Firstlinks
a Morningstar company

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Editorial

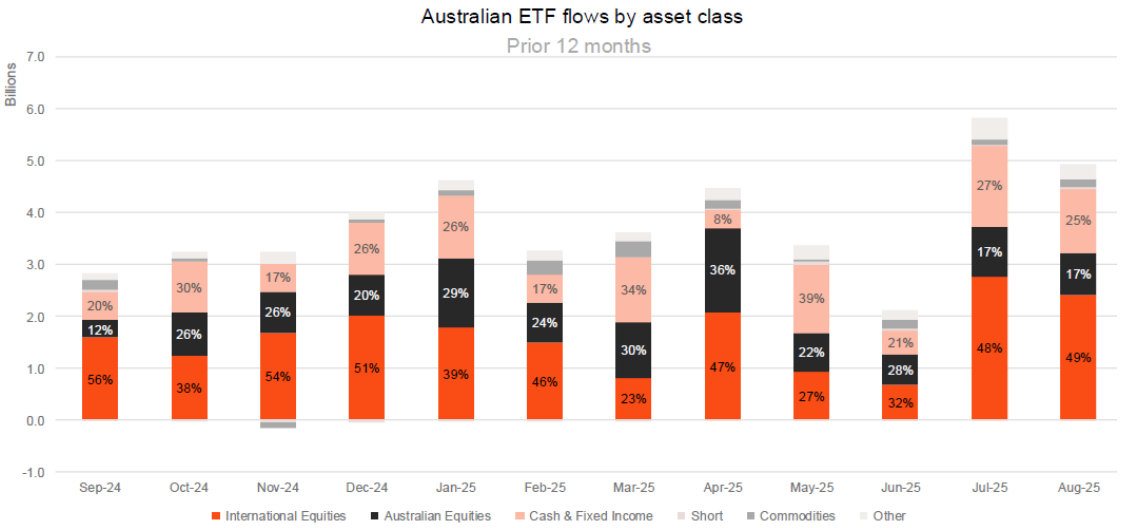
A few months ago I had a debate with a prominent Australian economist who said that given the performance of US shares versus Emerging Markets over the past 15 years that super funds and investors would be silly to bet against that trend continuing.

I took issue with it because I thought it was a little naïve to base predictions for the future on what's happened over a relatively short timeframe of 15 years. And it was a timeframe where US shares had performed spectacularly and Emerging Markets less so, dragged down by China whose economy had experienced recessionary-like conditions for several years.

This economist's views though have been echoed by investors in Australia. Most of the major super funds are continuing to pour money into the US, and individual investors are too.

In August, international share ETFs in Australia received the highest flow of funds with $2.4 billion, followed by fixed income ($1.2 billion) and Australian equities ($823 million).

It's part of a longer trend of money going into international equities. And given US stocks are around two-thirds of global indices, most of the funds are being invested in America.



Source: Betashares

It's not just Australian investors who are betting on US shares either. American investors themselves are seemingly all in.

Zooming out on returns

Some of you may be surprised by my comment that 15 years is too short a timeframe to judge returns. I like to look at performance over many decades as it provides more context for current markets and what may happen in future.

Yet even over the long term, US market returns stand out.

Total returns per annum in AUD

	1970s	1980s	1990s	2000s	2010s	2020s	1970-now
Australian shares	4.3%	17.7%	9.6%	8.8%	7.9%	9.0%	9.7%
International shares	5.9%	23.0%	12.9%	-3.6%	12.3%	13.9%	11.0%
US shares	6.0%	21.6%	20.2%	-4.0%	16.4%	16.4%	12.3%
Australian bonds	5.4%	11.8%	11.6%	6.5%	5.7%	0.5%	8.9%
Cash	8.0%	15.4%	7.6%	5.6%	2.9%	2.2%	9.4%

Source: Vanguard, Firstlinks

Since 1970, the S&P 500 has returned 12.3%, international shares 11% and Australian shares 9.7%. $10,000 invested in US shares in 1970 would be turned into $5.7 million, for international shares it would have turned into $2.3 million, and for Australian shares it would have turned into $1.7 million.

It's amazing how relatively small differences in annual returns result in large discrepancies in total returns. That's the power of compounding!

Another thing to note from the chart is how good US returns have been since 2010. Both the last decade and this one have produced returns of 16% per annum. That's way above the annual return of close to 10% over the past century.

It's also apparent how volatile US market returns are. The 1970s were poor, especially when adjusted to high inflation. In fact, cash easily topped equities during that period.

Yet the 1980s and 1990s saw amazing returns for stocks, especially in the US. Then that was followed by an awful decade in the 2000s which delivered negative annual returns from US shares, thanks to the internet bust and 2008 financial crisis.

In comparison, Australian share returns have been less volatile. This decade's 9.7% annual returns are slightly below the 10.4% recorded since 1900, yet they're still reasonable.

Overall, however, US shares have been stand-outs when it comes to performance since 1970.

The big question is: will it continue?

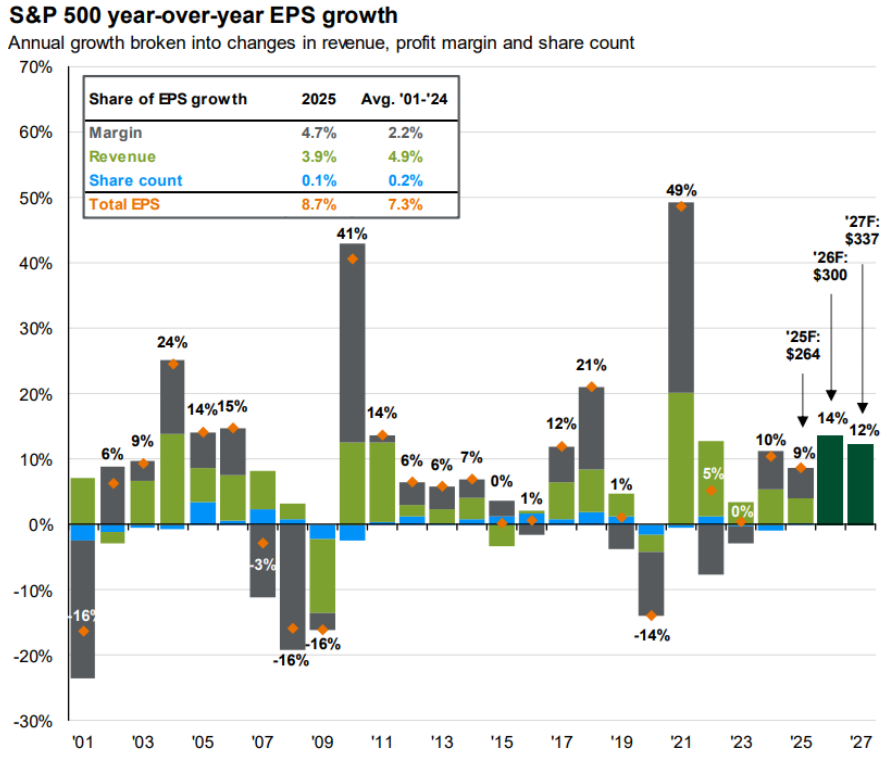
What's interesting this year is that for all the hoopla over AI and the Magnificent Seven, US shares have badly trailed international shares and emerging market shares. So, emerging market stocks are up 19% in USD terms year-to-date (YTD), helped by a 34% return from China. That compares to YTD returns from the US of 11%. Australian shares too have outperformed America both in local currency and USD terms this year.

CREATIVE PLANNING	Asset Class Total Returns Since 2011 (Data via YCharts as of 9/5/25)															@CharlieBilello	
ETF	Asset Class	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2011-25 Cumulative	2011-25 Annualized
GLD	Gold	9.6%	6.6%	-28.3%	-2.2%	-10.7%	8.0%	12.8%	-1.9%	17.9%	24.8%	-4.2%	-0.8%	12.7%	26.7%	**36.7%**	139%	6.1%
EFA	EAFE Stocks	-12.2%	18.8%	21.4%	-6.2%	-1.0%	1.4%	25.1%	-13.8%	22.0%	7.6%	11.5%	-14.4%	18.4%	3.5%	**23.5%**	144%	6.3%
N/A	Bitcoin ($BTC)	1473%	186%	5507%	-58%	35%	125%	1331%	-73%	95%	301%	66%	-65%	156%	121%	**19.2%**	37113644%	139.7%
VWO	Emerging Market Stocks	-18.7%	19.2%	-4.9%	0.0%	-15.8%	12.2%	31.5%	-14.8%	20.8%	15.2%	1.3%	-18.0%	9.3%	10.6%	**18.5%**	61%	3.3%
QQQ	US Nasdaq 100	3.4%	18.1%	36.6%	19.2%	9.5%	7.1%	32.7%	-0.1%	39.0%	48.6%	27.4%	-32.6%	54.9%	25.6%	**13.0%**	1104%	18.5%
CWB	Convertible Bonds	-7.7%	15.9%	20.5%	7.7%	-0.8%	10.6%	15.7%	-2.0%	22.4%	53.4%	2.2%	-20.8%	14.5%	10.1%	**12.5%**	272%	9.4%
IWF	US Growth	2.3%	15.2%	33.1%	12.8%	5.5%	7.0%	30.0%	-1.7%	35.9%	38.3%	27.4%	-29.3%	42.6%	33.1%	**12.1%**	820%	16.3%
SPY	US Large Caps	1.9%	16.0%	32.2%	13.5%	1.2%	12.0%	21.7%	-4.5%	31.2%	18.4%	28.7%	-18.2%	26.2%	24.9%	**11.1%**	569%	13.8%
EMB	EM Bonds (USD)	7.7%	16.9%	-7.8%	6.1%	1.0%	9.3%	10.3%	-5.5%	15.5%	5.4%	-2.2%	-18.6%	10.6%	5.5%	**10.2%**	77%	4.0%
IWD	US Value	0.1%	17.5%	32.1%	13.2%	-4.0%	17.3%	13.5%	-8.5%	26.1%	2.7%	25.0%	-7.7%	11.4%	14.2%	**9.8%**	329%	10.4%
IWM	US Small Caps	-4.4%	16.7%	38.7%	5.0%	-4.5%	21.6%	14.6%	-11.1%	25.4%	20.0%	14.5%	-20.5%	16.8%	11.4%	**8.1%**	271%	9.3%
LQD	Investment Grade Bonds	9.7%	10.6%	-2.0%	8.2%	-1.3%	6.2%	7.1%	-3.8%	17.4%	11.0%	-1.8%	-17.9%	9.4%	0.9%	**7.2%**	73%	3.8%
TIP	TIPS	13.3%	6.4%	-8.5%	3.6%	-1.8%	4.7%	2.9%	-1.4%	8.3%	10.8%	5.7%	-12.2%	3.8%	1.7%	**7.1%**	50%	2.8%
HYG	High Yield Bonds	6.8%	11.7%	5.8%	1.9%	-5.0%	13.4%	6.1%	-2.0%	14.1%	4.5%	3.8%	-11.0%	11.5%	8.0%	**6.9%**	104%	5.0%
MDY	US Mid Caps	-2.1%	17.8%	33.1%	9.4%	-2.5%	20.5%	15.9%	-11.3%	25.8%	13.5%	24.5%	-13.3%	16.1%	13.6%	**6.5%**	339%	10.6%
BND	US Total Bond Market	7.7%	3.9%	-2.1%	5.8%	0.6%	2.5%	3.6%	-0.1%	8.8%	7.7%	-1.9%	-13.1%	5.7%	1.4%	**6.0%**	40%	2.3%
VNQ	US REITs	8.6%	17.6%	2.3%	30.4%	2.4%	8.6%	4.9%	-6.0%	28.9%	-4.7%	40.5%	-26.2%	11.8%	4.8%	**5.9%**	195%	7.7%
PFF	Preferred Stocks	-2.0%	17.8%	-1.0%	14.1%	4.3%	1.3%	8.1%	-4.7%	15.9%	7.9%	7.2%	-18.2%	9.2%	7.2%	**5.5%**	92%	4.6%
TLT	Long Duration Treasuries	34.0%	2.6%	-13.4%	27.3%	-1.8%	1.2%	9.2%	-1.6%	14.1%	18.2%	-4.6%	-31.2%	2.8%	-8.1%	**4.4%**	41%	2.4%
DBC	Commodities	-2.6%	3.5%	-7.6%	-28.1%	-27.6%	18.6%	4.9%	-11.6%	11.8%	-7.8%	41.4%	19.3%	-6.2%	2.2%	**3.0%**	-9%	-0.6%
BIL	US Cash	0.0%	0.0%	-0.1%	-0.1%	-0.1%	0.1%	0.7%	1.7%	2.2%	0.4%	-0.1%	1.4%	4.9%	5.2%	**2.9%**	21%	1.3%
Highest Return		BTC	BTC	BTC	VNQ	BTC	BTC	BTC	BIL	BTC	BTC	BTC	DBC	BTC	BTC	**GLD**	BTC	BTC
Lowest Return		EEM	BIL	GLD	BTC	DBC	BIL	BIL	BTC	BIL	DBC	TLT	BTC	DBC	TLT	**BIL**	DBC	DBC
% of Asset Classes Positive		62%	95%	52%	71%	38%	100%	100%	5%	100%	90%	71%	10%	95%	95%	**100%**	95%	95%

Drivers of US returns

To assess whether past US returns are sustainable going forward, let's dig into the key drivers of returns. Namely, earnings and valuation multiples.

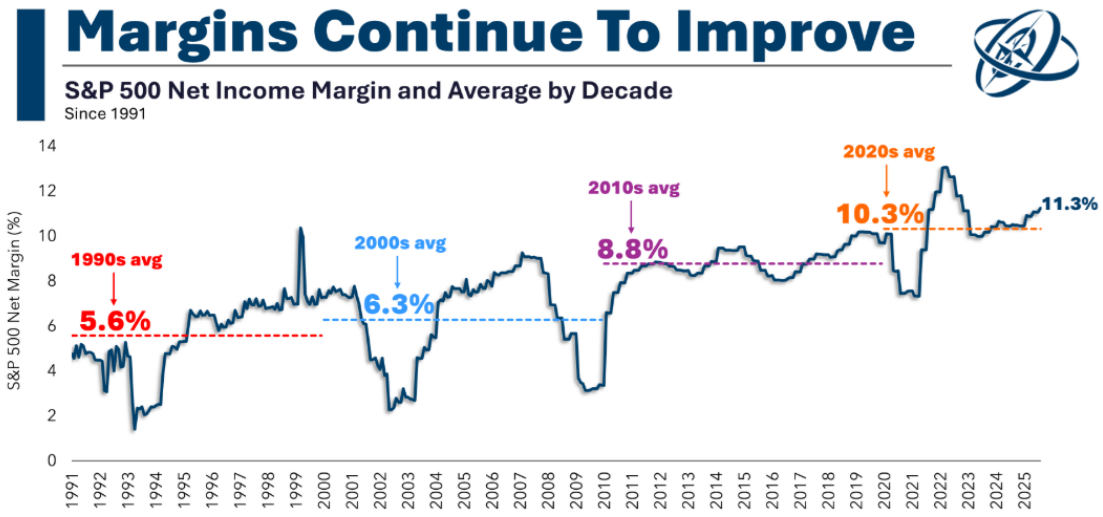
On earnings, S&P 500 forecast EPS growth is 9% this year, followed by 14% in 2026 and 12% in 2027. That's well above the average of 7.3% since 2001.



What's fascinating is that revenue growth is expected to slow this year, yet margin improvement is predicted to contribute more than half to total EPS growth.

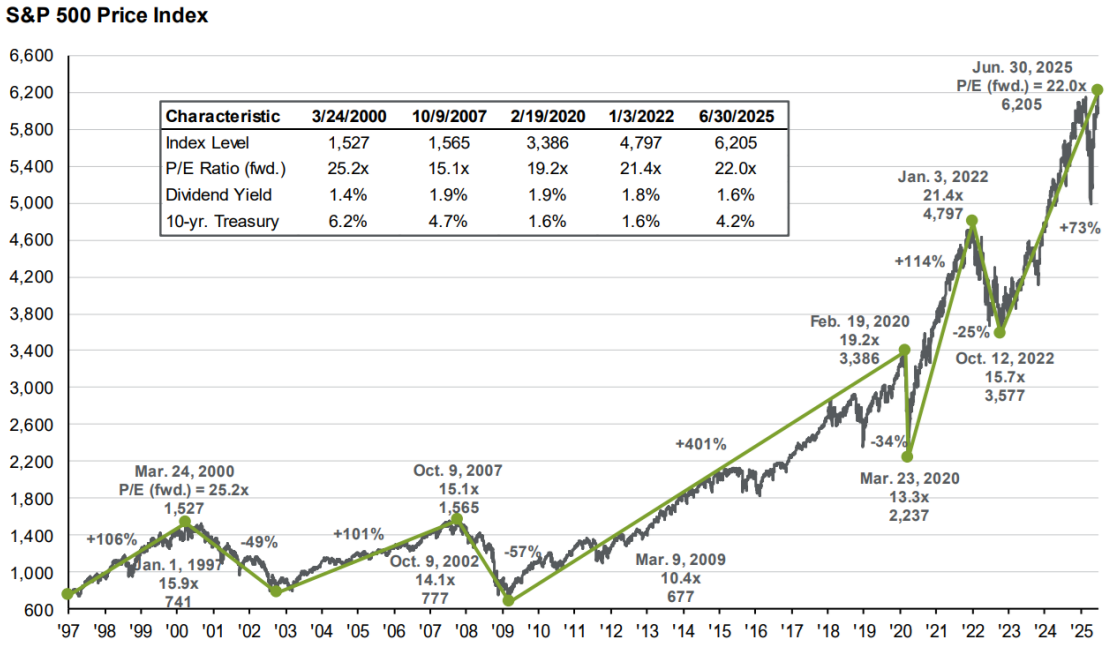
Higher margins aren't just a this year story. US margins have more than doubled since the 1990s.

It's been driven by many trends, including the rise of high-margin tech behemoths, including the Magnificent Seven.

