THE FUTURE SIZE OF THE SUPER SECTOR: EXTERNAL ESTIMATES[1]

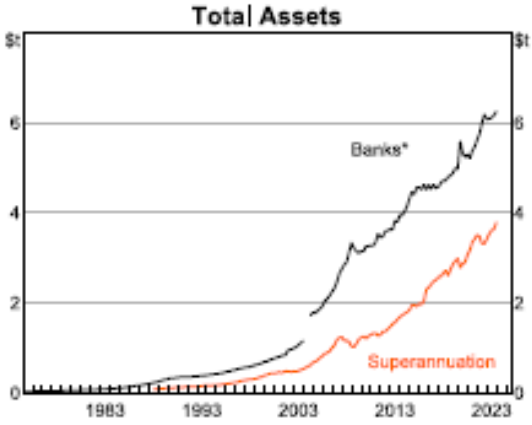
The Australian superannuation sector is projected to hold assets worth $8.1T, or 180 per cent of GDP, by 2035. This compares to $3.9T at present, which is roughly 150 per cent of GDP. Since the 1990s growth in the sector has been largely driven by structural factors, but there are potential headwinds that could limit the rate of growth in the future. Nonetheless, most recent modelling suggests the sector will continue to grow as a share of GDP into the 2050s. The size of the sector and its emergence as a peer of the banking system increasingly plays a role in financial stability assessments. Therefore, it is useful to have a survey of the external estimates of how large the sector may become, and what assumptions underpin these estimates. This note also includes an assessment of what undermined very early forecasts of the sector.

FS Priority: Assessment of financial system resilience and readiness
Substream: Identifying and addressing blind spots

Background

The Australian superannuation (super) sector currently holds assets and investments worth around $3.9T, or just under 150 per cent of GDP in 2023 (Graph 1, APRA, 2024a). At present, the banking system is still much larger, with assets of roughly $6.2T or 240 per cent of annual GDP (APRA, 2024b). Over the past two decades, the super sector has experienced a rapid nominal internal rate of growth of 9.4 per cent annually, against 6.8 per cent at the banks and 5.9 per cent for GDP.

Graph 1
Total Assets



* Includes all authorised deposit-taking institutions. Structural break in 2004 due to beginning of APRA reporting.
Sources: APRA; RBA.

The super sector emerging as a peer to the banks has been an area of interest since at least the beginning of mandatory contributions in 1992, and increasingly plays a role in financial stability assessments (Edey and Simon 1996, Connolly 2007, FSR 2021, CFR 2022). A highly useful reference on the potential systemic risks related to the super sector's growth is (2015), which concluded (among other things) that concentration was contributing to financial stability vulnerabilities.[2] Given that concentration has increased further since 2015 and the regulatory and macroeconomic environment has undergone significant change, AFS may seek to update this analysis in the future.

FS does not currently operationalise a model of the superannuation sector, so it is useful to have a survey of the external estimates of how large the sector may become, and what assumptions underpin these estimates. Fortunately, there has been some internal work on the topic – SMS developed a structural model of the sector that resembles many of the literature approaches 2020). By combining ABS population projections with historical asset allocations and return rates, this work forecast super to reach around $6T in 2035 and $9.7T in 2043. Although these estimates are now well below more recent literature forecasts, this model remains a useful baseline, and an easy way to check scenarios and build intuition.

Note: See Superfund Primer and Superannuation in Australia: a timeline for more background information.

The drivers of super's growth to date

The strong growth of the super sector since 1992 has been driven primarily by three factors: (1) membership demographics, (2) the rising compulsory contributions rate, and (2) strong investment performance. There have been several excellent treatments of these topics in the literature which I summarise below; CEPAR (2018b) is especially thorough.

1. **Membership demographics:** Although super now covers an overwhelming majority of the labour force, just 50 per cent of the labour force had superannuation arrangements in 1992. As a result, super

1 Thanks to Ann Collings for carrying out an extremely useful literature search for this project, and Stefano Tornielli Di Crestvolant, John Simon, and all of AFS Section for valuable help and advice.

2 Other very useful notes include (2015) and (2020).

membership to date has been 'young'; the share of members that have had super their whole working life is still growing, and the share withdrawing is smaller than demographics would suggest (as many would not have had super for more than 30 years of their career).

2. **Growing compulsory contributions:** Mandatory contributions were initiated at 3 per cent of wages in 1992 and has increased gradually to 11 per cent over the past three decades. This rate will increase to 11.5 per cent on 1 July 2024 and likely again to 12 per cent in 2025, the maximum rate currently legislated. This increasing rate of contribution has supported strong growth in net inflows (14 per cent compound annual growth rate (CAGR) since 1992), which are currently running at roughly 6 per cent of total super assets annually.

3. **Strong investment performance:** Investment income has returned a nominal CAGR of 7.3 per cent over the past three decades (ASFA, 2024). Although this is materially lower than that of the ASX at 9.2 per cent, the comparison is favourable considering super's more diversified asset allocation with roughly 60 per cent of assets invested in equity (Vanguard, 2023).

The emerging headwinds to future growth

The size of the super sector is projected to continue to grow strongly. However, there are some emerging headwinds that could limit the rate of growth. These include (1) the aging population, (2) policy uncertainty and (3) investment returns uncertainty.

1. **The aging population:** The share of the population aged 60+, currently 23 per cent, is projected to increase to 25 per cent in 2035 and 27 per cent in 2050. This will place upward pressure on superannuation withdrawals as a larger cohort of retirees pass the redemption age threshold having had super for a long time; at present there is still a material share of the working age population that has not had mandatory contributions in effect for their entire working lives.

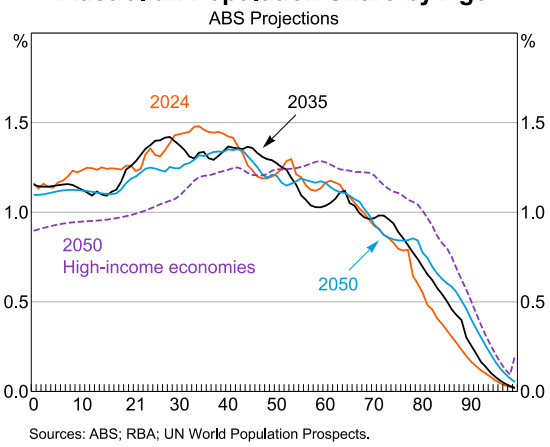
   Despite this structural demographic pressure on super, recent external estimates suggest that asset growth may plateau much later than in other peer economies. This is because although Australia's population is aging, it is aging much more slowly than the advanced economy average (Graph 2, CEPAR, 2018a). This means that it could take longer for the increase in withdrawals, driven by an older membership, to fully offset rising contribution inflows and investment income.

