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AUSTRALIAN PRODUCTIVITY BULLETIN

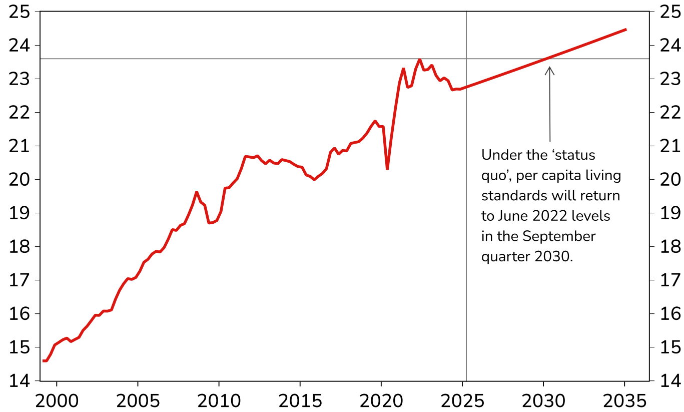
Living standards growth will be slow unless faster productivity growth can offset end of mining boost

Key points

- The mining industry delivered more than 50% of the gains in living standards over the two decades to 2020.
- Now that the terms of trade is no longer rising and mining investment has stalled, the industry is unlikely to provide the same dividend for future living standards.
- Without change, Australians are in for a period of anaemic growth in living standards over the next decade. This will cost the average Australian $75k in income over the next decade.
- The good news is that it does not have to be this way. Faster productivity growth can be an offset. Opportunities are emerging and we need to be well equipped to exploit these.
- This scene setter is the first instalment of a short series on productivity.

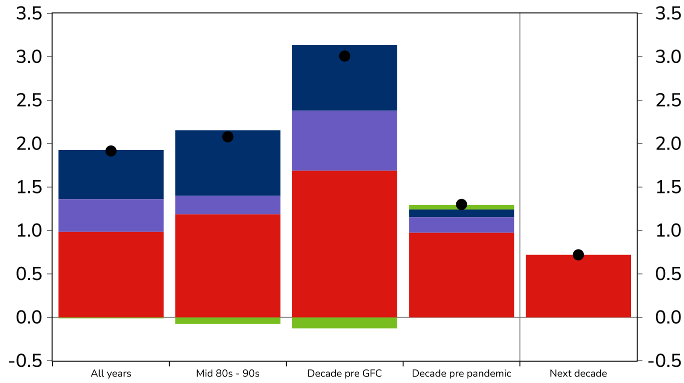
Gross National Income Per Capita

Growth under different scenarios, thousands



Gross National Income Per Capita

Contribution to annual average growth, selected periods



How the Lucky Country Made Its Luck

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Australia has long been focused on productivity growth as the main source of growth in living standards, to the point of making it a key focus for government policy – even when government policy is not the main driver of fluctuations in productivity. The imperative to increase productivity has become even greater since the pandemic. Between March quarter 2022 and March quarter 2025, measured aggregate productivity has fallen 5.3% - the largest on record. This seems counterintuitive given the opportunities afforded by AI and other new technologies. It has also caused some nervousness in policy circles about future living standards.

Australia's aggregate productivity performance masks some important shifts that are occurring under the surface, however. Some of these shifts are benign and once they wash through, we would expect to see growth in productivity to recover and revert to more normal rates. Others are more concerning, often underappreciated and will have a long-lasting impact. If this is not well understood, Australia is likely set for a period of anaemic growth in living standards at a time technological advancements (including AI and machine learning) should be setting us up for a period of strong growth in living standards.

While we focus on Australian-specific factors, **the global backdrop has been one of slowing productivity growth** even before the pandemic. Many candidates for this slowdown have been proposed, including a lack of major technological advancements following the 'IT revolution' and the rollout of computers; a fall in allocative efficiency which is likely to be exacerbated by recently announced protectionist policies; weak business investment and a fall in risk appetite following the GFC; a decline in business dynamism and job mobility; and the shift to more services-based economies where productivity is harder to measure.

AI, machine learning and quantum computing, among other developments have the potential to reverse this slowdown, benefiting the countries that are well equipped to embrace and use these new technologies, as well as its producers. These new and emerging technologies will not only help established industries, but as history shows, will give rise to new industries, jobs and products. The IMF recently estimated that in nations that are well positioned to benefit from AI, its widespread adoption could **boost productivity growth by 0.9 to 1.5 percentage points a year.**

Why is productivity so important?

