

Do Superannuation Fund Members Benefit from Large Fund Size?

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Executive Summary

As the Australian superannuation industry consolidates, we ask whether large size – say \$50-\$100 billion in assets and beyond – is likely to benefit fund members. Our answer is a ‘definite maybe’. Large size has its advantages, but also gives rise to disadvantages and significant challenges. Size offers potential to reduce cost ratios through internal investment management and scale economies, in administration. There is also greater scope to offer customised member services, and increased ability to invest effectively in private market assets. On the other hand, size limits the capacity to add value in other investment areas, especially listed equities. Size also creates a raft of challenges that could be sources of poor performance. These include sourcing sufficient attractive assets to complete a large portfolio and managing a large and increasingly global financial organisation. Implementing effectively at scale is the key. Rather than pursuit of size for its own sake, the most important issue is whether large and growing funds are adapting their operating models and building capabilities to maximise their advantages and mitigate their disadvantages.

About the authors

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1. Introduction

Against a wave of consolidation in the Australian superannuation industry, we address whether increased fund size benefits members. How important is it that a fund reaches \$50 billion, \$100 billion, or beyond? Our central message is that what matters is how size is used. Large size comes with advantages, disadvantages and challenges, as summarised in Exhibit 1. We consider the major advantages as potential to reduce cost ratios through internal investment management and scale economies in administration, greater scope to offer customised member services, and increased ability to invest effectively in private market assets. Major disadvantages and challenges include the need to find sufficient attractive assets to complete a large portfolio, restricted capacity to add value in some investment areas particularly listed equities, and various issues related to managing a large financial organisation with an increasing global footprint. Implementation is key. Failure by large and growing funds to put in place the governance, organisational structures, staff, systems, and investment strategy to be effective at size could result in large size working to the detriment rather than benefit of members.

Exhibit 1: Advantages, Disadvantages and Challenges of Large Size for Australian Super Funds

ADVANTAGES	DISADVANTAGES	CHALLENGES
<p>1. Administration scale economies</p> <ul style="list-style-type: none"> • Lower costs per amount invested and hence fees <p>2. Greater resources and economies of scope</p> <ul style="list-style-type: none"> • Larger budget for governance and various support services • Improved ability to offer customised member services • Particular advantage in delivering retirement strategies <p>3. Supports internal management</p> <ul style="list-style-type: none"> • Lowers costs and hence fees • Potential to enhance investment capabilities and alignment of portfolios with objectives <p>4. Access to alternative assets</p> <ul style="list-style-type: none"> • Some alternatives require scale, e.g. property, infrastructure • Diversification benefits • Scope to create and capture economic value as direct owner <p>5. Other</p> <ul style="list-style-type: none"> • ESG programs and engagement assisted by better resourcing and a louder voice • Better access to opportunities and control over assets 	<p>1. Capacity constraints and scale diseconomies in public assets</p> <ul style="list-style-type: none"> • Limits potential to add value through active investing • Universe narrowed to sectors with less potential, e.g. large caps <p>2. Coordination problems</p> <ul style="list-style-type: none"> • Common culture and purpose are harder to sustain • Silos more likely • Increased complexity and bureaucracy <p>3. Reduced flexibility</p> <ul style="list-style-type: none"> • Difficulties in trading at scale • Private assets can be hard to sell <p>4. Member experience</p> <ul style="list-style-type: none"> • Large organisations find personal experience harder to deliver <p>5. Possible systemic effects</p> <p><i>Adverse:</i></p> <ul style="list-style-type: none"> • Reduced market resilience • Large fund encountering difficulties ties could damage many members and cause disruption • Reduced competition at margin <p><i>Other effects:</i></p> <ul style="list-style-type: none"> • Concentration of power and influence, which might be misused • Lessened institutional involvement in markets for smaller firms 	<p>1. Sourcing sufficient attractive assets to complete large portfolios</p> <ul style="list-style-type: none"> • Accepting unattractive investments to complete the portfolio could lead to reduced returns, although ... • Impact may vary with competition for opportunities and market cycles <p>2. Building private market capability</p> <ul style="list-style-type: none"> • Skilled teams required • Networks needed to access assets <p>3. Reliance on internal management</p> <ul style="list-style-type: none"> • Decisions impact across portfolio • Governance and culture important • Managing ‘capture’ risks • Attracting and retaining good quality and well-aligned staff <p>4. International expansion difficult, but unavoidable at very large size</p> <ul style="list-style-type: none"> • Different set of skills required • Staffing challenges magnified • Coordination problems heightened • Managing currency related risks • Multiple regulatory regimes <p>5. Australian context</p> <ul style="list-style-type: none"> • Defined contribution, with ... • Member choice, plus ... • Your Future Your Super test => • Lowers security of funding => • Reduces tolerance for illiquidity and shortens horizons

Industry consolidation also carries some systemic risks. Concentrating assets in the hands of a small number of very large superannuation funds could impact on the functioning of markets and reduce competition. Larger funds have a larger footprint, and can do more damage to members if they fail to deliver good outcomes or disrupt markets if they encounter major organisational ructions. Both large and small funds can be successful if they play to their advantages and address their challenges. We see a role for efficiently operated small, medium and large funds in a healthy and diverse superannuation

industry, noting that smaller fund can enrich the competitive and investment landscape. There is a case to shift away from the ‘size is good’ mantra towards placing keener focus on ensuring that members benefit from increasing concentration. Particular attention might be paid to whether fund trustees and management at large and growing funds are establishing the capabilities to succeed at size.

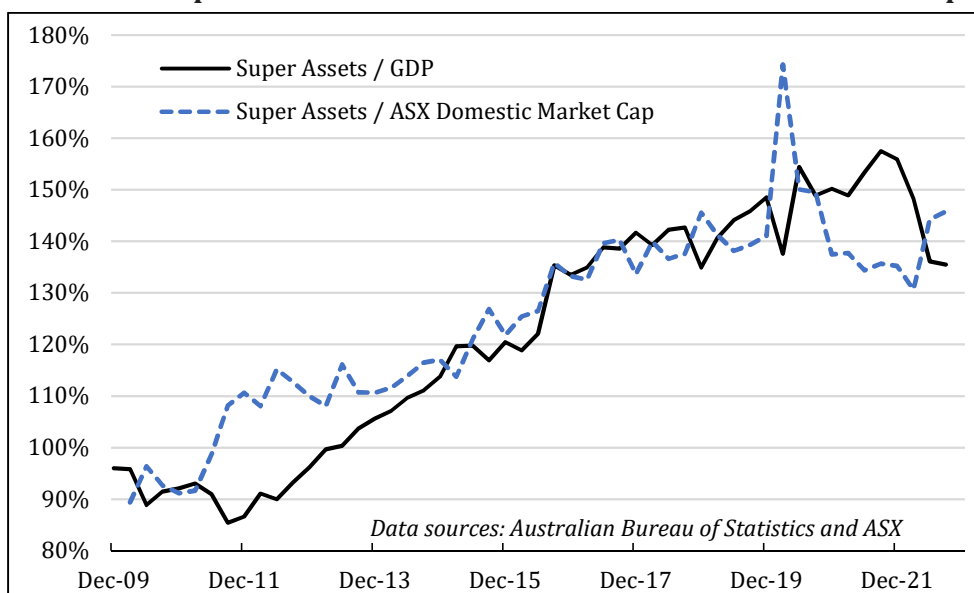
We offer no definitive view on whether large size benefits superannuation fund members. Rather, we aim to identify the key issues and implications of operating at large size.¹ Section 2 provides background on the trend towards increased fund size, existing research and operating models used by large funds around the world. Section 3 addresses investment implications, focusing on public (listed) markets, private (unlisted) markets, internal management and flexibility. Section 4 discusses administration and member services. Section 5 focuses on the critical implementation challenges for success. Section 6 comments on potential systemic effects. Section 7 offers thoughts on small funds. Section 8 concludes.

2. Background

2.1 Growing industry with fewer and increasingly larger funds

The Australian superannuation industry has increased in systemic importance due to growth stemming from inflows and solid investment performance. Further, industry assets are being concentrated in the hands of fewer funds of an increasingly large size due to fund mergers and differences in flows across funds.² Exhibit 2 shows that total superannuation assets stood at around 140% of both GDP and ASX market capitalisation (cap) at September 2022, versus below 100% in 2010. Deloitte (2021) projects superannuation assets moving towards 190% of GDP over the next 20 years. The industry is increasingly dominant within the Australian managed fund industry, constituting 78% of total assets at September 2022.³ Superannuation is a significant component of wealth for many Australians, and will increasingly form the bulk of financial savings as the system matures.

Exhibit 2: Superannuation Assets Relative to GDP and ASX Market Cap.



¹ We note that the effects of large size manifest differently in the retail and not-for-profit sectors due to different business models. Retail funds operate as a platform offering a large number of options that are then combined into portfolios; whereas not-for-profit funds tend to focus on their main portfolio while offering fewer investment options on the side. Many of the points raised in this paper are most applicable to not-for-profit funds, and less applicable to retail funds.

² See <https://www.investmentmagazine.com.au/2023/01/understanding-the-super-fund-landscape> for an analysis of superannuation fund flows and AUM during fiscal year 2022 by David Bell the Conexus Institute.

³ Source: Australia Bureau of Statistics (ABS), Managed Funds Australia, ABS Website, accessed 29 December 2022.

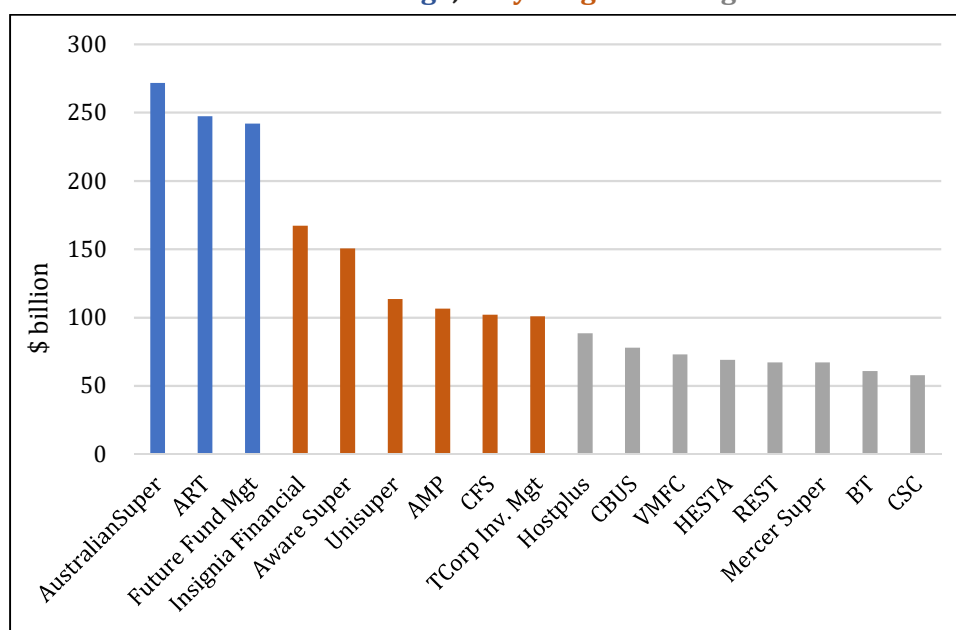
Exhibit 3 illustrates the consolidation of industry assets in the hands of increasingly large funds using data provided by the Australian Prudential Regulatory Authority (APRA).⁴ The number of funds reporting data to APRA fell from 185 in June 2014 to 97 in June 2022, with the decline concentrated among smaller funds. The APRA data shows five funds exceeding \$100 billion⁵ and 16 funds exceeding \$50 billion at June 2022, compared to zero and four funds respectively at June 2014. The 16 funds of over \$50 billion comprise 57.3% of superannuation assets⁶ (about 78% of assets excluding self-managed superannuation funds, i.e. SMSFs).⁷ The APRA data exclude recent mergers and reports defined benefit liabilities, rather than assets under management (AUM), for the Commonwealth Superannuation Corporation (CSC) funds. Exhibit 4 adjusts for these features⁸ and adds the three large public sector funds over \$50 billion to reveal the biggest 17 funds by AUM.⁹

