RESERVE BANK OF AUSTRALIA

Speech

What Has Australian Macroeconomic Thought Achieved in the Past Century – And Where Can it Contribute in the Next?

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Introduction

It is a great honour to address you on the 100th anniversary of the Economics Society of Australia.[1]

It's an honour because, over that past century, Australian thinkers have helped develop some of the most important building blocks in open economy macroeconomics – the branch of economics that seeks to understand how the global trading economy works.

Those were significant – sometimes world-leading – intellectual achievements.

But they were more than just that. Because they also shaped the policies and institutions that helped Australia navigate the global economy of that period so successfully, delivering wealth and stability for its citizens.

Indeed Australian macroeconomic research has pulled that trick off twice. First, powering the ideas that lifted the country out of the Great Depression to flourish after the Second World War. And, second, helping to design a reform program that rescued the country from the slump of the 1970s, and led to more than a quarter century of recession-free growth.

Two Golden Ages, marshalling thought into action.

But to thrive in the next 100 years, Australia's researchers will need to go for the hat-trick.

And that's because the tectonic plates of the global economic system are once more in flux, as free trade is rolled back; geopolitical alliances shift; climate change accelerates; and productivity growth slows to a crawl in most developed countries.

Simply *coping* with such changes will take skill. Turning them to Australia's *advantage* – identifying and exploiting new trading structures and sources of growth – will require rich new thinking from Australian academia.

The *good news* is that many of today's policy problems lie at the very heart of Australia's intellectual comparative advantage. The *challenge* is whether we can relearn the lessons of the past – drawing in our best talent, strengthening the incentives for policy-relevant research, and forging deep links between academics and policymakers.

In my remarks today I want to look back at some of those successes of the past century, before posing some questions for the future.

What is *Australian* macroeconomic thought?

But before doing so, I should try to clarify what I mean by *Australian* macroeconomic thought.

Is it macroeconomic research *about* Australia? *By* Australians? Conducted *in* Australia? It could be any of the above. But if you wanted a 'vibe', in the great Australian tradition of *The Castle*, I'd suggest three defining features: [2]

- First, an emphasis on small open economy macroeconomics, with a particular role for the commodities and energy sectors. That reflects the nature of our economy and the challenges we face. But it also has global application: our context is also our comparative advantage.
- Second, a focus on solving practical real-world policy issues, rather than pushing forward more abstract frontiers. Many influential Australian macroeconomists have also served as senior public policymakers.

- Third, a world-leading capacity to develop the analytical tools necessary to drive successful economic policy – in particular small open economy quantitative macro-models and macroeconomic data.

The past 100 years: Two 'Golden Ages' of Australian economic thinking[3]

To illustrate how these themes played out over the past 100 years, I'm going to split the period into two halves. The first lies either side of the Second World War; the second straddles the economic reforms starting from the 1980s. Each in its own way can legitimately be called a Golden Age, in which Australian ideas both advanced the global knowledge frontier and delivered prosperity for Australia.

The first Golden Age

The first period, from the birth of the ESA in the 1920s to the late 1960s, saw Australia pull itself out of the depths of the Depression and navigate a world war.

Australia's response to these challenges was shaped by its economic context as a small commodity exporter. For much of the period, the growth model relied on expanding exports of raw materials (primarily agricultural), using huge quantities of imported labour and capital. The central question in such an economy was how to maintain both internal and external balance, in the face of external shocks. To achieve these goals, the authorities relied primarily on centralised control. The exchange rate was pegged to sterling; credit volumes and interest rates were typically administratively set, and wage-setting was heavily institutionalised.[4] Tariffs were used actively, in an attempt to protect and foster domestic industry, lift employment and reduce the economy's reliance on volatile global commodity markets.[5]

Many great Australian thinkers helped shape this first Golden Age – but today I will focus on just two.

The first is Lyndhurst Giblin.

Giblin was a model Accidental Economist. He devoted his first 45 years to everything *but* the subject: he was part of the Klondike gold rush, served as a Tasmanian MP and received the Military Cross for gallantry on the Western Front.[6] Yet little more than a decade after the First World War, Giblin had developed one of the most important building-blocks of macroeconomics.

As Government Statistician for Tasmania and later Ritchie Professor of Economics at the University of Melbourne, Giblin had a ringside seat for the Great Depression – which in Australia began in 1928 as commodity prices fell, accelerating in 1929 with the global slump. Giblin saw that sharp declines in world prices for agricultural produce – Australia's main export – would not only lower Australian farmers' incomes, but would also cause them to spend less. And that in turn would lower incomes for others, causing a slump to ripple out through the wider economy. That rippling could be far larger than the first-round impact alone, amplifying the domestic repercussions of a global shock.