As Nobel Prize-winning economist Paul Krugman said "Productivity isn't everything, but, in the long run, it is almost everything. A country's ability to improve its standard of living over time **depends almost entirely on its ability to raise its output per worker.**"

There are some nuances here: if workforce participation increases, then living standards *per person* will improve even if output per worker does not – the increased labour utilisation effect. Likewise, higher average hours lifts output per worker even if productivity (output per hour) does not rise. But for ongoing growth in living standards, productivity growth is the only real driver over the long run.

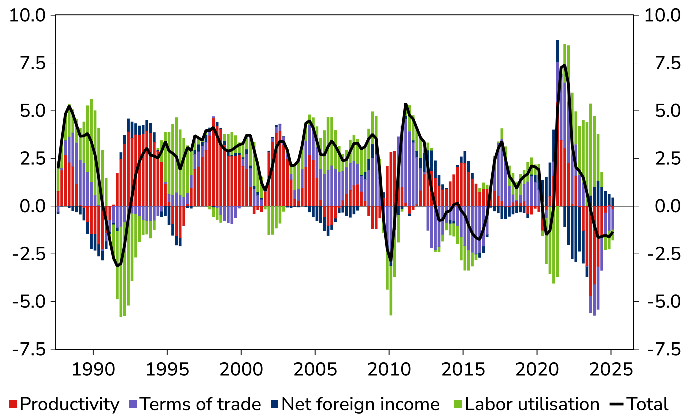
Productivity measures how well we can use resources (labour, capital, land etc) to produce the items we need to live and prosper. This is about producing higher-quality output as well as more volume: both increase real output measured as GDP.

What has driven the growth in living standards?

In line with the Krugman quote, over the past four decades, more than 50% of the growth in our living standards (as measured by gross national income per person or capita, which captures total income earned by residents, including from foreign sources and due to higher prices for our exports) has been driven by **productivity growth**. In the decade before the pandemic, close to 80% of the growth in our living standards was driven by productivity.

Gross national income per capita

Contribution to annual growth, rolling annual average.



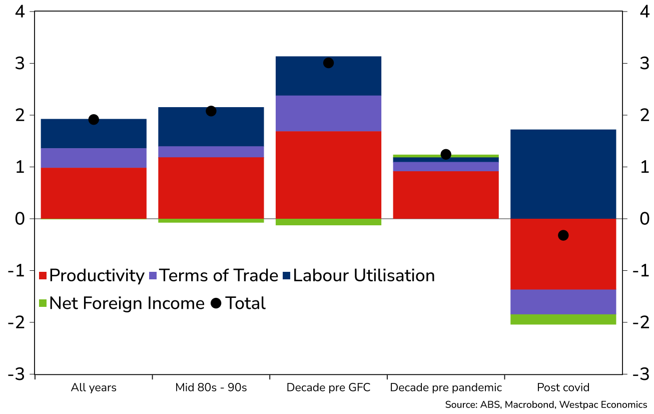
Source: ABS, Macrobond, Westpac Economics

Because of Australia's **commodities endowment,** though, rising export prices have also contributed to growth in our living standards. The increase in the prices of our key commodity exports during the 2000s delivered an income windfall, by allowing increased consumption of imports for a given amount of exports. Increases in the relative price of our exports to imports (the terms of trade) has delivered around 20% of the growth in our living standards over the past 40 years, and a peak of around 25% of the gains in living standards in the decade leading up to the GFC.

Over the past decades, higher **labour utilisation** has also helped boost *per capita* living standards. Participation in the labour market is close to its highest level since records began in 1910. This is the result of longer life expectancy (so less early retirement), increased female participation and – especially more recently – more flexible work. Over the past four decades, increased labour utilisation has delivered around 30% of the increase in per capita living standards.