Exhibit 3: Distribution of APRA-Regulated Superannuation Funds by Assets

Asset Threshold	No. of Funds Above Asset Threshold			% of Total Assets in Superannuation		
	Jun-2014	Jun-2018	Jun-2022	Jun-2014	Jun-2018	Jun-2022
> \$100 billion	0	2	5	0.0%	9.3%	34.0%
> \$50 billion	4	13	16	13.7%	36.9%	57.3%
> \$20 billion	14	23	25	34.0%	49.2%	65.6%
> \$10 billion	28	36	37	45.8%	56.3%	71.1%
> \$5 billion	48	53	47	53.3%	61.2%	73.0%
> \$2 billion	78	80	62	58.7%	64.3%	74.3%
> \$1 billion	97	97	77	60.3%	65.2%	75.0%
Total Reporting	185	150	97	61.9%	65.9%	75.2%

Source: APRA Annual Fund-level Superannuation Statistics; ABS 5655.0 Managed Funds, Australia

Exhibit 4: AUM of Mega, Very Large and Large Funds



⁴ Exhibit 3 takes the APRA data at face value.

⁵ All dollar amounts quoted in this study are in Australian dollars.

⁶ About a quarter of APRA-regulated funds by number hold less than 0.5% of total industry AUM.

⁷ Superannuation assets totalled \$3.329 trillion at June 2022 according to the ABS. The Australian Tax Office reports assets in SMSFs of \$0.878 trillion at June 2022, or 26% of the total.

⁸ We thank David Bell from the Conexus Institute for providing the adjusted AUM data for APRA-regulated funds.

⁹ The three large public sector funds are added for context around industry concentration, noting that the assets they manage extend beyond superannuation.

Fund merger activity seems likely to continue. Mergers have been strongly encouraged by APRA. At the 11 October, 2022 House of Representatives Standing Committee on Economics, APRA member Margaret Cole said “*We will continue, even when they aren’t (performance test) fails, to nudge some of those (funds) that we see probably don’t have sustainability to consider their options for the future.*”¹⁰ APRA has referred to AUM of \$50 billion as a marker for delivering cost efficiencies and greater likelihood of fund ‘sustainability’.¹¹ The consolidation process seems to have its own momentum, with some fund trustees embracing mergers in response to APRA’s prodding, and seemingly jockeying to join the group of funds viewed as being of sufficient size.

2.2 Literature on the impact of size

Research on the impact of increased AUM on investment performance has largely focused on listed equities and to a lesser extent hedge funds.¹² While findings are mixed, evidence exists of scale diseconomies in both segments.¹³ While research in other markets is thin and yields no definitive conclusions, there is some support for scale economies in direct property.¹⁴ An important consideration is that asset owners have the option to adjust how they invest with size, potentially directing their activities to assets or strategies that befits their AUM.¹⁵ Thus findings for one asset class do not necessarily translate directly into effects on asset owners.

Research into the impact of increased AUM for asset owners is relatively sparse. There is evidence of scale *economies* in administration and larger funds being able to lower costs as a percentage of AUM; but no definitive findings on how size impacts on investment performance.¹⁶ CEM Benchmarking has collected a comprehensive global database of pension funds, and finds that larger funds over US\$10 billion outperform smaller funds under US\$1 billion in AUM.¹⁷ Consistent with size supporting cost efficiencies, the better performance of larger pension funds has been traced to a combination of ability to implement private assets internally, lower management cost ratios and lower fees being paid to external managers.

For Australian superannuation funds, the Productivity Commission (PC) examined scale economies in its industry review of 2018.¹⁸ They concluded that there is strong evidence of scale economies related to cost efficiencies while the implications for investment performance were unclear. The PC also found mixed evidence on the pass-through of cost efficiencies into lower fees, while acknowledging that some scale economies may have manifested in higher returns or provision of better member services. The latter raises that point that larger size could manifest in enhanced *scope* that brings other benefits to members. For instance, some of the larger industry superannuation funds have used their size to invest in alternative assets such as infrastructure where management costs are higher, which appears to have benefited members through better after-fee performance.

In a recent APRA study,¹⁹ Cunanan and Garvin (2023) examine APRA-regulated funds and find strong evidence of scale economies in operating expenses with a 1% increase in assets associated with an

¹⁰ See: [FYYS survivors still need to merge: Cole | Investor Strategy News \(ioandc.com\)](https://www.ioandc.com/news/2022/10/11/fyys-survivors-still-need-to-merge-cole)

¹¹ See: <https://www.apra.gov.au/news-and-publications/small-and-medium-super-funds-face-sustainability-challenges-0>

¹² See O’Neill et al. (2022) for a summary of this literature.

¹³ Scale diseconomies appear to stem from both fund AUM and aggregate AUM directed at a market or strategy.

¹⁴ See Andonov, Kok and Eichholtz (2013).

¹⁵ See O’Neill and Warren (2016) for a discussion.

¹⁶ This was the finding of Cummings (2016) for Australian superannuation funds. Bikker and De Dreu (2009) and Bikker (2017) find similar evidence regarding costs for Dutch pension funds. See also the discussion of Cunanan and Garvin (2023) at the end of this paragraph.

¹⁷ See Beath et al. (2022). The CEM sample is dominated by small-medium sized defined benefit funds. This limits the extent that the findings can be generalised to the potential impact of very large size such as AUM of \$50-\$100 billion or above, or to a defined contribution setting.

¹⁸ See Productivity Commission (2018).

¹⁹ This study had not been publicly released at the time of writing.

increase in expenses of around 0.8%.²⁰ They also find a weak positive relation between AUM and net performance, with a doubling of assets associated with a 5bps improvement in performance relative to the fund's strategic asset allocation benchmark. Not only is the relation between AUM and returns modest in economic magnitude, but it explains only a small portion of return variability. This suggests there are other important influences at play. Examining returns relative to the strategic benchmark also does not directly address how size might impact via asset allocation choices.

2.3 Operating models of asset management at large size

Examining the operating models used by very large asset owners around the world provides clues on how the large Australian superannuation funds might evolve as they grow. Rozanov (2015) describes three operating models denoted as the 'Norway model', the 'Yale model' and the 'Canada model', discussing how they are applied by five large assets owners.²¹ Two main points of differentiation emerge. First is the focus of the investment strategy, where the two main paths are harvesting market betas under a belief that generating alpha is difficult (Norway's sovereign wealth fund) or emphasising active management especially in private market assets where size can be advantageous (Yale, Canada). Second is the reliance placed on internal management (Canada) versus external management (Yale; also Australia's Future Fund). Note that asset owners applying the Yale and Canada models are sovereign wealth funds, endowment funds or defined benefit pension funds. They thus have high funding security and lower member servicing requirements relative to Australian superannuation funds, which are substantially defined contribution.

Investment beliefs appear to be influential for the investment operating models adopted. Breakout box #1 presents statements of investment philosophy for the Government Pension Fund (GPF) of Norway, the Future Fund and CPP Investment Management (the manager of the CPPIB fund). Key phrases that connect to the operating model are highlighted in green. These and other large funds typically use a wide range of approaches spanning various mixtures of active and passively managed listed assets, direct investment in private markets, and internal and external investment management. This implies that investment beliefs tend to drive points of emphasis, rather than being pursued absolutely. Australian superannuation funds may also emulate elements of all these operating models as they grow in size.

The larger Australian superannuation funds appear to be shifting in the direction of the Canada model through building sizeable internal teams²² and increasing use of private market assets. However, they are still retaining meaningful use of external management relative to the Canadian funds.²³ For example, assets managed internally at June 2022 stood at 53% for AustralianSuper²⁴ and 70% for UniSuper²⁵ – two funds that are relatively advanced in their internalisation journey – while internally managed assets are less than 50% at other large funds. Use of private market assets will likely remain restrained due to the status as defined contribution funds offering member choice and the Your Future Your Super (YFYS) performance test., These factors lower tolerance for illiquidity and tracking error to the YFYS benchmarks, respectively. Australian superannuation funds do not appear to be embracing the Norway model as they are showing few signs of eschewing the search for alpha in listed markets; although some passive exposures are being added as core exposure.

²⁰ Estimates vary with the particular model. There is also evidence that the benefits take about two years to flow through.

²¹ The five funds include Norway's Government Pension Fund, the Yale University Endowment Fund, Australia's Future Fund (which is categorised under the Yale model), Canada Pension Plan Investment Board (CPPIB), and the Ontario Teachers' Pension Plan (OTPP).

²² Gallagher, Gapes and Warren (2016, 2019) examine the trend towards internal management by superannuation funds.

²³ OTPP for instance places the amount of assets managed internally at around 80%, see <https://www.otpp.com/en-ca/about-us/news-and-insights/2022/ontario-teachers--delivers-strong-investment-performance-in-2021/>.

²⁴ <https://www.australiansuper.com/-/media/australian-super/files/about-us/annual-reports/2022-annual-report.pdf>

²⁵ <https://www.unisuper.com.au/investments/how-we-invest/investment-managers>

Breakout Box #1

Investment Beliefs of Three Large Asset Owners

This box presents extracts from statements of investment belief by three large asset owners around the globe. Key passages that connect to the operating model have been highlighted in *green italics*. The main takeaway is the connection between how these funds handle operating at large size and their core investment beliefs.

Government Pension Fund of Norway

“The Ministry has developed an investment strategy for the fund over time with the following key features:

1. Diversification of investments
2. *Harvesting of risk premiums*
3. Rebalancing of equity share
4. *Limited scope for deviation from benchmark index (active management)*
5. Responsible investment
6. *Cost-effective management*
7. Transparency”

Source: *Review of the management of the Government Pension Fund Global, Letter sent to the Ministry of Finance, 1 December 2021.* <https://www.nbim.no/en/publications/submissions-to-ministry/2021/review-of-the-management-of-the-government-pension-fund-global/>

“The Ministry raises the issue of whether the substantial growth in the fund’s assets has affected the potential for excess returns. In its letter of 15 December 2017, Norges Bank wrote that *higher assets under management make it harder to achieve an excess return* in percentage terms.”

Source: *Norges Bank Annual Report, 2021*

The Future Fund

“We believe that:

1. Strong governance is essential to our success.
2. Our ‘One team, One purpose’ culture leads to better decisions and investment outcomes.
3. A total portfolio approach will improve our long-term performance.
4. *Inefficiencies in markets create opportunities for us to add value through active management.*
5. Risk is multi-faceted and robust risk management enhances our ability to achieve our mandates.
6. *Our primary focus should be on the value we add, net of all costs, but we seek to utilise our scale and market standing to reduce costs.*
7. We have a number of comparative advantages that, if properly utilised, will help us achieve our mandates.”