2. **Policy uncertainty:** The superannuation sector has regularly been subject to policy shocks since the mid-1980s, and this uncertainty represents a risk to the outlook for super assets (Graph 4, CEPAR 2018b). The literature demonstrates how changes to rules about contributions (e.g., mandatory contribution rates), withdrawals (e.g., early access schemes), or tax concessions (e.g., the introduction of SMSFs) significantly affect the future development of the sector (see Box A). Policy shocks that suppress inflows or increase outflows increase the vulnerability of the super sector to asset shrinkage (although the current government has 'ruled out' such changes for now, AFR 2023).

3. **Investment returns uncertainty:** The super sector depends heavily on the income from its investments to grow (Graph 3). Indeed, "it is not sufficiently appreciated that net investment income is of a similar size each year to the total net superannuation contributions" (Deloitte, 2013). Negative shocks to investment income have occurred regularly – 1994, 2008, and 2022 all saw net declines in the size of super assets owing to deeply negative returns. Moreover, Treasury's MARIA model projects that earnings will be responsible for the majority of any growth that the super sector experiences (relative to GDP) over the coming decades, against flat contributions (as a share of GDP). If earnings become less reliable in the future than they were in the past, this would pose a significant threat to future growth.

Graph 2

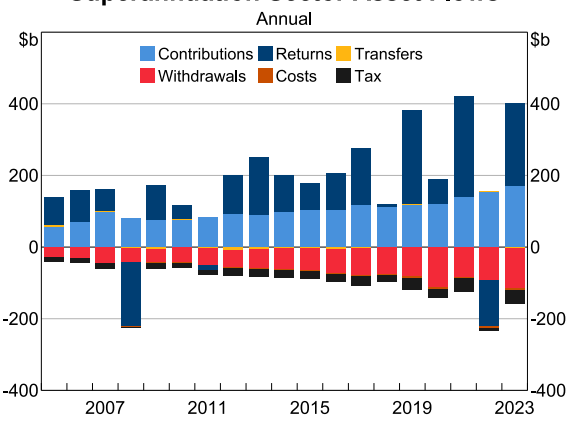
Australian Population Share by Age



Sources: ABS; RBA; UN World Population Prospects.

Graph 3

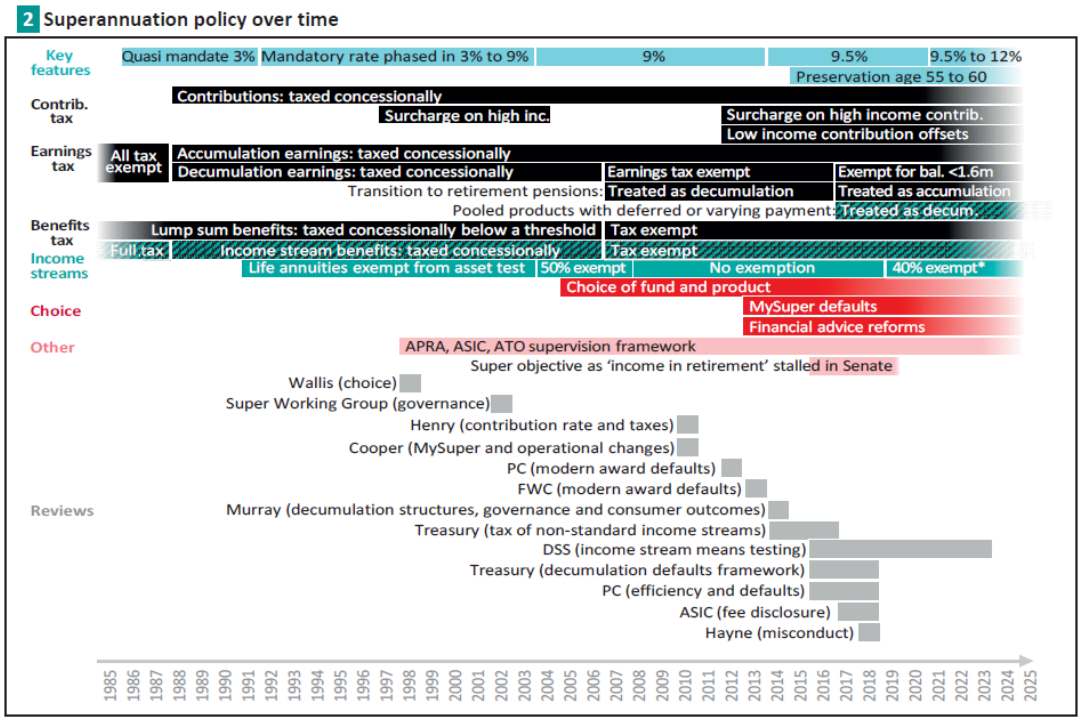
Superannuation Sector Asset Flows



Sources: APRA; RBA.

Graph 4

Superannuation Policy Shocks



Source: Retirement income in Australia: Part III – Private resources (CEPAR, 2018b)

Super assets will likely be around 180 per cent of GDP by 2035, and peak decades later

Table 1 and Box A present 8 external forecasts of the size of super in coming decades. The two most sophisticated approaches, Deloitte's SPROUT model (2024) and Treasury's MARIA microsimulation (2019), have converged on the figure of 180-200 per cent of GDP for the size of the super sector in 2035 and both expect growth to continue into the 2050s. Both of these sources also agree that the 'second derivative' of super assets (relative to GDP) is already negative and is unlikely to turn positive again in the future. This finding is also consistent with the simpler model developed in SMS (Seawright, 2020). However, it is important to remember that although growth in the relative size of super is likely slowing, the headline nominal figure (in dollar terms) will continue to grow exponentially if the consistent growth rate is maintained, to around $8T by 2035.

There is some disagreement between models about when net contributions will turn negative, meaning that investment income is entirely responsible for growth. Seawright (2020) forecast that net contributions would turn negative just after 2024, but this seems unlikely based on the recent data. In contrast, the latest