Gross National Income Per Capita

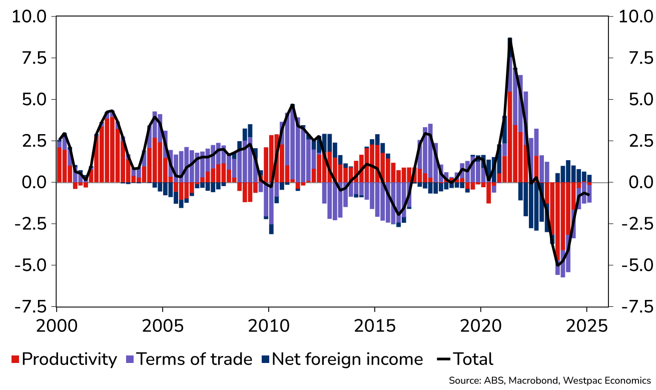
Contribution to annual average growth, selected periods



More recently, participation may also have risen as households struggling with cost-of-living pressures sought extra income. Indeed, increased labour utilisation has largely offset the drag from declining productivity and easing commodity prices since the pandemic. Without this, **per capita living standards would have fallen at an annual average rate of 2.0% per year, much worse than the actual average decline of 0.3% per year.**

Gross national income per capita

Contribution to annual growth, rolling annual average, ex labour utilisation



The underappreciated mining dividend – elevated commodity prices and mining productivity

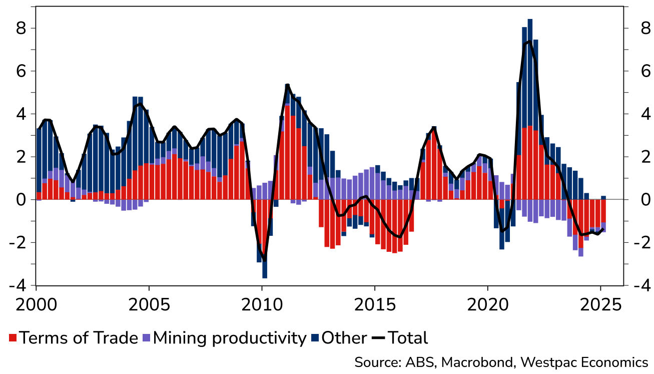
The mining industry accounts for less than 2% of total employment or hours worked, and less than 15% of total output, across the Australian economy. Yet, in the two decades to 2020, the mining industry delivered almost 55% of the growth in our living standards. Over the 2000s, the contribution mining made to our living standards were predominantly driven by higher export prices for our key commodities. In the late 2000s, as mining investment projects came online, increased output and productivity levels continued to deliver a dividend for Australians.

And while we don't all 'work in the industry', we benefit indirectly from the demand for ancillary services, the investment undertaken by the industry, including in infrastructure like roads and ports, and the tax paid by the industry.

Indeed, a large reason why the Federal government and the mining states have been able to provide cost of living support, and increase the scope of public services, without becoming heavily indebted is because of the windfalls provided by the mining industry (see here for our estimate of the mining industry's contribution to increased Federal income tax revenues).

Gross National Income Per Capita - The underappreciated mining dividend

Contribution to annual average growth, rolling annual average



What will happen over the next decade?

Over the past four decades the largest contributor to growth in our living standards has been productivity growth, followed by increased labour utilisation and elevated commodity prices.

The economic landscape going forward will be very different. **The dividend from higher commodity prices is likely to be a thing of the past as key commodity export prices ease** (for further details on Westpac's forecasts see here. We have iron ore falling from around US$103/t today to US$84/t over the March quarter 2027, for example).

Further, key measures of labour utilisation, including the employment to population ratio, remain elevated at around record levels. As such, the upside from further increases in labour utilisation remains limited at least over the near term, notwithstanding rising life expectancy and still-rising prime-age female participation in Australia, as in most countries outside the US. The challenge for policy makers is maintaining the gains we made coming out of the pandemic.

Given these broad trends, over the next decade we see the drag from easing commodity prices offset by modest gains from increased labour utilisation. While it's always hard to project far into the future, given recent trends it's more likely than not that these broad trends will be offsetting.

This leaves productivity growth as our only driver of growth in living standards

But here there are risks. Our recent apparent productivity performance has been dismal. Coming out of the pandemic, measured productivity fell by –1.4%yr in annual average terms (March 2022 to March 2025) – **the worst productivity performance on record (going back to the 1950s).**

We have written extensively on this issue, particularly the (limited) implications for short-term inflationary pressures (see here).

This aggregate productivity performance has been driven by a fall in mining productivity (–4.5%yr annual average coming out of the pandemic) and the expansion of the non-market sector (–2.0%yr annual average), which has seen 'measured' productivity fall (for further information see here). The non-market sector includes the health, education, and public administration industries that are predominantly funded by governments or public monies.

Not only has the shift in resources away from the 'higher' productivity market sector to the 'lower' productivity non-market sector reduced aggregate productivity, the productivity performance within the non-market sector itself has fallen by almost 10% coming out of the pandemic – an unprecedented fall.