Giblin set out this startlingly simple but revolutionary idea – the modern-day multiplier in all but name – in a 1930 lecture. That's a year before Richard Kahn's seminal *Economic Journal* paper, and six years before Keynes' *General Theory*. What is today known universally as the 'Keynesian multiplier' could and perhaps should be called the 'Giblin-Keynes multiplier'. Yet neither Kahn nor Keynes made any reference to Giblin's work, or even appeared aware of its existence.[7]

Giblin, however, was far less interested in global acclaim than he was in working out how Australia could rescue itself from the Depression – and that was a hotly contested question. The then Premier of New South Wales, Jack Lang, had a simple answer: default on state and Commonwealth debt to the United Kingdom and use the savings to stimulate domestic activity. But default risked destroying Australia's future borrowing capacity, rendering its economic model unworkable.[8]

The Bank of England, in the form of the widely disliked Otto Niemeyer, had a different proposal: cut wages and balance the budget. Based partly on his multiplier analysis, Giblin worried that approach would be too deflationary. With Douglas Copland, Leslie Melville[9] and others, he helped prepare the 1931 'Premiers Plan', which argued that Australia should accompany lower wages and a balanced budget with monetary easing to 'spread the loss'. A sharp devaluation against the British pound, executed the same year, provided further support to external competitiveness. Giblin framed the challenge as tackling an 'outside problem which is causing an inside problem'[10] – concepts that years later would be formalised as external and internal balance.

Although Giblin used what would come to be thought of as a 'Keynesian' analytical tool (the multiplier), his policy prescriptions were decidedly *un* -Keynesian: this was no debt-financed fiscal expansion. Writing in the *Melbourne Herald* in 1932, Keynes himself recognised the plan 'saved the economic structure of Australia'. But he advised against its wider use, arguing that competitive devaluation or

wage deflation would leave no-one better off, and advocating 'public works' rather than 'further pressure on money wages or a further forcing of exports'.[11]

Giblin's thinking evolved in the same direction over time, and by the end of the Second World War he favoured using government spending to stabilise the economy and keep unemployment low. That view informed Australia's position at the Bretton Woods conference, where it argued that relaxing trade protections – a key goal of the United States – without also committing to full employment could leave countries like Australia badly exposed to external shocks.[12] And it formed the core of the 1945 *Full Employment* White Paper, developed by Giblin alongside Melville and 'Nugget' Coombs – later the first Governor of the RBA[13] – which set the basis for policy in much of the post-war period.

My second case study is Trevor Swan – regarded by many as Australia's greatest economist.

Swan made not one but two key contributions. The first is summarised in the 'Swan diagram', and extended in the 'Salter-Swan' model developed with fellow Australian Wilfred Salter. The model is designed to help think about policy coordination and trade-offs in a small economy like Australia, with trade and a fixed exchange rate. The model elegantly demonstrated many of the issues the country faced in the first Golden Age trying to achieve both internal and external balance. And it illustrated how different combinations of macroeconomic tools – including fiscal, wage, exchange rate and trade policy – might be used to maintain both in the face of international shocks.

Swan's second seminal contribution was aimed at thinking through how to foster longer term economic growth. Swan showed that medium-term growth in real per capita labour income depends on the rate of technical progress, growth in the labour supply, and growth in the capital stock. This was a crucial insight for Australia, which relied heavily on high rates of immigration. Swan's framework showed that, in such circumstances, sustained growth in real incomes also required rapid growth in productive capital and technical progress. Without that, real incomes would stagnate or fall. Important messages for policymakers at the time – and still relevant today.

Swan's personal story is fascinating. Amongst other things, he was a perfectionist, and that – combined with his preference for supporting *Australian* economics – led him to publish his work slowly (if at all), and exclusively in local journals. As a consequence, much of the credit for his pioneering ideas on growth, including a Nobel prize, went to Robert Solow rather than Swan.[14] But like Giblin, Australia mattered more to him than global fame. Alongside his role as ANU's first Professor of Economics, Swan

was Chief Economist to the Prime Minister's Department (in the 1950s) and a member of the RBA Board (from 1975–1985).[15]

The second Golden Age

The second Golden Age – from ideas to action – straddles either side of the deep economic reforms of the 1980s and 1990s.

The reforms overturned the paradigm of the first Golden Age. The exchange rate was floated. High tariffs were replaced with much freer trading arrangements. Constraints on the financial sector were released; and, in time, the central bank was made independent and asked to hit an inflation target. Of course, there was good luck too, as huge new export markets opened up in Asia. But taken together, these changes ushered in an extended period of prosperity for Australia.[16]

The intellectual groundwork for the reforms was laid years earlier, as recognition dawned that frameworks of centralised control and protectionism were undermining, rather than protecting, competitiveness, productivity growth and living standards.[17] This was far from unique to Australia, of course. But Australian thinkers again made important contributions to the evolving global consensus – perhaps most notably on the case against trade protection, through the work of Max Corden. Corden showed that the economic costs of tariffs were much larger than previously recognised, once general equilibrium effects were accounted for. His work, including the concept of 'net effective rates of protection', which captured the impact of tariffs on imported inputs as well as outputs, remains widely cited – and, sadly, is highly topical again today.[18]

Like his earlier compatriots, Corden did not just push forward academic thinking – he also rolled up his sleeves and got stuck into policymaking for Australia. His work had a profound impact on the enquiries led by John Crawford over the 1960s and 1970s calling for a rationalisation of tariffs.[19] And it led, through the advocacy of Fred Gruen, to the Whitlam government's across-the-board 25 per cent cuts in tariffs in 1973, which began the long and winding road to free trade.[20] The Tariff Board was renamed the Industries Assistance Commission – and two decades later became the Productivity Commission: quite a journey![21]

The reforms of the Second Golden Age reflected a dawning recognition that – subject to safeguards – flexible market prices could facilitate adjustment to both internal and external shocks more effectively than administrative controls. These were not uniquely Australian ideas (Ross Garnaut called it 'the

Washington consensus come to Australia'). But strong advocacy by the government and wider public institutions helped them take root. And the overlay of specifically Australian policies – including the 1983–1996 Prices and Incomes Accord – helped maintain social and political support for reform. The strength of such equity considerations, familiar from Giblin's work in the 1930s, remains an important feature in Australian macroeconomic policy debates to the present day.