Table 1: External estimates of the future size of the super sector

Selected estimates from literature

Share of GDP in 2035 Quoted in literature	**Gross value in 2035** GDP Share * 2024-25 Budget Forecasts[(a)]	**References Access With TRIM**	**Methodology**	**Key assumptions** Based on available (often incomplete) information
2035: 170% 2043: 190%	$7.7T	Deloitte/ SPROUT (2024)	SPROUT is an actuarial cohort model based on aggregated data from ASFA, APRA, ATO, and ABS in combination with HILDA microdata and budget projections. Seems similar in spirit to MARIA but with access to less granular data.	4.1% CAGR nominal GDP; superannuation guarantee 12 per cent from 2025; all other aspects of the current legislative environment remain fixed; 'considerable' proportion of lump sum withdrawals versus pensions.
2035: 180% 2040: 185%	$8.1T	ASFA (2024)	Average of 'various forecasts', likely based on previous Deloitte projections.	*NA*
2035: >180% 2040: >200% 2060: >245%	>$8.1T	TSY/MARIA (2019)	MARIA is a long-term, dynamic microsimulation model leveraging disaggregated ATO, DVA, APRA, ABS, and HILDA data to iteratively simulate a 'whole-of-system' view of the superannuation sector. Considered the best-in-class modelling of the super sector. However, defined benefit funds (around 10 per cent of total assets) are not included, so forecasts will underestimate total size of the super sector.	5.25% CAGR nominal GDP; 2.5% inflation; wages growth 4%; investment returns before fees 7.5%; all other medium-term expectations are the same as the 2019-20 Budget.
2035: 200%	$9T	Deloitte (2015)	"A comprehensive demographic and financial analytic tool", likely an early version of SPROUT.	5% CAGR nominal GDP.
2035: 160% 2043: 160%	$7.5T	Rice Warner (2014)	Calculation similar in spirit to the simple model in Seawright (2020) but with a more complex treatment of demographics, using public ABS and APRA data.	ABS population projections as of 2013; SMSF share of the super sector declines over time; retirement phase share of assets reaches around 45 per cent by 2043; further super consolidation in coming years.
2033: 180%	$8.1T	Deloitte (2013)	"A comprehensive demographic and financial analytic tool", likely an early version of SPROUT.	Investment returns roughly match contributions inflows each year; SMSF share of super sector is roughly constant over time.
2035: 145% 2040: 150%	$6.6T	TSY/RIMGROUP (2008)	RIMGROUP was a "comprehensive cohort projection model of the Australian population" developed by treasury over 1990s-2000s by the intergenerational analysis unit. Unlike the later MARIA model (see above), RIMGROUP was not an iterative microsimulation but instead a very detailed deterministic calculation.	2.5% inflation; 4.3% wages growth; 6% long-term bond yield; 7% pre-tax investment returns.
2024: 150%	**2024:** $3.9T	ABS/APRA	Prudential data collection; including SMSFs.	*NA*

(a) 2024-25 Budget forecasts for nominal GDP imply 4.8 per cent CAGR until 2035.

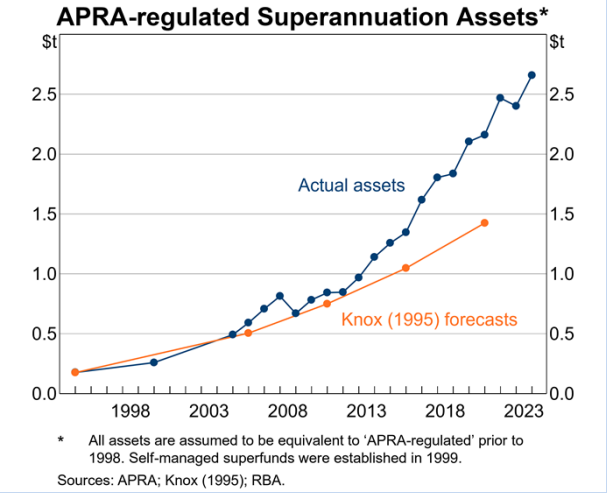
Sources: ASFA, Deloitte, Financial Services Council, Rice Warner, Treasury, RBA.

Box A: What undermined early forecasts of the size of super?

Shortly after the emergence of the superannuation sector in the late 1980s, when super assets were less than $150b, the government forecast the sector would quadruple to $600b over the 1990s (Keating, 1989). In the years following the introduction of the superannuation guarantee, several authors published forecasts with more conservative estimates between $315b and $380b (Knox 1995, Sarjeant and Solomon 1994). It turned out that the truth was in the middle; super assets reached around $460b at the end of 2000. And this would not be the last time that super would beat researcher's expectations. Knox (1995) contained a very careful treatment of the problem but nonetheless forecast that assets would peak at around 70 per cent of GDP (or around $1.8T by his reckoning) in 2020; assets ended up well over 100 per cent of annual GDP in 2020 (around $2.7T) and were still growing strongly (Graph A1).

Knox modelled the super sector's inflows, outflows, and returns based on publicly available data rather than the stochastic simulation-style models that have been used more recently. Contributions were comprised of three aggregate employment groups (employer, employee, and self-employed) and estimated using average rates of contribution and labour force statistics. Benefit payments were modelled by age and gender based on ABS labour force projections, with parameters for each group calibrated from other contemporary research or surveys. Note that benefit payments are typically the most difficult part of the problem to accurately model, due to the need to keep track of balances accruing to certain cohorts. Nonetheless, Knox gave quite accurate forecasts for benefit payments (within 7 per cent as late as 2010).

Graph A1



Investment returns were estimated based on a weighted average rate of return given the asset allocation of the day. This forecast has largely held up. However, an underestimation of contribution inflows meant more funds were in fact available for investment than under Knox's projections, causing total assets to grow more quickly than his projections.

Knox's demographic calculations were undermined in two main ways. First, he assumed a fixed unemployment rate of 9 per cent to extrapolate the demographics contributing to super. As the unemployment rate steadily declined over the next two decades, this assumption became increasingly inaccurate. Second, the ABS labour force projections – the other key element of his demographic calculations – underestimated the labour force by over 5 per cent by 2010. Combined, these factors significantly suppressed his estimates of the relevant demographics, causing his forecast of contributions to fall short by more than 30 per cent from 2004.

Another factor was the establishment of self-managed superfunds (SMSFs) in 1999, which materially changed the structure of the super sector. SMSFs grew quickly with a different asset allocation to the rest of the system, which is what Knox used to calibrate his asset allocation assumption (which remained accurate for the APRA-regulated superfunds). SMSFs had significantly better returns (+200bps) than superfunds over the 2000s, which drove some of the spread with the forecasts. Legislative changes over that period provided tax advantages to use an SMSF over FY07 (hence the big run up in that period), and to invest in property. The latter point has likely encouraged younger workers to contribute extra savings, all else equal, into superannuation using SMSFs, growing the sector as a whole (FSR, 2013).

Overall, Knox's calculations were undermined by the violations of a few key assumptions and some key input variables playing out differently than expected. This highlights the key difficulties all forecasts of the sector face in being exposed to demographic and policy shocks (Maddock, 2014). Even the forecasts of the Cooper Review in 2010, seemingly based on a similar style of calculation, projected super to only exceed 130 per cent of GDP after 2035 (roughly a decade too late).

estimates from Treasury's MARIA microsimulation suggest that drawdowns won't exceed contributions until after 2060. Nonetheless, growth of super in MARIA is "predicated on investment returns continuing to exceed nominal GDP growth" (Treasury, 2019), which is a risk to the outlook noted in the previous section.

