

Productivity Matters

The economic reforms that have occurred over the last decade have considerably changed many aspects of the Australian economy. Large government-owned utilities have been corporatised and privatised, regulated sections of the economy have been freed up, and competition has been introduced in sectors such as electricity and railways, albeit in an as-yet incomplete manner.

These changes are not ends in themselves, but are the obvious indicators of efforts to improve productivity in the economy, with the ultimate objective being increased national wealth. For the export-dependant rural sector, these productivity gains are critical to improved international competitiveness, yet poorly understood and rarely recognised.

At the farm level, the questions seem relatively straightforward. Running a property comprising both less fertile hilly grazing country and flatter areas with better soils suitable for cropping, a farm manager instinctively understands that farm income will be maximised if enterprises are organised to best use the available land resource. While the need for crop rotations will be a factor, in the longer term the farm will be better off financially if the hilly areas are used predominantly for grazing, and the flatter areas are used for cropping.

The same rule applies more broadly in the national economy, however, the processes involved in making these decisions are much more difficult to recognise. No one suddenly decrees that less of the nation's resources should be directed at making horseshoes, or kerosene lamps. Markets largely dictate these decisions, and made by the managers of both big and small enterprises that control the scarce resources available in the economy. The decisions are influenced by a wide variety of factors, ranging from government policies right through to the particular idiosyncracies and preferences of individuals. The extent to which these individual decisions add up on an economy-wide basis to the most efficient utilisation of a nation's resources is ultimately reflected in the national GDP.

How well scarce national resources such as land, labour and capital are allocated to activities that maximise wealth generation, is one component of national productivity, which is often referred to as allocative efficiency.

However, as any farmer knows, selecting the right paddock in which to plant a crop or graze livestock is only half the battle. Unless the production systems used are efficient, and maximize the yield of the crop or output of livestock products, the farm will not be profitable. For example, if the farmer over applies fertiliser, or mis-times treatment of parasites affecting livestock, farm profitability will suffer, irrespective of whether resources are generally directed to the enterprise that has the highest potential return.

This is the second major component of productivity, often referred to as productive efficiency. It applies at the individual farm level, but also more broadly in all enterprises in the economy.

At the national level, factors contributing to the extent to which enterprises strive for productive efficiency include government policies in areas such as taxation, research and development, and industrial relations, as well as non-government factors such as the degree of competition in particular markets, information flows, access to new technology, and the attitudes of enterprise owners.

Profitability at the enterprise level, and economic wellbeing or per capita GDP at the national level, are both dependent on resources in the economy being efficiently allocated to their most profitable use, and then utilised in efficient production systems. In combination, these contribute to national productivity, which is broadly described as the units of output per unit of input. In effect, they create the nation's wealth 'pie' that is available for distribution within the community.

Most of the economic reforms that national and state Governments have embarked on in the past decade have been targeted at improving national productivity. The reforms under National Competition Policy and various other inter-governmental agreements have aimed to do this in two ways. The first has been by getting governments out of those areas (such as telecommunications, banking and finance, electricity and some aspects of rail transport) where it is judged that private enterprise will do a better job of both allocating resources and utilising them efficiently.

The second is by removing government regulations that might distort resource allocation decisions, or distort the efficiency with which those resources are used. For example, regulations that force farmers to move grain by rail distort decisions about the most cost-efficient way to transport grain, and reduce overall productivity in the grain industry.

Has National Productivity Improved?

This, of course, represents only the theory of deregulation and economic reform. There are obviously two further steps that need to happen, if these reforms are to create a benefit for the community.

The first is that these reforms need to translate into actual gains in national productivity, so the nation as a whole does generate more output per unit of input. The second, which flows from this, is that these gains then need to be distributed through the economy. For example, if governments privatise the electricity industry and as a result an inefficient Government monopoly became an inefficient private monopoly, there will not be an improvement in the allocation of the nations resources, and there will not be any distribution of benefits to the wider community. Such a reform would not improve national productivity.

A difficulty arises in attempting to measure productivity, in that of its two components – allocative efficiency and productivity efficiency – only the second component is easily measurable. Improvements in productivity efficiency are usually expressed as changes in labour productivity (the output of workers per unit of time), or capital productivity (“capital deepening” or the increase in the ratio of capital to labour, which means more equipment and infrastructure is available to workers), or “multifactor productivity”, which generally refers to any increases in the productive capacity of the economy arising from two or more factors, including changes in labour and capital inputs. This includes things such as the reorganisation of tasks in a factory that enables more output without changing labour or capital, but at a national level also includes productivity gains arising from improved allocative efficiency.