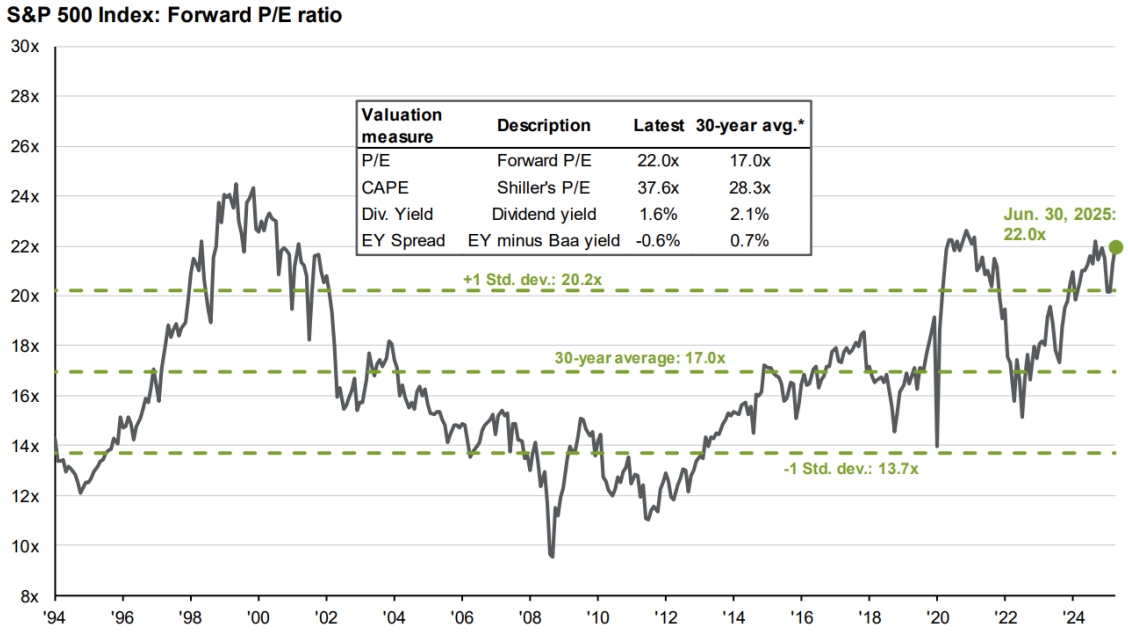


Source: Ritholtz Wealth Management

The other big factor in stellar US performance has been an expansion in valuation multiples attached to the market. Bottoming at 10.4x price-to-earnings (P/E) in early 2009, the S&P 500 is now trading at a forward P/E ratio of 22.

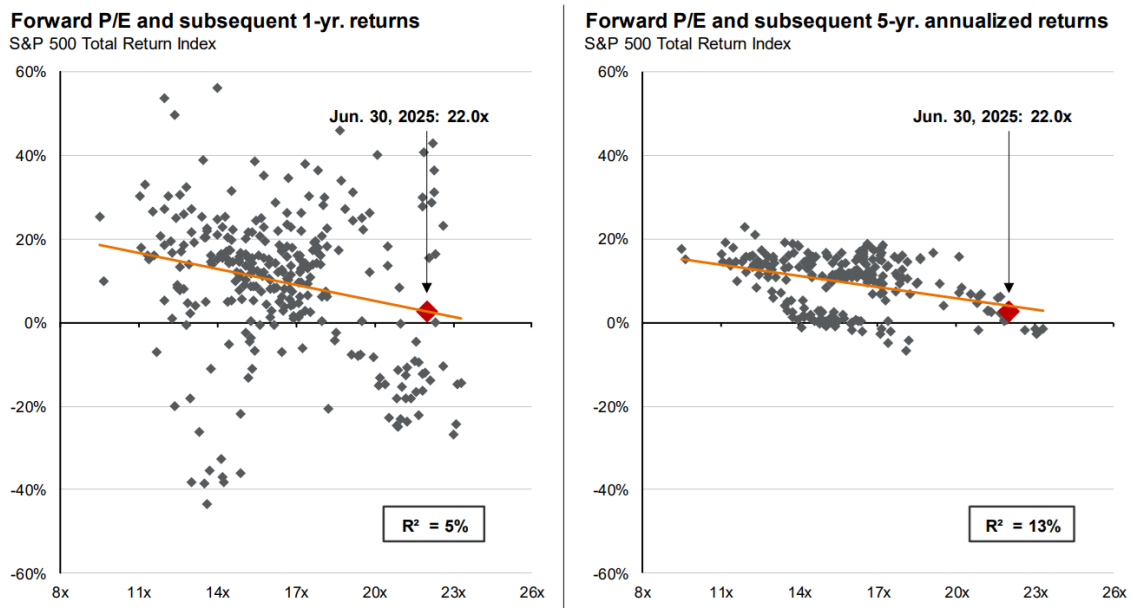


US market prices look extended no matter which valuation method you use.



Source: JP Morgan Asset Management

When valuations are this steep, it normally doesn't augur well for future returns, especially over longer timeframes.

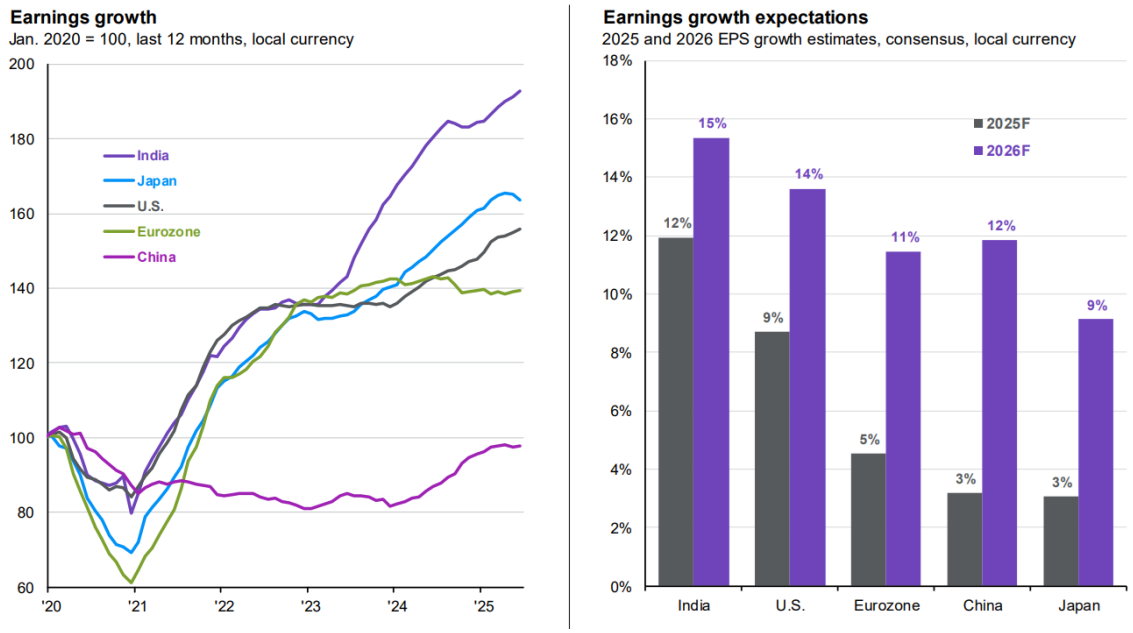


Source: JP Morgan Asset Management

Even assuming a relatively benign outcome of flat margins and P/E ratios would mean US returns of low-to-mid-single digits over the next 5-10 years. It would need a sustained boom in earnings, perhaps led by AI, to prevent that from happening.

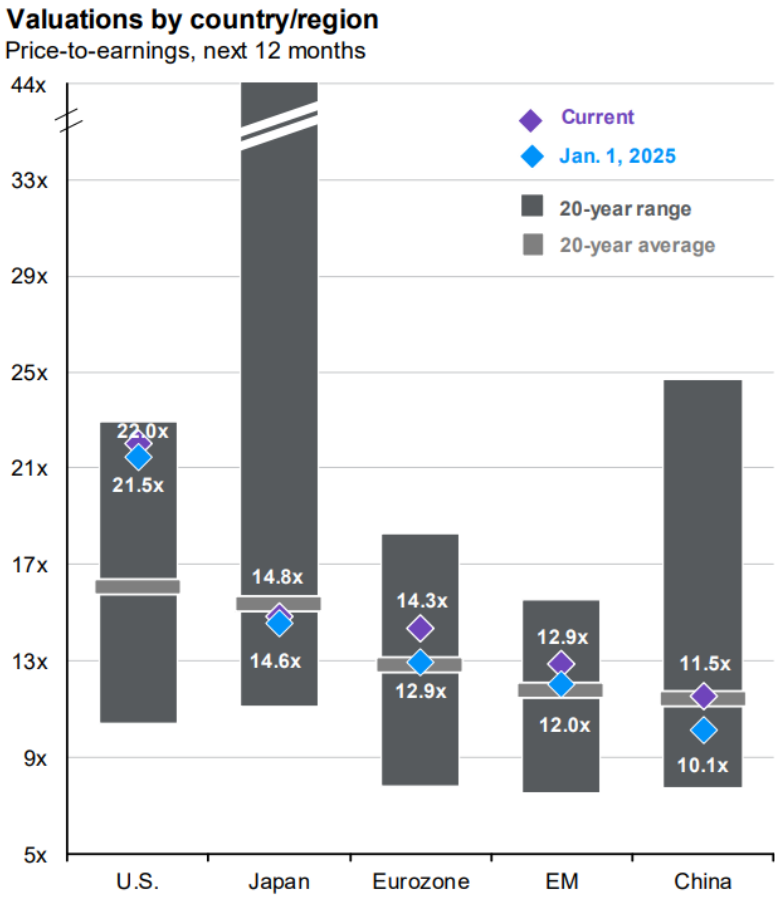
How the rest of the world looks

Believe it or not, while US earnings have been great, they've trailed the likes of India and Japan this decade. And while Europe and China earnings haven't been healthy, they're also forecast to pick up over the next year.



Source: JP Morgan Asset Management

And the price that investors are paying for earnings in the world ex-US are much cheaper. Japan and China especially appear inexpensive.



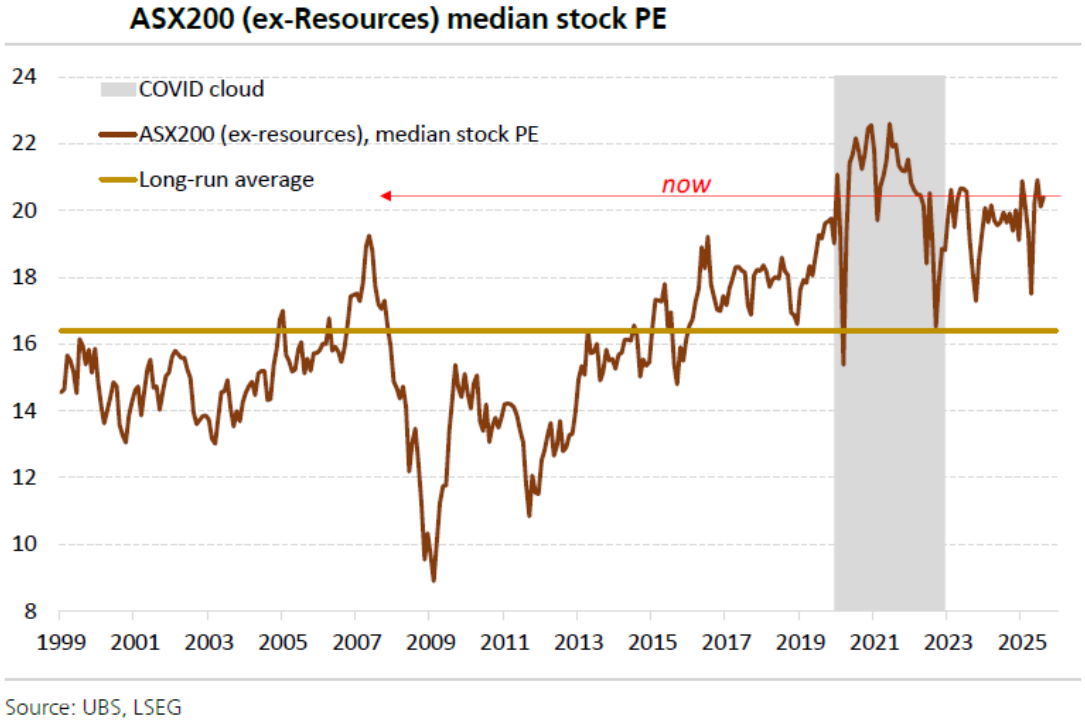
Source: JP Morgan Asset Management

What about Australia?

Australia is a different case. 2025 is expected to be the third year in a row where the ASX 200 delivers negative earnings growth. The poor record has been driven by pedestrian profits from the banks (is it any wonder why they are now on a cost cutting exercise?) and mining earnings falling sharply due to commodity prices retreating.

The consensus forecast is for earnings to increase by 4.5% next year, though this number can't be trusted as stockbrokers are always too bullish on their profit forecasts.

The amazing thing is that the earnings drought hasn't stopped the market from performing relatively well. That's been entirely due to an increase in the price that investors are willing to pay for the market. The ASX 200 now trades on a forward PE ratio of 19x compared to the long-run average of 15x. Prices for stocks outside of resources are even steeper.

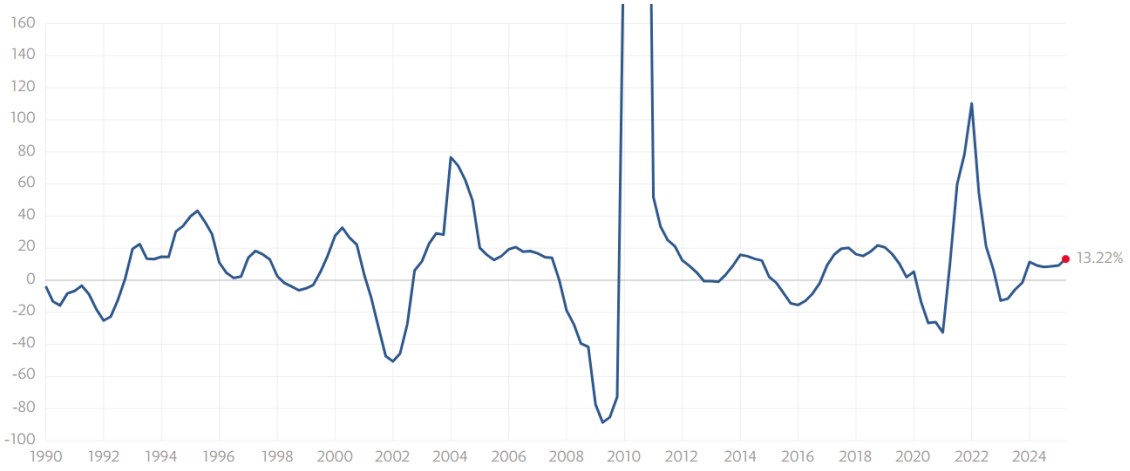


Source: UBS, LSEG

For the Australian market to continue to go up, it will need to come from increased earnings, probably led by the resource companies. And that's dependent on commodity prices, especially iron ore. Given the significant supply of iron ore coming to market over the next few years, not many are betting on higher prices going forward.

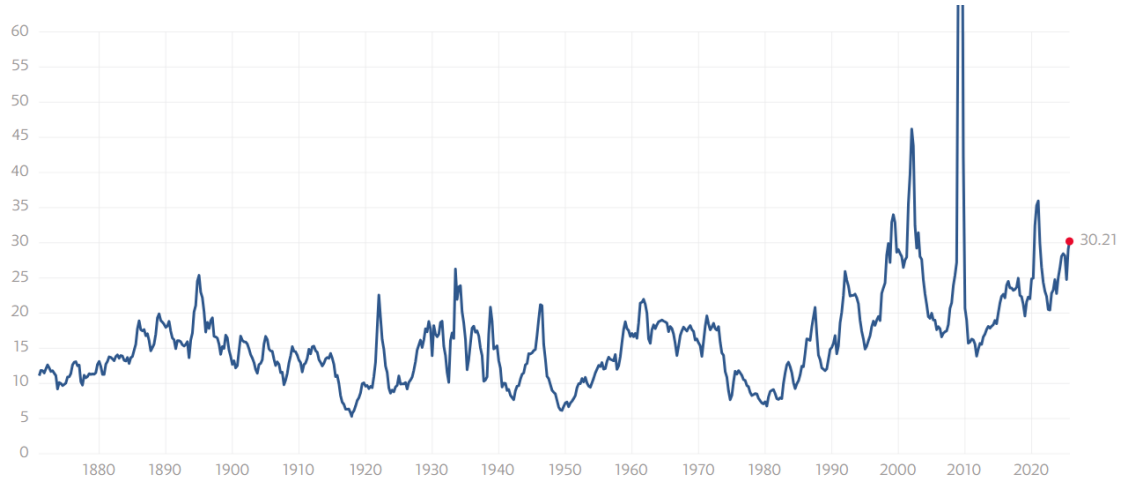
Overall, it makes for a challenging outlook for both US and Australian shares. Other equity markets look more prospective, especially Japan and Europe.

S&P 500 earnings growth rate



Source: Robert Shiller

S&P 500 Trailing PE ratio



Source: Robert Shiller

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In my article this week, I look at the prospects for the battered and bruised LICs sector and whether lower interest rates can deliver a long-awaited turnaround in its fortunes.

James Gruber

Also in this week's edition...

The blame game is underway following the stunning collapses of investment schemes, First Guardian and Shield. **Clime's Michael Baragwanath** says The Compensation Scheme of Last Resort was meant to protect the victims but hasn't, and it's time to design a fairer and faster system.

Every day, 700 Australians retire - most without a clear plan. **Aaron Minney** presents five charts breaking down the risks, realities, and strategies that could make or break your retirement.

Behind every political system and cultural norm might be a field of rice or wheat. **Tomas Pueyo** says these crops, dictated by climate, have quietly engineered how societies cooperate, govern, and grow - including in Australia.

Like John McClane crashing the Nakatomi Christmas party in the movie *Die Hard*, small caps stormed back into the market spotlight in August, delivering their best monthly gains in years. If historical patterns hold, **Ophir's Andrew Mitchell** says this could be the opening act of a much bigger comeback story.

First Sentier's Andrew Greenup thinks today's new world order appears likely to lead to a lower return, higher risk investment environment. But he says one asset class looks especially well placed to survive, thrive, and deliver attractive returns to investors.

The four-day work week promises balance, rest, and unchanged productivity - but most trials have only tested this in ideal white-collar environments under short-term conditions. **Professor Jenny George** believes that until more people willingly trade income for time, it's an appealing idea whose time hasn't yet come.

And, in this week's whitepaper, the private equity secondary market - involving the sale and purchase of investors' existing interests in illiquid alternative investment funds - is hot right now. **Schroders** investigates how it's disrupting the buyout market.

Curated by James Gruber and Leisa Bell

Are LICs licked?

James Gruber

Recently, I got this email from a subscriber, Pete:

"Wondering if you might provide readers with another update on the current state of LICs [listed investment companies].

Andrew Mitchell and Steven Ng's article, "The catalyst for a LICs rebound", published in June last year, was very insightful and I feel it's time for a follow-up.

As a long-term AFIC and Argo shareholder, I've watched the slow car crash of LIC discounts widening to NTA.... now at some of their widest levels ever... and for many of us, dividends can only go so far, and at some point we need to sell holdings to fund living expenses. LICs rarely receive much coverage these days, with most of the conversation shifting to ETFs (understandably), aside from the occasional presence of WAM.

An update on the challenges and prospects for LICs would be greatly appreciated by investors like myself who continue to hold them through thick and thin."