Going forward

The super sector is large, growing quickly, and will play an increasing role in financial stability assessments. The sector is very challenging to forecast at extended horizons due to its fortunes being closely tied to demographics and government policy, which regularly experience exogeneous shocks. Nonetheless, the best available estimates have converged on a figure of around 180-200 per cent of GDP for 2035 and around 200 per cent in 2040, implying it is unlikely that super assets exceed those of the banks in the coming decades.

Senior Analyst / Australian Financial System / Financial System / 27 June 2024

External Resources

Note: Thanks to the Library, most of the external resources cited in this document are available in PDF form on TRIM here: D24/167402.

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PRIMER ON THE AUSTRALIAN SUPERANNUATION SYSTEM

Size: ~135% of GDP or 25% of financial system assets

System trends:

- Assets under management (AuM) grew from < $1tn in 2012 to $3.6tn in 2022.
- Merger activity has led to larger funds: top 5 APRA-regulated funds account for 40% of AuM.
- Greater scale means funds have increasingly brought investment management in-house.
- Funds hold a significant & growing allocation of offshore assets given their size relative to domestic economy & markets.

Asset allocation:

- Equity holdings are relatively high, fixed income holdings low (~40% of which foreign issued)
- Large and growing investments in private market assets (real estate, private equity, and infrastructure)

Risks and vulnerabilities in super funds:

- Trustees of APRA-regulated funds cannot take on debt except in limited circumstances. But the investment portfolios which trustees manage on behalf of members do contain leveraged positions.
- Super funds weathered the challenges during Covid well:
    - Member switching activity created liquidity pressures. Super funds in aggregate increased their holdings of cash by $50 billion, half of which was attributable to members switching from higher risk investments into cash. Overall, member switching during covid was manageable.
    - Temporary changes in April 2020 made it easier for members to withdraw their super balances early. There were $36 billion of early withdrawals which funds managed by raising cash prior to the withdrawal.
    - During the first half of March 2020 the AUD depreciated 14% and as a result super funds paid $18 billion in margin payments on FX swaps. Funds partly managed this by selling a portion of their foreign assets (which had gained in value due to FX movements).
- The disruptions that affected UK pension funds in 2022 did not directly affect Australian super funds other than through increased volatility in foreign exchange and government bond markets. Such an event is unlikely to occur in Australia because unlike the UK pension industry, Aus super funds are mostly defined contribution (so investment risks are borne by members), make less use of derivatives and have larger cash holdings.
- In early 2023, APRA updated its investment governance standards which further increased the robustness of funds' investment stress testing, liquidity risk-management practices and asset valuations.

Broader FS risks:

- Our overall assessment is that the resilience of Aus super funds (discussed above) is a source of resilience for the NBFI sector in Aus relative to in peer jurisdictions. Nevertheless:
    - Domestic banks' funding exposure to super funds, and correspondingly pensions funds' asset exposure to banks, is much higher than overseas. APRA & the RBA have identified super funds' holding of bank bills as a key potential source of transmission of liquidity risk from super funds to banks.
    - In Dec 2023 the CFR agencies agree to investigate and monitor risks in the super sector, given its size and growth (FS is currently engaging with ARPA at working level on this).
- The RBA Board has previously decided against providing super funds access to the RBA's liquidity facilities given the legal complications and an assessment of the pros and cons from a policy perspective (eg mitigating liquidity risk in super funds vs the potential for moral hazard).

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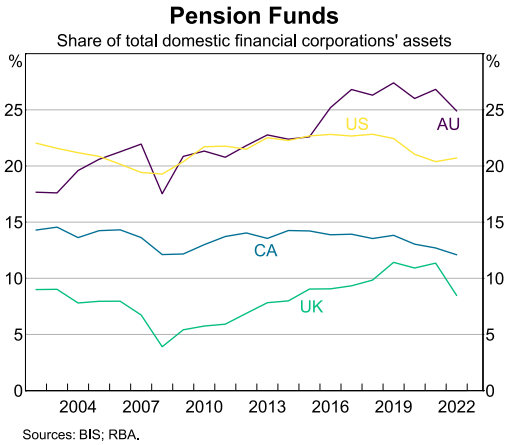
BACKGROUND INFORMATION

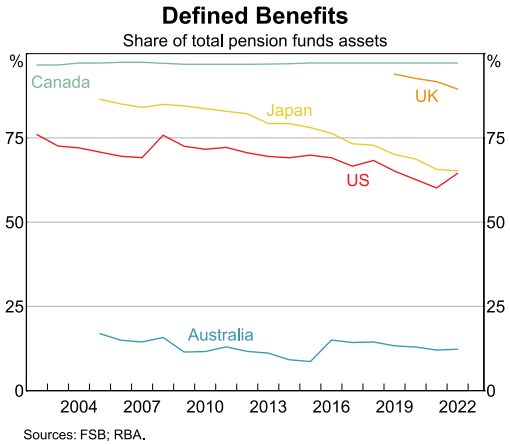
The Australian superannuation system is large: managing approximately $3.6 trillion in assets (roughly 150% of GDP or 25% of financial system assets). Assets under management have grown substantially over time reflecting that almost the entire workforce has been required to contribute into super for 30 years. This has resulted in a growing and large super system relative to comparable countries (Graph 1). The size of the super system relative to the domestic economy is expected to continue increasing from (i) positive net contributions from members and (ii) super fund rate of return typically exceeds the domestic economic growth rate. The 2021 Intergenerational Report projected that superannuation assets will grow to around 244 per cent of GDP by 2061.

The system is primarily made up of defined contribution funds. This contrasts with other advanced economies which have a much higher share of defined benefit funds (Graph 2). The result of this in Australia is a transfer of risk from the super system to households, such that the majority of risk lies with the members and not trustees or sponsors.

Graph 1



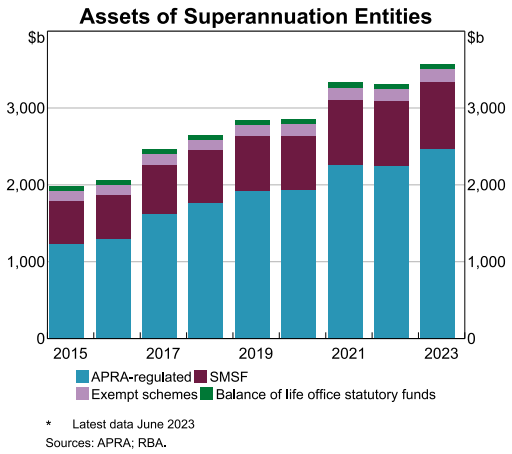
Graph 2



Regulators of the superannuation system

- APRA regulates the largest funds that manage the majority of system assets (Graph 3).
- APRA also regulates life insurers that offer annuities for retirement purposes – the market for these products is very small in Australia compared to overseas.
- The ATO regulates self-managed super funds which are private funds managed by an individual or family for their own super savings.
- 'Exempt schemes' are usually public sector super schemes regulated by the commonwealth, state or territory government.