The fact that allocative efficiency cannot usually be measured separately, and does not necessarily always show up as measured productivity increases probably contributes greatly to the fact that it is poorly understood, and rarely recognised as being significant.

Economists and statisticians have generally agreed how overall national productivity should be defined and measured, and have collected statistics and produced productivity estimates for the last forty years. Figure 1 shows changes in multifactor productivity measures over the past four decades, as estimated by the Australian Bureau of Statistics.¹

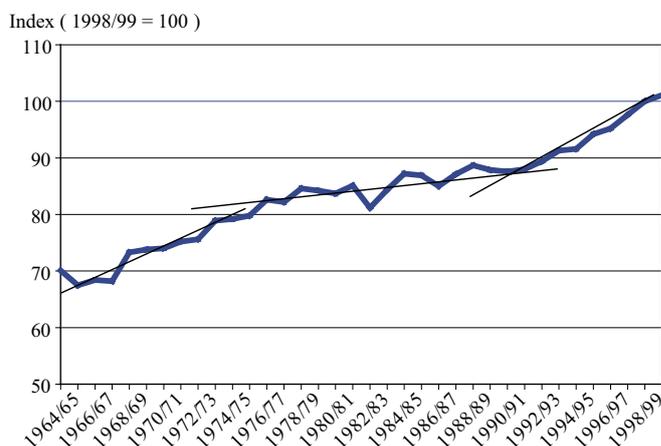


Figure 1: Australian market sector multifactor productivity.

A number of phases are evident from the above statistics, and various commentators and economists have identified these. For example, Parham identifies three phases.² The first was prior to 1973/74, which he terms the ‘golden age’ during which concerted development policies and population growth resulted in growth in productivity and output. The period between 1973 and 1990 was a period where declining terms of trade and immigration coupled with unemployment and inflation resulted in slow productivity growth and slower growth in national GDP. The third period since 1990 has seen accelerated productivity growth, with, for example, labour productivity growing at an average annual rate of 3.1% over the period from 1993/4 to 1999/00, significantly higher than the long-term average of 2.4%

The period of accelerated productivity growth during the 1990s has been significant, not just because it has exceeded historical national productivity growth rates, but also because it has exceeded the rates of productivity growth being experienced by most if not all developed economies throughout the world. This is in distinct contrast to earlier periods, when Australia’s productivity growth lagged average OECD productivity growth.

In a recent publication the US Federal Reserve noted that for most aspects of productivity, Australian productivity growth measures exceeded the rates observed in all but a few of the developed world economies over the latter half of the 1990s.³ For example, “Only two foreign industrial economies in our sample, Australia and Switzerland, show a rise in labour productivity growth over 1996-98 compared with earlier periods. For Australia, the acceleration in labour productivity was particularly strong: an increase of 2 percentage points in 1996-98 over its average in the 1980s.” The review also noted that capital deepening slowed in most economies in 1996-98 compared with 1981-95, but “A notable exception to the slowing of capital deepening abroad was Australia.” A further comment was that multifactor productivity growth had slowed in a number of countries, but “Both Australia and Sweden experienced an acceleration in multifactor productivity, with the Australian pickup particularly sharp.”

² Parham (2000) A more Productive Australian Economy. Agenda 7(1).

³ US Federal Reserve (2000) Productivity developments abroad. Oct. 2000 Federal Reserve Bulletin.

¹ ABS (2000). Australian system of national accounts. 5204.0

The conclusion from the statistics and international comparisons is that productivity growth has increased significantly in Australia over the past decade. Whether or not this would have happened anyway in spite of economic reforms and whether this means that Australian productivity growth will continue to accelerate in the future are the questions that economists are now grappling with. An appropriate analogy is repairing a car. Clearing a blocked fuel line allows the car to reach its maximum potential speed, but doesn't alter the horsepower of the engine. What it is hoped has happened to the Australian economy is that the economic reforms have cleared the blocked fuel lines, and added more horsepower to the engine, so that faster rates of economic growth will be possible in the future.