I feel Pete's frustration and he's certainly not the only despairing LICs holder.

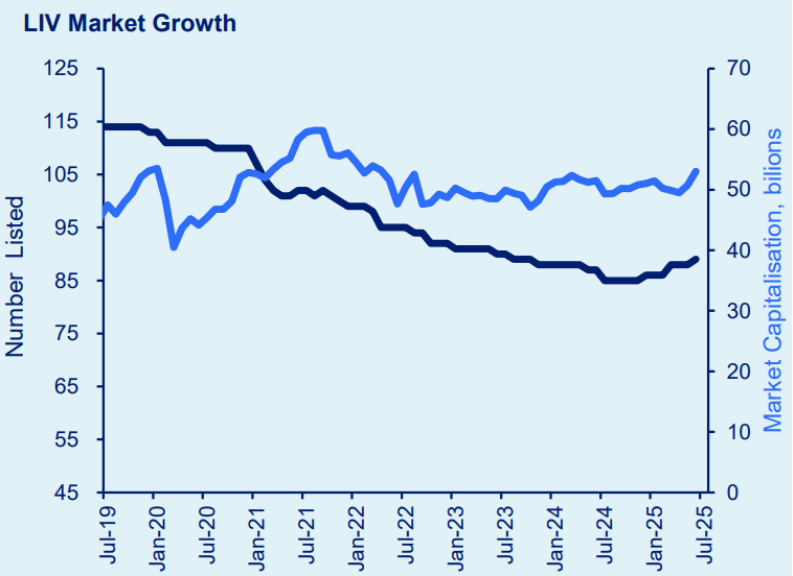
It's no secret that ETFs are continuing to take market share from LICs and other investment products. In August, there were 388 ETF products and they had a market capitalization of $299 billion, a rise of 36% year-on-year.

The size of the ETF industry still pales besides managed funds, which are worth close to $5 trillion, $4.1 trillion of which come from superannuation funds.

LICs and LITs (collectively known as listed investment vehicles or LIVs) are much smaller by comparison. There are 89 of them listed on the exchange, and they have a market cap of $55 billion, about 20% that of ETFs.

The good news is that the number of LIVs increased from 85 to 89 over the past year, and the market cap also jumped by 12% over that period. The money flowed principally into fixed income and global equities.

The bad news is that the number of LIVs is still well down from the peak of 115 in 2019 and the market cap growth still badly lagged that of ETFs.



Source: ASX

LIVs*	Last 12 months		
	Jul-24	Jul-25	% change
Equity - Australia	31.65	33.81	6.8%
Equity - Global	11.50	12.73	10.7%
Fixed Income	5.79	8.17	41.2%
Property	0.39	0.41	5.0%

Source: ASX

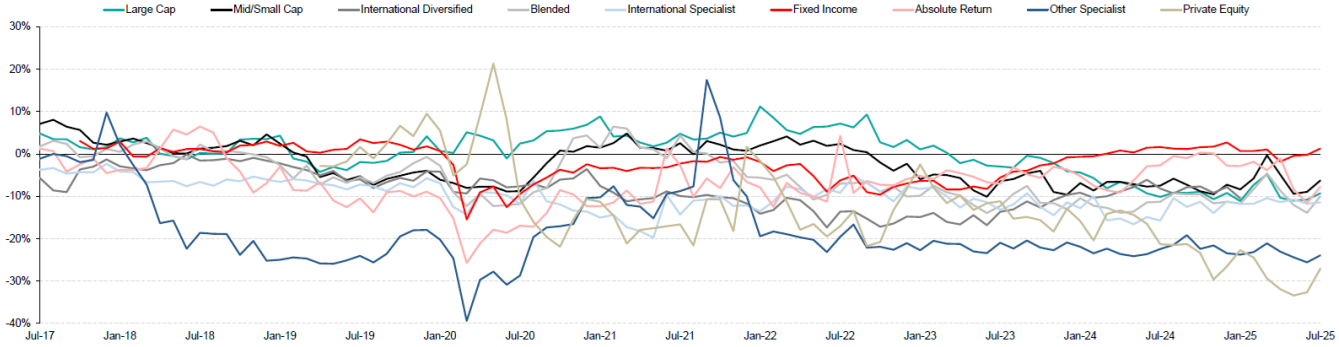
The loved and unloved

According to Bell Potter, LICs trade close to their widest discounts to net tangible assets (NTA) in history.

Interestingly, fixed income LICs now trade at a small premium to NTA, a big turnaround from much of the previous five years.

In equities, mid and small LICs have the widest discounts to NTA. Meanwhile, private equity LICs are the most unloved of all investment categories.

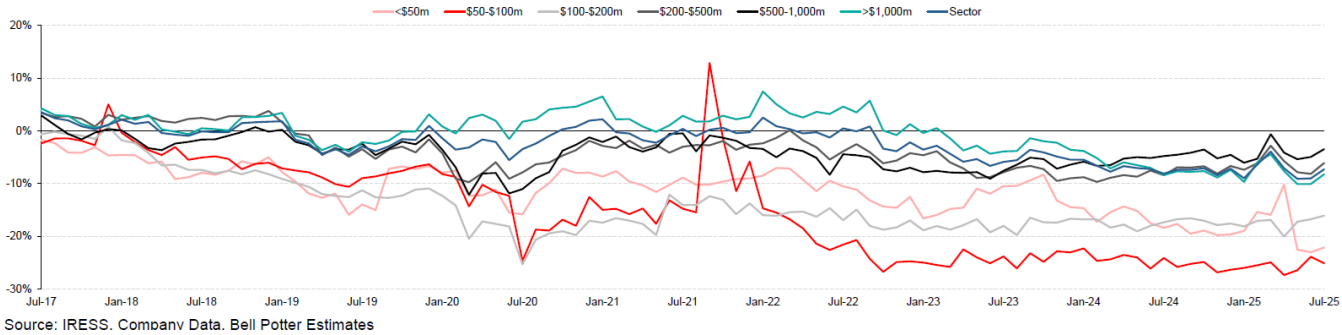
Premium/discount by investment mandate (market cap weighted)



Source: IRESS, Company Data, Bell Potter Estimates

Broken down by size, smaller LICs have the widest discounts to NTA.

Premium/discount by market cap band (market cap weighted)



Source: IRESS, Company Data, Bell Potter Estimates

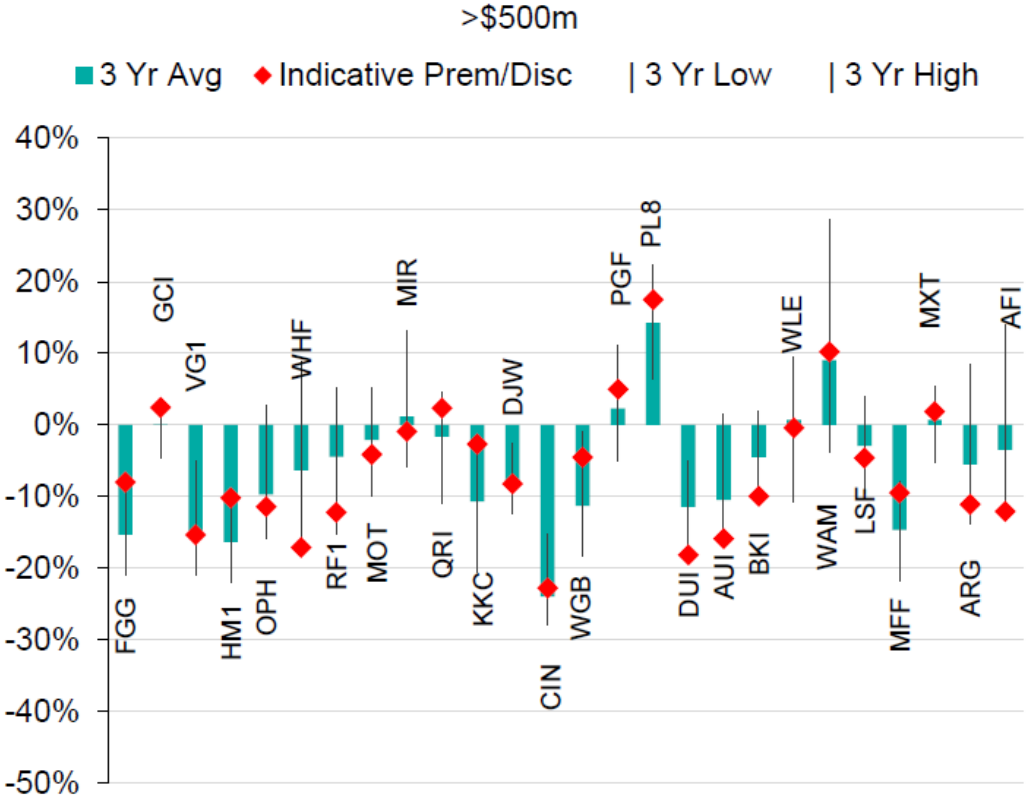
One thing to note about the above charts is that there has been a narrowing of NTA discounts in many categories in recent months. Does this offer hope? Perhaps.

Looking at individual LICs, the two largest ones, Australian Foundation Investment Company (AFIC) and Argo stand out, with NTA discounts near three-year highs. Both have been hindered by below benchmark performance over one, five, and 10 years.

Investors have instead clamoured for equity income LICs. The Plato Income Maximiser (ASX: PL8) now trades at an 18% premium to NTA. Newer equity income products have also hit the market, including WAM Income Maximser (ASX: WMX) and Whitefield Income (ASX: WHI).

Some of the other Wilson funds have also proven popular with the premium driven by a strong reputation for delivering income and an ongoing commitment to marketing.

Premium/discount for individual LICs and LITs



Source: Bell Potter

Why LICs are struggling with large discounts

The big question is: why are LICs on average continuing to trade at large discounts to NTA? And related to that: why aren't investors stepping up to buy these discounts, with the prospect of paying 90 cents, 80 cents, or even 70 cents for every dollar of assets?

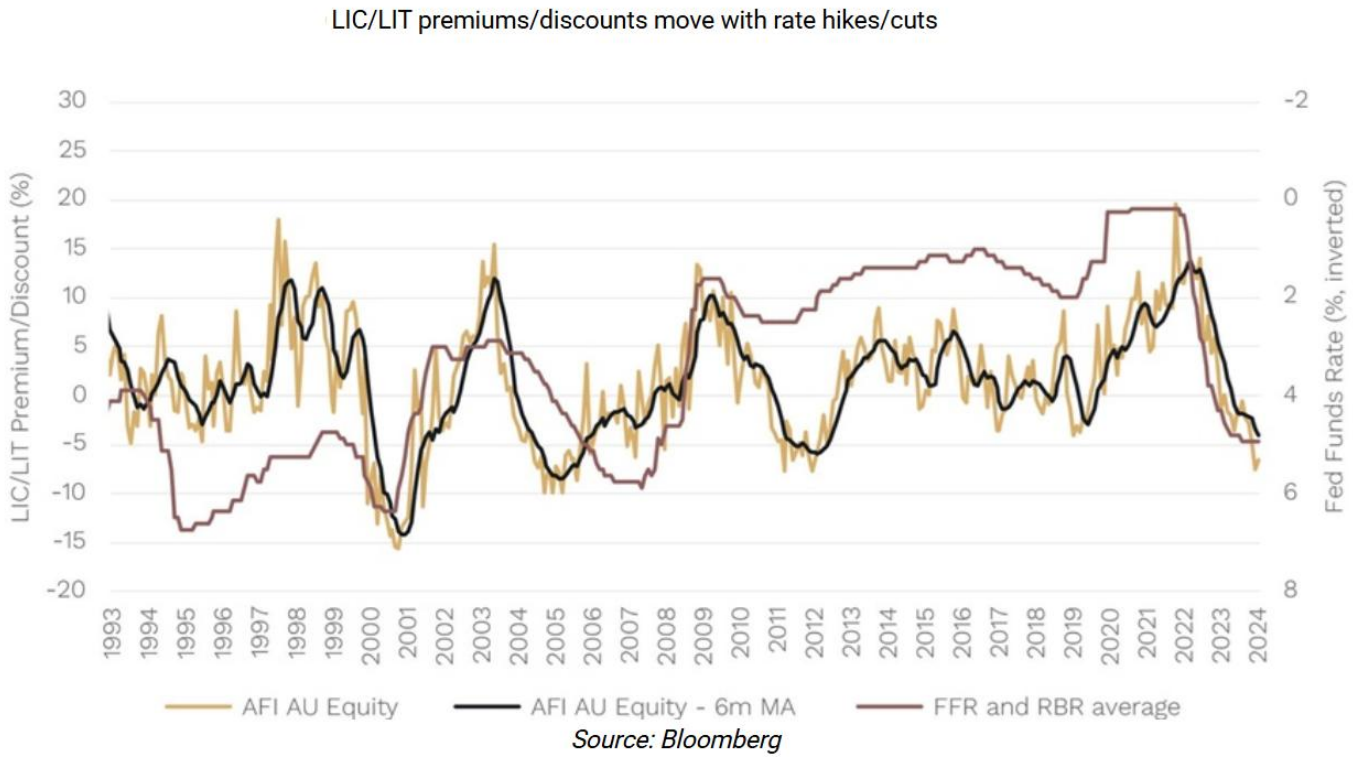
As subscriber Pete mentioned, Ophir's Andrew Mitchell and Steven Ng did a great article examining this last year.

They went through several of the reasons given by investors for LIC/LIT premiums and discounts, including:

1. Supply and demand
2. Size of the LIC or LIT
3. Liquidity of the fund
4. Investor sentiment
5. Market direction
6. Investment performance

They suggested that none of these factors explained AFIC's widening discount to NTA at that time (and it's widened further since).

They theorized that another factor was far more important: interest rates. In AFICs case, lower interest rates have been associated with higher premiums to NTA and higher interest rates have been associated with higher discounts to NTA.



And what was true for AFIC was also true for other LICs.

Range for Average of Fed/RBA policy rate	Average Premium/Discount	Median Premium/Discount
0-2%	-4.6	-3.8
2-4%	-6.0	-6.9
4-6%	-8.3	-8.8
6-8%	-12.4	-11.8

Source: Bloomberg. Data since January 1992 and includes premium/discount history for 38 equity LIC/LITs on the ASX using history back to their inception dates.

What's the connection between rates and LIC NTA premiums and discounts? As Mitchell and Ng explained:

"Basically, we have shifted from an interest rate world of 0% during COVID in 2020 and 2021 where the 'TINA' (There Is No Alternative to equities) moniker was in play and many saw shares as the only investment choice to "TIARA" (There Is A Reasonable Alternative) where fixed income and even cash investments have become more attractive again."

My two cents

It's intriguing that since they wrote the article in June last year, money did flow into fixed income as rates rose.

And the narrowing of NTA discounts in recent months coincides with RBA cuts to interest rates and seems to lend credence to Mitchell and Ng's views.

My view is that while interest rates are an important driver, the other factors they mentioned, especially size, liquidity and investment performance, also play crucial roles. On the latter, you only need to look at AFIC and Argo.

The bullish picture presented by the authors will also be challenged by the waning in structural demand for LICs.

When I try to picture the future for investment products, I look at younger generations and what they're buying. What I see is they're purchasing things that are easy and convenient and can be done by phone. It's why they're buying ETFs and automated savings and investing options such as Raiz. While LICs are easy to buy and sell, assessing their structure, the premiums or discounts, the performance, the managers and so on, requires a lot more work. Work that the young aren't inclined to do.

So while LIC discounts may narrow as interest rates fall over the next 6 months, the sector is likely to face a challenging future.

That said, there will always be room for high-performing LICs and a number of these now can be bought at large NTA discounts and should be on the radars of savvy investors. Ophir's own High Conviction Fund (ASX: OPH) is one of them.

And there'll also be room for new products that meet the needs of investors, as recent listings of equity income LICs show.

** Disclosure: Ophir is a Firstlinks' sponsor.*
James Gruber is Editor at Firstlinks.

We need a better scheme to help superannuation victims

Michael Baragwanath

Retirement should be a time to relax and reward yourself after decades of hard work. Yet, for many Australians, our golden years are filled with confusion, uncertainty, and a fear of running out of money. With 700 Australians retiring every day, and over 255,000 a year, it is crucial we provide older Australians with the tools and insight needed to confidently navigate this new stage of life.

Here's five charts every Australian needs to see when thinking about retirement.

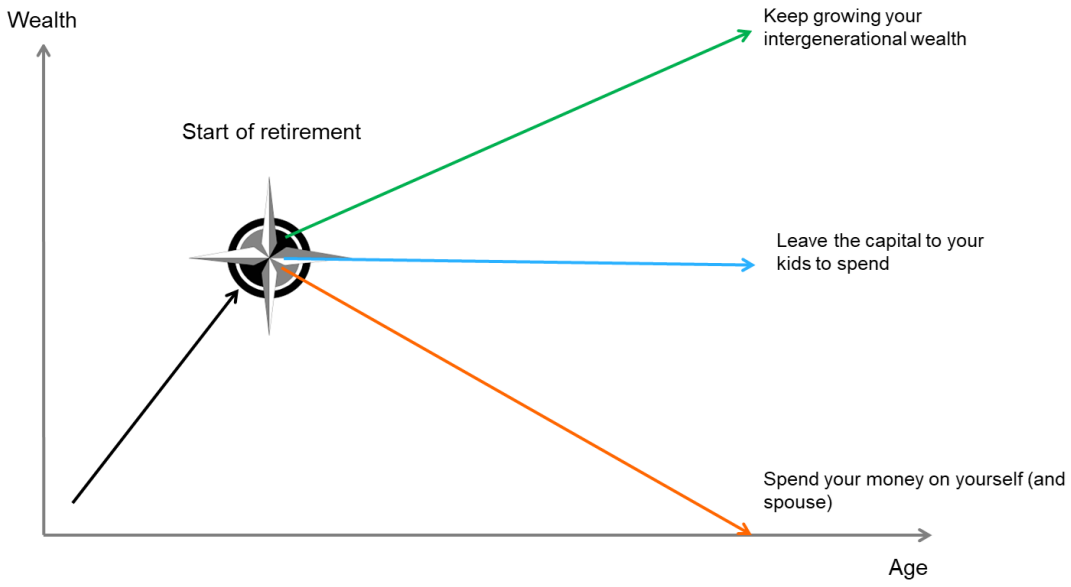
1. Understand your retirement goals

For many retirees there are competing priorities and only a finite amount of money. Nobody has a crystal ball for the future and shifting from a regular pay cheque to a lump sum super balance can be a hard transition.

One of the most important considerations is how much to spend on your lifestyle verses leaving an inheritance for your loved ones. Understanding this overarching goal can help you plan for other expenses over time.

While the goal for super is to help fund a comfortable retirement, some retirees may want to leave a nest egg for future generations. To manage these individual goals, it can be worth considering separate investments. For example, investing in a guaranteed retirement income solution, can help you confidently spend on lifestyle expenses throughout retirement while a separate investment can focus on the inheritance for the next generation.