Graph 3



Types of funds

APRA-regulated funds can be sub-categorised according to the group of members that they service.

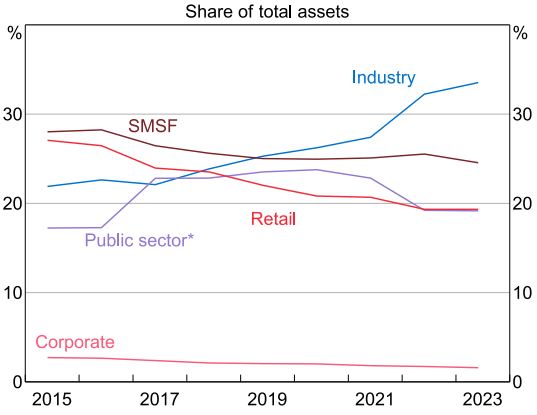
- Profit-for-member funds originally serviced members arranged around employment relationships. APRA define them as industry, public sector, and corporate funds.
- Retail funds largely operate as platforms designed to support the financial adviser community (traditionally they facilitated superannuation fund outsourcing, most notably for corporates).

With many funds now being public offer, the categorisation of some funds is blurred, especially as funds evolve away from their origins over time. Over the past decade, as a share of funds, industry funds have grown, and retail funds have shrunk (Graph 4).[1]

Graph 4

Superannuation Funds by Type

Share of total assets



* The increase in public sector funds in 2016 reflects the launch of ADF Super. The 2022 decline reflects the merger of QSuper and SunSuper to create Australian Retirement Trust.

Sources: APRA; RBA.

Number of funds

There has been a lot of merger activity between funds, leading to increasingly larger funds. Some merger activity was prompted by the introduction of APRAs performance test in mid-2021.[2] There has also been a general push to gain scale in order to increase efficiency and gain access to more investment opportunities. Consolidation in the super sector is expected to continue (The Future of Superannuation 2022) with multiple mergers proposed or announced.

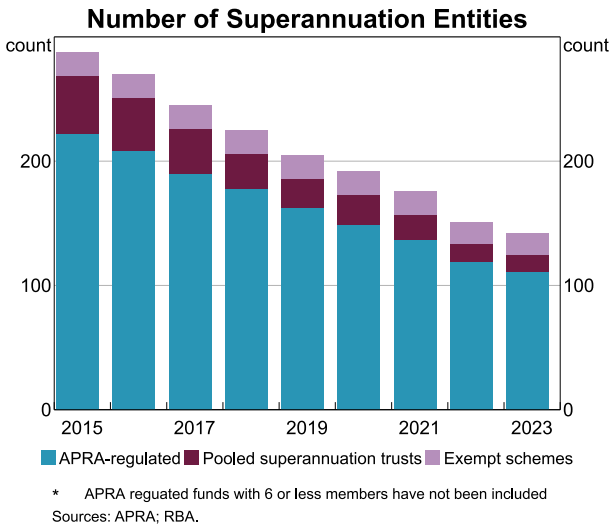
Over the past 5 years, the number of APRA-regulated funds with more than six members declined from 188 to 111 (Graph 5).[3] There are now 2 funds with over $200 billion in assets, and 11 with over $50 billion in assets, accounting for roughly two-thirds of APRA-regulated-funds' assets (see Annex, Table 1 for a list of the largest funds). The top 5 funds alone account for 40 per cent of APRA-regulated-funds' assets.

[1] The 2022 decline in public funds and increase in industry funds reflects the merger of QSuper (public) and SunSuper (Industry) to create Australian Retirement Trust (Industry).

[2] Your Future, Your Super Performance test – 2021, which initially called out 13 funds.

[3] Funds with fewer than six members are classified as SMSFs. APRA regulates 'public offer superannuation funds' ie funds that can accept members that are not affiliated with an employer. Pooled superannuation trusts (PSTs) are trusts in which super funds (as well as approved deposit funds and other PSTs) invest. Exempt funds include public sector super funds.

Graph 5



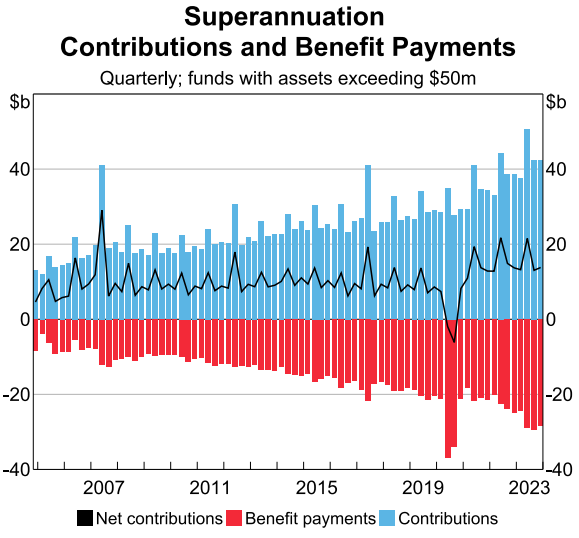
* APRA reguated funds with 6 or less members have not been included
Sources: APRA; RBA.

Fund flows

The systems' annual rate of return for the year ended June 2023 was 8.5 per cent, higher than the five year (5.3 per cent) and ten year (6.7 per cent) average annual return to June 2023.

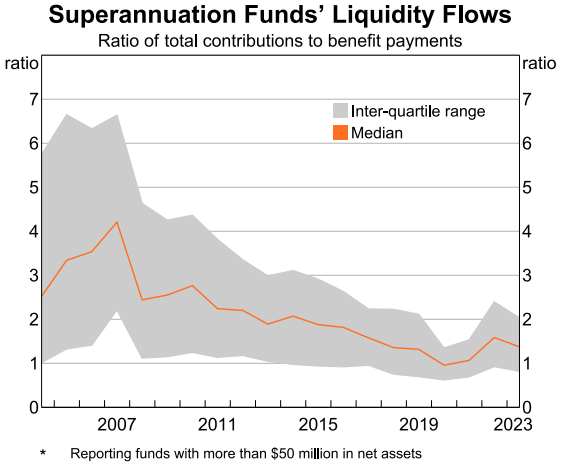
The system is benefiting from net inflows (Graph 6) with only a few funds experiencing net outflows (Graph 7).[4] Structural headwinds are expected to gradually lower net contributions. As contributions have been compulsory for 30 years and the population is aging, the proportion of members in retirement will increase. The super balances of those in retirement is also expected to increase, as the required rate of contribution has increased over time.