Source: <https://www.futurefund.gov.au/investment/how-we-invest/investment-beliefs>

CPP Investments (selected extracts)

Our Investment Beliefs

- Taking on risk is inseparable from maximizing long-term returns
- Long-term investing can provide opportunities for greater rewards
- *Capital markets provide opportunities for advantaged investors to generate superior returns*
Global capital markets are never perfectly priced at any level ... CPP Investments can and should actively manage Fund assets
....
- Sound diversification of assets and exposures builds resilient portfolios
- *Active selection of individual investments can outperform passive market participation*
... A wide range of internal skills allows CPP Investments to add net value to the Fund by selecting superior active strategies, managing certain strategies cost-effectively in-house and accessing world-class specialist external managers ... Active management can be complemented by low-cost, index-based strategies to achieve the overall factor exposures ...
- *Strategic positioning can create value and reduce risk*
Conditions vary widely across global capital markets and over time ... CPP Investments can make risk-controlled shifts in market exposures.
- Incorporating non-market and emergent factors into decision-making creates more sustainable value
- World-class governance, accountability and risk management strengthen delivery of maximized returns at appropriate levels of risk.

Source: <https://www.cppinvestments.com/about-us/our-investment-beliefs/>

3. Size and investment performance – Mixed bag of effects²⁶

The implications of large size for the investment performance of asset owners like superannuation funds is unclear. Large funds need to invest differently from smaller funds to be successful. Much depends on how well management can formulate and implement a strategy that maximises the advantages of size while minimising its disadvantages. Exhibit 5 lists the investment advantages as well as the disadvantages and challenges that large size brings. We draw out the major themes immediately below, and expand on selected issues in the sub-sections that follow.

Major advantages enjoyed by large funds include:

- (i) **Potential to lower the cost of investing for a given asset mix.** The main driver is internal management, which can substantially reduce the per-unit cost of investing within an asset class relative to an outsourced model with management fees as a percentage of AUM. We illustrate this advantage in Section 3.3. Larger mandates with external managers can also attract a lower fee rate.
- (ii) **Ability to exploit potentially attractive investments not readily accessible at smaller size.** Large size helps facilitate accessing some private markets including direct property, infrastructure and lending; and opportunities arising from being a large provider of patient capital, e.g. participation in capital raisings. We expand on opportunities in private markets in Section 3.2.
- (iii) **Greater resources to support investment functions.** This may include enhanced systems, a larger staff pool and better ability to build networks to source assets. Greater resourcing can make the investment function more effective through broadening the available skill set and supporting functions such as portfolio monitoring and the management of exposures and risk.

Major disadvantages and challenges faced by large funds include:

- (i) **Need to invest a large amount of assets.** Potential to generate good risk-adjusted returns is reduced if attractive opportunities to invest at size are limited. Conceptually this may reduce the potential for large funds to generate attractive risk-adjusted returns across the portfolio relative to smaller funds.²⁷ Breakout box #2 (see page 9) offers a simple illustration of how the impact on returns might emerge. The magnitude of this constraint depends on availability of larger assets that are attractively priced, and may vary with competition for those assets and market cycles. For example, in some private markets such as private equity and infrastructure there can be a limited supply of assets relative to investor demand; although this can fluctuate with aspects such as the state of the markets or economy and (in the case of infrastructure) government policy. Another example is that opportunities in unlisted property might be better when property markets are depressed than when they are hot. **Complexity** can also increase with size, and might create its own inefficiencies.
- (ii) **Reduced opportunity to add value in some investment areas.** As a fund grows in size, it becomes progressively infeasible to effectively deploy capital of sufficient magnitude in some areas, particularly across public markets using an active approach. Notable examples include small cap²⁸ and emerging market equities, certain segments of the credit markets and some alternative investments such as particular hedge fund strategies. Investment in smaller assets or markets is constrained not only by the difficulty of investing sufficient AUM to ‘move the dial’ in terms of performance; but also that investments of any size absorb some of the finite ‘governance budget’ including management time. Further, areas closed off can tend to be where alpha potential is

²⁶ Discussion in this section draws heavily on a series of papers sponsored by the Centre for International Finance and Regulation (CIFR) covering capacity constraints in fund management and internal management. This includes O’Neill and Warren (2016a, 2016b), O’Neill, Schmidt and Warren (2016) and Gallagher, Gapes and Warren (2016).

²⁷ This concept is often attributed as being bought forward by William Sharpe during consulting work for CalPERS.

²⁸ For example, Chen et al. (2010) and Cao, von Reibnitz and Warren (2020) find that Australian investment managers have been able to significantly outperform in Australian small caps.

greatest, either because there is an illiquidity premium to be earned or pricing is less efficient. We expand on the sources of diseconomies of scale in public markets in Section 3.1.

- (iii) **Increased reliance on successful internal management.** The larger a fund grows, the stronger the incentive to use internal management, and the greater the reliance on the internal teams delivering. However, the success of internal management is by no mean guaranteed. Section 3.3 outlines the drivers of internal management, while Section 5.2 discusses it as a critical area for success.
- (iv) **Reduced flexibility.** Larger funds have less flexibility due to difficulties in adjusting large portfolios, especially if private assets are involved. We expand on this issue in Section 3.4

Exhibit 5: Investment Advantages and Disadvantages of Large Superannuation Fund Size

Advantages	Disadvantages and challenges
<ol style="list-style-type: none"> 1. Lower investment costs per dollar invested for a given asset mix <ul style="list-style-type: none"> - Internal management lowers costs - Lower fees for larger mandates 2. Scope to invest in private markets where scale can support successful participation <ul style="list-style-type: none"> - Direct property - Direct infrastructure - Direct lending - Possibly: private equity, natural resources 3. Greater capability due to better resourcing <ul style="list-style-type: none"> - Investment management systems - Larger investment staff pool - Additional functions, e.g. teams to oversee the total portfolio, manage risk, or engaging with investments 4. Enhanced external networks <ul style="list-style-type: none"> - Better access to opportunities, including private market assets and direct participation in capital raisings and other corporate transactions - Richer sources of information and market insight - Ability to partner with external managers 5. Other benefits <ul style="list-style-type: none"> - Creating value from ESG engagement might be assisted by ability to commit resources and greater influence through a 'louder voice'²⁹ - Investing directly gives more control over assets and taxation - Investing directly can help to reduce agency risks related to use of external managers and investing alongside other investors in pooled structures - Large size can help with attracting and retaining talent (Note: Staffing is also listed as a challenge.) 	<ol style="list-style-type: none"> 1. Sourcing sufficient attractive assets to complete a large portfolio <ul style="list-style-type: none"> - Where available attractive opportunities are less than assets to be invested, less attractive investments may need to be taken thus diluting returns or raising risk - Dilution risk depends on competition for assets and market cycles 2. Reduced capacity to create value through active management in public markets <ul style="list-style-type: none"> - Listed equities in particular, but also listed infrastructure and property (REITs) - Fixed income, specifically credit and high yield - Accessible universe narrows, especially in higher alpha areas like small caps and emerging markets - External manager restraints on mandate size 3. Alternative assets with limited scope to invest at size become unviable for large funds, e.g. some hedge fund strategies 4. Reliance on internal management teams becomes a potential source of vulnerability <ul style="list-style-type: none"> - Internal decisions are influential where they impact widely across the portfolio. Poor decisions can be costly. (Limited manager diversification.) - Important elements that are challenging to get right include governance, culture, systems and risk management in large and complex portfolios - Staff quality, alignment and retention become of heightened importance. Hampered by limits on remuneration and incentives that can be offered. - Internal teams bring some element of 'capture' 5. Loss of flexibility from difficulties in trading at scale and investments in private markets

²⁹ Many of these benefits might be achieved by a collaborative approach with other investors.

Breakout Box #2

How the Need to Complete a Large Portfolio Might Crimp Returns

This box illustrates how the need for large funds to complete a large portfolio might impact on returns through a highly simplified example. A notional list of investment opportunities of differing size is sorted by expected return. Portfolios are constructed for both a \$20 billion fund aiming to invest \$2 billion and a \$200 billion fund aiming to invest \$20 billion under three simple rules. First, no single investment may constitute less than 1% of the portfolio: this rules out the \$200 billion fund investing in small assets. Second, no single investment may constitute more than 10% of the portfolio: this guards against too much portfolio concentration. Third, a meaningful stake in the asset is required to participate, at least 20% of an opportunity must be taken: this rules out the smaller fund participating in larger assets. Fourth, investments must offer an expected return of at least 5%pa (about 2.5% in real terms on inflation of 2.5%).

Portfolios are filled by sequentially going down the list. The result is that the \$200 billion fund can build a portfolio totalling \$17.275 billion with an expected return of 9.3%pa, leaving \$2.725 billion as uninvested 'dry powder'. Meanwhile, the \$20 billion fund can build its target \$2 billion portfolio with an expected return of 11.8%pa. The difference is that there are insufficient attractive opportunities of the required dollar amount available to the large fund. (Note: If the large fund took the four smaller opportunities it has overlooked, it would barely move the return dial.)

We assume that the small fund has the resources and network to capture all the opportunities that it wants. This need not be the case. Alternatively, if this were done with assistance from external managers, the returns would be attenuated by management fees. Thus large and small funds face different challenges in building portfolios related to the degree of resources that each might bring to bear.

Investment Opportunities <i>Ranked by Return</i>	Expected Return pa	Value (\$ million)	Investments Accepted	
			\$20 billion Fund <i>\$2 billion Portfolio</i>	\$200 billion Fund <i>\$20 billion Portfolio</i>
1	16.0%	50	50	
2	15.5%	125	125	125
3	15.0%	600	200	600
4	14.5%	100	100	100
5	14.0%	8,000		2,000
6	13.5%	400	200	400
7	13.0%	75	75	
8	12.5%	350	200	350
9	12.0%	2,000		2,000
10	11.5%	250	200	250
11	11.0%	50	50	
12	10.5%	150	150	150
13	10.0%	500	200	500
14	9.5%	1,200		1,200
15	9.0%	650	200	650
16	8.5%	800	200	800
17	8.0%	5,000		2,000
18	7.5%	1,200		1,200
19	7.0%	400	50	400
20	6.5%	50		
21	6.0%	1,800		1,800
22	5.5%	750		750
23	5.0%	4,000		2,000
24	4.5%	600		
Total Invested			2,000	17,275
Expected Return pa (on total invested)			11.8%	9.3%
'Dry powder'			0	2,725

3.1 Size reduces opportunities to add value in public markets

Theory, empirical research and real-world trading experience all suggest that large size is a disadvantage when managing active public market portfolios such as listed equities.³⁰ This disadvantage arises from the need to take increasingly large positions in companies as AUM grows. This results in a narrowing of the investible universe and difficulties in trading at size for those investments being pursued. Narrowing of the universe stems from ‘holding limits’ on the percentage of any one particular company or security issue that a fund can or should own. Such limits require redirection towards larger companies or across more positions as AUM grows. This can lead to less attractive opportunities being taken through either blocking off potentially lucrative opportunities at the smaller end of the market and/or spreading the portfolio more widely. Trading difficulties relate to implementation shortfall (Perold, 1988), where increasingly larger trades face a deteriorating trade-off between attempting to trade quickly and incurring larger transaction costs through market impact.³¹ This leads to potential opportunity costs associated with trade delay due to spreading the trade over time, perhaps due to insufficient available volume. The degree to which this trade-off deteriorates depends on liquidity of the securities and the extent to which the investment process relies on its speed of execution.³²

Exhibit 6 shows how holding limits progressively bind with larger size. For funds with total AUM ranging from \$10 billion to \$200 billion that invest 25% of assets in Australian equities (AE), we calculate the percentage of market cap that needs to be held to establish an active position³³ equal to 0.5% of the AE portfolio for the top 300 ASX-listed domestic stocks in late December 2022. We refer to a 5% notional holding limit.³⁴ This is exceeded for approximately any stock outside the top 200 stocks for a \$50 billion fund, the top 120 for \$100 billion fund, and the top 60 for a \$200 billion funds. Exhibit 7 reveals how the ability to pursue an active strategy that entails small and even medium caps diminishes with fund size. This is because of decreasing ability to establish positions of a meaningful size in these segments.³⁵ For instance, investing in Australian small caps (i.e. outside the top 100) might be problematic for funds exceeding \$100 billion in assets.