Chart 1: Retirement goals lead to different consumption paths



2. Understand longevity challenges

Australians are living longer, and the average Australian will spend 20 to 30 years in retirement. Yet, none of us know exactly how long our retirement will last. This gives rise to longevity risk.

The chart below plots the probability of survival for a 65-year-old in 2025. The solid lines represent the proportion of 65-year-olds that will survive to each age, while the dotted line provides an estimate for the surviving member of a couple.

It is important to have financial mechanisms in place to ensure your income will last, particularly for women who generally live longer. This can help alleviate a lot of anxiety in our older years.

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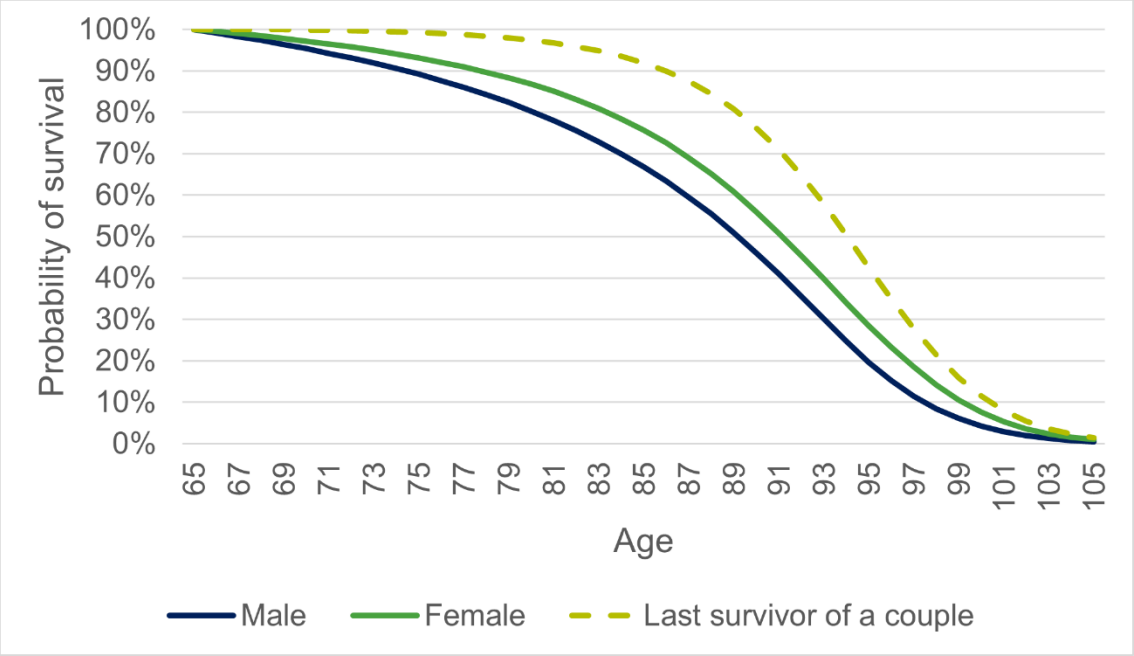
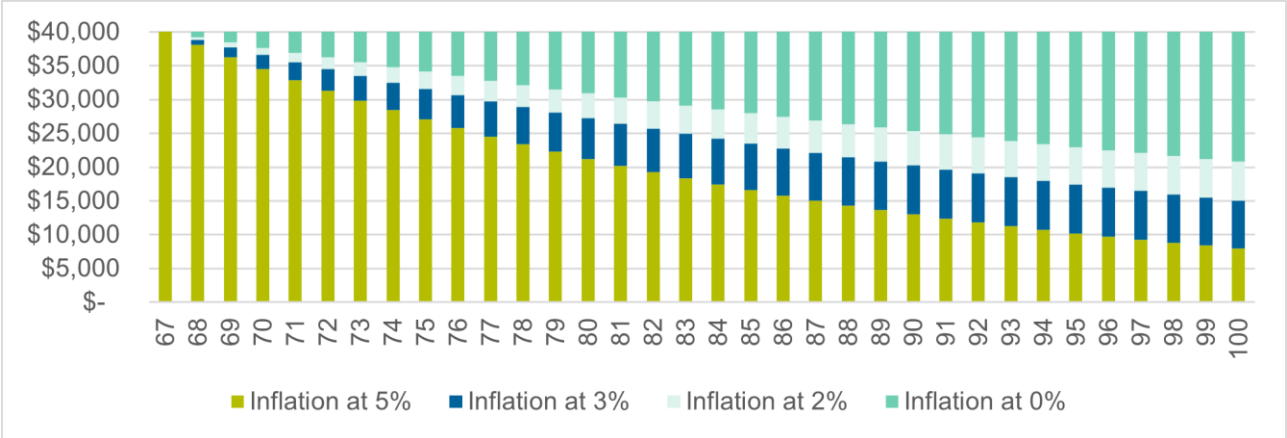


3. Understand the impact of inflation

Rising cost-of-living can be problematic for retirees. Research by YouGov, commissioned by Challenger, found that 2 in 3 Australians over 60 said cost-of-living impacted their confidence they would have enough money for retirement.

The below chart highlights how a retiree's lifestyle can be diminished due to the impact of ongoing inflation. A spike in inflation, like we saw in 2023, can also wreak havoc, and retirees need to ensure they have some protection in place. A CPI-linked income stream can help overcome cost-of-living concerns.

Chart 3: Inflation erodes the value of your income over time



4. Understand market risk in retirement (AKA sequencing risk)

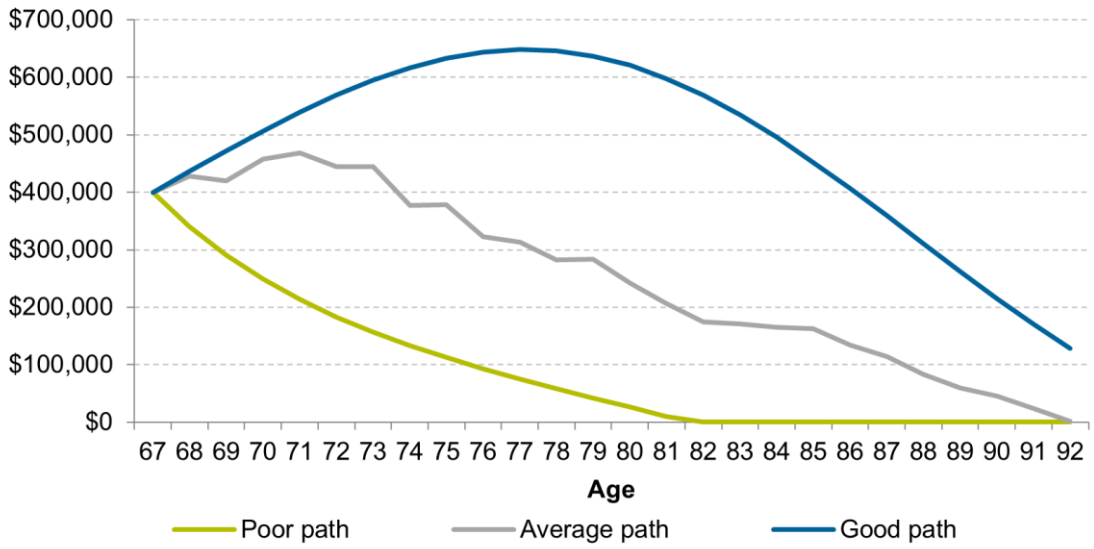
A commonly held perception is that the best way to account for inflation and make money last in retirement is through maintaining exposure to equity markets. While, historically, markets have delivered over the long-term and proven valuable in accumulating wealth, it is a different story in and approaching retirement. The impact of poor market performance is not just the length of time it takes to recover the real capital value, but the income that is lost over that period.

The order of investment returns matters in retirement as you are drawing an income from investments. In many cases, the path of returns is more important than the rate of return.

The chart below shows how long your savings might last through retirement. All three paths have the same rate of return – but the returns are in a different order. If returns follow the average path, savings can be drawdown for approximately 25 years. If they follow a good path, there may be excess savings at the end, which could be left as an inheritance.

The good path delivers higher returns early in retirement, while the poor path has weak returns at the start. This means when income in drawn there is less capital invested when the market eventually recovers. The result is that savings can be depleted early.

Chart 4: The impact of the path of returns in retirement



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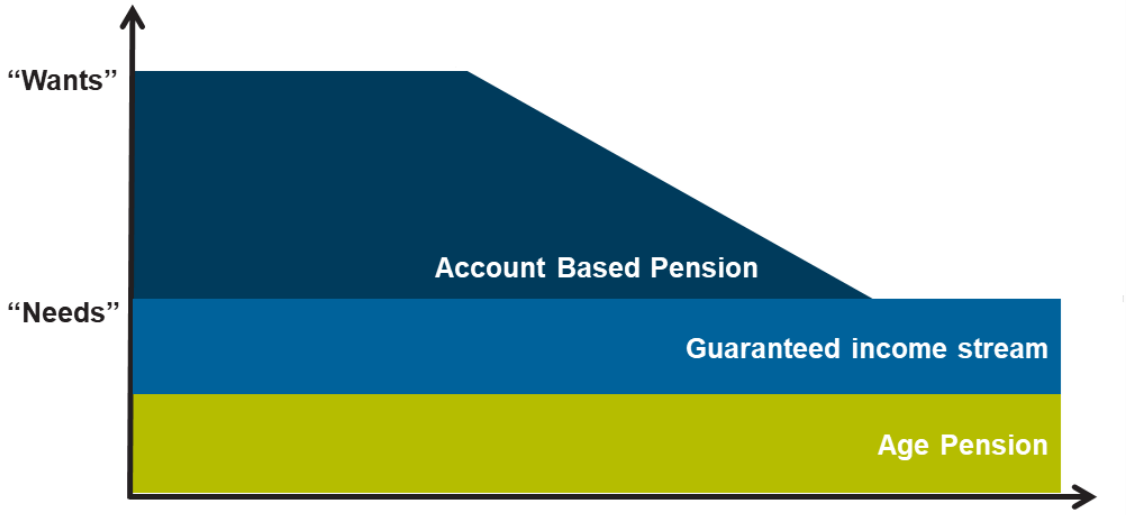
Research from Challenger and National Seniors Australia revealed 90% of Australians over 50 don't believe the Age Pension is sufficient to fund their lifestyle in retirement. In fact, half of those surveyed believed they would need an additional $10,000 (singles) and $15,000 (couples) more than the Age Pension per annum to meet their needs.

This is where a partial allocation to a lifetime income stream can help with a retiree's peace of mind. There is a common misconception that retirees should invest everything into a lifetime income stream. In reality, a partial allocation can be sufficient to look after long-term needs, while maintaining a pool of capital. It can also give retirees the confidence to spend more on their lifestyle in early retirement, while they have the health and energy to really enjoy it.

Chart 5: Income layers to help meet your needs and wants in retirement



Retirement can be an emotional time. Arming yourself with knowledge, seeking out a trusted support system, which may include professional advice, and setting up the right financial structure at the outset can help alleviate the stress and ensure you enjoy the hard-earned lifestyle you deserve.

Aaron Minney is Head of Retirement Income Research at Challenger Limited. This article is for general educational purposes and does not consider the specific circumstances of any individual.

5 charts every retiree must see…

Aaron Minney

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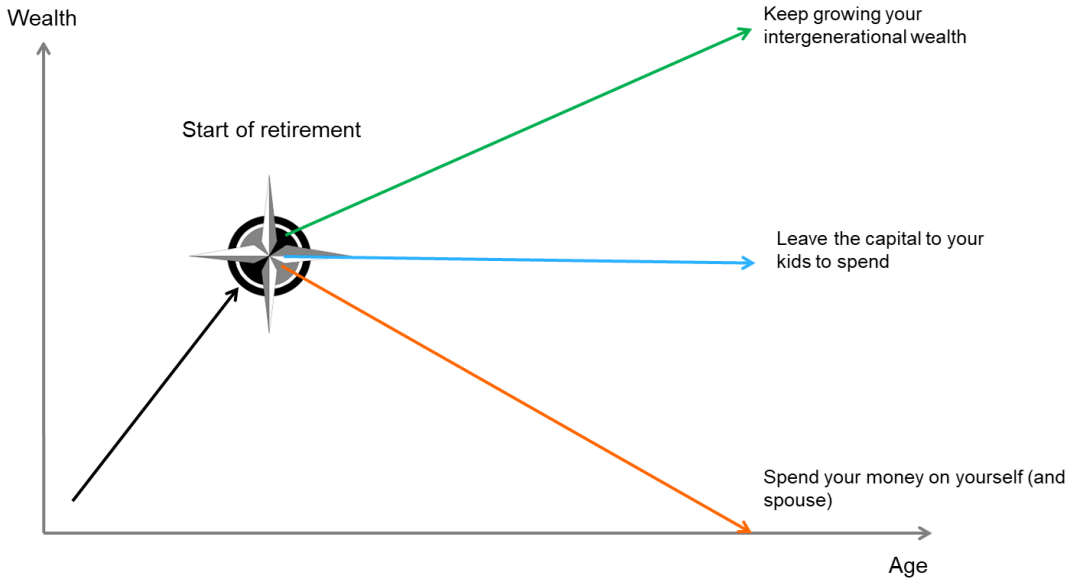

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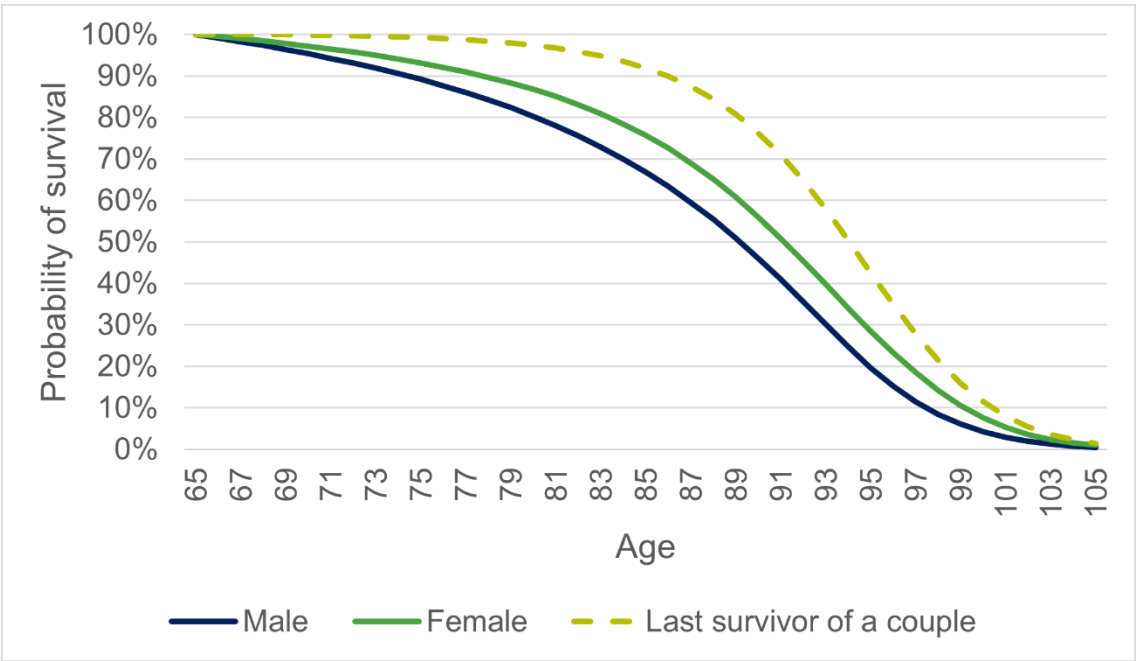

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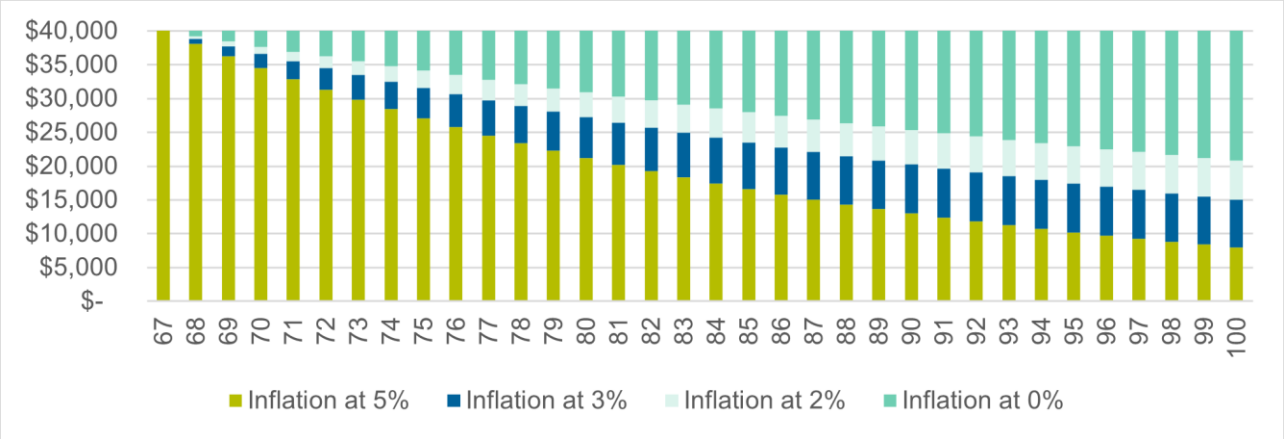

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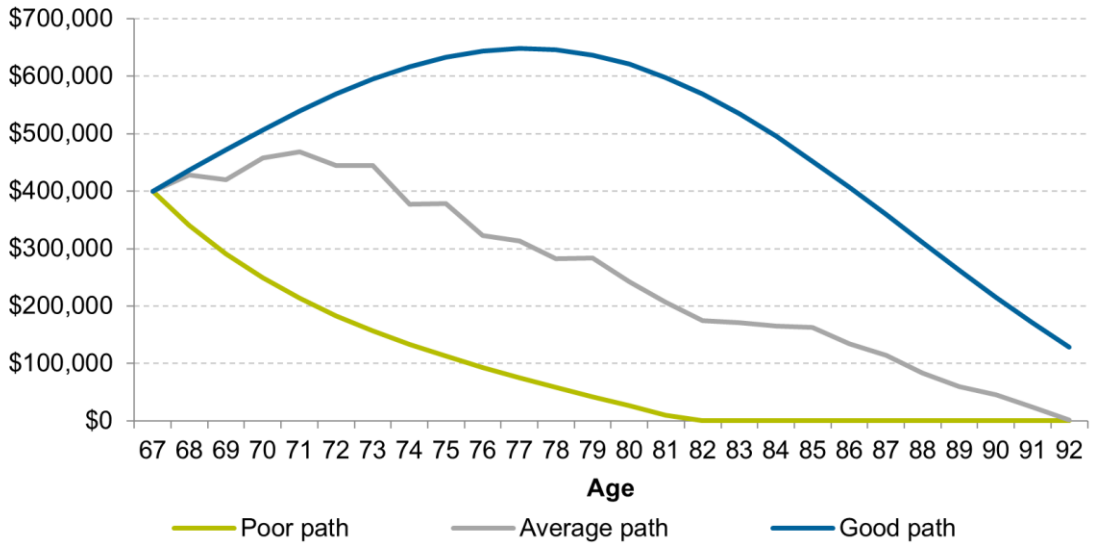