Graph 6



Sources: APRA; RBA.

Graph 7



* Reporting funds with more than $50 million in net assets
Sources: APRA; RBA.

Asset Composition

The Australian superannuation system is heavily weighted towards equities since funds are primarily defined contribution and members bear the investment risk (Graph 8).[5] Asset allocation to fixed income is relatively low. The domestic bond market is relatively limited for both government and corporate debt, as a result roughly 40 per cent of super funds fixed income investments are foreign issued. Super funds also have large and growing investments in

[4] The impact of the temporary changes in 2020-1 to members' ability to withdraw balances early can be seen in Graphs 6 & 7.
[5] Defined contribution funds do not need to liability match in the same manner as other institutions would (Banks, insurers etc.). Target returns are typically expressed as a margin over CPI, rather than being linked to a funding liability. Asset allocations can then be targeted more towards growth assets, such as equities, rather than cash and bonds.

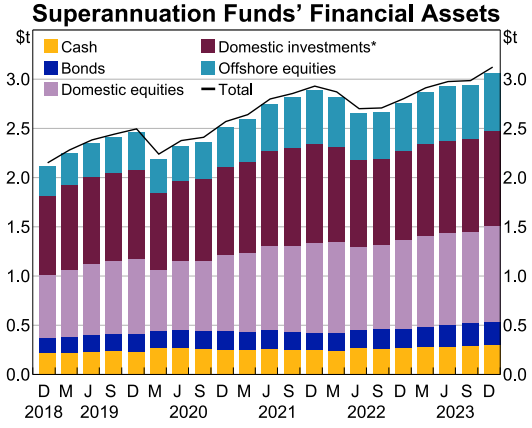
private market assets (real estate, private equity, and infrastructure). These assets are seen to offer stable cash flows, higher returns (illiquidity premium), improve portfolio diversification, and are a source of stability for fund returns as they are not frequently marked-to-market.[6]

Given the size of the system relative to the domestic economy and financial markets, funds hold a significant allocation of offshore assets.[7] This allocation is expected to grow as the sector grows relative to the domestic economy. Another rationale for investing overseas is that the domestic equity market is very concentrated in financials and mining. However, home bias is likely to persist due to differences in the tax treatment of investments (Australia's franking credits scheme).

A large share of funds under management are invested though managed funds (Graph 9), and account for roughly three-quarters of the managed funds' investments. The share of funds which were indirectly invested by pension funds had been increasing strongly over the past two decades but has recently started to level off. As funds have grown, some super funds have recently been trying to move more investment management in-house. This reflects that internal investment has relatively fixed costs compared to outsourcing, which is charged at a percentage.

Graph 8

Superannuation Funds' Financial Assets

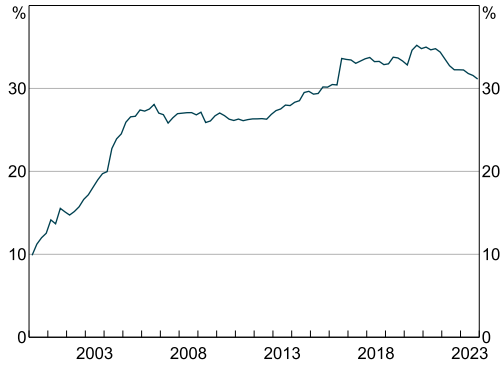


* Latest observation December 2023.
Sources: ABS; RBA.

Graph 9

Super Funds Indirect Investments

Share of total assets



Sources: ABS; RBA.

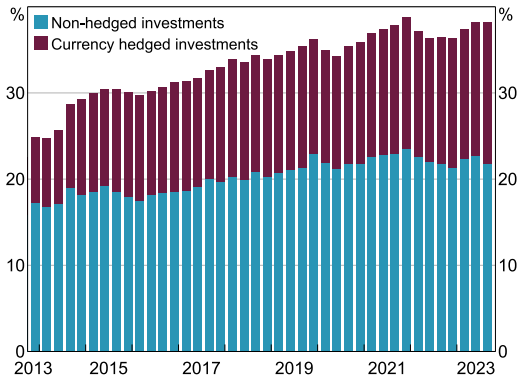
Leverage and off-balance sheet positions

Trustees of APRA-regulated funds cannot take on debt except in limited circumstances, so direct debt levels are very low and pose little liquidity risk to funds. However, the investment portfolios which trustees manage on behalf of members do contain leveraged positions, through either investing in managed funds which are leveraged or by applying leverage to directly held assets.[8] Trustees also use derivatives in investment portfolios to hedge or implement investment exposures, including international. Funds typically hedge a significant proportion of their overseas assets, with the share of the investment hedged varying by asset class.[9] The hedged position in overseas assets is large relative to their total investments (Graph 10) and

Graph 10

Superannuation Funds' International Investments*

Share of total investments



* APRA regulated funds; does not include international investments in cash, unlisted equity, property and listed infrastructure
Sources: APRA; RBA.

[6] APRA has recently published its expectation that funds undertake valuations of unlisted assets on at least a quarterly basis.
[7] Larger super funds can run up to holding limits for single stocks more easily and find it harder to avoid moving markets (The Future of Superannuation 2023). Consequently, large super funds in particular plan to expand their overseas investments (NAB Superannuation FX Hedging Survey).
[8] If the liquid portfolio of a managed funds assets drops below 80 percent, it is required to stop redemptions under the corporations act (ASIC).
[9] Funds typically hedge fixed income, property and infrastructure investments fully against currency risk, and only hedge around a third of their equity investments (NAB Superannuation FX Hedging Survey).

can create liquidity pressures when the AUD moves unfavourably.[10]

Over the past five years, the notional value of all outstanding superannuation fund derivative contracts has increased by 50 per cent to close to $900 billion (RBA bulletin 2024). Although they are not obligated to meet margin calls, it is not clear what they would do in a crisis.

Self-managed super funds

SMSFs are typically held by older individuals with higher balances, as a result they have a higher allocation to cash than APRA-regulated superannuation funds (Graph 11). They also have a lot lower allocation to fixed income and international equities, likely reflecting the difficulty investing in or understanding these asset classes for a retail investor. They typically have a much higher domestic equities and property position.