Exhibit 7 demonstrates how trading constraints increasingly impact on the ability to effectively implement position changes as a fund grows. An illustrative analysis for sell trades equal to 0.5% of an AE portfolio comprising 25% of total fund AUM is presented for five stocks that span the size range (BHP, Westpac, Allkem, Nine Entertainment to Ramelius Resources). Panel A reports the ratio of average daily volume (ADV) that needs to be traded, i.e. the proportion of volume that the trade would absorb on a typical day. This provides an indication of the potential time to trade under average conditions.³⁶

³⁰ In addition to O’Neill and Warren (2016a) and O’Neill, Schmidt and Warren (2016), a useful discussion of the concepts behind how size impacts on ability to successfully implement an investment strategy in equity markets can be found in Perold (1988) and Perold and Samuelson (1991).

³¹ Wagner (2003) describes the “iceberg of transaction costs” with the explicit costs of taxes and commissions the part above the water, and the typically much larger implicit costs of market impact, opportunity costs and delay below the water and more difficult to observe. O’Neill and Warren (2016) provide a review of the transaction cost literature.

³² Large funds may be able to partially mitigate the adverse impact of size by shifting towards strategies that are less reliant on immediacy. For example, strategies based on value and long-term strategic holdings can often be implemented with delay at low cost. Larger funds might also shift towards liquidity-providing strategies, e.g. enhanced indexing; offering liquidity in times of market stress. By contrast, strategies based on momentum or responding to events such as earnings revisions tend to require quick trading, and hence are more difficult to implement at scale.

³³ A 0.5% active position is defined as holding a weighting in the AE portfolio of 0.5% in excess of the weighting of each company by market cap within the top 300 companies.

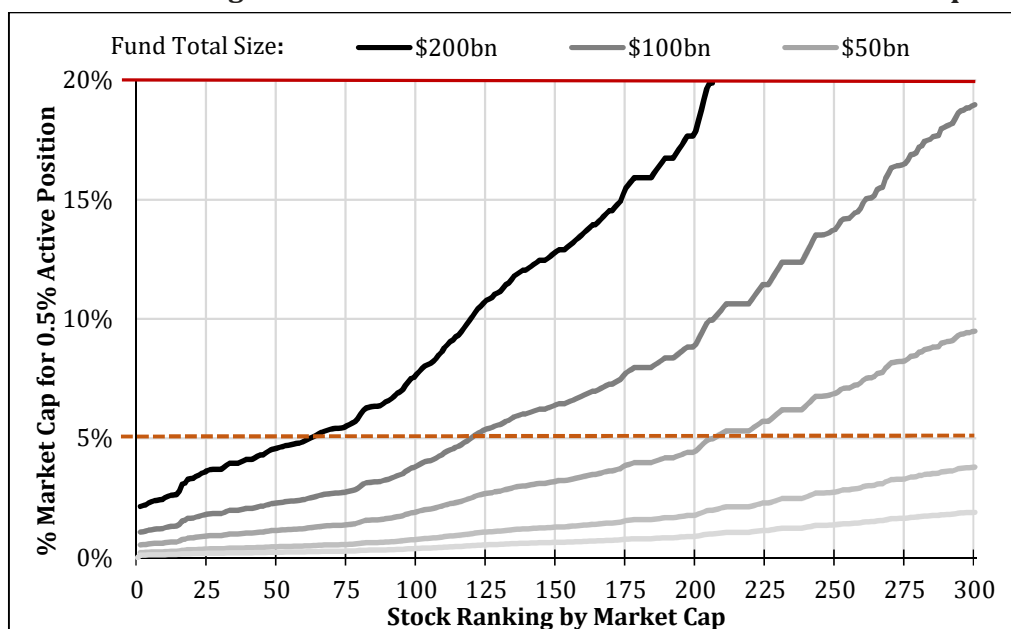
³⁴ The 5% limit is where public disclosure as a substantial shareholder is required. Constraints on the percentage of a company that may be held are discretionary, with the possible exception of a hard limit at the 20% takeover threshold.

³⁵ The analysis is conservative to the extent that a 0.5% active position might be considered a low target for a meaningful position. Offsetting this is the scope to move above a 5% shareholding in a company if so desired.

³⁶ ADV is only one measure of stock liquidity and does not provide a consideration of non-typical market conditions, e.g. trading on new stock information, or in high volatility environments such as crisis markets or a stock situation.

Panel B reports expected transaction costs for completing the trade in one day³⁷ according to the Northfield Australian Equity Risk Model.³⁸ This might be interpreted as the cost in the limit for pursuing an immediate trade regardless of that cost.³⁹ While both measures have their issues, they convey how the capacity to trade quickly at a reasonable cost deteriorates with fund size especially in small-medium sized stocks.

Exhibit 6: Holding Constraints for 0.5% Active Position in Australian Equities



Data source: MarketIndex (<https://www.marketindex.com.au/asx300>). Author estimates.

Exhibit 7: Trading Analysis for Sale of 0.5% Active Position in Australian Equities

Total Fund Assets (\$m)	10,000	20,000	50,000	100,000	200,000
Total AE Portfolio (\$m at 25%)	2,500	5,000	12,500	25,000	50,000
Position of 0.5% of AE Portfolio (\$m)	12.5	25.0	62.5	125.0	250.0
PANEL A: Relative Trade Size					
Security (ASX Rank by Market Cap)	Trade Value / Average Daily Volume (ADV)				
BHP (1)	0.03	0.07	0.17	0.34	0.68
Westpac (5)	0.07	0.13	0.34	0.67	1.34
Allkem (72)	0.17	0.33	0.83	1.67	3.33
Nine Entertainment (118)	1.45	2.90	7.25	14.50	29.01
Ramelius Resources (274)	2.52	5.05	12.62	25.24	Untenable*
PANEL B: Predicted Transaction Costs					
Security (ASX Rank by Market Cap)	Predicted Cost Relative to Pre-Trade Value				
BHP (1)	0.4%	0.6%	1.0%	1.5%	2.4%
Westpac (5)	0.6%	0.8%	1.5%	2.3%	3.6%
Allkem (72)	0.8%	1.2%	2.0%	3.2%	5.3%
Nine Entertainment (118)	2.8%	4.5%	8.9%	15.5%	27.7%
Ramelius Resources (274)	5.7%	9.6%	20.2%	36.5%	Untenable*

* Trade would amount to over 20% of shares on issue. Source: Northfield Information Services

³⁷ Transaction cost models provide an indication of the potential cost of trading and are subject to error, the scope for which increases at higher percentages of ADV. Further, applying the model over one day does not address the difficulty and cost of trading large positions over multiple days, which may include cumulative market impact and potential opportunity costs.

³⁸ We thank Northfield for providing the analysis, which was conducted based on data for the end of October 2022.

³⁹ An investor is unlikely to be willing to incur very high price impact to secure a trade in one day unless they are a forced seller. They may incur these costs nevertheless through trade delay if the price moves against them.

Trading the BHP and Westpac positions might be manageable within a reasonable timeframe at acceptable cost by funds across the size range examined. However, the difficulties in trading escalate substantially as fund size increases and stock size decreases. For example, consider undertaking a 0.5% sell trade in Nine Entertainment, which stands at the upper end of the small-cap universe. For a \$10 billion fund, this trade equates to 1.45-times ADV and is estimated to cost 2.8% to complete in one day. For a \$100 billion fund, the trade is 14.50-times ADV and is estimated to cost 15.5% to complete in one day. It is unlikely that the \$100 billion fund could prudently invest in this stock. Even a mid-cap such as Allkem might create difficulties for the \$100 billion fund, where a 0.5% trade is 1.67-times ADV and is estimated to cost 3.2% to complete in one day.⁴⁰

Similar constraints might be expected in other equity-like public markets such as listed infrastructure and property (i.e. REITs). In fixed income, large size may be less inhibiting. Sovereign debt markets are typically large and highly liquid. Fixed income is more of a primary than secondary market where participants tend to take on new issues that are retained to maturity, meanwhile using derivatives to manage portfolio exposures. Corporate credit and high yield debt are more difficult to invest in at size as they are typically illiquid over-the-counter markets of smaller scope that are comprised of differentiated securities. However, these markets also offer illiquidity premiums. Hence large size may narrow the readily accessible universe in fixed income to segments with lower return potential.

Superannuation funds face the following choices regarding public markets as AUM grows:

- (a) Continue to invest in a similar manner as far as possible, and suffer reduced returns through either increasing implementation shortfall or spreading AUM across more positions some of which are less prospective.
- (b) Concentrate active positions in larger and more liquid securities and/or markets where potential to generate value may be lower, such as large caps rather than small caps or global rather than Australian equities (thus reducing access to franking credits).
- (c) Make use of centralised portfolio management (CPM), where a multi-manager strategy is advised by the selected active managers but implemented centrally as one portfolio.⁴¹
- (d) Redirect to strategies that are less liquidity-demanding (e.g. long-horizon or liquidity-providing strategies); or towards private assets.
- (e) Increase the use of passive investment.

A combination of the above might be expected. The likely net result will be a decrease in the pursuit of active investing in Australian public markets coupled with diminished performance in areas where active investing continues to be pursued, along with withdrawal from smaller investments or market segments. The question arises over the extent to which returns are reduced overall. One issue is the relative attractiveness of the areas from which a larger fund withdraws. Smaller investments may offer higher returns through less efficient pricing or illiquidity premiums, but also provide no guarantee of consistent outperformance.⁴² Another issue is whether active investing adds value that might be lost. Superannuation funds appear to be pursuing active management on the basis that it has added value in the past and can continue to do so. While they might be suffering from delusion, Warren (2021)

⁴⁰ While smaller funds have much greater opportunity to invest in medium and smaller cap stocks, they need to take care about the size of their external managers. In this regard, smaller funds have greater scope to use boutique active managers.

⁴¹ CPM has been used successfully by funds to increase public market investment capacity, including some large Australian funds since the early 2000s. CPM can help to increase investment capacity as compared to a decentralised multi-manager approach through implementing one central portfolio thus bringing transaction cost as well as tax benefits. Vanguard Australia indicated in 2007 that CPM had boosted returns by 60bps and decreased turnover by 50%-70% relative to a traditional multi-manager portfolio (<https://www.northinfo.com/documents/287.pdf>, slide 18). There is a substantial academic literature on CPM. See diBartolomeo (1999) for an overview of CPM.