Across both Golden Ages, Australia also had a world-leading role in two areas of practical policymaking: quantitative macro-modelling; and economic data.

Australia's first general equilibrium macro-econometric model was developed in the early 1940s by – who else – Trevor Swan! Indeed Swan's model has a decent claim to be among the first globally, coming after Jan Tinbergen's 1936 model of the Netherlands but more than a decade before Lawrence Klein and Arthur Goldberger's model of the United States. Once again, Tinbergen and Klein both received Nobel prizes; Swan (who didn't even publish his model during his lifetime) did not. From the early 1970s, the Treasury and RBA built a suite of state-of-the-art open economy macro-econometric models.[22] ORANI, one of the most advanced large-scale computable general equilibrium models of the time, was used in the Crawford enquiries.[23] And in the 1990s, Warwick McKibbin and Peter Wilcoxen developed the global hybrid DSGE/CGE model, 'G-Cubed', used most recently to provide widely cited assessments of the impact of US tariffs.[24]

The strength of Australia's economic data has an even longer pedigree.[25] As the first Government Statistician of New South Wales from 1886, Sir Timothy Coghlan produced a series of yearbooks that set global standards for the measurement of aggregate income and occupational classification in national censuses.[26] Half a century later, Keynes' disciple Colin Clark helped bring modern national income accounting to Australia. And there have been many other examples of methodological trailblazing since then – including early adoption of survey sampling approaches and an integrated business register; and pioneering use of satellite imaging and integrated data sets.[27] The critical importance of effective data gathering to Australia's economic success was reflected: in its independent institutional setting at the heart of government; in its job titles – the head economic adviser to government was for some time known as the 'Chief Statistician'; and in its ability to attract some of Australia's top minds, from Giblin, Sir Roland Wilson and Charles Wickens right up to today.[28]

Before I leave this brief stroll through the past, I should acknowledge the key role that the ESA itself played in this history. Many of those I've talked about today were presidents of the Society; and many of

their ideas appeared in its publications.[29] Like Australian macroeconomics in general, a defining feature of the Society has been its focus on ideas that can be *implemented*, not just admired. Douglas Copland, ESA's first President, encouraged members to involve themselves in the practical affairs of government and business – a principle captured in the Society's aim 'to encourage the teaching and study of economics and its application to Australia'. The RBA has long been an active supporter of that program. Bernie Fraser held the Presidency of the Society while he was RBA Governor in the early 1990s, hosting central council meetings in the Bank's boardroom in Martin Place. And two of our current Department Heads played leading roles more recently: Jacqui Dwyer was an executive adviser on economics education; and Penny Smith was President of the NSW branch, supporting the launch of the Society's Women in Economics Network.

Will there be a third Golden Age? The worry … and the call to arms

By any standards, then, the past century has been an extraordinary story – of world-leading thinking, deployed by the country's best academic minds, working hand-in-hand with policymakers, helping to pull the economy from the jaws of global turmoil and setting it on the path to prosperity.

So the killer question is this: can Australian macroeconomic thinking do it again, as the world economy is once more in flux?

Ask that question of the macro research community today, and some seem worried:

- about Australia's ability to attract, retain and grow top academic talent;[30]
- about diminished academic incentives to work on issues of greatest policy relevance to Australia;[31] and
- about perceptions of a weakened partnership between academia and policymakers.[32]

Views differ on how serious those worries are. The best Australian research remains world-class. And we don't need to solve everything ourselves: the scope to draw on global thinking, adopting and adapting it to Australian conditions, is far greater than in Giblin's day.

But, where there *are* concerns, they should be seen as a call to arms, not a cause for despondency. And that's because the defining macroeconomic challenges of our age – the rolling back of free trade; the

implications of shifting geopolitical alliances; climate change; and the need to reinvigorate productivity growth globally – lie right in our areas of comparative advantage.

The question is how to leverage that advantage. Let me break that into three sub-questions.

How can we build on Australia's historical strength in open economy macro?

The long arc back to a more regionalised, less open, international trading system, coupled with the realities of climate change, poses fundamental questions for Australian macroeconomic research along at least three dimensions:

- First, how will the composition and geographical location of our export markets change in response to evolving trade policies and geopolitical alliances? What implications will those shifts have for domestic output, investment, labour markets and pricing? And how do we harness our natural and human resources to take advantage of those shifts?
- Second, how will global commodity demand change over time? How long will markets for 'traditional' minerals including coal, gas and iron ore – mainstays of the economic model in Australia today – persist? Will markets for 'new economy' minerals and renewable energy sources take their place, and how can Australia best position itself to take advantage of such trends?[33]
- And, third, how will these and other structural shifts change the sorts of shocks that stabilisation policy, including monetary policy, needs to respond to? How will that influence optimal policy design? And how might we need to adjust our thinking about trade-offs, across the different policy goals and tools available?