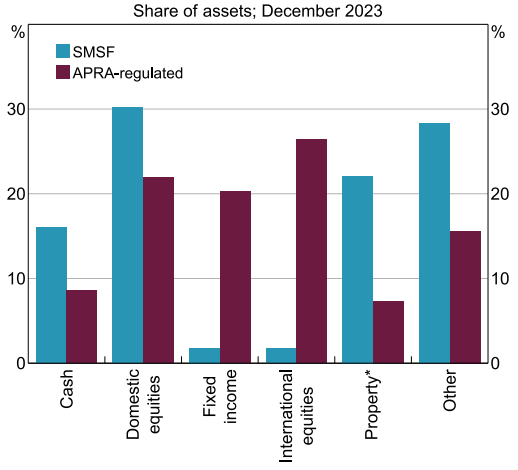
SMSFs are generally prohibited from borrowing money, they are however allowed to access credit through limited recourse borrowing arrangements (LRBA), which can be used to purchase residential real estate or commercial real estate (CRE). SMSFs hold a material share of CRE assets, either directly or through property trusts. Since a property investment is typically a large portion of a single individuals retirement wealth, concentrated investments in CRE assets and high leverage could contribute to procyclicality in CRE markets. APRA-regulated super funds are also allowed to use LRBA, however they are governed by prudential standards and their size means they don't need to borrow to invest in property.[11] APRA-regulated funds do however use debt in some instances in their investment portfolios for capital efficiency and tax purposes.

The major banks had been withdrawing from new lending to SMSFs since mid-2018 (CFR 2022) (Graph 12). Information from liaison suggests some non-bank lenders have increased their share of new lending to SMSFs over 2023.

Graph 11

Superannuation Industry Asset Allocation

Share of assets; December 2023



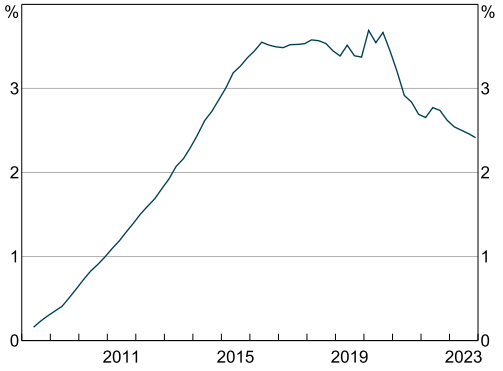
* Includes assets used to collateralise LRBA

Sources: APRA; ATO; RBA.

Graph 12

SMSF loans from ADI's

relative to total assets



Sources: ABS; RBA.

Super fund sector's resilience to recent stress events

Covid was a significant shock which presented multiple challenges to super funds. The three main challenges arose from (1) member switching into liquid assets, (2) the early super release scheme, and (3) FX margin payments when the currency depreciated. Overall, the super system weathered the challenges well.[12]

(1) Member switching activity creates liquidity pressures for the fund if members are switching from less-liquid to liquid assets. This channel will become of increasing importance as the super system grows and members

[10] In this case a depreciation in the AUD is unfavourable since super funds are long the AUD to offset overseas investments.

[11] Super regulation however, is far more principles-based than for ADIs and Insurance. Trustees, as a result, have a lot more room to move when implementing their strategies than the other industries.

[12] For further information on the liquidity challenge faced by super funds during covid, see: FSR Box C 2021

become increasingly older with higher balances. Increased member switching is likely to coincide with stress events, potentially exacerbating liquidity demands at funds.[13] Covid was a significant shock to the economy and there was increased switching into cash during the beginning of covid (March 2020 quarter). Super funds in aggregate increased their holdings of cash by $50 billion, half of which was attributable to members switching from higher risk investments into cash (equivalent to roughly 2% of FUM at the time). Super funds with older members and higher than average super balances experienced the highest pick up in switching activity (2021).[14] Overall, member switching during covid seems to have been manageable (2020).

(2) The government temporarily changed the eligibility criteria for the early release of superannuation in April 2020, allowing members to withdraw super balances early (up to a limit per resident). There were $36 billion of early withdrawals (2% of FUM). Funds managed the withdrawals by raising cash prior to the withdrawal. Funds were helped by the spread-out nature of withdrawals and the return to more normal functioning of securities markets.

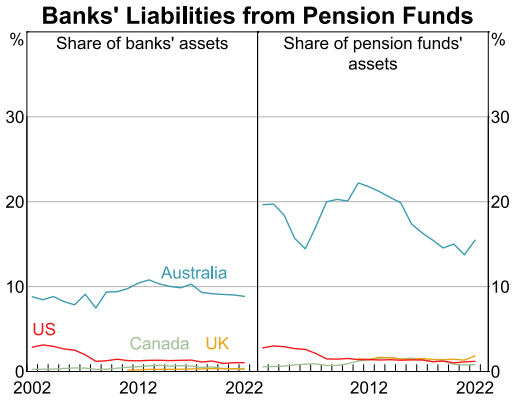
(3) During the first half of March 2020 the AUD depreciated 14% and as a result super funds paid $18 billion in margin payments 2021). Available data suggests funds partly funded these margin payments by selling foreign assets. Funds typically invest counter-cyclically, so an increase in value of their foreign assets caused funds to be overweight foreign assets. The cash raised from selling a portion of these foreign assets to rebalance their portfolio could then be used to meet margin calls. This indicates super funds hedging strategies during the pandemic where robust (FSR Box C 2021).

Links between super funds and the domestic banking system

Australia stands out with domestic banks' funding exposure to pension funds, and correspondingly pensions funds asset exposure to banks, much higher than overseas (Graph 13). Part of the high level of interconnectedness in Australia reflects that both the ADI and pension sectors account for a disproportionate share of the financial system. The fact that pension funds in Australia are defined contribution contributes as well, since this frees funds to invest more heavily in equities. Since the ASX is heavily weighted to banks, super funds end up being more weighted to banks than otherwise.

Graph 13

Banks' Liabilities from Pension Funds



Sources: FSB; RBA.

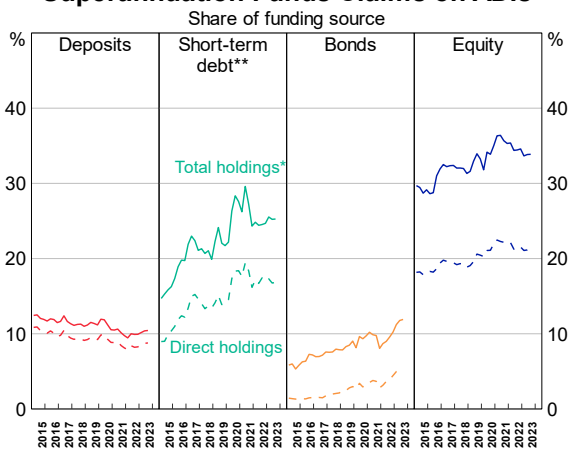
[13] If the move from riskier/less-liquid investments is orderly however, system stability would be increased since funds would now have a higher allocation to liquid assets. It is a disorderly move out of illiquid investments which creates risk.

[14] Industry funds that predominantly serviced sectors most impacted by covid experienced a higher pick up in member switching.

Graph 14

Superannuation Funds Claims on ADIs

Share of funding source



* Includes superfunds investments through money market and non-money market funds.
** Includes bank bills and acceptances.
Sources: ABS; RBA.