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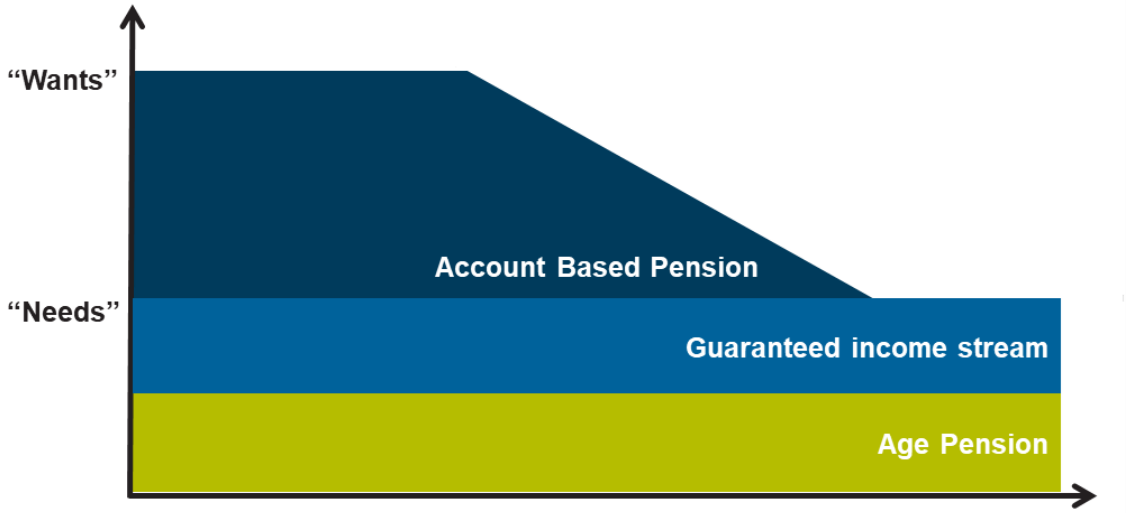

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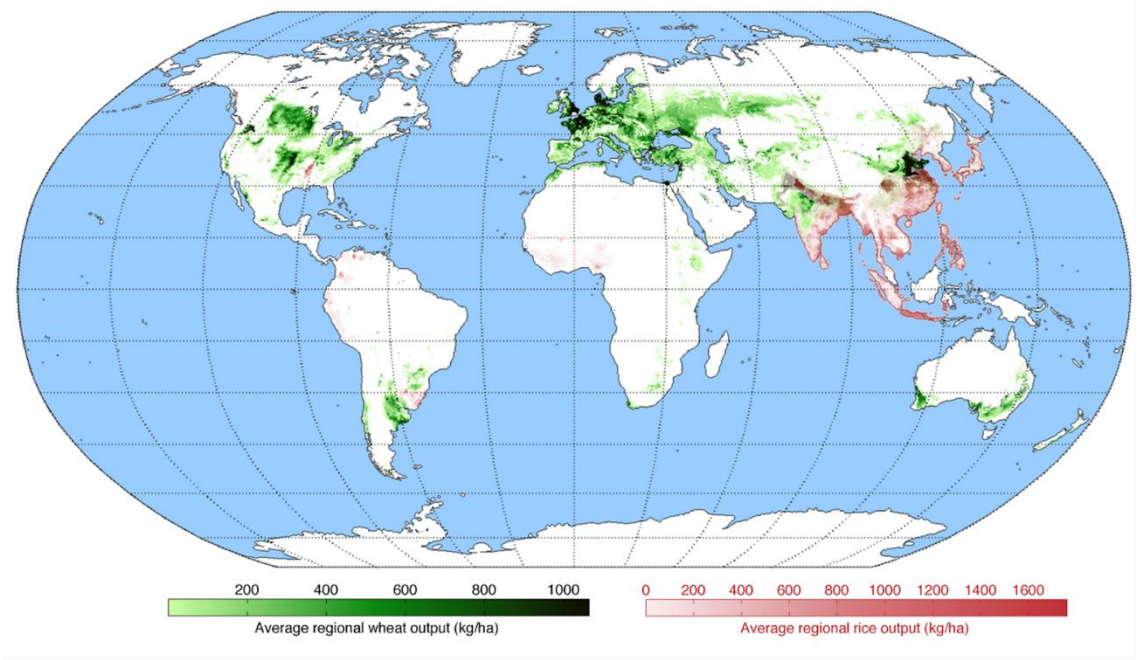
How bread vs rice moulded history

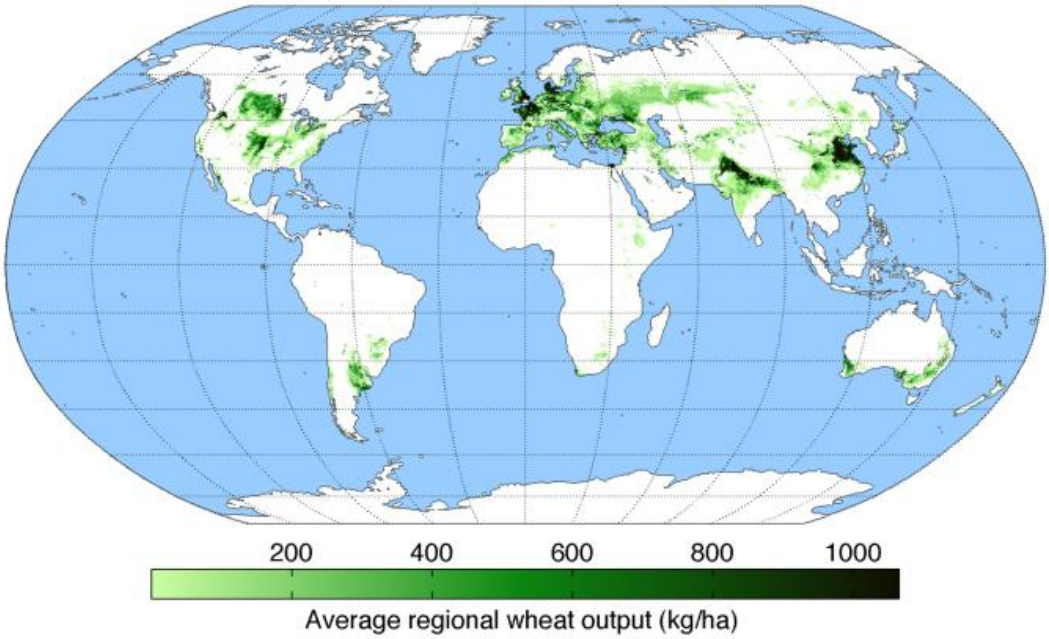
Tomas Pueyo

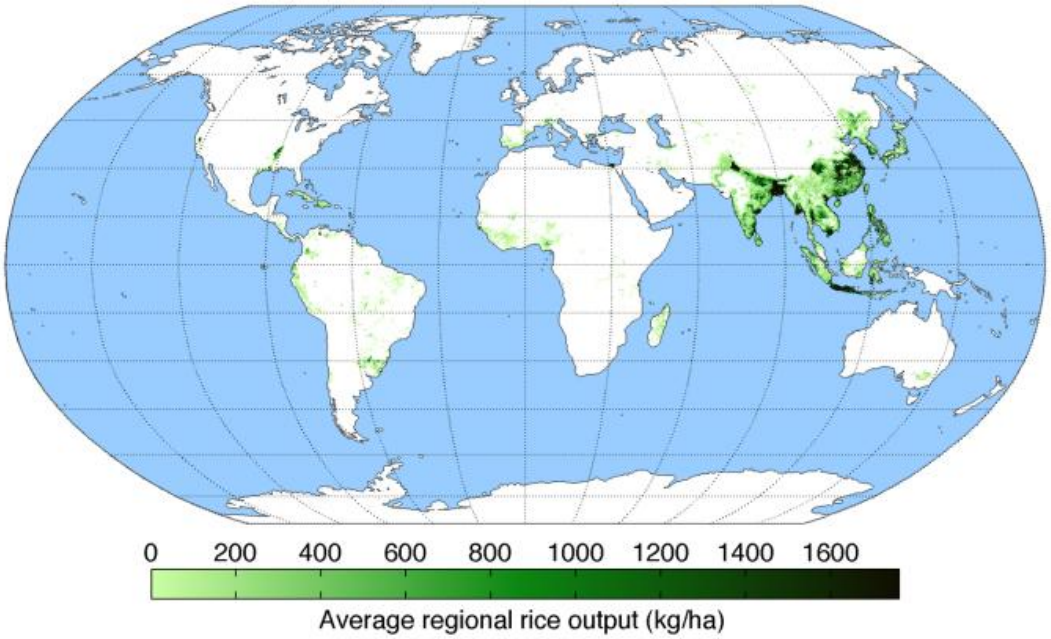
What's your staple, bread or rice? This is a momentous fact, for it might have determined politics, culture, and wealth. How? Well, bread comes from wheat, and rice from… rice. Here's where they're farmed:



Source: I dirtily composited two maps from [The Decolonial Atlas](#).

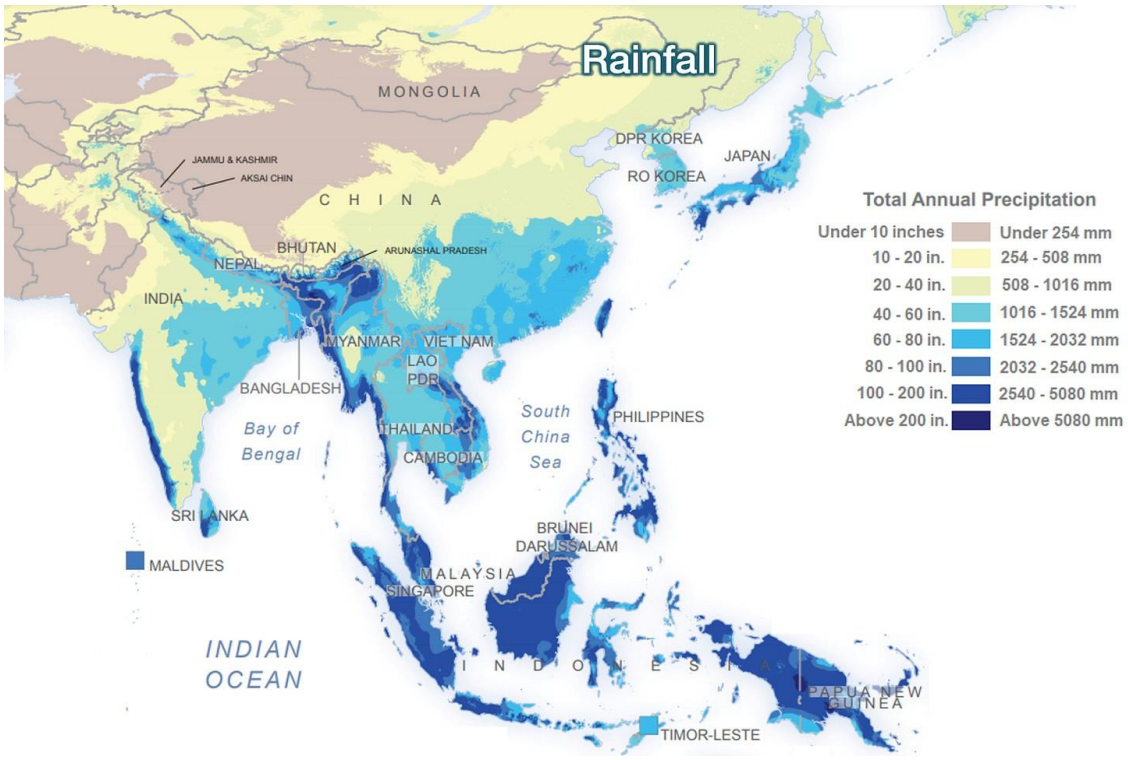
Wheat and rice are not harvested in the same places. Rice and bread are the predominant food where rice and wheat are respectively the predominant crops. Here's another way to look at the same data:





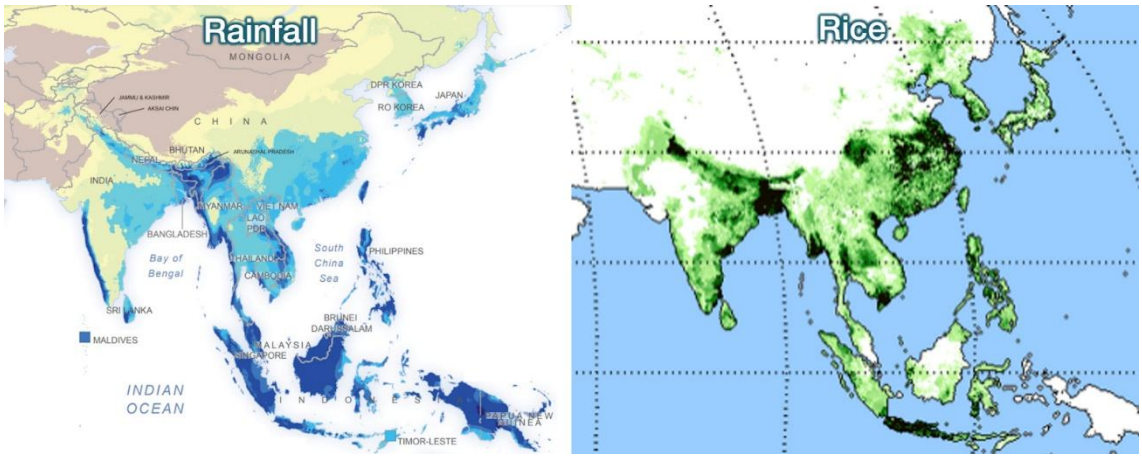
Source: same two maps but now they're sequential. Source from [The Decolonial Atlas](#).

This, in turn, is determined mainly by this:



Source: [MapPorn via Reddit](#)

Rice crops vs rainfall, side by side:



But this doesn't fully explain it. It also rains a lot in Ireland, for example, but nobody grows rice there. You need the heat found closer to the equator: Rice grows in hot, wet, flat, floodable areas, whereas wheat prefers cooler, drier, better drained areas.

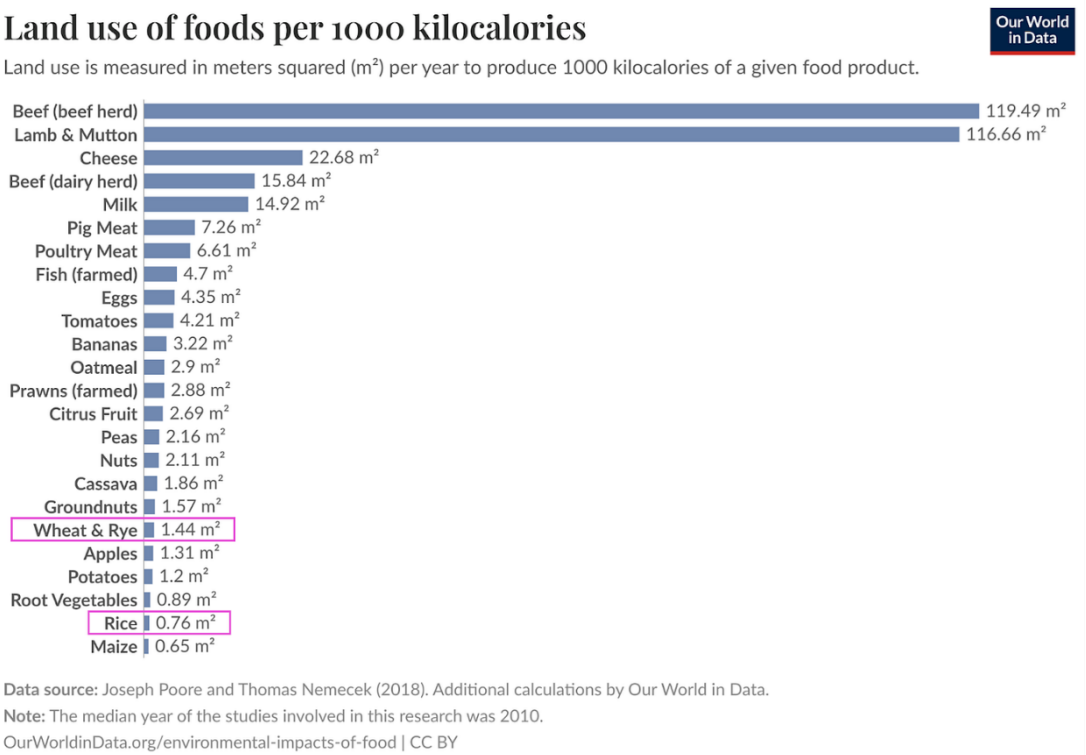
Wheat grows in cool, dry conditions. It can withstand frost, but rice can't. Rice benefits from flooding, which kills competing weeds. Ponds can be formed and often contain fish, which creates protein for the farmers and fertilizer for the plants.

Flooding rots wheat but can triple the yields of rice.[1] That makes wheat well adapted to hills, whereas rice can only survive on hills when they are terraced:

Wheat enjoys rolling hills to avoid waterlogging. Natural hills can't hold water, so rice can't easily grow in them. But rice can grow in terraced hills.

This sounds like just a fun fact, but it ain't. Because rice generates twice as many calories per unit of area.

The populations of bread and rice



Since a person consumes about 2,000 kca per day, ~1.5 m² of rice cultivated land is enough to feed someone for a day, or 550 m² per year. A family of 5 would need a bit less than 3,000 m², or a third of a hectare. This is for single crops per year. In some areas, we could have double cropping, which would further halve the required land. These are rough approximations, because things like keeping seeds for resowing, losses, sales, taxes, technology… could all modify this requirement. Notice that the graph above is from 2018, so a fairly recent calculation of yield, but it looks like this gap between rice and wheat was true in the past too. Source: Our World in Data.

