

Productivity in a time of rapid technological change

Submission to the Senate Select Committee on Productivity in Australia

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Summary

Australia is in the early stages of a technological and institutional transition of historic significance. A cluster of digital technologies — centred on artificial intelligence, but encompassing distributed ledger technologies, advanced communications, and the internet of things — is reshaping the productive structure of the economy. This transition presents a once-in-a-generation opportunity to reverse decades of slowing productivity growth and to build new sources of comparative advantage.

Yet Australia’s institutional and regulatory environment is poorly configured to facilitate this transition. The regulatory burden has grown substantially and the reform momentum that characterised the 1980s and 1990s is a distant memory. Frameworks like competition policy are increasingly oriented towards controlling existing firms rather than empowering the dynamic competition that will bring long run productivity and investment.

Without deliberate regulatory adaptation, the productivity gains offered by frontier technologies will be suppressed, delayed, or captured by incumbent interests. In this submission we argue that the productivity agenda for the coming decades must be understood primarily as a technology and institutional reform agenda. This submission refers heavily to our prior work. Detailed supporting references and arguments are available in those publications.

Productivity growth in Australia

Australia’s long-run economic performance has been shaped by two great forces: its endowment of natural resources, and the quality of its economic institutions. The latter — particularly the institutional reforms of the 1980s and 1990s — explains the exceptional period of sustained growth that followed.

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The reform era, spanning roughly from the 1983 floating of the Australian dollar through to the introduction of the goods and services tax, encompassed labour market reform, tariff reductions, privatisation of major assets (including Qantas, Telecom and the Commonwealth Bank), competition policy reform following the Hilmer report, and the restructuring of federal-state relations (Berg et al. 2022). Support for the reforms came from both sides of parliament, and it is this reform period which laid the foundations for Australia's subsequent prosperity.

It is therefore not a surprise that the reduced energy towards economic reform has coincided with a productivity growth slowdown. Labour productivity growth is now at its lowest rate since the 1970s. The Productivity Commission has noted that had Australia maintained its previous productivity growth at the sixty-year average, Australian incomes in 2020 would be \$4,600 higher per person (Productivity Commission 2022). Multifactor productivity growth has been similarly subdued, with the gains from capital deepening increasingly unable to compensate for a lack of innovation-driven efficiency improvements.

This productivity slowdown is not limited to Australia — it is a general trend affecting all developed economies — but it has particular implications for a small, open, trade-exposed economy. The slowdown in productivity has been accompanied by indicators of declining economic dynamism: falling business entry rates, slowing labour reallocation from low- to high-productivity firms, and a weakening of the competitive churn that drives innovation (Andrews and Hansell 2021; Bakhtiari 2019; Berg et al. 2022).

Opportunities for productivity growth

The most significant opportunity for productivity growth over the coming decades lies in the adoption and adaptation to a supercluster of frontier digital technologies. These technologies — artificial intelligence and large language models, distributed ledger technologies and digital assets, advanced satellite communications, and the internet of things — are not merely incremental improvements to existing processes. They constitute a set of general purpose technologies whose full economic impact will depend on complementary institutional and organisational change (Allen, Berg, and Potts 2025).

Artificial intelligence, and specifically large language models (LLMs), already exhibit the characteristics of a general purpose technology: pervasiveness across sectors, improvement over time, and the capacity to enable complementary innovations (Waters-Lynch et al. 2025; Berg 2026). LLMs are being adopted rapidly across the economy, including through what we have elsewhere described as "shadow user innovation" — a process whereby employees are covertly experimenting with AI tools to discover and capture productivity gains, often without the visibility or direction of management (Waters-Lynch et al. 2025). This bottom-up adoption pattern suggests that the productivity potential is real and being discovered through entrepreneurial trial-and-error, but that firms and institutions have not yet adapted their structures to fully realise and capture these gains.

The opportunity for Australia is substantial but not guaranteed. As we argued in our report on Australia's digital economy, Australia's relative prosperity, its high-quality institutional infrastructure (asset registries, courts, financial systems), and its educated workforce position it

well to benefit from digital transformation — but only if the institutional environment adapts to enable it (Berg et al. 2022). The specific opportunity is for Australia to build on its existing institutional strengths to develop new export sectors in digital trade infrastructure, advanced financial services, and innovation-intensive industries that complement the existing strengths in primary goods and education.