⁴² For instance, the Small All Ordinaries underperformed the S&P/ASX100 by 3.83% over the 10-years to December 2022, which probably assisted large funds relative to small funds that had invested in small caps over that period.

summarises the literature on active versus passive management and points to evidence that institutional asset owners have been able to generate outperformance through active investing supported by lower fees⁴³ and benefits from segregated mandates. Warren (2021) also notes that the underperformance of US actively managed mutual funds is not universally repeated across other markets including Australian equities.

In summary, increased size reduces the potential to generate active returns in public markets.⁴⁴ This is due both to a potential narrowing of the opportunity set to less attractive market segments and increased difficulty of trading in size. The exact impact is uncertain, and may depend on the effectiveness by which large funds redirect their processes and portfolios to manage at size in public markets.

3.2 Size enhances access to private markets

Investing in private markets offers two potential benefits. First is **risk reduction**.⁴⁵ This occurs through diversification of return sources, and greater scope to hedge certain economic exposures such as inflation risk through accessing assets like direct property and infrastructure (with inflation-protected cash flows) at greater scale than through listed counterparts. Second is the ability to add **economic value** through direct controlling ownership, and then capture that value in a price uplift.⁴⁶ In public markets, such opportunities are limited.⁴⁷

Two oft-touted aspects of private markets are NOT major benefits in our view. First, illiquidity premiums are not a necessary feature of private markets, as participants typically have a high tolerance (or preference) for illiquidity (e.g. LDI) and hence illiquidity need not be priced. If anything, illiquidity premiums tend to be observed where liquidity is valued, such as equity and fixed income markets.⁴⁸ Second, the appraisal valuations in private markets may lower the volatility of returns, but this is somewhat illusory. Risk over the medium-long term depends on underlying economic exposures, and can be similar regardless of whether the asset is listed or unlisted. For instance, private equity is just another form of equity exposure.

Large size supports fully accessing the benefits available in private markets for various reasons:

- a) **Unit size and market structures** for assets such as direct property and (particularly) infrastructure require large AUM to be a successful player.
- b) Investing in private market assets is **labour intensive**, given the work required to assess potential deals, negotiate terms, generate documentation and undertake ongoing reviews and stakeholder engagement. Large funds have greater scope to build internal teams to carry out such work.
- c) **Sourcing attractive assets** is easier for large asset owners. Large funds can more readily build the required networks and are higher on the list of potential investee firms, thus providing access to deal flow. They are attractive partners due to a capacity to offer long-term stable capital in large quantity.
- d) It is much easier to source and **maintain a steady investment program** at large size. Small funds are forced to use external managers, who have control over drawdowns and realisations, valuations etc. Larger size can facilitate a program with various levers to help moderate and control the flow of

⁴³ Fees paid by institutional asset owners can be as much as 70-100 bps below the retail rack rate that is used in many studies. This makes a substantial difference in the measurement of active returns.

⁴⁴ This point refers to the long run, and does not rule out large funds doing relatively well over shorter periods. For instance, the Australian equity investment options of large superannuation funds posted strong relative performance over the 5-10 years to December 2022, suggesting that large size need not always be a disadvantage. It is unclear whether this performance stemmed from the relative performance of large versus small stocks highlighted in footnote 42, or some other advantage.

⁴⁵ The less frequent and smoother valuations in private markets may give rise to lower return volatility, but the reduction in risk is somewhat illusory. Risk over the medium-long term depends on the underlying economic exposures, and can be similar regardless of whether an asset is listed or unlisted.

⁴⁶ See Kaiser (2005) for a discussion in the context of property.

⁴⁷ This is due to the absence of direct control and prices being determined by investor expectations, such that the market may anticipate and discount any value that company management might add. Outperforming in public markets requires doing a *better job than other market participants* at anticipating shifts in the underlying value of the company.

⁴⁸ See Section 6 of Warren (2014b) for discussion of how illiquidity impacts on returns.

funds, including secondaries and co-investments. This accommodates responding to fund growth, member choices, market flows, liquidity demands and re-balancing demands. Managing private assets internally also helps to limit **agency risk** through reduced reliance on external managers.

- e) Large funds can also sustain a **broader program** covering a range of geographies and sectors, and a combination of investing directly, co-investing and through managers as most appropriate.

Breakout box #3 provides a sense of some of these advantages through the example of the Westconnex tollroad investment by AustralianSuper.

Investing in private markets also brings disadvantages and challenges. **Costs are higher** than investing in public markets. This restricts the degree to which total investment costs are reduced with size, and raises the bar on the gross returns required to add value. **Illiquidity** needs to be managed (see Section 3.4), especially given that superannuation funds are predominantly defined contribution and offer immediate redemption.⁴⁹ This compounds the risk of increasing illiquidity exposure, and limits the extent to which large funds can reasonably invest in private markets. **Attracting and retaining quality staff** and **sourcing assets** are critical factors but challenging to get right. Further, value-adding activities require specialist skills, governance arrangements and resourcing. The combination of higher costs and these challenges magnify the importance of effectively implementing any private market program.

Breakout Box #3

Westconnex: Case Study of Large Asset Owner Using Size to Access an Opportunity

The Westconnex tollroad in Sydney was completed by the New South Wales Government and opened in July 2019. The asset was sold in two tranches to a consortium comprised of large asset owners including AustralianSuper (20.5%), CPPIB, Caisse de dépôt et placement du Québec (CDPQ) and the Abu Dhabi Investment Authority; as well as Transurban as the asset operator. The first tranche of 51% was sold in 2018 for \$9.4 billion (including costs), and the remaining 49% in 2021 for \$11.1 billion in 2021, with CDPQ joining the consortium. AustralianSuper spent ~\$4.2 billion acquiring its 20.5% stake. We make no comment on the attractiveness of the investment from a return perspective. However, the agreed toll escalation of the greater of CPI or 4%pa until 2040 then CPI or 0% until the concession end in 2060 is worth noting as an example of how a direct infrastructure investment can provide access to inflation-protected cash flows at large scale.

As a consequence of the relationship, AustralianSuper was also able to participate in a \$250 million placement of Transurban stock at discount of 8% to the previous market price in conjunction with a rights issue, for which AustralianSuper was also an underwriter.

This set of deals illustrates how having the ability to provide large licks of capital, the resources to manage the transaction and a network of existing relationships can assist in securing large assets in private markets (as well as opportunities to participate directly in capital raisings). It is worth contemplating how a smaller fund might be able to get a slice of such a deal. For instance, a \$50 billion fund would probably not be able to invest \$4.2 billion in a single asset, while still maintaining a diversified infrastructure portfolio. Any offer to participate on a much smaller scale might not yield an invitation to join the consortium.

Smaller funds might get involved in these kinds of deals through investing with a large private market manager. While this generally comes with a substantial fee, it need not be so. For example, Industry Funds Management (IFM) is owned by a group of large not-for-profit funds and provides access to unlisted infrastructure and private equity. IFM provides access for funds across the size spectrum at relatively low cost by operating more like a mutual than a general partner. Medium-sized funds might also gain access to some larger deals through co-investment. Nevertheless, smaller funds are at a competitive disadvantage overall in directly accessing deals of such large size.

References: Transurban ASX releases on 31/8/2018 and 20/9/2021; AustralianSuper media release on 20/9/2021

<https://www.australiansuper.com/-/media/australian-super/files/about-us/media-releases/australiansuper-increases-investment-in-westconnex.pdf>; Sydney Morning Herald article on 20/9/2018

<https://www.smh.com.au/business/companies/transurban-takes-full-control-of-westconnex-in-11-billion-sale-20210920-p58t2h.html>; Board and Governance | Westconnex; Transurban details of equity raising

<https://www.transurban.com/content/dam/investor-centre/06/WestConnex-Acquisition-Equity-Raise.pdf>

⁴⁹ The challenge of managing liquidity is heightened for funds in net outflow. See Section 6.2 (footnote 71) for discussion.

3.3 Internal investment management a pivotal factor

Internal investment management and fund size are closely linked.⁵⁰ Large funds have the opportunity and incentive to build internal teams. A key motivation is the scope to reduce investment costs, with internal teams becoming increasingly less expensive than external management as AUM grows. External management involves asset-based fees that largely vary directly with AUM, with the proviso that lower fees may be available for larger mandates. Internal management replaces this largely variable cost with a combination of fixed and variable costs, resulting in cost-economies of scale that compound with fund size. The cost-based incentives to shift to internal management are heightened by the focus on fees within the Australian market,⁵¹ and are strongest in private markets where fees are much higher. Limits on the mandate size that external managers will accept from a single investor⁵² further encourages internalisation while limiting the number of external manager relationships to a manageable level.

Whether internal management provides any material advantage is addressed by Gallagher, Gapes and Warren (2016, 2019). Exhibit 8 lists the main perceived benefits and challenges of internal management raised by industry executives during interviews. The general view (not shared by all) was that internal management can *both* increase capabilities and lower costs. Aspects that industry executives argue can enhance returns – such as using size to access opportunities, better alignment of portfolios with objectives, benefits of control,⁵³ and access to market insights – will only do so if implemented effectively and some competitive advantage is created. A range of challenges were also recognised by interviewees, which we discuss in Section 5.2. Staffing is a key issue. There is no guarantee that internal teams will outperform external managers that are potentially incentivised by substantial performance-based bonuses, or equity in the case of boutique managers, hedge funds or partners of a private equity firm.

Exhibit 8: Internal Management – Benefits and Challenges Mentioned by Industry Executives

Expected Benefits	Challenges
<ul style="list-style-type: none"> • Higher expected returns after costs <ul style="list-style-type: none"> - Lower management expense ratio - Improved capabilities to boost gross returns • Access to investment opportunities is improved by combination of internal capability plus size, e.g. private markets; participating in capital raisings • More scalable than external manager model due to cost efficiencies and limits on mandate size • Ability to leverage or create unique competitive advantages to capture additional returns • Better ability to tailor investment strategy and the portfolio to fund objectives • Greater control over the portfolio and cash flows • ESG engagement to create value • Access to information and market insights • Improve ability to monitor external managers 	<ul style="list-style-type: none"> • Staffing (broadly considered a <i>key</i> issue) <ul style="list-style-type: none"> - Attracting and retaining quality and aligned staff - Remuneration - level and basis - Termination if underperforming - Succession planning to ensure ongoing success • Management and oversight <ul style="list-style-type: none"> - Governance - Culture, including fostering collaboration - Trustee board support - Performance evaluation - Managing internal teams • Behavioural issues, especially culture • Systems and processes • Members exposed to errors made by management

⁵⁰ Hostplus is approaching \$100 billion in assets but has decided so far to eschew internal management, see [Hostplus spurns investment internalisation push: Sicilia - Investment Magazine](#). ART is well over \$200 billion and also relies on external managers; although has not ruled out revisiting their approach after the QSuper and Sunsuper merger is fully bedded down (refer to <https://i3-invest.com/podcasts/episode-78-arts-ian-patrick/>).

⁵¹ The PC, regulators and policy makers have placed a particular focus on fees, which are also displayed prominently on the Australian Tax Office's YourSuper Comparison Tool, <https://www.ato.gov.au/YourSuper-comparison-tool/>.

⁵² This reflects a desire to diversify the client base and ration available capacity.

⁵³ For instance, internal management can enhance tax management and reduce trading redundancy relative to an external multi-manager model. (We note it is possible to access these benefits through centralised portfolio management.)