Understanding the macroeconomic risks, and opportunities, from these structural changes is a vital priority for research – to protect the economy, but also to ensure a clear path for future growth. The good news is there is a rich history of Australian macro research[34] and modelling[35] to draw on. The challenge is that this will only take us so far: dealing with tomorrow's world will require us to apply and extend that research to answer new questions.

How can we deepen the links between academia and policymakers?

Second, how can we deepen the links between academia and policymakers – the secret sauce of the first two Golden Ages?

There are certainly some great examples today. Several Commissioners at the Productivity Commission are current or former academics, including Catherine de Fontenay, ESA's President. The Treasury's competition review has an expert advisory panel, including academics. And many of our top universities and think-tanks have groups focused on fostering engagement on macroeconomic policy issues.[36]

One of the most profound issues of our time is how to reverse the productivity slowdown. This is by no means a uniquely Australian challenge – but the Second Golden Age demonstrated the power of harnessing academic ideas and policy to drive a long-term recovery in productivity. Important work is underway on this topic in the public sector, some of it in conjunction with academia: for example, researchers at the Productivity Commission, Treasury and RBA have analysed the causes of the productivity slowdown, its links to competition, innovation and dynamism, and the implications for the wider economy.[37] And the Commission currently has five separate inquiries underway into potential practical reforms,[38] which among other things will serve as inputs to the Government's Economic Reform roundtable in August.[39]

A lot of research in this space makes use of Australia's excellent microdata. The availability, quality and breadth of Australian de-identified datasets on business and individuals is comparable to anywhere in the world – due in no small part to the excellent work of the Australian Bureau of Statistics, as well as the Australian Tax Office and Department of Social Services.[40] Being at the forefront in this space offers scope for researchers to do globally relevant and frontier work, in an Australian context: the best of both worlds. For example, at the RBA we are currently using it to assess frontier questions around how monetary policy affects labour supply, and how pricing dynamics changed during the recent increase in inflation.[41]

How can we communicate the urgency of the challenge?

Third, what can we do as a community to communicate the urgency of the challenge, to show its importance and draw new talent into this vital work? Bringing academics, policy economists and policymakers together can help us reach a common understanding, of both the problems and the potential solutions. In that context, conferences like this one can be extremely powerful, as can the work of the ESA more generally. But it is crucial that both sides – policy and academia – buy in. And we need to focus, as a profession, on *how* we communicate our thinking. The Golden Ages were full of people like Giblin who specialised in translating big ideas into simple language. As Danielle Wood argued

at last year's APS Economist conference, it has never been more crucial for economists to speak directly and plainly.[42]

The role of the RBA

Many of those I spoke with in preparing this speech emphasised the leading role that the RBA could play, as one of the most prominent consumers and producers of Australian macro research; and as a training ground. The RBA has a rich history at the leading edge of central bank research – and we remain engaged across a wide range of issues today.[43] But as I've already noted navigating the complex and unpredictable world of tomorrow will pose big new challenges.

That's why, spurred on by the findings of the RBA Review, the Bank will be refreshing its research strategy, with a new set of priorities, identifying the big questions that need to be answered to support future policymaking. We'll use those priorities to hold ourselves to account – but we'll need external help too. Part of that will involve deeper collaboration on specific research topics, building on the centres of excellence here in Australia.[44] And part of it will involve finding new ways to come together collectively, building on our existing workshops and conferences, and our six-monthly academic advisory panel.[45] Here too there is more than an element of 'back to the future' – it was nearly 75 years ago when Coombs, as head of the Commonwealth Bank, the *de facto* central bank, first conceived of convening senior academics to critique the exercise of policy. As we face into a more complex world, we need that support and challenge more than ever.[46]

Conclusion

Let me conclude.

A 100th birthday is always a cause for celebration.

For Australian macroeconomics that is true with bells on.

Two Golden Ages, forged in response to fundamental shifts in the global paradigm – powered by world-class thinking, ruthlessly applied to a single end – improving the lot of the Australian people.

As the global paradigm shifts again, the challenge is to go for the hat trick.

The *good news* is the policy questions facing us, and the world, lie four-square in Australia's areas of comparative advantage.

But to exploit that advantage, we need to relearn the lessons of the past – drawing in our best talent, strengthening the incentives for policy-relevant research, and deepening the links between academics and policymakers.

As a trading economy reliant on world markets, we have no choice but to respond. But we can go one better: by marshalling our best brains we can turn this challenging environment to our advantage.

At the RBA, we stand ready to play our part in this great endeavour.

Thank you.

Endnotes

[*] I am particularly grateful to Jonathan Hambur for his assistance in writing this speech; he is truly a co-author. Thanks go also to Sam Munn and Emily Shaw for their research support; to Selwyn Cornish, Guy Debelle, Catherine de Fontenay, David Gruen, David Kalisch, Greg Kaplan, Andrew Leigh, Renee Fry-McKibbin, Warwick McKibbin, Alex Millmow, James Morley, Alex Rosen, Dennis Trewin, David Vines and Justin Wolfers for their helpful preliminary discussions; and to Anthony Brassil, Michele Bullock, Thomas Cusbert, Ian Harper, Sarah Hunter, Jarkko Jaaskela, Bradley Jones, Christopher Kent, Claude Lopez, Mick Plumb and Penny Smith for their comments and contributions on earlier drafts.