Structural barriers to sustainable growth

Every Commonwealth government of the past three decades has pledged to reduce the regulatory burden, yet the volume and complexity of regulation has continued to grow (Berg and Allen 2018; Allen et al. 2021). This is not merely a failure of political will. It reflects deep structural incentives that favour the accumulation of regulation over its removal.

The costs of regulation are diffuse, borne by consumers and potential market entrants who are typically poorly organised. The benefits, by contrast, are concentrated among incumbents and regulatory agencies who have strong incentives to preserve and expand the regulatory architecture (Stigler 1971; Berg 2008). This dynamic is compounded in periods of rapid technological change, when incumbent firms in disrupted industries have both the resources and the motivation to lobby for regulatory constraints on new entrants and technologies. We have observed this dynamic repeatedly in the platform economy, the sharing economy, and in the emerging AI sector (Allen and Berg 2026; Allen et al. 2025; Berg and Hurwitz 2019).

The precautionary principle — whereby new technologies are regulated on the basis of hypothetical harms before their benefits can be discovered — systematically biases policy against innovation. Regulators tend to under-weight the potential benefits of new technologies, particularly when those benefits are uncertain and dispersed across future users. At the same time, the potential harms are easily conceivable and are over-weighted in public policy decisions. These dynamics are compounded by the lobbying of disrupted industries seeking regulatory protection for their existing business models.

The result is an institutional environment that is structurally biased against the kind of entrepreneurial discovery and creative destruction that drives productivity growth. Business entry rates in Australia have been in decline, shifting productive resources away from customer-focused innovation and towards understanding and complying with regulatory requirements.

The efficacy of federal competition law

Australia's competition law framework faces a fundamental challenge in the digital economy: the analytical tools developed for static market analysis are poorly suited to sectors characterised by rapid innovation, multi-sided platforms, and dynamic competition.

We have raised these concerns in detail in our submissions on the ACCC's Digital Platforms Inquiry and the Treasury consultation on a New Digital Competition Regime (Berg and Hurwitz 2019; Allen et al. 2025). The core problem is that competition analysis premised on static models of market share and dominance fails to account for the competitive dynamics that characterise technology

markets. As we argued, the very fact that the ACCC acknowledged the possibility that a dominant platform could be displaced by a competitor demonstrated the legitimacy of potential competition as a constraint. The growing trend towards ex ante regulation of digital platforms — designating specific large platforms and imposing targeted regulatory obligations on them — risks imposing prescriptive constraints that dampen the very dynamism that benefits consumers. These approaches tilt enforcement towards the discretion of regulators and away from identifying and remedying harms.

The Committee should consider whether the current trajectory of competition policy — towards greater regulatory control over digital markets — is compatible with the productivity growth objectives that motivate this inquiry. Competition policy should be oriented towards enabling dynamic competition and reducing barriers to entry, not towards managing the conduct of successful firms through prescriptive regulation.

The impact of regulatory and tax burdens on productivity growth

The burden that regulation imposes on the Australian economy is substantial. Mandala Partners (2025) has estimated the cost of complying with Commonwealth regulation alone had grown to \$160 billion (5.8 per cent of GDP) by 2024, while the Business Council of Australia (2025) put the cross-government compliance burden at over \$110 billion.

However, the direct compliance costs of regulation are only part of the story. The more significant costs are the opportunity costs: the innovations not pursued, the businesses not started, the entrepreneurial resources diverted from productive activity towards regulatory compliance. These costs are inherently unmeasurable — they represent the counterfactual of what would have been discovered in a less constrained institutional environment — but they are no less real for being invisible (Berg and Allen 2018). Mikayla Novak (2016; using a method developed by Crain and Crain 2010) estimated the foregone economic output associated with Australia's regulatory burden at \$176 billion — approximately 11 per cent of GDP.

The growth of regulatory restrictiveness is measurable, however. Building on the RegData methodology developed at the Mercatus Center, our research has sought to quantify the number of regulatory restrictiveness clauses in Australian legislation, providing a more granulated measure of the regulatory burden than aggregate compliance cost estimates (McLaughlin, Sherouse, and Potts 2019; Allen et al. 2021). This work confirms that the stock of regulation has grown substantially, even as successive governments have pledged to reduce it.