But this should not come as a surprise: the non-market sector has expanded at a rapid pace. **A decade ago, two in ten Australians were employed by the sector, today its three in ten, and growing. We are unlikely to see a shift of this magnitude in our lifetimes again.**

And a shift in the way resources are allocated of this size, at the speed it has occurred, risks inefficiencies – for example the capital to labour ratio in the sector has fallen as capital has failed to keep up with the expansion in labour. This has contributed to the fall in the sector's 'measured' productivity. We expect this to at least partly recover, including due to more funding for hospitals and health infrastructure in recent budgets. However, it's unclear whether we will fully recover or what the ratio looks like going forward given the expansion of programs such as the NDIS that are more labour intensive. On the other hand, the market sector excluding mining, **which more closely aligns with domestic inflationary pressures**, has seen productivity growth improve to now be running at around 0.8%yr – inching higher to the decade average to the end of 2017 (and also long run average) of 1.3%yr. This is one reason aggregate nominal unit labour costs remain elevated despite falls in underlying inflationary pressures, a puzzle the RBA admitted they are continuing to scratch their heads at. **The reality is these developments are much more important for living standards than for future inflation trends.**

Non-market sector supply side metrics

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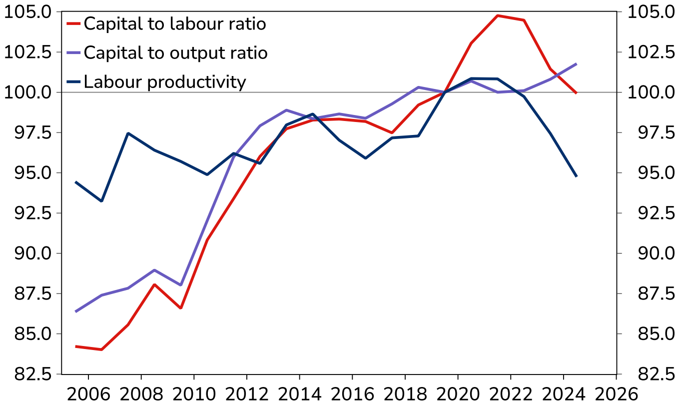


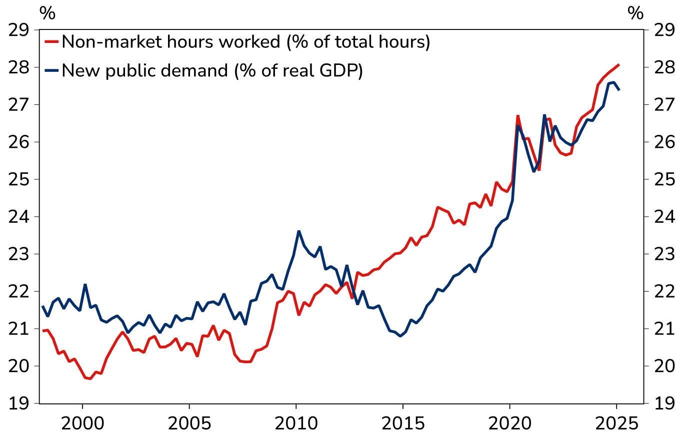
Source: , Macrobond, Westpac Economics

From a living standard perspective, aggregate productivity remains the key. Over the decade to the pandemic, aggregate productivity growth averaged around 1.0% per year and the mining sector drove more than half of that growth. Over the 25 years to the pandemic, annual average productivity growth was 1.5%yr, with just over 25% delivered by the mining industry.

If not mining, then what? It's unclear! But the implications for living standards could be severe

Without mining delivering growth in productivity and (through higher export prices) living standards, other sectors must pick up the slack. If this does not occur we are likely to see growth in living standards over the next decade average around 3/4%

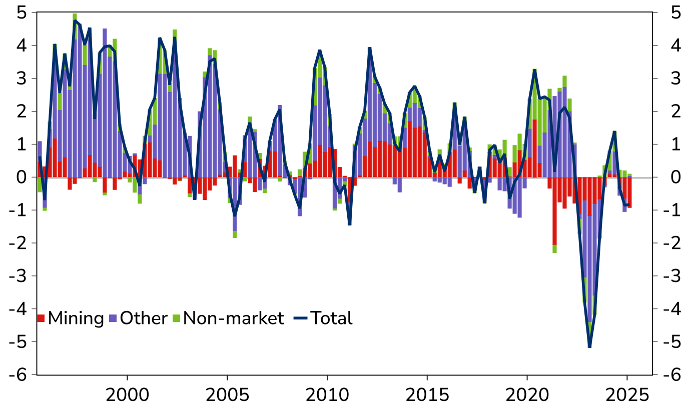
The expansion in public demand



Source: ABS, Macrobond, Westpac Economics

Aggregate Productivity

Contribution to annual % Growth, by sector



Source: ABS, Macrobond, Westpac Economics per year – around 35% of the average annual growth over the past 40 years!

