

The World's Productivity Performance: How do Countries Compare?

Bart van Ark
University of Groningen and The Conference Board

Abstract

This paper deals with world-wide economic developments from the perspective of productivity, competitiveness and employment creation. The reasons for the acceleration of productivity growth in the U.S. and several other advanced countries, as well as the substantial slowdown in most European countries, provide a particular focus. The paper also looks at changes in competitive forces between the U.S., Western Europe, the Pacific, Central and Eastern Europe, China and other Asian countries.

Following a macroeconomic comparison of productivity and employment performance for over 100 countries in the world economy, the paper focuses on the sources of difference in labour productivity growth, with particular attention on the contribution of ICT. The second part of the paper examines sectoral and industry level performance, and highlights the contribution of services productivity growth to major advanced and emerging economies. Next the paper addresses the issue of competitiveness with unit labour cost comparisons for manufacturing sectors in China, India, Mexico, Central and East European countries and major advanced economies. Finally, the author discusses the implications of this productivity analysis for the economic reform agendas in various countries.

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How strong is Australia's Productivity Performance?

Dean Parham and Marn-Heong Wong
Productivity Commission, Canberra

Abstract

Australia's productivity growth has slowed markedly since record highs were achieved in the 1990s. This paper examines the change in underlying productivity trends since the mid-1990s, as well as the decline in productivity over 2004-05. The evidence of a productivity slowdown contrasts with trends in underlying factors, which have tended to show on-going strength. The contrast can be reconciled by taking into account some one-off short-term factors and to some degree by taking an industry view. The productivity performance of Electricity, gas & water and of Communication services have been significant contributors to the decline. The productivity drop in the last year is associated with the odd combination of slower growth in output and faster growth in labour. There is an industry dimension to this as well. Overall, there is evidence that Australia's 'true' underlying productivity growth is stronger than a first glance at the numbers indicates.

The Relationship between GDP and Employment

Mark Zhang, Stuart Gourley, Franklin Soriano, Carl Obst
Australian Bureau of Statistics

Abstract

During 2005 the existence of a strong labour market and relatively weak economic growth generated significant interest and debate among economic commentators and policy makers. While there is a general understanding of a lagged relationship between economic growth, as measured by GDP volumes, and labour market growth, as measured by employment growth, the nature of the relationship between these variables during 2005 seemed unusual. As part of efforts to ensure the quality of the statistical information, the ABS undertook some modelling work aimed at better understanding the relationship between GDP and employment. Preliminary results from this work were presented in an article released in September 2005. That article also presented a description of the relationship in broad terms and suggested that the recent strength in the terms of trade and historically low real unit labour costs may have been two factors which lead the relationship between GDP and employment growth seen in 2005 to be different from past experience.

Measuring the Contributions of Productivity and the Terms of Trade to Australian Welfare

Denis Lawrence & Erwin Diewert
Meyrick & Associates

Abstract

The recent resurgence in commodity prices has focussed attention on the potential impact of the terms of trade on Australia's welfare. The Productivity Commission engaged Meyrick and Associates to calculate the relative impact of productivity and terms of trade changes over recent decades. We adapt the index number methodology of Diewert and Morrison (1986) and undertake the analysis in both the gross product and net product frameworks. While the gross product framework has traditionally been used, it overstates the level of real income as it treats investment to cover depreciation as part of real output when only net investment increases sustainable final consumption possibilities.

The main conclusion is that, taken over long time periods of several decades, changes in the terms of trade have relatively little impact on Australian welfare. However, improvements in the terms of trade over the decade up to 2003–04 led to an increase in real income of 7.5 per cent. The total increase in real income over the same period was 47 per cent with higher productivity growth accounting for almost half this increase. The other major conclusion is that moving to a net domestic product framework from a gross domestic market sector framework leads to a reduction in the role of capital deepening as an explanatory factor for improving living standards and increases in the roles of technical progress (or TFP growth) and labour growth.

Productivity Perspectives 2006

**Sources of Productivity Growth at Aggregate
and Disaggregate Levels**

Kevin Fox
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Abstract

Of the many possible sources of productivity growth, there has been an increasing focus on the relationship between high-tech capital investment and productivity performance. Some recent results for different sectors of the Australian economy are reviewed. This is complemented with observations on aggregation from sector-level productivity to aggregate productivity. The emphasis is on the insights these observations provide for the interpretation of aggregate productivity performance and its sources.

How far can Australia catch up?

Graeme Davis
Australian Treasury

Abstract

Productivity is the key driver of economic growth and prosperity over the long run. It is possible to think of productivity growth as consisting of two elements: Australia's productivity catching up to its steady state position relative to the global technological frontier; and an outward movement of the frontier.

The United States is often seen as a reasonable proxy for the global technological frontier. Over the past half century, Australia's productivity has been mostly between 75 and 85 per cent of that of the US. This productivity gap can at least in part be explained by a combination of differences in: physical capital per worker; educational attainment; microeconomic policies; and the geographic and historical context in which the two economies operate.

Economic reforms of the recent decades have helped Australia narrow the productivity gap, which has manifested itself as an increase in Australia's productivity growth rate. Further reforms are likely to improve Australia's steady state productivity position relative to the frontier. However, in the long run, Australia's productivity growth will be primarily determined by technological progress in the frontier.

Productivity Perspectives 2006

Forecasting productivity growth: 2004 to 2024

John Revesz

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Abstract

Information and communications technology (ICT) will remain the main technological driver of productivity growth in the next twenty years according to this forecasting report.

The report predicts that the strong technological momentum in ICT and its many applications will be maintained in the coming years. Other dynamic technological fields such as biotechnology, nanotechnology and material science will also make a significant contribution to productivity growth but much less so than ICT.

The report indicates that there is 80 per cent chance that GDP per capita will grow at an annual rate of between 1.26 and 1.83 per cent over the forecast period. To achieve the predicted productivity gains it will be necessary to support an appropriate level of investment in ICT skill formation and in ICT related R&D.

Labour productivity growth will be particularly strong in sectors that are heavy users of ICT technologies or are in the process of being transformed into that status. These sectors include telecommunications, manufacturing, finance and trade. By contrast productivity growth in sectors that are less heavily exposed to ICT technologies, such as accommodation and restaurants as well as personal, cultural and recreational services is expected to be relatively low.

The main advances in ICT technologies in the next 20 years will be in ubiquitous computing and communications pervading into all facets of economic life. In particular, greater use will be made of computerised controllers in manufacturing, mining, construction, agricultural and transport equipment in order to increase machine 'intelligence' and multi-functionality and reduce labour requirements.

The continuing rapid advances in ICT and its many applications will help to improve living standards, despite emerging economic problems related to population ageing, environmental pollution and non-renewable energy sources.