[1] There is some debate as to exactly when the ESA began, and hence when the centenary should be celebrated. The proposal that a new society be established was first made by Lyndhurst Giblin in 1924 – a year he said 'might perhaps be called A.E.1 – the first year of economists in Australia': Coleman W, S Cornish and A Hagger (2006), *Giblin's Platoon: The Trials and Triumph of the Economist in Australian Public Life*, ANU E Press, Canberra. A Provisional Committee was established later in 1924 – but the New South Wales and Victorian branches were formed in May 2025, and a permanent Central Council only came into being in August of that year. So 2025 has a decent claim to be the ESA's 'official birthday' at the very least! I learned these and many other facts from a draft of Alex Millmow's excellent forthcoming history of the ESA.

[2] Overseas readers may wish to consult Sitch R (director) (1997), *The Castle*, Motion Picture, Working Dog Productions, Australia. A vibe probably does not make a 'School' in the Chicago or Austrian sense, as Selwyn Cornish discusses in Cornish S (2008), 'Economics in Australasia', in SN Durlauf and LE Blume (eds), *The New Palgrave Dictionary of Economics*, Vo1 1, 2nd edition, Palgrave Macmillan, London, pp 308–313. There is also an excellent treatment of this question in Chapter 1 of Groenewegen P and B McFarlane (1990), *A History of Australian Economic Thought*, Routledge, London. While my speech focuses primarily on economists and academics active in the Australian economics community, there are of course also Australians working overseas at the frontier of global economic thinking.

[3] The historical parts of this speech build heavily on the writings of, and conversations with, Selwyn Cornish, Alex Millmow and David Vines.

[4] Overviews of this period include Keating M (2014), 'Chapter 20: The Evolution of Australian Macroeconomic Strategy Since World War 2', in S Ville and G Withers (eds), *The Cambridge Economic History of Australia*, Cambridge University Press, Port Melbourne, pp 438–461; Garnaut R (1994), 'Chapter 23: Trade Liberalization and the Washington Consensus in Australia, in J Williamson (ed), *The Political Economy of Policy Reform*, Institute of International Economics, Washington DC, pp 51–72; Millmow A (2010), *The Power of Economic Ideas*, ANU E Press, Canberra.

[5] The history of Australia's evolving attitude towards tariffs is fascinating. Lyndhurst Giblin was a co-author of the influential 1929 Brigden Report (or *The Australian Tariff: An Economic Enquiry* to give it its true title), which advocated the maintenance of high tariffs as a means of sustaining national income. Paul Samuelson wrote a masterly summary of the intellectual provenance of this view in Samuelson PA (1981), 'Summing Up the Australian Case for Protection', *Quarterly Journal of Economics,* 96(0), pp 147–160.

[6] For a concise summary of Giblin's life, see William Coleman's entry in King JE (ed) (2007), *A Biographical Dictionary of Australian and New Zealand Economists*, Edward Elgar, Cheltenham. For a more in-depth assessment, see Coleman, Cornish and Hagger, n 1. An evocative letter to the editor from Sidney Crawford in the Adelaide-based *Advertiser* marking Giblin's death described him as having 'the brain of an Einstein in the body of a prize fighter': Crawford S (1951), 'The Late Professor Giblin', *The Advertiser*, 7 March.

[7] See Giblin LF (1930), *Australia, 1930: An Inaugural Lecture*, Melbourne University Press, Melbourne. Giblin's conception of the multiplier was certainly somewhat narrower than the modern understanding (see, for example, Markwell DJ (2000), 'Keynes and Australia', RBA Research Discussion Paper No 2000-04) – but the family resemblance is unmistakeable.

[8] As is well known, the row over Lang's proposals was so fierce, it led to a split in the Australian Labor Party in 1931.

[9] Among other achievements in his long career, Melville was also inaugural Professor of Economics, University of Adelaide; the first economist appointed by the Commonwealth Bank; leader of Australia's delegation to the Bretton Woods Conference; Australia's Executive Director, IMF and the World Bank; Vice-Chancellor of the ANU; and Director of the Tariff Board.

[10] See Millmow, n 4, p 85. Interestingly, Giblin also tentatively supported a floating exchange rate – another idea that proved ahead of its time!

[11] See Markwell, n 7, pp 20–21.

[12] See Coleman, Cornish and Hagger, n 1; Markwell, n 7.

[13] Coombs was also Economic Advisor, Treasury; inaugural head, Department of Postwar Reconstruction; leader of Australian delegations to the Hot Springs Conference in 1943, the Geneva conference that created the GATT (1946) and the Havana conference (1947) on international trade; Chancellor ANU; and Economic Advisor to Prime Minister Whitlam.

[14] Unlike Giblin and the multiplier, the model is sometimes known as the 'Solow/Swan growth model'. Solow himself was gracious in recognising Swan's contribution: see Solow R (1997), 'Swan, Trevor W', in T Cate (ed), *An Encyclopedia of Keynesian Economics,* 2nd edition, Edward Elgar, Cheltenham and Northampton.

[15] For further discussion of Swan's life and contributions, see Dimand RW and BJ Spencer (2008), 'Trevor Swan and the Neoclassical Growth Model', NBER Working Paper No 13950; Cornish S (2024), 'Trevor Winchester Swan: Life and Contributions to Economic Theory and Policy', *Economic Record*, 100(330), pp 281–437.