Breakout Box #4

Internal Investment Management as a Driver of Cost Efficiencies at Large Size⁵⁴

To illustrate the dynamics by which internal management translates into savings on investment management costs, we craft notional scenarios to create points of comparison. Our 'baseline' scenarios entail a fund with \$50 billion in AUM with 15% in private markets. Our 'large size' scenarios assume \$200 billion in AUM with 30% in private markets. There are two sub-scenarios – outsourcing all assets to external managers, and a 'hybrid' 50/50 external/internal management. The baseline is intentionally calibrated for no cost advantage in managing 50% of assets internally; while the large size is calibrated to save \$300 million from 50% internal management, in line with the number mentioned by AustralianSuper. Key inputs are informed guesses and shown in blue bold text. Notable assumptions in moving from \$50 billion to \$200 billion include:

- Fee paid to external managers in public markets declines with portfolio AUM, reflecting a mix of improved negotiating power and increased use of passive strategies (ranging between 0.24% and 0.35%).
- Fee paid to external managers in private markets falls from 1.50% to 1.40% due to improved negotiating power.
- Under the hybrid model, internal staff increase from 40 at \$50 billion to 200 at \$200 billion as the fund builds a comprehensive internal team across more asset classes. Investment staff are assumed to cost \$300,000 each on average.
- Investment operation cost rises from \$35 million to \$50 million under fully external and from \$132 million to \$279 million under the hybrid model. This item captures non-staff costs of running investment teams like premises, systems, travel, etc. (Note: Internal operations cost is manipulated to generate zero savings at \$20 billion and \$300 savings at \$200 billion.)

	Baseline Scenarios					Large Size Scenarios				
Assets Under Management (AUM, \$bn)	50.0					200.0				
Weight in Private Market Assets	15%					30%				
	Fully	Hybrid		Hybrid vs.		Fully	Hybrid		Hybrid vs.	
	External	External	Internal	TOTAL	External	External	External	Internal	TOTAL	External
Public Market Assets										
% Managed Internally	0%	50%	50%	100%		0%	50%	50%	100%	
AUM (\$bn)	42.5	21.3	21.3	42.5		140.0	70.0	70.0	140.0	
External Manager Average Fee	0.30%	0.35%				0.24%	0.26%			
No. of Internal Investment Staff			30					90		
Average Cost per Employee			\$300,000					\$300,000		
Public Market Cost (\$m)	127.5	74.4	9.0	83.4	-44.1	336.0	182.0	27.0	209.0	-127.0
% of Total AUM	0.26%	0.15%	0.02%	0.17%	-0.09%	0.17%	0.09%	0.01%	0.10%	-0.06%
Private Market Assets										
% Managed Internally	0%	50%	50%	100%		0%	50%	50%	100%	
AUM (\$bn)	7.5	3.8	3.8	7.5		60.0	30.0	30.0	60.0	
External Manager Average Fee	1.50%	1.50%				1.40%	1.40%			
No. of Internal Investment Staff			10					60		
Average Cost per Employee			\$300,000					\$300,000		
Private Market Cost (\$mn)	112.5	56.3	3.0	59.3	-53.3	840.0	420.0	18.0	438.0	-402.0
% of AUM	0.23%	0.11%	0.01%	0.12%	-0.11%	0.42%	0.21%	0.01%	0.22%	-0.20%
Investment Operations Cost (\$m)	35.0	30.0	102.4	132.4	97.4	50.0	40.0	239.1	279.1	229.1
% of AUM	0.07%	0.06%	0.20%	0.26%	0.19%	0.03%	0.02%	0.12%	0.14%	0.11%
TOTAL COST OF MANAGEMENT	275.0	160.6	114.4	275.0	0.0	1,226.0	642.0	284.1	926.1	-300.0
% of AUM	0.55%	0.32%	0.23%	0.55%	0.00%	0.613%	0.32%	0.14%	0.46%	-0.15%
Change from \$50bn scenario						0.06%	0.00%	-0.09%	-0.09%	-0.15%

Notes: Key assumptions as input appear in **blue bolded** text. The 0.55% median investment fee for not-for-profit funds in 2019 per SuperRatings.

At \$200 billion in AUM, the hybrid model decreases total investment management costs by 0.15% versus a fully externally model, comprising savings of -0.26% in staff costs (-0.06% public markets, -0.20% private markets) and additional investment operation cost of 0.11%. The largest gains relate to staff costs in private markets due to supplanting high external management fees, highlighting the cost-related incentives to increase internal management in private markets as funds grow in size. Relative to the baseline \$50 billion scenario, total costs decrease by -0.09% under the hybrid model but increase by 0.06% under the fully external model due to an assumed increased exposure to private markets. This assumption recognises that private market assets become relatively more attractive at large size. Internal management thus facilitates shifting towards greater use of private markets at lower cost at large size. Further, the calculations above do not account for cost benefits related to lower transaction costs and taxes that arise from limiting duplication associated with uncoordinated trading by external managers. The cost drivers being analysed will only heighten as AUM increases.

⁵⁴ We thank Peter Curtis from AustralianSuper for offering some comments on this analysis. This should not be interpreted as an endorsement of the analysis or assumptions, which are our own.

Breakout box #4 illustrates the dynamics by which internal management translates into savings on investment management costs. It shows how replacing external managers with internal staff can save on investment management costs. This is especially so in private markets where management fees are high, even though the number of internal investment staff required, and investment administration costs, increases with the scale and scope of internal management.

While there are solid reasons to expect internal management to reduce investment costs, the impact on gross returns is arguably more important. Gross returns are the most volatile component of net returns and hence dominant driver of performance across funds. For instance, the 0.15% cost savings estimated in breakout box #4 could be easily wiped out by poor investment performance. The potential downsides from internal management hence also need to be considered. As funds grow in size, they are liable to become increasingly reliant on their internal management teams. Poor execution of investment strategy by internal teams could potentially have significant consequences for the portfolio at large, relative to an external manager model where manager risk is more diversified. Breakout box #5 presents a case study of how internal management teams can make mistakes by describing how Harvard University suffered from the investment strategies pursued by its endowment fund during the global financial crisis (GFC). We are not implying that internal management is more or less likely to deliver better investment outcomes than an external model. Rather, the central point is that effective implementation of an internal management program is critical.

Breakout Box #5

A Case Study of Internal Management Failing to Deliver

The Harvard Management Company (HMC) – the manager of Harvard University’s endowment fund – generated a returned of -27% in the year to June 2009. While similarly negative returns were delivered by the S&P500 of -26% and MSCI World Index of -29% and many investors suffered during the GFC, the consequences were dire for the University that had been relying on its endowment fund (of US\$37 billion AUM prior to the GFC) to fund a significant portion of its budget. Harvard was forced to cut staff and borrow to deal with the ensuing budget crisis. Coincidentally, HMC faced its own staff turmoil by axing 25% of its staff, after having had five CEOs in four years.

The problems that arose might be attributed to a well-remunerated and arguably talented internal management team taking risks its primary stakeholder was not positioned to bear. HMC entered the GFC with an aggressive and somewhat illiquid portfolio that was 105% leveraged and exposed to ‘risk-on’ assets. It held derivative positions in commodities, foreign equities and interest rates that went the wrong way leading to large margin calls, which translated into a significant liquidity squeeze. HMC became a forced seller, most notably in private equity where its portfolio returned -32% over the year. Meanwhile its hedge fund portfolio returned -19%, delivering little in the way of a hedge. An article in Forbes commented that “*It looked like a giant hedge fund, and it had paychecks to match.*” Basically the HMC internal investment team was running a strategy in pursuit of high returns (and bonuses) while not making sufficient allowance for the fact that the University was relying on it to fund ongoing expenditures.

References: “Harvard: the Inside Story of Its Finance Meltdown”, *Forbes* 29/2/2009 ([Harvard: the Inside Story of Its Finance Meltdown \(forbes.com\)](#)); “Financial crisis knocks value of Harvard and Yale endowments”, *The Guardian*, 11/9/2009 ([Financial crisis knocks value of Harvard and Yale endowments | Financial crisis | The Guardian](#)); “Risk Bites Back: Lessons Learned From The Harvard Endowment”, *Financial Adviser Magazine* 25/1/2012 ([Risk Bites Back: Lessons Learned From The Harvard Endowment \(fa-mag.com\)](#))

3.4 Size reduces flexibility

Reduced flexibility is a generally disadvantage of large size. Ability to implement changes in a short time at reasonably low cost is always worth having given uncertainty about the future: the option to change a portfolio has positive value.⁵⁵ Portfolio adjustments can be required for various reasons, including shifting the strategy in response to market developments, taking advantage of new opportunities,

⁵⁵ See DiBartolomeo (2022) for a discussion.

changes in member preferences, and revisions to policy. Large size reduces flexibility due to increased difficulty in trading assets quickly at reasonable cost and (probably) investing more in private markets. Some strategies may help mitigate the limits on flexibility. A mechanism to manage around illiquidity is to use derivatives to adjust portfolio exposures. Another is making interim shifts through liquid parts of the portfolio or liquid proxies, e.g. listed rather than unlisted versions of property or infrastructure. Investing for the long term can be assisted through favouring strategies where payoffs tend to unfold over time and thus do not rely on being able to adjust the portfolio quickly.⁵⁶

One caveat on the flexibility argument is that we approach size from a static perspective, which ignores effects that could be associated with the growth process. Some commenters on this paper noted that growth through cash inflow is helpful for implementing investment strategies; and that ‘momentum’ can assist in helping to overcome institutional inertia and foster the transition towards better practices.

4. Administration and member services – Better efficiency and scope

Superannuation funds provide a range of services to members, including supplying a platform that administers and gives access to a range of investment options, managing contributions and benefit payments, the fund’s insurance offering, and making available advice and information services. We consider this element from two directions. First, large size brings efficiencies in administration and the delivery of member services that supports either *economies of scale* that may reduce cost as percentage of AUM and/or deliver *economies of scope* that can manifest better services. Second, it is worthwhile distinguishing between *customisation of services* and *personal experience*. Large size can be beneficial for customisation, but does not necessarily help in delivering a personalised experience. Here, the ability to customise will be most relevant during *retirement*. While investment performance is arguably more important than services during accumulation, the relative importance flips in retirement where most members rely on their superannuation fund to meet their expected standard of living.

Section 2.2 referred to evidence that large size has been associated with lower administration costs as a percentage of AUM, providing evidence of the existence of economies of scale. This reflects that fact that many functions such as systems tend to be high fixed cost. Nevertheless, there are two caveats on assuming that large size will manifest in cost efficiencies. First, as flagged above, large size might be used to expand the delivery of member services, i.e. exploit economies of scope. In particular, large size can help facilitate the delivery of customised member services by bringing more resources to bear, including building the required systems and adding staff. Large funds can more readily provide tools such as calculators, information, member education and various investment services. AustralianSuper’s Member Direct⁵⁷ is an example where a large fund has made a platform available for members to build their own portfolio including ASX-listed securities and term deposits. Large size also assists to deal with increasing regulatory requirements, which need to be resourced. Second, there could be a size at which cost efficiencies eventually top out due to management frictions or a need to adjust the business structure or increase the scope of operations, e.g. build an international presence.