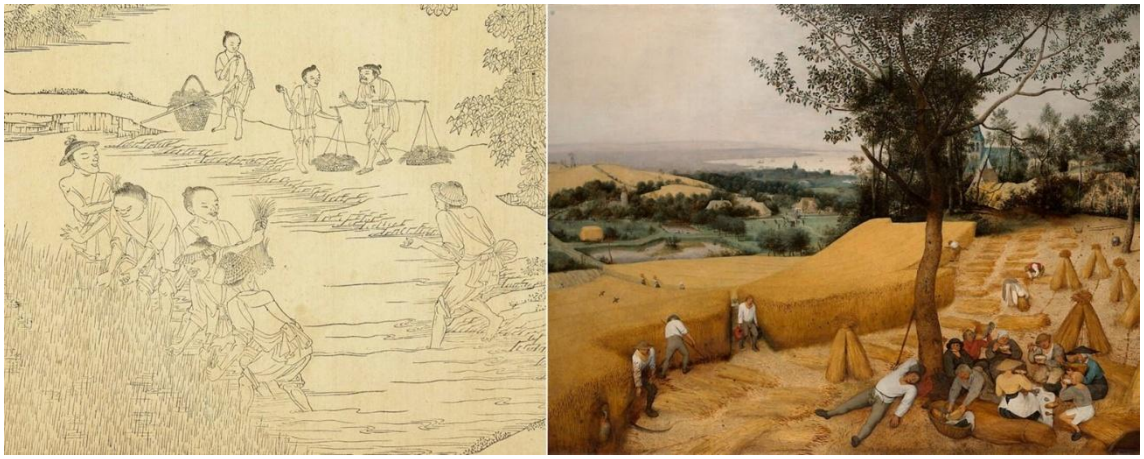
This means that rice nourishes families on half the land that wheat requires. Which means population density in rice areas can be twice as high as in wheat areas, or four times with double cropping.[2] A hectare of land can feed 1.5 families with wheat and 6 with rice.

Yet rice paddies also require a lot of work—twice as much as wheat. And that work is almost year-round: preparing paddies, raising seedlings in nurseries, transplanting every single seedling by hand into flooded fields, managing water, pumping it,[3] weeding,[4] harvesting, and threshing—often followed by a second rice crop or a winter crop. These tasks peak during transplanting and harvest, creating critical seasons where a huge amount of work must be done in a short window of time.

Step two of rice farming—plowing. Attributed to Cheng Qi (active mid- to late-13th century), formerly attributed to Liu Songnian (c. 1150–after 1225), Tilling Rice, after Lou Shou (detail), Yuan dynasty, mid- to late-13th century, ink and color on paper, China, 32.7 x 1049.8 cm (Freer Gallery of Art, Smithsonian Institution, Washington, DC: Purchase — Charles Lang Freer Endowment, F1954.21). Via smarthistory.org.

Crucially, this labor cannot be delayed—if you miss the planting window or harvest late, the crop is ruined. As a result, rice farmers developed reciprocal labor exchange: neighbors help each other transplant and harvest in time. The timeliness pressure meant rice villages became tightly cooperative communities to ensure everyone's fields were tended before it was too late.

"If one is short of labor, it is best to grow wheat" —Shenshi Nongshu (Master Shen's Book on Agriculture), 1600s.



Left: Jiao Bingzhen (painting), Zhu Gui (engraving). From Taipei's National Palace Museum. Transplanting Rice Seedlings. Right: The Harvesters, Pieter Bruegel. You can clearly see how much more coordination of people was required for rice transplantation than wheat harvesting, even though transplantation is not even a step that exists in wheat farming.

Wheat farming historically had a more seasonal rhythm with periods of relative quiet. Wheat is typically sown in the fall or spring and then mainly just left to grow with the rain. Aside from episodic weeding or

guarding the fields, there was less continuous labor until harvest time. Harvest itself was a crunch period requiring many hands with sickles—European villages would collaborate during harvest, and farmers might hire extra reapers.

These differences made these regions diverge across politics, culture, and economy.

The Divergences of Bread vs Rice

Political Divergence

The fact that wheat can grow just with rain means less investment in irrigation infrastructure, so individual families could fully handle their own fields. Decentralized states were the result of that, very obvious during Europe's Middle Ages. That was not the case for rice, which required controlled irrigation and flooding, which means irrigation canals, dikes, reservoirs… all of which require collective effort. Neighbors upstream and downstream had to coordinate water usage; entire villages synchronized planting and flooding schedules. And let's not forget the terracing. This can more easily give rise to hydraulic societies, highly centralized states that control and coordinate the irrigation system, as we saw in *How Rivers Shaped States*.[5]

Cultural Divergence

Maybe this made cultures more or less individualistic? Westerners are famously more individualistic than East Asians. Christianity emphasizes the value of every life and every soul, which leads to more individualistic societies that guarantee individual rights of property and life. Meanwhile, Confucianism, developed in China, emphasizes social duties, puts the interests of society at the forefront, and created societies that are much more sensitive to losing face. Could these differences be linked to crops? When your life depends on your relationship with your neighbors, you better develop a culture of group harmony, family loyalty, and consensus decision-making.

This is the Rice Theory of Culture. But is it true?

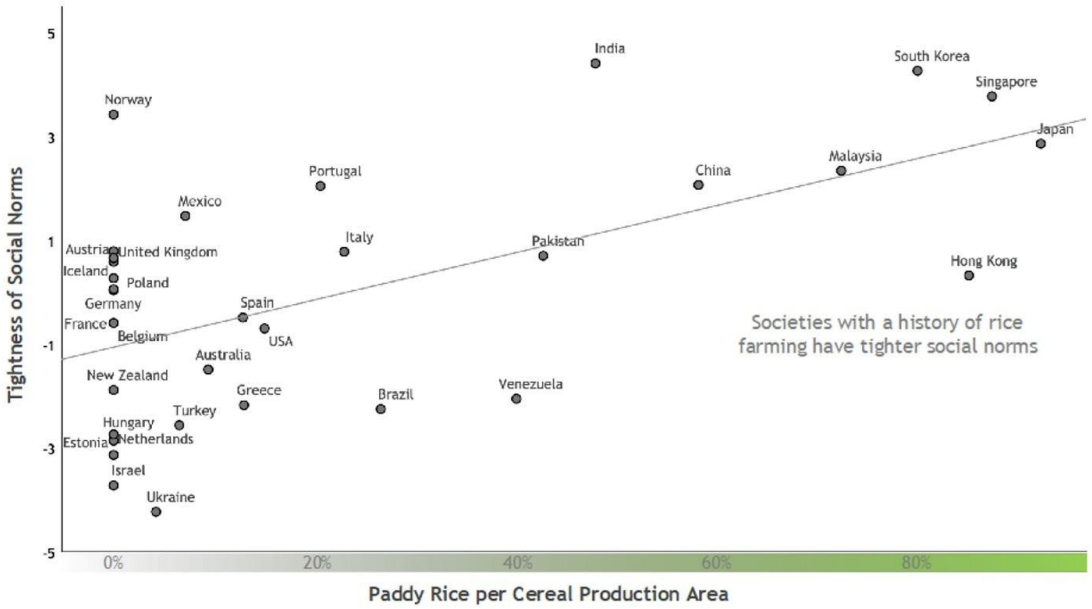
To test it, academics went to China,[6] a country that is politically, religiously, linguistically, and ethnically uniform, but where the north has historically farmed more wheat and the south more rice. There, they found that:

- In psychological tests, people coming from rice-farmed areas ("rice people") were more culturally interdependent than wheat people (e.g., rice people self-inflate less).
- Wheat people reason by focusing on individual elements, while rice people think more holistically.
- Rice regions have tighter social norms than wheat regions.[7]
- This comes with stronger social order, less crime, and less drug abuse in rice regions.
- But also with less individual freedoms and less acceptance of immigrants. Rice regions are more likely to support authoritarian governments.

Outside of China:

- Rice-farming nations had tighter social norms than wheat or herding nations.
- People in rice-farming villages in Japan were more concerned about their social reputation than people in fishing villages.
- Rice-farming societies tend to have less flexible, less mobile relationships.

- Wheat people rate family as less important in life than rice people.
- Wheat people are also more likely to think that parents have to earn respect from children, rather than respect being automatic.
- Rice people treat their friends better but strangers worse than wheat people.



Source: scholarworks.gvsu.edu

All this could just be correlation, not causation. Luckily, this paper found a quasi-random test, courtesy of the Chinese Communist government, who quasi-randomly assigned people to farm rice or wheat in two state farms that are otherwise nearly identical.

The rice farmers show less individualism, more loyalty/nepotism toward a friend over a stranger, and more relational thought style.—People quasi-randomly assigned to farm rice are more collectivistic than people assigned to farm wheat, Talhelm & Dong

Economic divergence

Outside of harvest and planting, wheat farmers had more off-season time. This free time could be spent on other pursuits: tending livestock (common in wheat regions, since dryland grain and pasture were complementary), crafting tools or goods, or engaging in trade and markets during the winter off-season.

More importantly, wheat areas might have accelerated the Industrial Revolution and influenced the wealth of countries today.

When the Industrial Revolution really picked up, in the early 1800s, most available land in the Old World was already farmed. But not in the New World. Crucially, wheat doesn't require many workers, so expanding farming in the US, Argentina, and Australia was extremely fast.

Since there was little land limitation, labor limitation really hurt, and that's one of the reasons why American innovation massively contributed to farm labor automation: Automating the little work required could unlock thousands of square miles of new fields.

None of this was possible in the Old Worlds of China or Japan. The areas that could be opened up to rice farming, like in Thailand when new canals opened up the heartland, did get rice farming. But there, the requirement of labor was so massive that it was quite slow. Many Chinese farmers moved there, but that was not enough. The amount of automation needed to unlock lots of rice farming was too high. It was also much harder work to automate, as machines don't easily deal with mud. All this meant that mechanization of rice farming came much later, that rice production didn't increase that fast early on, that when it did it couldn't easily fuel a new class of rich farmers, and that it did not locally accelerate the need for automation early on.

Takeaways

Wheat grows in drier, colder areas than rice and requires much less labor, but also produces less calories per unit of land than rice. As a result, rice areas had:

- More population density
- Stronger centralized states
- A psychology and cultures that foster social harmony and collaboration

Meanwhile, wheat encouraged the colonization of the New World, allowed it to grow its wealth through farming fast, and accelerated the development of the Industrial Revolution, which increased the economic divergence between wheat and rice areas.

In other words, climate determined crops, which then heavily influenced our societies. Even decades after most of us have stopped farming, these effects carry into our subconscious cultures.

Does this mean these crops fully determined the history of the world? No. But they nudged it in a particular direction, like dozens of other factors that we explore in Uncharted Territories. The world is made of systems that mould us in certain ways, unbeknown to us. It's only when we realize these influences and systems that we can reclaim them and decide where we want to take humanity.

[1] Via this article: Dryland rice produces 1.2 tons per hectare, but flooded rice produces 5 tons (Khush, 1997). And of course, flooding eliminates weeds.
[2] Double cropping was possible after the introduction of the Champa Rice variety, during China's Song era, around 1000 AD. I am now connecting the dots and realizing that the population explosion that happened in China around that time, which we discussed in this China article, was at least in part caused by the introduction of this variant, as double cropping would allow for twice the amount of grain harvested! That also made the Song possible (as they only controlled the southern part of China). This population boom also caused the need for currency, which the Song solved by inventing paper money!
[3] This great article mentions that pumping water was sometimes done by pedaling, and could take as much as 70 hours per worker. Fun fact, I once spent a summer in Burma trying to sell water pumps to farmers. We ended up building a microfinance institution.
[4] Flooding reduces weeds, but doesn't eliminate them all. And weeding underwater is much harder to do.
[5] These societies were more common in high density areas like China than in low-density ones like Thailand. Also, as we saw in the article linked, it's not the case that irrigation meant hydraulic societies. Egypt was one, whereas upstream Mesopotamia was not, because the ability to predict harvests in Egypt made taxation easy. I assume in the flat and heavy-rain areas of the Ganges, Yangtze, Yellow, Red, Irrawaddy, Mekong, and Chao Phraya river valleys, production was easy to predict, so taxation could be effectively executed, and it would lead more consistently to hydraulic societies than in the less predictable Mesopotamia. But I don't know, so take this

with a grain of salt.
[6] This Reddit comment posits that millet was likely a more prevalent crop in China in antiquity. I don't think it changes much, because from what I can gather, millet's requirements and growing regions are similar to wheat's, and northern China is mostly a wheat and bread region, while southern China is the rice country.
[7] This is not the only, or even main determinant of tightness. Others like external threats are stronger.

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Small caps are catching fire - for good reason

Andrew Mitchell

***Welcome to the party, pal!"* – John McClane**

It's Christmas Eve 1988 in Los Angeles. Terrorist Hans Gruber and his band of German thugs have just crashed Nakatomi Plaza's Christmas party and are looking to rob the joint. What Hans didn't count on, though, is that NYPD cop John McClane is making a surprise visit to the Plaza to reconcile with his estranged wife Holly who is attending the party. After tossing a terrorist out of a window onto an unsuspecting LAPD cop car below, McClane yells his classic line to the startled driver: "Welcome to the party, pal".

Source: Die Hard (1988).

It was, of course, action hero Bruce Willis as McClane who delivered the line in the cult classic and holiday favourite, Die Hard. Suddenly, Arnie's Terminator quip of "I'll be back" had some competition for best 80s action movie one-liner

August reminded us that, despite the laundry list of macro risks, investors' optimism too "dies hard". During the month, investors couldn't be held back, and even small-cap investors got a "welcome to the party" this month. August saw the market add more gains to the rally from April's post Liberation Day share market low. The S&P 500 in August was up +2.0%. U.S. small caps put on a whopping +7.0%, boosted by Fed Chair Powell opening the door to a September rate cut.

Following in the footsteps of its U.S. big brother, ASX large and small caps put on a very similar +2.7% and +8.5% respectively (ASX100 and ASX Small Ords).

Small caps to trounce large?

Share market "breadth is back baby" I can hear John McClane say.

Regular readers will know we've been highlighting how the epic small-cap-market underperformance over the last 4-5 years has made small-cap valuations globally versus large the cheapest in a generation

(25+ years). The mega-cap tech companies have body slammed the rest of the market for much of the last decade.

The chart below shows the different size (large/mid/small) and style (value/core/growth) segments of the U.S. share market since 2017. The mega-cap tech poster children, the Magnificent 7, are all large-cap growth businesses.

S&P Size & Style Performance Table

2018	2019	2020	2021	2022	2023	2024	2025	Smalls Best QTD
-1% Lg Growth	29% Lg Growth	32% Lg Growth	31% Lg Growth	-7% Lg Value	28% Lg Growth	35% Lg Growth	13% Lg Growth	10.1% Sml Value
-5% Sml Growth	29% Lg Core	21% Mid Growth	29% Sml Value	-9% Mid Value	24% Lg Core	23% Lg Core	10% Lg Core	8.2% Sml Core
-6% Lg Core	29% Lg Value	18% Sml Growth	28% Mid Value	-13% Sml Value	20% Lg Value	15% Mid Growth	6% Lg Value	6.4% Sml Growth
-10% Sml Core	25% Mid Growth	16% Lg Core	27% Lg Core	-14% Mid Core	16% Mid Growth	12% Mid Core	4% Sml Growth	5.6% Mid Value
-11% Lg Value	24% Mid Core	12% Mid Core	25% Sml Core	-17% Sml Core	15% Sml Growth	10% Lg Value	4% Mid Growth	4.9% Mid Core
-11% Mid Growth	24% Mid Value	10% Sml Core	23% Mid Core	-19% Lg Core	14% Mid Core	9% Mid Value	4% Mid Core	4.4% Mid Growth
-12% Mid Core	22% Sml Value	1% Mid Value	22% Lg Value	-20% Mid Growth	14% Sml Core	8% Sml Growth	4% Mid Value	4.3% Lg Growth
-14% Mid Value	21% Sml Core	0% Sml Value	22% Sml Growth	-22% Sml Growth	13% Mid Value	7% Sml Core	2% Sml Core	4.2% Lg Core
-14% Sml Value	20% Sml Growth	-1% Lg Value	18% Mid Growth	-30% Lg Growth	12% Sml Value	5% Sml Value	1% Sml Value	4.1% Lg Value

Source: Piper Sandler & Co.

But based on history, the extreme valuation differential we see now means that it's highly likely small caps will trounce large caps over the next 5-10 years.

So what will the next 12-18 months look like?

Four Scenarios

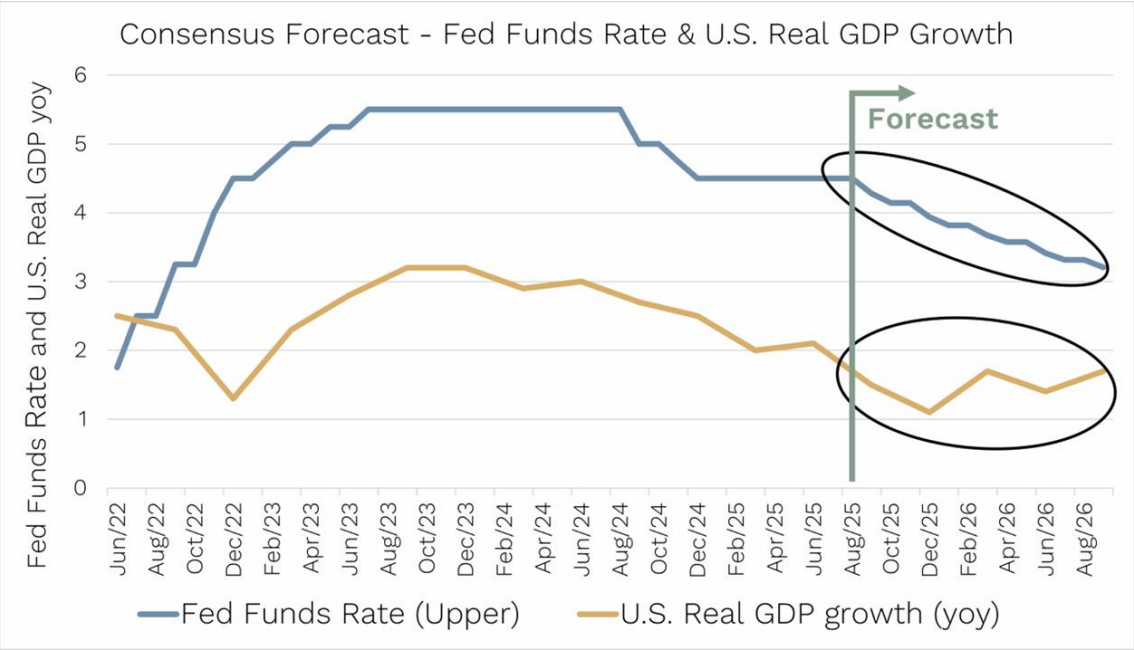
You thought breaking Holly out of Nakatomi Plaza was tough, well short-term forecasting is the investment equivalent! So, we thought we'd lay out the four most likely near-term economic scenarios for U.S. small caps, which given their 65% odd share, is also likely to drive small caps globally.

The four scenarios we see immediately ahead are outlined below from most to least likely, with our best estimate for their likelihood in brackets:

1. Fed normalises rates, low growth continues (40%)

This is the most likely scenario. We're in good company because it's the consensus of market participants and economists.