Looking through super fund's investments through managed funds, they hold very significant shares of the banking systems outstanding equity and debt, with most of these shares increasing over the past few years as the super system continues to grow (Graph 14).[15] Super funds also have large off-balance sheet exposures to domestic banks as they have offsetting derivative positions and are natural counterparties. In a negative shock to the Australian economy, resulting in a currency depreciation, banks would be beneficiaries as they take short AUD positions to hedge their overseas liabilities, whereas super funds are long, hedging their overseas investments.[16]

This still represents an exposure to the banking system though, since if super funds could not meet margin payments, banks would be left short, with foreign liabilities increasing in AUD and no offsetting gain on their hedging position. Most derivative positions are collateralised however, mitigating some of the market and counterparty risks.

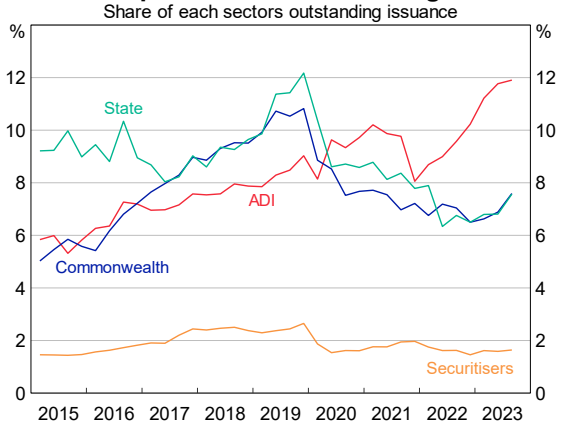
Although super funds are relatively light weight in fixed income securities compared to overseas pension systems, their size makes their domestic investment in bonds significant.

Super fund's holdings of bank bonds is nearly 12 per cent of outstanding stock and their holdings of commonwealth bonds and state government bonds (which qualify as HQLA for regulatory purposes) is roughly 8 per cent of outstanding stock on issue (Graph 15). Their share of ADI bonds outstanding continues to increase. Their share of government bonds has declined during covid, likely reflecting increased issuance during this period and the relatively low yield on these securities at that time. Investment in government bonds appears to be picking up again, potentially attributable to higher yields now available on these instruments.

Graph 15

Super Funds Bond Holdings

Share of each sectors outstanding issuance



* Includes superfunds investments through money market and non-money market funds.
Sources: ABS; RBA.

[15] Note that the investments though managed funds are estimated only, and the data quality is relatively poor for managed funds.

[16] For more information, see: 2021

SUPPLEMENTARY INFORMATION

Table 1

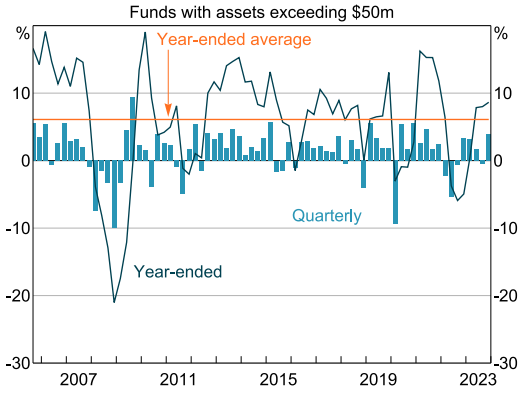
Top Super funds - by assets

Fund name	Fund type	Total assets ('000)	share of total assets	Total number of member accounts	share of total member accounts	Average balance ('000)
AustralianSuper	Industry	$311,497,761	13%	3,255,344	15%	96
Australian Retirement Trust	Industry	$264,427,524	11%	2,334,304	10%	113
Aware Super	Public Sector	$163,848,359	7%	1,194,591	5%	137
Unisuper	Industry	$127,415,732	5%	648,818	3%	196
HOSTPLUS	Industry	$97,038,772	4%	1,758,858	8%	55
Colonial First State	Retail	$88,704,036	4%	651,139	3%	136
Cbus Super	Industry	$86,258,918	4%	917,027	4%	94
Vanguard Super	Retail	$82,150,934	3%	847,462	4%	97
HESTA	Industry	$78,626,614	3%	1,026,691	5%	77
REST	Industry	$77,362,656	3%	2,023,006	9%	38
Mercer Super	Retail	$66,117,536	3%	842,813	4%	78
CSS	Public Sector	$63,044,591	3%	99,396	0%	634
AMP Super Fund	Retail	$56,173,969	2%	686,575	3%	82
Brighter Super	Public Sector	$40,558,878	2%	250,194	1%	162
Macquarie Super Plan	Retail	$37,822,407	2%	126,121	1%	300
Insignifia financial	Retail	$35,043,282	1%	207,674	1%	169
Equip Super	Industry	$32,872,731	1%	149,453	1%	220
Telstra Super	Corporate	$25,991,092	1%	92,773	0%	280
HUB24 Super	Retail	$24,955,415	1%	120,618	1%	207
Netwealth	Retail	$23,967,998	1%	88,550	0%	271
Care Super	Industry	$22,062,610	1%	222,897	1%	99
Vision Super	Public Sector	$17,874,004	1%	84,426	0%	212

Graph 16

Superannuation Returns*

Funds with assets exceeding $50m



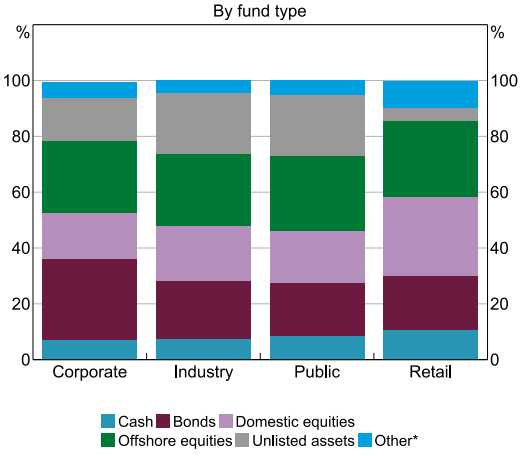
* Rate of return is net earnings after tax divided by cash flow adjusted net assets; year ended rates of return are calculated by geometrically linking the quarterly returns.

Sources: APRA; RBA.

Graph 17[17]

Superannuation Funds Asset Allocation

By fund type



* Includes commodities and listed property

Sources: APRA; RBA.

[17] There is dispersion among fund types and their asset allocation. Because different types of funds have different age structures of their membership bases (accumulation vs pension phase) it alters their investment horizon and amount of risk they accept in their portfolio. Correspondingly, the fund types with an older membership base (e.g. retail) have a higher allocation to cash, bonds, and listed assets. Funds with a younger membership base, in particular industry funds, have a high allocation to unlisted assets.