While productivity is once again growing in Australia, we face a big challenge in getting it to a level that would restore the rate of improvement in our living standards of the last few decades.

Yet the measures required to meet this challenge may not be the ones usually promoted by economists and editorial writers. We need innovation not just in the technologies we use but in our business models and management practices as well.

The problem, according to new Treasury research, is that national income growth can no longer be propped up by the favourable terms of trade associated with our once-in-a-generation mining boom.

Does this mean we are back to the hard grind of productivity-enhancing reform? There are (at least) two opposing schools of thought on this. Some believe reform is needed, but mainly corporate tax cuts and labour market deregulation. Others deny any such reform is even necessary.

What has happened to productivity?

Productivity is a complex issue, but may be simply defined as output produced per worker, measured by the number of hours worked. On this basis we have seen a modest spike in productivity growth over the last five years to 1.8% per year.

This is primarily due to "capital deepening", an increase in the ratio of capital to labour. Contemporary examples include driverless trucks in iron ore mines, advanced robotics in manufacturing and ATMs in banking.

Before this five-year period, productivity growth was much lower, even negative. This was especially the case during the mining boom itself when capital investment was taking place but had not yet translated into increased output.

The Treasury paper argues that to achieve our long-run trend rate of growth in living standards of 2% a year, measured as per capita income, we now need to increase average annual productivity growth to around 2.5%.

This will require not just capital deepening, but also improvements in the efficiency with which labour and capital inputs are used, otherwise known as “multifactor productivity”.

The hype cycle

Australia is not alone in facing this productivity challenge. Globally, amidst what would appear to be an unprecedented wave of technological change and innovation, developed economies are experiencing a productivity slowdown .

Again, explanations for this vary. Some economists question whether the current wave of innovation is really as transformative as earlier ones involving urban sanitation, telecommunications and commercial flight.

Others have wondered whether it is still feasible to measure productivity at all when innovation comprises such intangible factors as cloud computing, artificial intelligence and machine learning, let alone widespread application of the “internet of things”.

However, there is an emerging consensus that we are merely in the “installation” phase of these innovations, and the “deployment” phase will be played out over coming decades.

This has also been called the “ hype cycle ”. New technologies move from a “peak of inflated expectations” to a “trough of disillusionment” and then only after much prototyping and experimentation to the “plateau of productivity”. Think blockchain in financial transactions and augmented reality for consumer products.

***Read more:** A guide to deconstructing the battery hype cycle*

The world is bifurcating between " frontier firms ", whose ready adoption of digital technologies and skills is reflected in superior productivity, and the "laggards", which are seemingly unable to benefit from technology diffusion.

These latter firms drag down average productivity growth and, lacking competitiveness, they inevitably find it more difficult to access global markets and value chains.

The increasing gap between high- and low-productivity firms is less a matter of technology as such than the capacity for non-technology innovation . In particular, this encompasses the development of new business models, systems integration and high-performance work and management practices.

Many of the world's most successful companies, such as Apple, gained market leadership not by inventing new technologies but by embedding them in new products, whose value is driven by service design and customer experience.

Engaging our creativity

Recent international studies have shown that a major explanatory variable for productivity differences between firms, and between countries, is management capability.

It is noteworthy that Australian managers lag most behind world-best practice in a survey category titled "instilling a talent mindset". In other words, how well they engage talent and creativity in the workplace.

Most organisations today would claim that "people are our greatest asset", but much fewer provide genuine opportunities for participation in the decisions that affect them and the future of the business. Those that do are generally better positioned to outperform competitors and demonstrate greater capacity for change.

More survey work on this issue is under way.

A more inclusive approach

Wages are also related to productivity but not always in the way that is commonly assumed. It is said that productivity performance determines the wages a company can afford to pay, with gains shared among stakeholders, including the workforce.

But evidence is emerging that causation might equally run in the reverse direction, with wage increases driving capital investment and efficiency.

This casts the current debate on productivity-enhancing reform in a very different light. It may now be a stretch to argue that corporate tax cuts will be much of a game-changer in the absence of any incentive to invest in new technologies and skills. The same may be said about the ideological insistence on labour market deregulation, if all that results is a low-wage, low-productivity economy
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The populist revolt against technological change and globalisation has its roots not just in the failure to distribute fairly the gains from productivity growth, but in a longstanding effort in some countries to fragment the structures of wage bargaining and to exclude workers from any strategic role in business transformation. This has assigned the costs of change to those least able to resist, let alone benefit from it.

The next wave of productivity improvement, if it is to succeed, must be based on a more “inclusive” approach
to innovation policy and management.

As jobs change or disappear altogether, Australia’s workforce can make a positive contribution. But workers will only be able to do so if they have the skills and confidence to take advantage of new jobs and new opportunities in a high-wage, high-productivity economy.

Roy Green has received research funding from the Department of Industry, Innovation and

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