As you can see below, the market is pricing that after being on hold so far this year, the Fed will get off the fence and recommence its rate-cutting cycle at its next meeting on 17th September (blue line).



Source: Ophir. Bloomberg.

For us as stock pickers, this is typically a good environment.

Market returns might be more modest. But when economic (1-2% forecast above) and corporate earnings growth are low, higher-growth companies that we focus on (and are experienced in finding before the market) suddenly become rare diamonds and get bid up by the market.

Scenario 1 bottom line: Moderate market returns (including small caps); best outperformance opportunity

2. Fed normalises rates, growth booms (30%)

The next most likely outcome is rates normalising lower and helping kick off an economic boom later this year and next.

For most businesses in the U.S., rates have been uncomfortably high for many years. It shows as sluggish aggregate earnings growth outside the Magnificent 7.

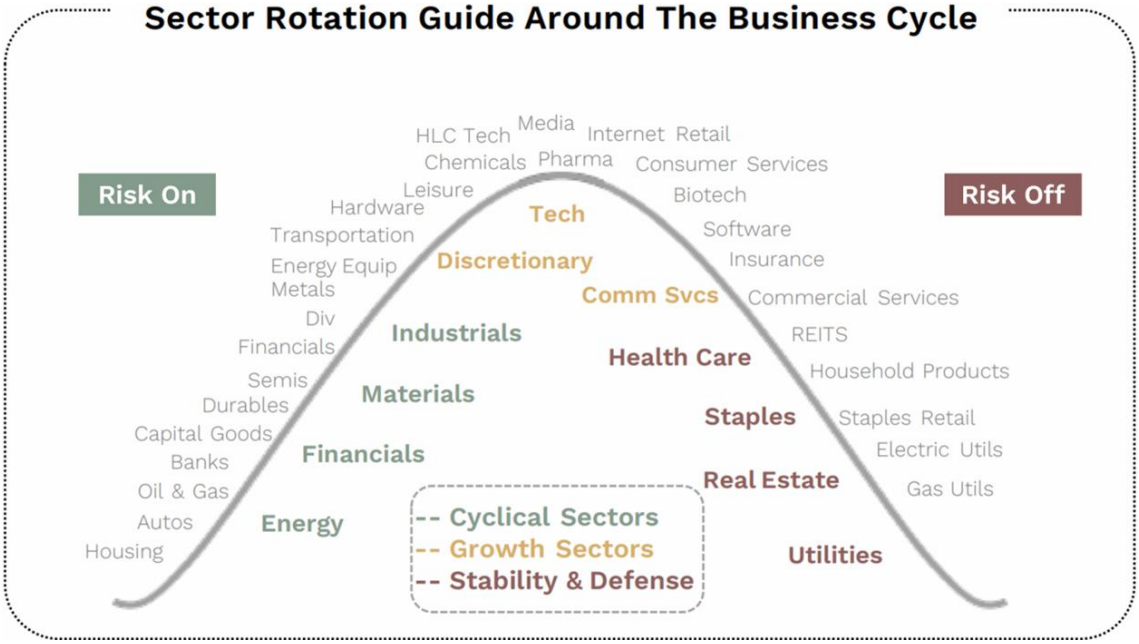
Combine that with Trump's One Big Beautiful Bill – including its immediate expensing of Capex and R&D and deregulatory agenda – and some economists see U.S. real GDP boosted to near 3% next year. This would ignite rocket fuel under the risk-on and cyclical parts of the share market, including the housing, energy, financial, materials sectors … and small caps.

For investors, these are the exciting types of environments where you make 20-50% in a year from the small-cap market.

But while great market returns in small caps could be expected, it would be a more challenging environment for us to outperform. Why? Because we tend to be underweight the most cyclical sectors of the share market, particularly energy, financials and materials.

Cyclicals tend to have fewer of the structural-growth businesses that we like to focus on (low-growth regional banks dominate the financial sector in the U.S.).

We also don't have expertise in forecasting the underlying commodity prices that dominate short-term moves in energy or materials businesses.



Source: Piper Sandler

Still, in this scenario, our investors are likely to be happy because small caps will probably have ripped big time; and we'll be happy to just keep up with that boom.

Scenario 2 bottom line: Best small-cap market returns, will be tougher for us to outperform

3. Fed cuts quickly as recession arrives (25%)

The consensus of economic forecasters puts the probability of a U.S. recession in the next 12 months in the 25-30% range (Bloomberg). That may sound high until you realise the forecasts never get below 15%, because recessions occur, on average, about one in every seven years. So, while recession risk is a little elevated – mostly due to risks from U.S. tariffs and a still-restrictive Fed policy rate – a recession is not the most likely outcome expected from most in the "dismal science".

But if one did occur, then undoubtedly share markets would fall as they always have in U.S. recessions. This is the worst-case outcome for market returns in both large and small caps.

Just because the recession probability is elevated, though, there is no point getting too defensive by doing things like going to cash for two main reasons:

1. It's not the most likely scenario and the cost of foregone returns could be huge if the likelier scenarios above play out; and

2. Even if a recession is on the cards, it's virtually impossible to predict the exact timing of the market downturn (and subsequent recovery) that historically has always accompanied it, like you'd need to in order to be better off than just staying invested.

Nine out of 10 times in a recession small caps fall more than large caps. But there is a good case to be made that may not happen if a recession occurred today.

The last recession where large caps fell more than small caps was the Dot.com-related recession in the early 2000s. Large caps fell more because they were so much more expensive than small caps. Ring a bell, anyone?

Today, small caps are the cheapest versus large since just before that Dot.com recession. So it's a real possibility that, if a recession were to rear its head today, large caps would fall more than smalls in a sell-off.

The sectors that do well in a recession are "stability" sectors like health care, consumer staples, utilities and real estate (see table below).

Relative Performance Of Sectors In Recessions ... And Market Corrections

	FIN	MAT	IND	TEC	DIS	ENR	STA	HLC	UTL	S&P 500 Decline	
1990	-13.5%	-3.5%	-8.2%	-10.9%	-11.6%	14.9%	5.8%	6.6%	16.9%	-19.9%	Recession
1998	-9.2%	0.6%	-0.3%	-0.8%	-1.4%	3.9%	2.6%	3.0%	16.8%	-19.3%	LTCM
2000	24.0%	24.3%	11.0%	-33.2%	8.0%	30.7%	73.4%	42.2%	1.4%	-49.1%	Recession
2007	-25.8%	-2.8%	-8.4%	3.8%	-1.2%	10.0%	25.6%	16.9%	10.9%	-56.8%	Recession
2010	-3.5%	-3.4%	-2.9%	-1.2%	-2.7%	-3.8%	7.2%	5.4%	8.0%	-16.0%	EZ Crises
2011	-11.7%	-10.0%	-7.4%	5.4%	2.9%	-9.0%	12.5%	6.8%	18.6%	-19.4%	US Debt Downgrade
2015	-8.6%	-3.5%	3.4%	1.1%	0.6%	-8.6%	12.2%	-3.8%	19.7%	-14.1%	Oil Collapse
2018	-2.9%	-2.4%	-4.3%	-3.4%	-2.8%	-8.1%	8.3%	5.5%	17.4%	-19.8%	Rates Spike
2020	-9.1%	-2.5%	-7.9%	2.7%	2.0%	-22.1%	9.6%	5.9%	-2.0%	-33.9%	Recession
2022	1.9%	2.2%	6.2%	-8.4%	-8.3%	66.8%	13.0%	12.7%	12.1%	-25.4%	Inflation
Avg	-6.4%	-0.1%	-1.6%	-4.2%	-1.9%	7.8%	15.5%	9.6%	11.8%		
Hit Rate	18%	27%	36%	36%	36%	55%	91%	91%	91%		

Source: Piper Sandler

The other group of companies that outperform in a recession are businesses whose earnings are beating market expectations. These are our forte.

And while we tend to invest less in utilities and real estate, the health care and consumer staples sectors are firmly in our wheelhouse and provide us with plenty of opportunity to outperform.

Scenario 3 bottom line: Worst market returns (though small caps may outperform); moderate outperformance opportunity

4. Inflation ramps and Fed raises rates (5%)

What happened to all that inflation we were promised by the market pundits from Trump's tariffs?

If it turns out that material inflation is still on the way – even though the Fed playbook is to look through tariff-induced inflation – we could see higher interest rates if it feeds into higher inflation expectations.

We think this is the least likely scenario, though it's not completely off the table.

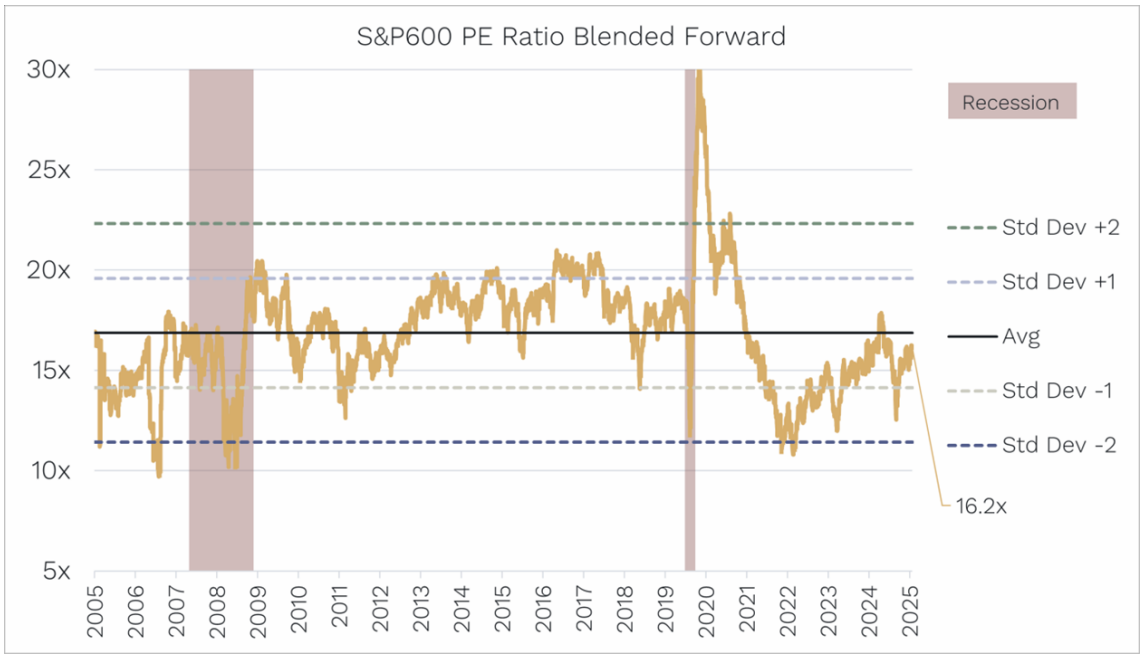
But the Fed will have a high bar for it to decide to reverse its forecasts for rate cuts, even putting aside Trump's pressure to stack the Federal Open Market Committee (FOMC) with sycophants to get them lower.

Investors could see this as a mini replay of what happened in 2021/2022 when rates rose, markets sold off, and small-cap growth-oriented businesses felt the worst of the valuation squeeze.

This time, though, instead of rates lifting from zero, they are already at 4.5% today in the U.S.

We are not sure the U.S. economy could handle much higher rates without causing a more serious slowing in demand and inflation.

Also, today, U.S. small caps trade on a below-average 16x price-to-earnings ratio (PE). That's a far cry from the two standard deviations expensive 22x they traded on prior to the 2021/2022 sell-off, so they likely have less downside risk.



Source: Ophir. Bloomberg

Regardless, this scenario would likely see markets fall, though not likely as much as in the recession scenario. It would be hard for us to outperform, though, as the faster-growing small caps we invest in would have their valuations impacted more.

Lucky it's the least likely scenario, with probably a 5% or lower likelihood.

Scenario 4 bottom line: markets likely fall, worst outperformance opportunity

An exciting time to be a small-cap investor

Now that's a lot of different scenarios and only one, or perhaps even a variant of one, will play out. But it's good to understand the risks, though not be frozen by them. That's investing.

The first two scenarios are the most likely in our view. The third is bad for investors, but we think there are quite good prospects that we will perform better than large caps. The fourth is the worst but least likely.

But this is the short term: the next 12-18 months.

Investors in our Funds should have a minimum time horizon of at least five years. And on that score global small caps are cheap. They are one of the very few asset classes you can say that about today and that's great news.

As John McClane might say "Yippee-ki-yay"!

Andrew Mitchell is Founder, Director and Senior Portfolio Manager at Ophir Asset Management, a sponsor of Firstlinks. This article is general information and does not consider the circumstances of any investor.

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Defensive growth for an age of deglobalisation, debt and disorder

Andrew Greenup

Over the next decade, we believe investors will face a world of deglobalisation, debt and disorder. The relative stability and strong investment returns of the post-Cold War era may well be coming to an end.

Deglobalisation began after the global financial crisis. It is now accelerating as the US and China try to decouple their economies and appear likely to continue to do so, driven by economic nationalism.

The western world is mired in unprecedented (for non-wartime) government debt levels, with politicians globally seemingly addicted to fiscal deficits. The world's next debt crisis appears likelier to emerge from within developed markets than from – historically the more prone – emerging markets.

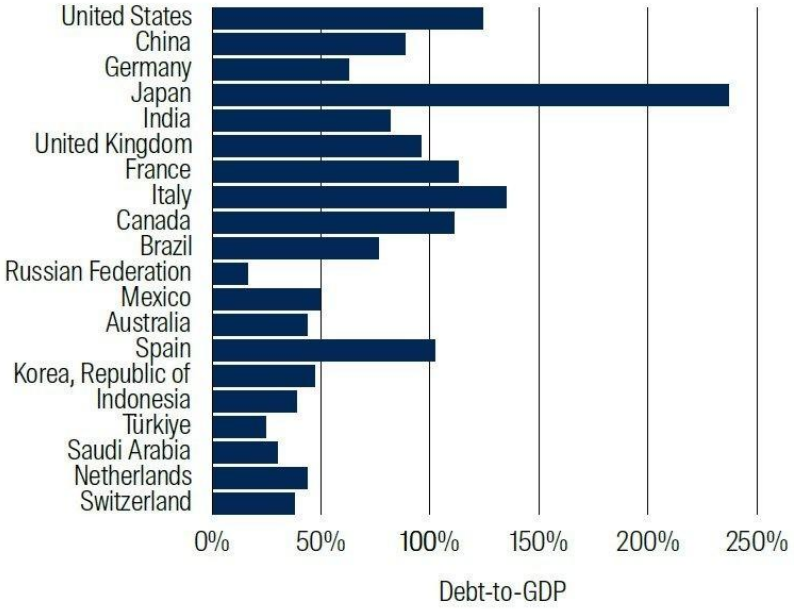
The problems caused by deglobalisation and high indebtedness will likely be amplified by disorder in the global political economy, stemming from nationalism, populism, intergenerational conflict, corruption, hybrid warfare and a return to great power conflict, with Russia and China each seeking to re-establish their former empires.

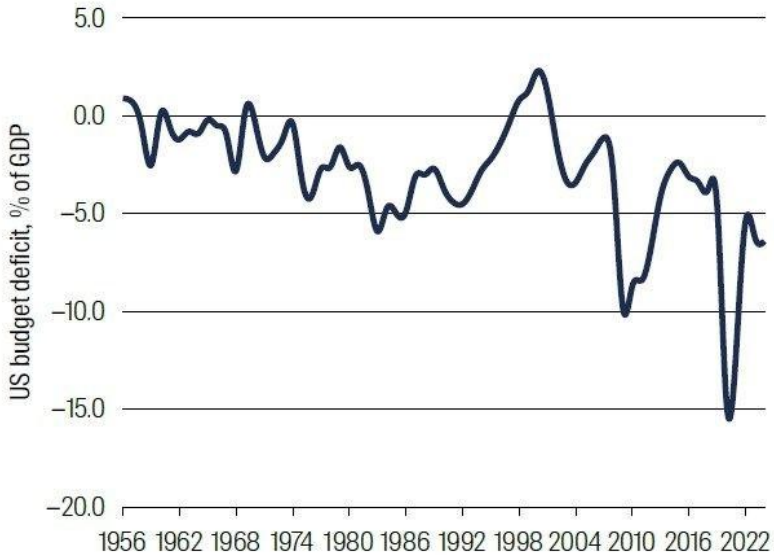
Deglobalisation, debt and disorder will have an adverse effect on the risk/return equation for investors. Risks will increase, impacting equity risk premiums, interest rates and foreign exchange rates. At the same time, we believe returns will be negatively impacted by lower economic growth rates, rapidly changing operating environments, increased government intervention and higher volatility in corporate earnings.

Just as the fall of the Berlin Wall in 1989 resulted in a 'peace dividend' for investors, this new world order now appears likely to lead to a lower return, higher risk investment environment.

Within this new world order, society's demand for new, improved or replacement infrastructure remains strong across both developed and developing countries. Whether you are a populist, nationalist, socialist, centre-left or centre-right politician, better infrastructure is on your agenda. Countries may now be turning inward from globalism to nationalism. However, investment will still be needed to replace aged infrastructure, expand urban development and provide a backbone for the structural growth of the digital economy.

What is changing is governments' ability to fund infrastructure investment. Large fiscal deficits – leading to higher debt levels, leading to slower economic growth – mean that governments will be less able to fund infrastructure investment in the future.

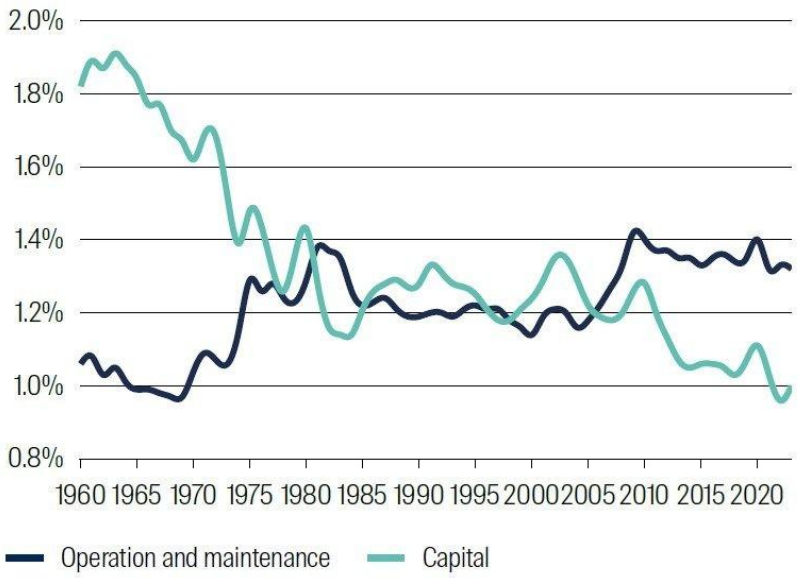




Hence, we believe that private sector capital will play a larger role in infrastructure investment going forward. This means governments will need to provide attractive investment frameworks to entice increased capital to develop new infrastructure. The United Kingdom's water utilities and electricity utilities in Texas are already seeing improvements to their respective investment frameworks.