We view enhanced capacity to deliver customised *retirement income strategies* as a significant advantage of large size, as funds move to meet their obligations under the Retirement Income Covenant. Properly catering for the diverse needs of retired members will require a large shift in product structures at superannuation funds. Significant changes will be needed in the investment capabilities of funds, and the ability to dovetail them with drawdown strategies and longevity risk pooling where it is utilised. Funds of large scale will be most able to assemble the governance structures and resources to fulfil this transition. Administration and member servicing will be at the forefront in retirement where funds need to cater for marked differences in member needs and wants, and investment performance is only one factor determining member outcomes. Other influential elements include: accommodating differences in member objectives and personal circumstances; offering tailored joint investment and

⁵⁶ See Warren (2014b) addresses long-term investment strategies. Member choice and the YFYS performance test make it more difficult for Australian superannuation funds to invest for the long term.

⁵⁷ <https://www.australiansuper.com/investments/your-investment-options/member-direct>

drawdown strategies that ideally adjust dynamically; managing longevity risk; facilitating flexible access to funds; and providing decision support. Large funds should have a significant advantage in building systems with the required functionality. They might be able deliver lifetime income solutions at lower cost through having the resources required to develop member pooling of longevity risk and hence avoid paying loadings to an insurance company.

One disadvantage is that large organisations can find it harder to provide a *personalised experience*. For example, analysis by CoreLogic indicates that large funds have “really struggled to cope with members at scale” relative to small-medium sized funds.⁵⁸ Implementation is also a challenge in administration: when big projects fail, they can fail big. System builds are notorious for running over over-time and over-budget, and sometimes fail. An instructive example is the disastrous attempts of five industry funds to develop a shared administration platform (Superpartners), only to give up and then sell the operation to Link Market Services in 2014.⁵⁹ Lastly, some administration functions may be outsourced thus providing access to scale economies for smaller funds. This dents the argument that large size is required to reduce administration costs. However, outsourcing is unlikely to deliver the required functionality across all areas, and benefit will be reduced by the need to pay a provider margin.

On balance, more efficient administration and member customisation are key potential advantages of size. The advantage should be most marked for services that are not amenable to outsourcing as they rely on a direct connection between the fund and its members, such as retirement income strategies. Nevertheless, our concept that large funds must implement well for members to benefit still applies.

5. Critical implementation challenges – What is needed for success

Our central theme is that large size brings both advantages and disadvantages as well as significant challenges, making effective implementation the key. In this section, we identify four critical implementation challenges that need to be tackled successfully if large size is to benefit members: orientating the investment program, internal management, coordination and international expansion.

5.1 Orientating the investment program to operate at large size

Large funds need to develop an investment program that leverages the advantages of size while minimising the disadvantages. Strategies where assets can be deployed at scale are discussed by O’Neill and Warren (2016b): their summary table is reproduced over as breakout box #6. A key element is the capability to operate effectively in private markets, which requires building skilled management teams and networks to source assets. Managing at large size can also benefit from adopting a long-term investing mindset.⁶⁰ Both elements are challenged in the Australian system by the need to retain a certain level of liquidity as well as performance evaluation under the YFYS test and peer comparisons.

Strategies where assets cannot be effectively deployed at scale need to be identified and avoided, or at least de-emphasised. While areas such as small cap equities may generate attractive returns for others, as mentioned earlier, without being able to deploy substantial capital they will make little difference to member outcomes while absorbing organisational resources including the governance budget and management time. Further, attempts to invest at size in such areas could be self-defeating through supplying too much capital and undermining the opportunity.

⁵⁸ See <https://www.investmentmagazine.com.au/2022/08/members-willing-to-pay-for-better-service-post-retirement/>.

⁵⁹ See <https://www.investmentmagazine.com.au/2016/12/link-group-completes-superpartners-integration/>, where it is noted that: “*Superpartners was put up for sale after a 2010 plan to spend \$70 million on a technology upgrade blew out to more than \$250 million and was still incomplete four years later*”.

⁶⁰ Long-term investing is examined in-depth by a series of Centre for International Financial Regulation (CIFR) papers, see Warren (2014a, 2014b, 2014c). Warren (2014c) addresses the design of investment organisations to invest for the long term.

Breakout Box #6

Scalable Active Strategies

The table below is sourced from O'Neill and Warren (2016b). It describes the type of strategies that a large asset owner might be able to implement successfully at scale.

<i>Strategy</i>	<i>Main attributes</i>	<i>Notes, issues and examples</i>
Core portfolios in public markets	<ul style="list-style-type: none"> • Can be focused on large, liquid markets • Ability to control trade sizes by limiting position size and increasing breadth 	<ul style="list-style-type: none"> • More likely to be quant-based • Scope to choose how exposures are taken • Can be used to add tilts or overlays on an existing multi-manager portfolio • <i>Issues:</i> alpha potential • <i>Examples:</i> multi-factor strategies; smart betas; sector bets
Long-term strategic investments	<ul style="list-style-type: none"> • Trading is occasional, often with discretion to manage entry and exit • May leverage economies of scale or scope (ability to supply patient capital, management resources, networks) • Potentially low competition 	<ul style="list-style-type: none"> • Typically fundamentally driven • Could be focused on either value, or value-creation (i.e. growth potential) • Potential to add value through engagement • <i>Issues:</i> often committed, so need to get it right • <i>Examples:</i> private equity; adding value via strategic corporate investments and advocacy
Contrarian investing	<ul style="list-style-type: none"> • Trading is occasional, often with discretion to manage entry and exit • Liquidity supplying • Low competition (almost by definition) 	<ul style="list-style-type: none"> • Seeking mean reversion via taking positions when markets move to extremes • <i>Issues:</i> timing of entry / exit; cyclical capacity, e.g. more opportunities in a liquidity crisis • <i>Examples:</i> distressed assets; credit markets during GFC; cashing up in booms, and waiting
Thematic investing (with long-term focus)	<ul style="list-style-type: none"> • Trading is occasional, and there may be discretion in how exposure is built • Can be implemented using large, liquid markets in many cases • Ability to control the size and timing of trades, due to slow return accrual rate 	<ul style="list-style-type: none"> • Positioning for trends that act as a tidal force impacting on returns over time • Often little urgency, with multiple choices of the vehicle used to capture exposure • <i>Issues:</i> connecting themes to market exposures • <i>Example:</i> riding the China boom in the 2000s, then reversing late in the decade
Participation in large capital raisings	<ul style="list-style-type: none"> • Liquidity supplying • Leverages economies of scale (capital), possibly economies of scope (networks) 	<ul style="list-style-type: none"> • Provide capital in size to issuers that appreciate a large, stable stakeholder • Complementary to in-house management; may be overlaid on a core portfolio • <i>Issues:</i> capacity can be cyclical (issue pipeline); may be subject to competition where assets are secured via open auction, e.g. book-builds • <i>Example:</i> participation in IPOs or placements
Market making	<ul style="list-style-type: none"> • Liquidity supplying 	<ul style="list-style-type: none"> • Allocate pot of capital to gather returns from investors willing to pay for liquidity • <i>Example:</i> enhanced index funds
Private markets (selected large assets)	<ul style="list-style-type: none"> • Leverages economies of scale and scope (ability to apply large capital, management resources, networks) • Potentially liquidity supplying 	<ul style="list-style-type: none"> • Assets where large AUM, substantial resources and sourcing networks are an advantage • <i>Issues:</i> capacity can be cyclical (asset pipeline); competition for assets, including secured by direct negotiation or open auction • <i>Examples:</i> direct property, direct infrastructure

5.2 Effective internal management

Building an effective internal management program will be critical to success under the operating models being pursued by most large superannuation funds. Interviews of industry executives conducted by Gallagher, Gapes and Warren (2016) highlight the main elements in establishing an effective internal investment management program as: staffing; management and oversight of internal teams; fostering a supportive culture; and building effective governance, systems and processes. These elements can be implemented either well or poorly, and thus can influence whether large size is beneficial for members.

Skilled investment staff are crucial, as investment strategies are still ultimately designed and executed by people.⁶¹ Key elements include: professional quality; how they are governed, managed and rewarded; and alignment with the organisation and fund members. Performance problems may be harder to address with internal teams, where there can be an element of capture. Gallagher, Gapes and Warren (2016) note how superannuation funds often have less scope to offer competitive remuneration to the best investment professionals, and have been relying on attracting quality staff through cultural affinity and other aspects such as a sense of purpose or pride and the lack of marketing duties. While seemingly fruitful so far, the successful scalability of this approach is yet to be proven. On staff retention, retaining an internal team that has performed well can be a challenge; although a contrary view is that large funds have more scope to offer a career path that might assist with retention. Staffing will become even more challenging as large funds expand internationally (discussed below in Section 5.4).

5.3 Coordinating across the organisation

Coordinating across large organisations with many staff is problematic. It becomes harder at size to sustain a common culture and sense of purpose. Silos can form where compartmentalisation is required to manage the business. For instance, where asset class teams are used to facilitate delegation of decisions to investment staff and evaluate and reward them for the performance of the part of the portfolio they control.⁶² Large size gives rise to complexity and creeping bureaucracy, which can limit flexibility, harm productivity and stifle innovation. Risk management can become more challenging as portfolios grow in size and breadth of exposures. Failure to overcome these issues through establishing an effective governance structure, systems, processes, reward structures and culture could contribute poorer member outcomes through wasted or misdirected efforts.

5.4 International expansion will magnify some challenges

Large size boosts the need to invest overseas given the limitations of Australian markets, and is prudent from a diversification viewpoint. As a possible pointer to the direction of travel,⁶³ the Future Fund held only 8.1% of total AUM in Australian equities⁶⁴ and NZSuperFund only 4.1% in New Zealand equities⁶⁵ at June 2022. Embracing private markets will likely require developing a capability to directly access assets that are based overseas. Eventually a physical overseas presence may be needed to attract international investment staff, build networks to access assets and tap into local knowledge – especially as funds attain very large size such as well over \$100 billion.

⁶¹ Even quantitative processes are designed by people, and entail judgement on models to use and how they are applied.

⁶² The total portfolio approach, which is pursued by some large asset owners such as AustralianSuper, the Future Fund, TCorp and CPP Investment Management, aims to address these problems connecting individual investment decisions to overall portfolio performance. See Hodgson (2019) for a discussion. However, tying rewards to overall fund performance over which an investment team member may have limited influence can give rise to issues related to lack of clear lines of responsibility and accountability. The efficacy of the total portfolio approach attracts considerable debate.

⁶³ The tendency for superannuation funds to shift their equity exposure overseas may be restrained somewhat by the desire to access Australian franking credits.

⁶⁴ <https://www.futurefund.gov.au/-/media/Future-Fund---Documents/Annual-Reports/2021-22-Future-Fund-Annual-Report.ashx>

⁶⁵ <https://www.nzsuperfund.nz/how-we-invest/actual-portfolio/>

There are signs of international expansion gathering force, with AustralianSuper leading the charge in establishing overseas offices⁶⁶ and Aware Super stating an intention to do so.⁶⁷ This trend follows the lead of the large Canadian funds.⁶⁸ Managing a global investment organisation is an entirely different game that will test trustee boards, management and regulators and requires a new set of management skills. The challenges of internal management will be magnified, especially attracting, and retaining quality and aligned staff. Skilled overseas investment professionals are highly paid and might not be enticed by a sense of purpose in working for an Australian superannuation fund. The coordination problems discussed in Section 5.3 will only be amplified. Establishing overseas offices will be expensive and entail upfront costs, which will limit the extent to which large size reduces costs and hence fees – at least initially. International expansion will increase the importance of managing currency and the potential implications for cash flows where hedging is used. Lastly, it will require grappling with multiple regulatory regimes and more complex reporting. The degree of difficulty and hence the potential for mistakes will be heightened, thus placing a premium on implementing effectively.

