the ranking as it is the appointed investment manager for GEPIF, which owns the majority of the PIC assets

⁶ As of March 31, 2021

⁷ Global figure

Sources:

- Willis Towers Watson
- Pensions & Investments: A leading US investment newspaper
- Global SWF: a leading financial boutique providing the most up-to-date and reliable data around State-Owned Investors
- Pension Funds and SWF data was sourced from the P&I 300 and GSWF, OCIO figures were sourced from P&I research center and Australian Prudential Regulation Authority (APRA), while F&E and Insurers data was sourced from annual reports, websites, and direct communication with organisations
- New sources of information were used for some countries in 2021

Limitations of reliance





Limitations of reliance

Limitations of reliance – Thinking Ahead Group 2.0

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Limitations of reliance – Willis Towers Watson

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