A growing role for private sector capital in infrastructure could include the privatisation of existing government infrastructure. While not politically popular, fiscal reality is already biting in many parts of the globe. In the past two years we have seen the listings of Tokyo Metro and Athens Airport; several new Managed Lane projects in the United States; toll road privatisation in Brazil and the development of new privately owned and operated airports in India.

We have also noted with interest that where governments have had the opportunity to nationalise infrastructure assets over the last few years (high profile examples include listed electric utility PG&E in United States, and unlisted water utility Thames Water in the UK), they have declined to do so. We believe this is partly due to not wanting to add to existing public finance pressures and partly not wanting government to take responsibility for these difficult, politically sensitive assets.



The global listed infrastructure asset class is well equipped to live, thrive and survive in a world of deglobalisation, debt and disorder. These assets are foundational to modern economies and societies, making them indispensable regardless of geopolitical or macroeconomic conditions. Infrastructure assets' strong pricing power, high barriers to entry, structural growth and predictable cash flows provide investors with defensive growth.

Deglobalisation is likely to cause disruption across the global economy; and to result in lower economic growth rates. These are both negative factors for equities' earnings growth. In contrast, infrastructure's essential service nature should help to shield it from the disruptive and dampening effect that deglobalisation has on economic activity levels.

High governments debt levels are also likely to weigh on economic growth and to lower long-term interest rates. Historically, high debt burdens have tended to constrain a country's economic growth rate. This in turn lowers earnings growth potential and valuation multiples – more so for equities than for global listed infrastructure. High debt levels are also likely to reduce the long-term neutral interest rate level required to manage debt serviceability. This phenomenon has been observed in Japan and in parts of Europe. Lower long-term interest rates tend to favour interest rate-sensitive asset classes, including global listed infrastructure.

A disorderly, less predictable and more fragmented world will adversely affect all investments. This is because investors value predictability and growth; and prefer to avoid volatility.

In this situation, global listed infrastructure's essential services provide a relatively high level of predictability. No matter how disordered the world becomes, infrastructure's electricity, natural gas, water, cell phone, waste collection service, toll road or airport will remain in demand.

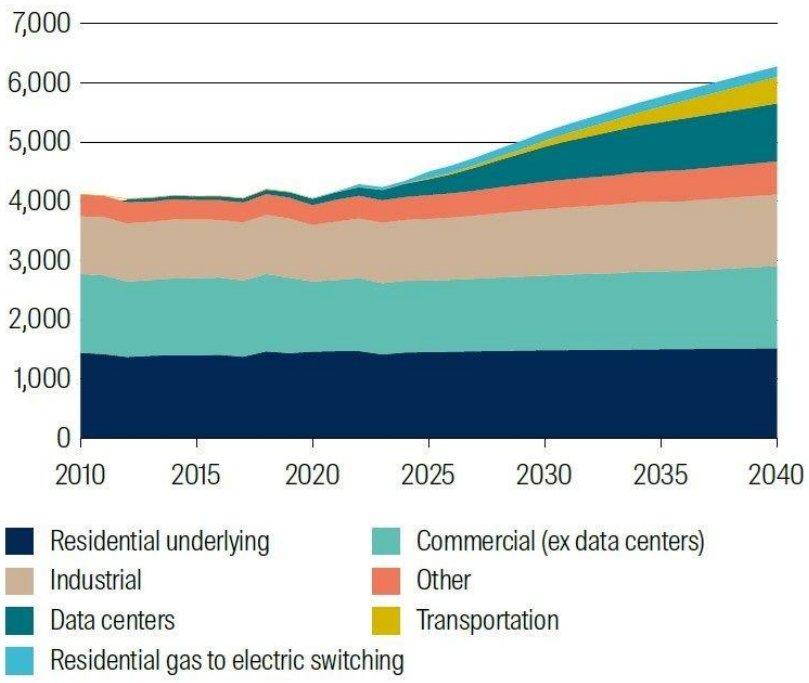
Business models have never been more robust

Moving from a macro to a more micro level, the underlying business models of global listed infrastructure have never been more robust during the 20 years the asset class has existed than now.

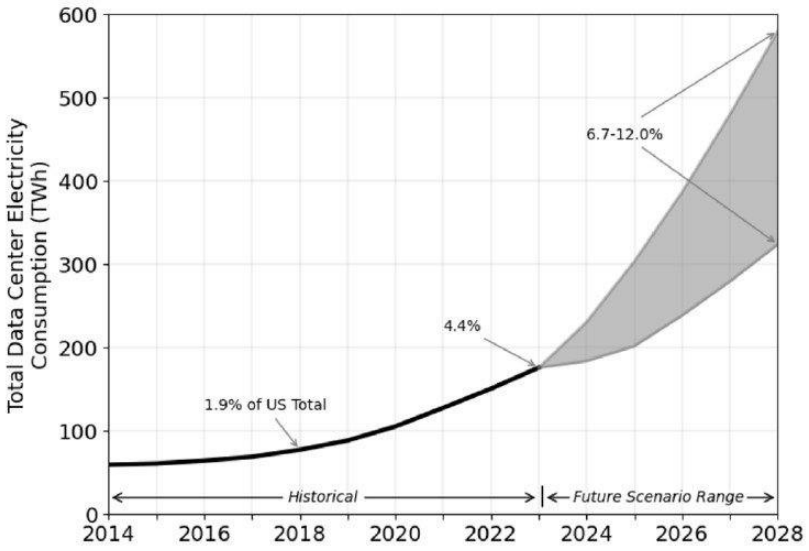
Starting with utilities, especially electric utilities; the demand, investment and earnings growth outlook for the next decade is accelerating. This is due to a number of structural factors including:

1. Artificial Intelligence (AI) -driven data centre expansions,
2. the electrification of transportation,
3. the electrification of buildings,
4. gas-to-electric switching and
5. further decarbonisation of the electricity generation fleet (coal-to-gas-to-renewables-to-nuclear).

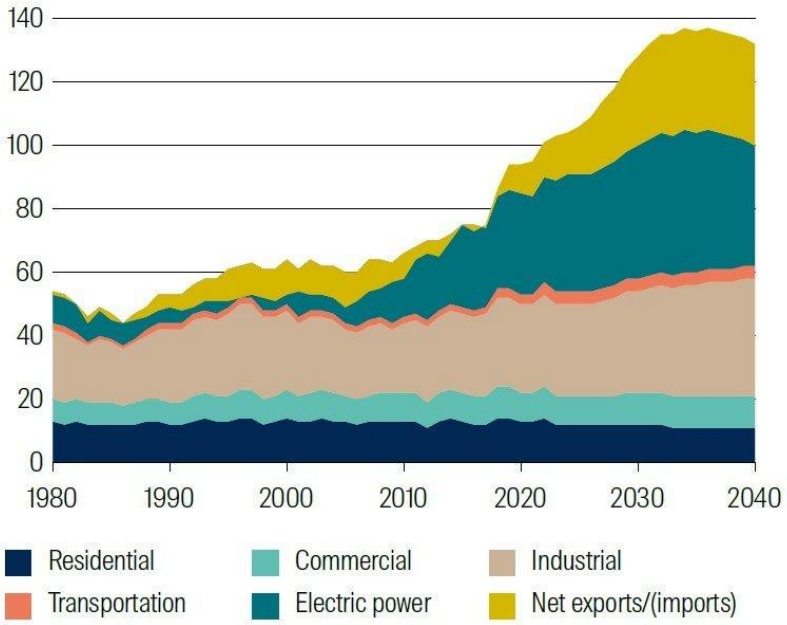
Not only is the growth outlook for electric utilities accelerating, but regulatory risk is also reducing. This is a reflection of the urgent nature of current demand growth, which makes regulators (and their political masters) more positively disposed towards paying a fair return on investments which bring economic development (and employment opportunities for voters).



The outlook for investment opportunities related to digital infrastructure (mobile towers, data centres and fibre) is also robust. The mobile tower industry is progressing with the installation of 5G equipment, as network operators seek to improve and increase their coverage to support consumer mobility of audio and video data. The next step change will likely come from new demand being driven by the Internet of Things and autonomous vehicles. Data centre growth is accelerating, driven by the early stages of the AI industrial revolution. Given the copious amounts written elsewhere on this topic, I will not expand on this point in this paper.



The North America-focused, historically cyclical energy midstream sector (oil and natural gas transportation and storage assets) appears well-positioned to deploy capital to support the demand growth for natural gas. Demand is being driven both domestically, for consumption within the United States, and from overseas, as natural gas exports from the US and Canada displace (1) Russian energy in the western world and (2) coal in the developing world.



Transport infrastructure (toll roads, airports, railroads) appears set to benefit from several structural tailwinds to investment over the next decade. Toll roads represent the outsourcing of taxation by highly indebted governments to deliver the new road capacity that is needed for urbanisation and economic development in the developing world and for congestion reduction in the developed world. While toll roads are not popular with voters, politicians appear unable to raise taxes to replace these “user-pays” assets, i.e. toll roads are the lesser of two evils.

Airport investment has restarted after a COVID-driven pause, with the popularity of leisure travel defying the deglobalisation trend. We believe that above-GDP growth in leisure travel in the developed world is being driven by the generational tailwinds of baby boomers’ wealthy retirement and Gen Z fear of missing out (FOMO). In the developing world, we expect continued strong growth from the emerging middle class.

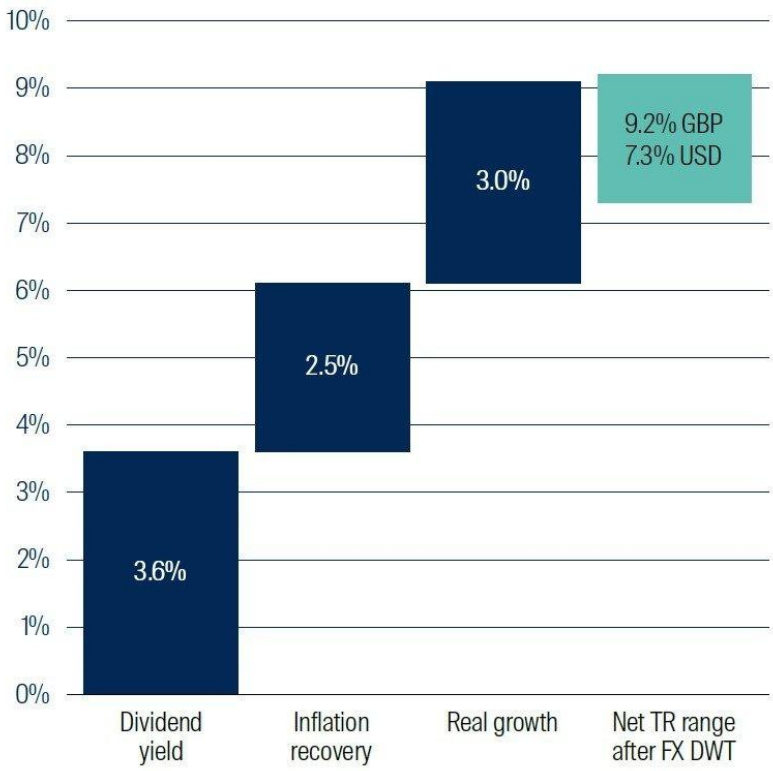
Railroads – both freight and passenger – remain in a long-term market share fight with trucks and airlines but have structural advantages over both in terms of lower costs, lower carbon emissions, strong community acceptance and larger automation advantages.

In the almost 20 years that our team has been researching global listed infrastructure, we have never been so optimistic about the current business models and future growth prospects of the asset class. In contrast to different points over the past decade, no-one today is contemplating the utility death spiral, stranded asset risk owing to natural gas being phased out by 2030, or toll roads being disrupted by flying cars.

Higher earnings growth and lower relative risk?

Over the next decade we believe the global listed infrastructure asset class can deliver higher earnings growth to investors, despite a lower growth world of deglobalisation, debt and disorder. Our confidence in this view is based on the bottom-up, structural growth drivers of infrastructure’s various subsectors listed above.

We believe that through the cycle, asset class fundamentals support Earnings Per Share growth of between 5% and 6% per annum, plus a dividend yield of between 3% and 4%, giving what we believe is a highly competitive total return of between 8% and 10% per annum.



In addition to delivering robust returns, we believe that risks for global listed infrastructure can be relatively lower in a world of deglobalisation, debt and disorder. This lower risk comes from a societal demand for improved infrastructure. Nationalism means a more domestic focus, which means more infrastructure investment. Political and regulatory risk for electric utilities and energy midstream are reducing, owing to higher economic development demands being driven by data centres and by national security concerns.

In addition, rising government debt means that governments will increasingly need to rely on private sector capital. As a result, they will face increased pressure to offer a favourable investment environment, with attractive and predictable risk-adjusted returns.

Conclusion

The global political economy is rapidly evolving. The next decade is likely to be characterised by deglobalisation, debt and disorder.

Despite a slower growth, higher risk global economic environment, we believe global listed infrastructure can deliver higher earnings growth with lower relative risks, enhancing the appeal of the asset class relative to bonds or equities.

Global listed infrastructure's defensive growth characteristics and improving demand outlook see it well-positioned to deliver attractive risk-adjusted returns to investors.

Andrew Greenup is Deputy Head of Global Listed Infrastructure at First Sentier Investors (Australia) Ltd, a sponsor of Firstlinks. This material contains general information only. It is not intended to provide you with financial product advice and does not take into account your objectives, financial situation or needs.

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Will we choose a four-day working week?

Professor Jenny George

The idea of a four-day work week is beguiling. Maybe we are feeling burned out or perhaps we are imagining what life could be like if AI does 20% of our work. The promise sounds fabulous: work less, live more and magically get the same or even greater productivity. It sounds like a more balanced, more human future.

Those who champion the four-day work week make a big assumption: namely that people can achieve the same outcomes in around 30 hours that they get currently in around 38 hours. This assumption is necessary because the beguiling big idea behind the four-day work week is that salaries will stay the same.

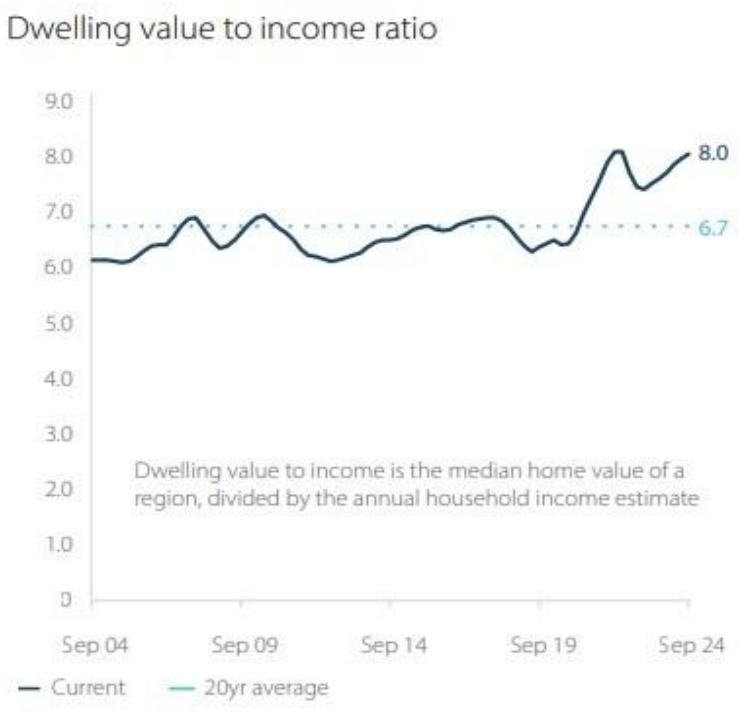
Advocates often point to trials. A six-month multinational study found that shorter weeks reduced burnout and improved health without impacting performance. A pilot within Australasia saw most participating organisations say that they would adopt the model long-term. The problem is that in a trial, most participants know they are being observed and measured and that carrot-and-stick of "make this work or lose it" is powerful. Whether the productivity gains persist for the long term is still to be seen. Whether they would persist if a four-day week was a permanent entitlement, without the discipline of trial conditions, seems unlikely. And it hasn't yet been tested in many diverse environments beyond offices with laptops and deadlines.

Many jobs cannot be made more productive while shrinking the hours of work. An ICU nurse cannot work for 4 days instead of 5 and achieve the same levels of patient care. A childcare centre cannot run with 20% fewer staff on a Friday. An essential part of these roles is presence. To reduce hours without reducing service requires more staff.

Despite many trials in the US, a four-day week for school children has had mixed academic results. Student learning declines significantly unless the school day is made much longer (keeping the overall contact hours per week similar). In schooling, like care roles, hours cannot be compressed while hoping for the same outcomes.

And the same goes for construction, retail, hospitality or transport. An hour of labour is exactly that: an hour. By contrast, most high-profile trials of the four-day week have been run in white-collar workplaces, where tasks are more flexible.

Then there's money. Many workers could already choose to reduce their hours.



Source: ANZ CoreLogic Housing Affordability Report, Nov 2024. Data: CoreLogic, ANU.

Some do, but most don't. You can't blame them. Housing affordability in Australia is at its worst levels in history. The national house price-to-income ratio now sits about eight. In Sydney it's more than 13. The idea that twenty- and thirty-somethings will willingly trade income for leisure is fanciful. Even if productivity gains allowed salaries to remain unchanged on a four-day schedule, the incentive to work five days to save faster for a house deposit would be compelling.

The toughest obstacle may not be structural or economic but our own selves. A century of productivity growth should have freed us to enjoy much shorter weeks already. Our great-grandparents lived on far less real income, often without holidays, cars or early home ownership. Their 'normal' would strike us as austere. Yet rather than reducing work, our response to rising productivity has been to choose a higher standard of living. Consumption has expanded to fill our earning capacity.

Rising prosperity is one of the great achievements of modern economies. But it does reveal the tension at the heart of the four-day week. Even if AI delivers us enough economy-wide productivity advances to allow everyone to work four days at the same pay they get now for five days, will we choose that? How long will it be before our lifestyle expectations ratchet up again? Will our grandchildren view space tourism as casually as we view a trip to Bali?

The popularity of the four-day week speaks to a yearning for more balance, rest and humanity in our lives. It's not a bad idea. But it is an idea whose time has not yet come. Until more people actually choose a shorter week over greater consumption, we should not consider a wholesale restructure of our society, offices and schools.

That day may come. We have seen patterns change throughout history. The idea of a weekend came out of manufacturing early in the twentieth century. The 8-hour day was an innovation as was the 40-hour week. But, for now, the four-day week feels a long way off.

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