The interaction between regulatory burden and technological change is particularly important for this inquiry. In a period of rapid technological transition, the cost of regulatory delay is amplified. Every year that a new technology is suppressed or constrained is a year of foregone productivity growth and innovation spillovers. The cumulative effect of regulatory delay in the adoption of general purpose technologies is not linear — it compounds, as each wave of complementary innovation that would have been enabled is also delayed.

The impact and opportunity of technology

The technological transition currently underway is not merely a change in the tools available to the economy. It is a transformation in the institutional infrastructure of economic coordination itself. We have described this process as “institutional acceleration” — the rapid discovery and deployment of new digital institutions (money, contracts, organisations, infrastructure) enabled by the combinatorial interaction of frontier technologies (Koppl et al. 2023; Allen, Berg, and Potts 2025).

The key insight is that the technologies driving this transition — AI, blockchains, advanced communications — are not simply industrial technologies that organise things. They are also institutional technologies that organise people. They create new mechanisms for coordination, trust, exchange, and governance that can substitute for, compete with, and complement existing institutional arrangements (Allen and Berg forthcoming). This means that the impact of these technologies extends far beyond productivity gains within existing industry structures. They have the potential to reshape the institutional architecture of the economy itself.

This has profound implications for policy. Conventional approaches to technology policy, which focus on supporting individual technological trajectories through mission-oriented programs and targeted R&D subsidies, are insufficient in an environment of institutional combinatorics. Innovation policy must focus less on directing investment towards specific technologies and more on enabling the combinatorial experimentation through which the most valuable applications will be discovered.

The policy framework we advocate is one of permissionless innovation (Thierer 2016; Allen, Berg, and Davidson 2020; Allen et al. 2020). This describes a default stance in which new technologies are enabled unless and until specific harms are demonstrated, rather than constrained on the basis of hypothetical risks. The permissionless innovation approach recognises that regulators face a fundamental knowledge problem. The applications of frontier technologies are uncertain and emergent. No regulator can anticipate the range of valuable uses that will be discovered through entrepreneurial experimentation. Premature regulation closes off possibilities that neither the regulator nor the entrepreneur can yet imagine.

In practical terms, this means expanding and reforming regulatory sandbox mechanisms to allow genuine experimentation with new business models and technologies. As we have argued, current sandbox frameworks are too narrow and too permissioned — they enable exit to a supervised environment, but constrain the scope of experimentation in ways that limit the discovery of genuinely novel institutional forms (Allen, Berg, and Lane 2026). Open sandboxes allow broad experimentation unless specifically restricted are preferable to closed sandboxes that only permit specifically authorised activities

Recommendations

This submission has argued that Australia’s productivity challenge is fundamentally an institutional challenge. The technological means for a new era of productivity growth are available. What is lacking is the institutional environment to enable their adoption and the entrepreneurial discovery of their most valuable applications. We recommend that the Committee consider the following:

A renewed reform agenda that is modelled on the 1980s-1990s reform era but focused on innovation. Just as the Campbell Committee report on the financial system and the Hilmer report on competition policy provided the intellectual and political foundations for a generation of reform, Australia needs a comprehensive inquiry into the institutional adaptations required for the digital economy. This should focus on innovation but encompass competition policy, financial regulation, labour market policy, tax reform and privacy policy.

A shift to permissionless innovation as the default regulatory stance towards new technologies. This means replacing the precautionary principle with a framework that enables experimentation and addresses demonstrated harms ex post, rather than suppressing innovation on the basis of hypothetical risks.

Reform of competition law to prioritise dynamic competition and entry. Competition policy should focus on reducing barriers to entry, enabling market contestability, and preserving the conditions for entrepreneurial disruption, rather than expanding regulatory control over successful firms in digital markets.

A serious program of regulatory reduction. This should go beyond symbolic red tape reduction programs and include measurable targets for reducing the stock of regulatory restrictiveness, drawing on the RegData methodology and equivalent approaches.

Reform of innovation policy to enable combinatorial experimentation. R&D policy should move beyond mission-oriented programs focused on individual technological trajectories and instead create the institutional conditions for broad-based entrepreneurial experimentation with frontier technologies, including through open regulatory sandboxes and innovation commons.

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