International expansion also brings some advantages. In addition to the diversification benefits, it widens the investment opportunity set. If talented individuals can be enticed, it can assist in boosting organisational skills, intellectual diversity and assist in succession planning and building career paths.

6. Industry concentration – The risk of adverse systemic effects

We consider the broader implications if the superannuation industry came to be dominated by a handful of very large funds. The relevance of this issue is heightened by the increasing systemic importance of superannuation and the trend towards internal management. This means that investment decisions that may affect the Australian economy are being progressively concentrated in the hands of management at superannuation funds rather than being outsourced to a broad range of investment managers. We consider the implications for market resilience, consequences if a large fund gets into trouble, effects on competition, power and influence, and financing of smaller firms. These issues tend towards adverse systemic effects, although the likelihood of any major negative impacts seems modest.

6.1 Market resilience may be reduced

Concentrating assets in the hands of investors who behave in a similar manner can impact on market resilience. Markets are more resilient when populated by a diverse range of investors. This requires investors with different investment objectives and processes, risk aversions, cash flow profiles, tax status, time horizons and liquidity needs. Diversity helps avoid one-sided markets where investors tend to herd into and out of the same opportunities, which can result in lower market depth, higher volatility and potentially bubbles and crashes.

Concentration in the superannuation industry gives rise to risks for market resilience if large funds invest in a similar matter, especially considering the growth and importance of the industry. Diversity is already limited to a degree by an element of industry homogeneity that is only encouraged by the YFYS performance test. The test creates an incentive to limit tracking error to the performance benchmarks given the dire consequences of failing the test. One area to watch is investor diversity in the Australian equity market. Superannuation funds are estimated by Deloitte (2021) to hold about 34% of the Australian equity market, and would move to over 42% by 2041 if the same portfolio weight is retained.⁶⁹ Additional industry consolidation would further reduce diversity if very large Australian

⁶⁶ <https://www.top1000funds.com/2019/06/australiansuper-expands-offshore/>;

<https://www.industrymoves.com/moves/australiansuper-boosts-nyc-office-with-private-markets-hires>

⁶⁷ See <https://i3-invest.com/2021/10/aware-super-eyes-european-office/> and [Aware Super taps real assets boss for international push \(afr.com\)](#)

⁶⁸ CPP Investments and CDPQ both have offices in nine countries, see <https://www.cppinvestments.com/contact-us> and <https://www.cdpq.com/en/contact-us>.

⁶⁹ Although the 42% holding level may not be attained if superannuation funds diversify away from Australian equities as we expect, the extent to which they will do so will be constrained by the desire to access franking credits.

superannuation funds concentrate their positions in the larger caps to avoid the capacity constraints in smaller companies discussed in Section 3.1. A small number of large superannuation funds could feasibly end up dominating the register of some Australian companies, and might adjust their holdings in unison under certain conditions.

6.2 A large fund encountering difficulties may have weighty consequences

A large fund getting into difficulties could have weighty consequences: the larger the fund, the more members that might be affected, and the greater the potential for market ructions. It is not impossible that a very large fund could perform very poorly or commit some act that undermines the confidence of its members, leading to substantial cash outflows. A ‘run’ on a fund is theoretically possible under member choice. Trustees can apply to APRA for relief from the ‘portability’ requirements of the applicable legislation and this was quite common during the GFC. However, the YFYS test helps heighten this risk of this step being necessary by requiring funds to write to members advising them of any failure, as well as prohibiting the acceptance of both new members and contributions upon a second failure. Initial underperformance could be compounded if the fund becomes a ‘forced seller’, which could also disrupt markets as assets are offloaded. Concentrating sales in more liquid assets might reduce losses, but would leave a skewed portfolio. Either way, members remaining in the fund would be disadvantaged. It is not impossible that regulators might need to act if a large fund gets into trouble, reminiscent of ‘too big to fail’ in banking. While of low probability, this scenario is not implausible.^{70, 71} Cyber risk appears to be increasing, and an incident at a larger fund would impact many members.⁷²

6.3 Competition could be lessened

While the Australian superannuation industry is a long way from being oligopolistic, any trend towards consolidation could diminish the variety of offerings and reduce competition to some degree. A hollowing out of smaller funds may be detrimental to the extent that they offer an alternative to large funds. For example, small and medium sized funds may act as innovators and occasionally market disruptors. This risk is compounded by barriers to entry such as difficulties in building a member base from scratch, licensing requirements, and a concern that funds with less \$50 billion in assets may be considered unviable.

6.4 Power and influence

Large superannuation funds will possess considerable influence with companies and politicians as major providers of capital, which could be concentrated in the hands of a small number of entities and their decision-makers. It is feasible that 5-10 superannuation funds could eventually own as much as 25% of the Australian equity market along with a substantial proportion of strategic infrastructure assets (e.g. airports, pipelines, roads, ports, renewable energy).⁷³ Power can be used for good or ill. With regard to ESG engagement, large funds will probably try to use their influence to bring about positive changes for society (and hopefully performance), as members are increasingly expecting their funds to behave in this way. Of more concern would be any use of influence to secure benefit for the fund and its members at the expense of other sections of society. For instance, Azar, Schmalz and Tecu (2018) point to evidence as well as a substantial body of theory that more concentrated ownership of companies

⁷⁰ Of relevance to this risk is the extent to which large funds are in net inflow or outflow. About 40% of funds were in net outflows in the year to June 2022 according to Rainmaker (see <https://www.rainmaker.com.au/media-release/16-billion-in-annual-managed-funds-net-flows>). However, the larger funds in net outflow tend to be retail funds that invest less in private assets, while the larger industry funds tend to be enjoying net inflows: see analysis by David Bell at <https://www.investmentmagazine.com.au/2023/01/understanding-the-super-fund-landscape>.

⁷¹ The fact that many large funds have been relatively successful and have benefited from strong inflows makes us slightly nervous. It raises the risk of complacency over the ease of generating investment returns and managing illiquidity if something in the environment changes in the future.

⁷² While large funds may have more resources to commit to cyber security, they also present as bigger targets.

⁷³ This would be achieved if the Deloitte project for superannuation funds collectively owning 42% of the equity market came to fruition, and the 5-10 funds held 60% of all industry assets.

translates into less competition and higher prices in product markets. Lastly, the risk of regulatory capture might increase to the extent that large funds can garner greater influence over policy makers and regulators.

6.5 Financing of smaller firms

Concentration of capital in the hands of large superannuation funds could impact the financing of smaller firms by withdrawing institutional capital from the sector. Large funds are likely to be concerned only with assets where they can invest substantial capital. One effect might be to make less capital available to smaller firms – although any adverse effects should be at the margin, given that superannuation funds are not the sole source of financing in Australia. Another effect may be to leach smaller sectors of the benefits of the presence of institutional investors such as pricing discipline, monitoring, research and deeper liquidity. Institutional involvement in Australian small cap equities is already low, in part because the fund management community operating in this segment is limited and thinning out. Greater concentration within the superannuation industry will only exacerbate this problem. Large funds might still invest in smaller firms through specialist external managers, who can generate attractive returns for large funds by playing the role of an ‘aggregator’. However, this will only occur if the market in question is able to absorb sufficient capital to make it worthwhile for a larger fund to be involved.

7. Small funds – Do they have the right to exist?

Our primary focus is the implications of large fund size, rather than how well funds across the size spectrum are positioned or whether there is an optimal fund size. Nevertheless, it is worth asking if smaller funds can succeed. We offer a few observations, but do not examine this question in depth. Our position is that smaller funds can be successful providing that they implement well and capture the advantages of small size. We see the considerations below as important.

- **Smaller funds are likely to be less cost-efficient** – It is difficult for small funds to access internal management on any meaningful level, and hence they miss out on a key driver of reduced costs or increased operating scope (e.g. private market assets). Smaller funds need to rely on external manager expertise, where fees tend to be higher for smaller mandates and agency issues can arise. Administration costs will also be greater for smaller funds for a given service, and they will have less resources available to improve the scope of member services. Lower cost-efficiencies raise the hurdle for smaller funds, requiring them to generate relatively attractive investment returns or offer some unique service (or conversely a diminished range of services) to compete.
- **Smaller funds are not barred from generating competitive investment returns** – We see no reason why a well-managed small fund cannot generate outstanding performance, if management is sufficiently skilled. The investment challenges faced by large and small funds are the converse of each other to an extent. While large funds are better resourced and have greater ability to access private market assets where scale is required, they face the challenge of sourcing attractive assets in sufficient quantity to complete a large portfolio and find it hard to access some smaller but potentially attractive assets and market segments. Smaller funds have the potential to access these attractive smaller assets and market segments, but may lack the resources, networks and processes required to do so. They may get around their resourcing constraints to a degree by using boutique investment managers, where large funds are hampered by limits on mandate size. They may access private markets on some level through co-investment, cooperative vehicles such as IFM or building special skills and focusing on market niches. In theory, smaller funds could be more flexible in responding to opportunities; although this requires a governance framework that delegates decisions in a way that supports quick responses. Another consideration is that asset allocation decisions have a large impact on fund performance, and success in this area is more dependent on skill than size. A smaller fund could potentially outperform through smart decisions made by a talented asset allocator.

- **Value might be added in member services through a niche approach** – Smaller funds may be better able to provide a personalised experience or cater for members with unique characteristics, such as specific industries (including through more tailored insurance offerings) or affinities such as faith. Disadvantages in the administration area may be limited where smaller funds can outsource at a low cost; although this will tend to be restricted to more generic functions. Smaller funds might find it harder to deliver customised retirement income strategies effectively. They will need to rely on outsourced services to a greater extent and will have limited resources to support strategy design.
- **Smaller funds may offer systemic benefits** – Having a superannuation fund industry populated by a diverse range of participants of differing sizes may bring benefits in terms of market liquidity and resilience, competition and financing of smaller firms. On the other hand, small funds might generate more variable outcomes because of less well-defined governance, processes and systems, as well as being more reliant on a few key staff.

We feel that smaller funds have a right to exist if they can distinguish themselves in ways that benefits their members. The requirement for trustees to consider scale under their member outcomes assessments⁷⁴ seems a reasonable approach for ensuring that smaller funds justify their right to operate.

8. Concluding comments

We have considered how large size could be beneficial or detrimental for superannuation fund members. We identify a range of advantages, disadvantages and challenges that arise from managing a fund at a large size of \$50-\$100 billion in assets and beyond. The varied nature of the success drivers and the substantial challenges for operating at scale warn against presuming that large size automatically brings benefits. We see implementation as key. Superannuation funds must be operated efficiently regardless of size to deliver competitive returns and excellent services to their members. Large and small funds alike can succeed or fail depending on how well they formulate and execute their strategy given their size. We also raise concerns that concentration of market shares into a small number of ‘mega funds’ might reduce market resilience, impact on competition and give rise to widespread problems if a large fund gets into trouble. Members might be better served if industry participants such as policy makers, regulators and the funds themselves start to ask whether operating models are being configured to succeed at scale, rather than pushing for size for its own sake.

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⁷⁴ See https://www.apra.gov.au/sites/default/files/spg_516_outcomes_assessment_december_2018_v3.pdf

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