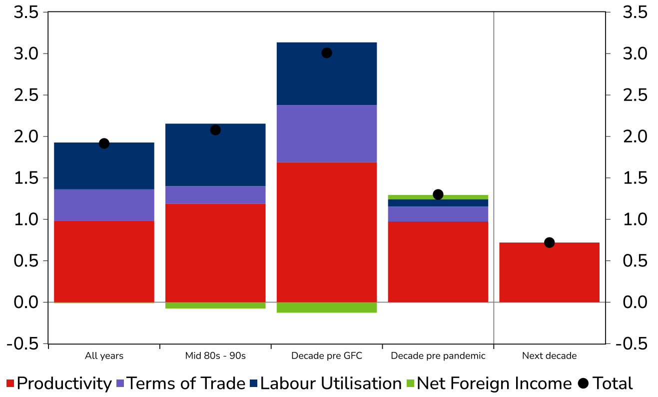
This 'status quo' scenario assumes the easing in commodity prices and the terms of trade is offset by some growth in labour utilisation, and all the productivity growth we observe over the next decade will be driven by the market sector (excluding mining).

Essentially, it assumes that productivity in the mining sector will stabilise, as opposed to continuing to fall at a rate of knots, and that productivity in the non-market sector also stabilises. While that sounds unrealistic, today productivity in the non-market sector is the lowest it has been since the March quarter 2006 – almost 20 years ago. Further decline from here would be an even more unrealistic assumption.

Under this scenario, the market (ex mining sector) continues to employ less than 70% of the adult population (compared with almost 80% in the mid-2000s), and productivity growth improves to the to the decade average to the end of 2017 (and also long run average) of 1.3%yr, leaving aggregate productivity at around 3/4%yr over the next decade.

Gross National Income Per Capita

Contribution to annual average growth, selected periods



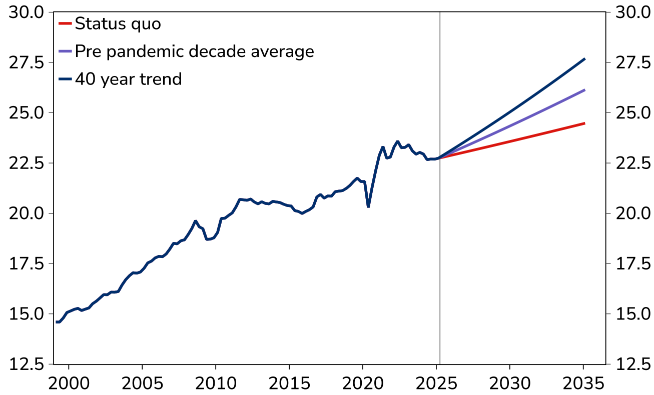
Source: ABS, Macrobond, Westpac Economics

This may all seem abstract. But in reality, it will have far-reaching consequences for our standard of living. If growth in per capita living standards does indeed average 3/4%yr over the next decade, per capita living standards will return to June 2022 levels in the September quarter 2030 – **we essentially will have a gone through a period of more than eight years where living standards have gone sideways, the longest period on record.**

Compared to the scenario where per capita living standards grows at the 40-year average rate of around 2.0%yr, income will be around $75k lower per capita over the next decade in today's dollars compared to the status quo - that's around $300k for a household of four.

Gross National Income Per Capita

Growth under different scenarios, thousands



Source: , Macrobond, Westpac Economics

But it doesn't have to be this way

Even without the 'free kick' from mineral export prices, productivity and growth in living standards can be put on a sound trajectory. But this requires changes in business practices, policy and culture, which will allow us to benefit from the technological advances already happening and in train.

This scene setter is the first instalment of a short series on productivity leading up to the Government's 'productivity roundtable.' The next instalments will focus on solutions to Australia's productivity challenge, taking a sectoral approach.

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