[16] For a good overall summary of this period, see Berger-Thomson L, J Breusch and L Lilley (2018), 'Australia's Experience with Economic Reform', Treasury Working Paper. For discussions of Australia's financial, capital and exchange rate deregulation, see Grenville S (1991), 'The Evolution of Financial Deregulation', in *The Deregulation of Financial Intermediaries*, Proceedings of the RBA Annual Conference, 20–21 June; Debelle G and M Plumb (2006), 'The Evolution of Exchange Rate Policy and Capital Controls in Australia', *Asian Economic Papers*, 5(2), pp 7–29; Ballantyne A, J Hambur, I Roberts and M Wright (2014), 'Financial Reform in Australia and China', RBA Research Discussion Paper No 2014-10.

[17] See, for instance, Kelly P (2000), 'The Politics of Economic Change in Australia in the 1980s and 1990s', in D Gruen and S Shrestha (eds), *The Australian Economy in the 1990s*, Proceedings of the RBA Annual Conference, 24–25 July; Garnaut, n 4.

[18] For a short summary of Corden's work and impact, see Irwin D (2023), 'Trade Theory and Trade Policy: The Work of Max Corden, 1927–2023', *VoxEU*, 28 October. Corden's later work on 'Dutch Disease', with Bob Gregory and Peter Neary, would also prove vital for understanding the impact of the Noughties mining boom on the structure of the Australian economy. See, for instance, Corden WM and JP Neary (1982), 'Booming Sector and De-industrialisation in a Small Open Economy', *The Economic Journal*, 92(368), pp 825–848; Gregory RG (1976), 'Some Implications of the Growth in the Mineral Sector', *Australian Journal of Agricultural Economics*, 1(Jul), pp 1–28. More recent work includes: Fry-McKibbin R, M Greenwood-Nimmo, R Kima and V Volkov (2025), 'A Three-sector Structural VAR model for the Australian Economy', *Journal of Economic Dynamics and Control*, 170; Kulish M, J Morley, N Yamout and F Zanetti (2023), 'Dutch Disease, Unemployment and Structural Change', CAMA Working Paper No 38/2023; P Downe, K Hanslow and P Tulip (2014), 'The Effect of the Mining Boom on the Australian Economy', RBA Research Discussion Paper No 2014-08.

[19] See Vines D (2021), 'A Productivity Commission: A Proposal for an Australian-style Approach to Creating a Policy-Reform Process for the UK', INET Oxford Working Paper No 2021-13. During his long career, Crawford was also Director of Research at the Department of Postwar Reconstruction; Inaugural head of the Bureau of Agricultural Economics; head of the Department of Commerce and Industry; head of the Department of Trade; and first Vice-Chancellor and then Chancellor, ANU.

[20] Corden and Gruen had collaborated on a 1970 paper that set the scene for this change: Gruen FH and WM Corden (1970), 'A Tariff That Worsens the Terms of Trade', in IA McDougall and RH Snape (eds), *Studies in International Economics: Monash Conference Papers*, North-Holland, Amsterdam, pp 55–58. Interestingly, at the time, Whitlam

motivated the 1973 cuts as being more about bearing down on inflation than on improving the functioning of the economy.

[21] Productivity Commission (2003), 'From Industry Assistance to Productivity: 30 Years of "The Commission"', Productivity Commission Paper.

[22] See, for instance, Higgins CI and VW FitzGerald (1972), 'An Econometric Model of the Australian Economy', *Journal of Econometrics*, 1(3), pp 299–265; Norton WE and JF Henderson (1972), 'A Model of the Australian Economy: A Further Report', RBA Occasional Paper No 3G; Jonson PD, ER Moses and CR Wymer (1977), 'The RBA76 Model of the Australian Economy', in WE Norton (ed), *Conference in Applied Economic Research*, Proceedings of the RBA Annual Conference, Sydney, 5–6 December; Murphy CW (1988), 'An Overview of the Murphy Model', in ME Burns and CW Murphy (eds), *Macroeconomic Modelling in Australia, Australian Economic Papers*, 27(Supp), pp 175–199; Taplin B, P Hilek, L Antioch, A Johnson, P Parameswaran and C Louis (1993), 'Documenting of the Treasury Macroeconomic (TRYM) Model of the Australian Economy', in S Ichimura and Y Matsumoto (eds), *Econometric Models of the Asian Pacific Countries*, Springer, Tokyo.

[23] Dixon PB (1982), *ORANI, A Multisectoral Model of the Australian Economy*, North-Holland, New York.

[24] See, for instance, McKibbin WJ, M Noland and G Shuetrim (2025), 'The Global Economic Effects of Trump's 2025 Tariffs', PIIE Working Paper No 25-13.

[25] I am grateful to Australian Statisticians David Gruen, David Kalisch and Dennis Trewin for discussion on this topic. I have not done justice to their rich thoughts in this short summary – but the ABS' own publication is an excellent read: Australian Bureau of Statistics (25005), 'Informing a Nation: The Evolution of the Australian Bureau of Statistics 1905–2005', ABS Catalogue No 1382.0.

[26] Like Giblin, Coghlan lived a very full life. Before becoming the Government Statistician he was assistant engineer to the Harbours and Rivers Branch of the NSW Public Works Department, in which role he helped design Sydney's water system! He had a side hustle as a journalist, writing under various aliases, and railing among other things against the destruction of Sydney's native flora. In later life he was the Agent-General for New South Wales in London. For more, see Hicks N (1981), 'Coghlan, Sir Timothy Augustine (1855–1926)', in B Nairn and G Serle (eds), *Australian Dictionary of Biography*, Vol 8, Melbourne University Press, Melbourne, pp 48–51.

[27] See Australian Bureau of Statistics (2020), 'Improving Agricultural Crop Statistics Using Satellite Data', 26 June; Australian Bureau of Statistics, 'Data Integration', available at <https://www.abs.gov.au/about/data-services/data-integration>.

[28] Wilson was Australia's longest-service Treasury Secretary and later became Chair of Qantas and the Commonwealth Bank: Sir Roland Wilson Foundation, 'Sir Roland Wilson', available at <https://srwfoundation.anu.edu.au/about/sir-roland-wilson>. Wickens helped establish the forerunner to the ANU, among other achievements: Hawkins J (2019), 'Charles Wickens: The Australian Government's First Economist', *History of Economics Review*, 73(1), pp 85–96.

[29] Swan TW (1956), 'Economic Growth and Capital Accumulation', *Economic Record*, 32(2), pp 334–361; Corden M (1957), 'The Calculation of the Cost of Protection', *Economic Record*, 33(64), pp 29–51; Salter WEG (1959), 'Internal and External Balance: The Role of Price and Expenditure Effects', *Economic Record*, 35(71), pp 159–297; Swan TW (1980), 'The Principle of Effective Demand: A Real Life Model', *Economic Record,* 65(4), pp 378–398.

[30] Jacqui Dwyer and colleagues at the RBA have described at some length the challenges of declining enrolments and poor diversity in economics in Australia: see, for example, Dwyer J (2024), 'The State of Economics', Address to The Economic Society of Australia, Sydney, 28 May.

[31] Factors cited here include the intense pressure to publish in Top Five or A* economics journals, a list which no longer contains any Australian publications (Australian Business Deans Council (2023), '2022 ABDC Journal Quality List Released', Media Release, 16 March), and increased academic specialisation in narrow areas of theoretical research. Neither point is unique to Australia of course – indeed, recent research has challenged whether the increasing global concentration in top tier journals and institutions is good for economics in general: see, for instance, Freeman RB, D Xie, H Zhang and H Zhou (2024), 'High and Rising Institutional Concentration of Award-Winning Economists', 25 June, summarised in Rodrik D (2024), 'Is Economics in Need of Trustbusting?', *Financial Times*, 30 August.

[32] Factors cited here include the perceived reluctance by some universities to release academics to support policy work, and a reduced focus on research in public policy institutions – a point echoed, for example, in the RBA Review: see recommendations 9 and 11.4 in Australian Government (2023), 'Review of the Reserve Bank of Australia – Final Report'.

[33] See, for instance, the work of The Superpower Institute. Fascinatingly, Colin Clark predicted many of these issues 85 years ago, writing about the risks from burning fossil fuels faster than the environment can bear, and the opportunities from solar power: see Garnaut R (2012), 'Removing Climate Change as a Barrier to Economic Progress: Twenty-second Colin Clark Memorial Lecture', *Economic Analysis and Policy*, 43(1), pp 31–47 for a discussion of Clark's thinking.

[34] See, for instance, Dungey M and A Pagan (2000), 'A Structural VAR Model of the Australian Economy', *Economic Record*, 76(235), pp 321–342. Examples of RBA work include Jaaskela JP and P Smith (2013), 'Terms of Trade Shocks: What Are They and What Do They Do?', *Economic Record*, 89(35), pp 145–159; Kulish M and DM Rees (2017), 'Unprecedented Changes in the Terms of Trade', *Journal of International Economics*, 108, pp 351–367; Hendy P and B Beckers (2024), 'How Do Global Shocks Affect Australia?', RBA Research Discussion Paper No 2024-10.

[35] For example, many of the core models used by policy institutions are small open economy models with a resource sector, such as the RBA's macro-econometric MARTIN model (Ballantyne A, T Custbert, R Evans, R Guttmann, J Hambur, A Hamilton, E Kendall, R McCririck, G Nodari and D Rees (2019), 'Martin Has Its Place: A Macroeconometric Model of the Australian Economy', *Economic Record*, 96(314), pp 225–251) and DSGE DINGO model (C Gibbs, J Hambur and G Nodari (2018), 'DSGE Reno: Adding a Housing Block to a Small Open Economy Model', RBA Research Discussion Paper No 2018-04; Rees D, P Smith and J Hall 2016, 'A Multisector Model of the Australian Economy', *Economic Record*, 92(298), pp 374–408); Treasury's EMMA model (Bullen J, B Conigrave, A Elderfield, C Karmel, L Lucas, C Murphy, H

Ruberl, N Stoney and H Yao (2021), 'The Treasury Macroeconometric Model of Australia: Modelling Approach', Treasury Working Paper No 2021-09).

[36] For example, UNSW's Institute of Global Finance; ANU's Centre for Applied Macroeconomic Analysis; and the University of Melbourne's Melbourne Institute. Think-tanks including e61 and the Grattan and Lowy institutes regularly produce policy-relevant research.

[37] See, for example, Andrews D and D Hansell (2021), 'Productivity-enhancing Labour Reallocation in Australia', *Economic Record*, 97(3187), pp 157–169; Andrews D, J Hambur, D Hansell and A Wheeler (2022), 'Reaching for the Stars: Australian Firms and the Global Productivity Frontier', Treasury Working Paper No 2022-01; Hambur J (2023), 'Product Market Competition and its Implications for the Australian Economy', *Economic Record*, 99(324), pp 32–57; Champion M, C Edmond and J Hambur (2023), 'Competition Markups and Inflation: Evidence from Australian Firm-level Data PDF', Paper presented at the RBA Annual Conference, Sydney, 25–26 September; Hambur J (2023), 'Did Labour Market Concentration Lower Wages Growth Pre-COVID?', RBA Research Discussion Paper No 2023-02.

[38] Productivity Commission (2025), 'PC Opens Consultation on Reform Areas for Productivity Inquiries', Media Release, 18 May.

[39] Treasury (2025), 'Economic Reform Roundtable', available at <https://treasury.gov.au/review/economic-reform-roundtable>.

[40] Further detail on the ABS' development agenda 'Big Data, Timely Insights' is available at <https://www.abs.gov.au/about/key-priorities/big-data-timely-insights-phase-2/about-program>.

[41] Other recent frontier work looks at how COVID-era support policies affected the economy, and the lessons for designing policy in response to future shocks, which may be extremely valuable in a more uncertain and volatile world. For example, the effects of Australia's JobKeeper program (Bradshaw N, N Deutscher and L Vass (2023), 'The Employment Effects of JobKeeper Receipt', Treasury Working Paper No 2023-04; Bishop J and I Day (2020), 'How Many Jobs did JobKeeper Keep?', RBA Research Discussion Paper No 2020-07; Andrews D, E Bahar and J Hambur (2025), 'The Effects of COVID-19 and JobKeeper on Productivity-enhancing Reallocation in Australia', *Economic Record*, 101(333), pp 142–168), and the early superannuation release program (Sainsbury T, R Breunig and T Watson (2022), 'COVID-19 Private Pension Withdrawals and Unemployment Tenures', IZA Discussion Paper No 15399; Hamilton S, G Liu, J Miranda-Pinto and T Sainsbury (2023), 'Early Pension Withdrawal as Stimulus', IIEP Working Paper No 2023-02).

[42] Wood D (2024), 'Here to Help: The Role of Economics in Contemporary Policy Challenges', Paper presented at the Australian Public Service Economist Conference, Melbourne, 25 November.

[43] Past highlights include Debelle G and S Fischer (1994), 'How Independent Should a Central Bank Be?' in JC Fuhrer (ed), *Goals, Guidelines, and Constraints Facing Monetary Policymakers*, Federal Reserve Bank of Boston Conference Series No 38, North Falmouth, Massachusetts, pp 195–221; Borio C and P Lowe (2002), 'Asset Prices, Financial and Monetary Stability; Exploring the Nexus', BIS Working Paper No 114; Blanchard O and J Simon, 'The Long and Large Decline in I.S. Output Volatility', *Brooking Paper on Economic Activity*, 1(2001), pp 135–164. Current work assessing and critiquing

overseas findings in the Australian context: Brassil A (2022), 'The Consequences of Low interest Rates for the Australian Banking Sector', RBA Research Discussion Paper No 2022-08; M Read (2024), 'Sign Restrictions and Supply-demand Decomposition of Inflation', RBA Research Discussion Paper No 2024-05.

[44] For example, Bruce Preston has written extensively on inflation expectation and fiscal monetary interactions, which is relevant to challenges around optimal policy mixes and policy trade-offs with supply shocks (e.g. Eusepi S and B Preston (2018), 'Fiscal Foundations of inflation: Imperfect Knowledge', *American Economic Review*, 108(9), pp 2551–2589). James Morley has written on neutral rates and output gaps, which is important in the context of the productivity slowdown (e.g. Kamber G, J Morley and B Wong (2018), 'Intuitive and Reliable Estimates of the Output Gap from a Beveridge-Nelson Filter', *Review of Economic Statistics*, 100, pp 550–566) and Greg Kaplan has shown how household heterogeneity can influence the impact of monetary policy, which is important in thinking broadly about the best policy mix in response to various shocks (e.g. Kaplan G, B Moll and GL Violante, 'Monetary Policy According to HANK', *American Economic Review*, 108(3), pp 697–743). Recent examples of external research with RBA staff and/or RBA models include Brassil A, C Gibbs and C Ryan (2025), 'Boundedly Rational Expectations and the Optimality of Flexible Average Inflation Targeting', RBA Research Discussion Paper No 2025-02; Gross I and A Leigh (2022), 'Assessing Australian Monetary Policy in the Twenty-first Century', *Economic Record*, 98(322), pp 271–295; Liu X, AR Pagan and T Robinson (2018), 'Critically Assessing Estimated DSGE Models: A Case Study of a Multi-sector Model', *Economic Record*, 94(307), pp 349–371.

[45] For further details, see RBA, 'RBA Annual Conferences', 'Annual Research Workshops' and 'Academic Panel'.

[46] Coombs' meetings are discussed in in Brown N (2001), *Richard Downing: Economics, Advocacy and Social Reform in Australia*, Melbourne University Press, Melbourne.