This question has been considered by Parham, who has compiled the statistics displayed in Figure 2.⁴

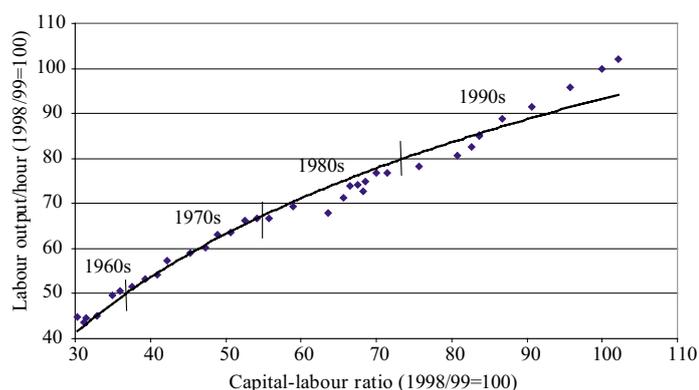


Figure 2: Labour productivity and the capital-labour ratio from 1964/65 to 1999/00.

On the basis of these, he argues that output per unit of labour has increased substantially during the 1990s, even when increases in the capital/labour ratio are factored in, and that this means Australia is producing more output for given labour and capital inputs. The trend line shown in Figure 2 is considered an estimate of what was the normal pattern pre-1990/91, and the deviation upwards since that time is an indication of the productivity improvements (or greater 'horsepower') in the Australian economy, presumably as a result of economic reforms during the period. Parham concedes that projections such as these at the end of a data range have reduced precision, so it is perhaps too early to answer the question definitively, but the indications are positive.

Others are less cautious in their conclusions about the impact of economic reforms. Forsyth states that "The broad picture is that microeconomic reform seems to be delivering what was expected of it. ... Both the magnitude and timing (of productivity growth) are consistent with the view that microeconomic reform has been a primary contributor to the productivity boom."⁵

The initial conclusion at the present point in history appears to be that economic reforms have delivered increased Australian productivity growth, which in turn means increased Australian productivity growth.

Who has Benefited from Productivity Growth?

Arising from this, a major challenge for Governments has always been to ensure that the benefits of productivity growth and the subsequent greater wealth that it generates are distributed in a reasonable fashion throughout the economy. Of concern to many has been that in deregulated economies, capital may be better able to capture increased wealth at the expense of labour, and that lower-skilled labour will be disadvantaged.

The Productivity Commission has just released a discussion paper that canvasses these issues.⁶ It examines, firstly, the labour income share, a statistic generated by comparing national wage and salary payments for labour as a proportion of total national income. The conclusion reached was that national labour income share has remained relatively static at around 55% of national income since about 1983, and that this statistic has remained remarkably constant right throughout the 1990s. The discussion paper concludes, "This means that labour and capital shared proportionately in the strong income growth of the 1990s. It implies there was no bias against labour at the aggregate level." The paper also explains that this result comes about partly because growth in employment has meant more labour is employed, but also because there has been real growth in average wage rates. Interestingly, the analysis also found that industries with high productivity growth have not tended to raise wages by more than other industries, which perhaps is an indication that relatively unskilled sectors of the labour force have not necessarily been disadvantaged as a result of the productivity growth that has occurred. Whether or not this is a good result probably depends on which side of the labour/capital fence an individual sits on.

The trends observed in labour income share were not stable across all sectors. Electricity, gas, water and communications became noticeably more capital-intensive in the 1990s. This result is not surprising, as electricity, gas and water were previously government-owned and heavily regulated sectors of the economy, that many consider were over-manned and had poor labour productivity levels prior to deregulation and privatisation. Shedding excess labour would result in an increase in the capital/labour ratio for these industries. A similar situation has probably applied to the communication sector, with the trend to greater dependence on capital amplified by large capital investments in that sector.

A second issue examined was trends in prices charged for goods and services. There is little benefit for the broader community if all productivity gains are captured as either higher profits or higher wages, and no benefits flow through to consumers or downstream industry.

The conclusion reached in the analysis is that "Productivity gains at the industry level were mostly passed on in the form of lower prices in the 1990s". In fact, the analysis found that the trend toward passing productivity gains on through lower prices has been stronger in the 1990s than it has been in past decades.

⁴ Parham (2000) op. cit.

⁵ Forsyth (2000) Microeconomic policies and structural change. Reserve Bank of Australia seminar proceedings, July 2000.

⁶ Parham et. al (2000). Distribution of the economic gains of the 1990's. Productivity Commission staff research paper.

This outcome is logical, given that competition has been introduced to many sectors of the economy which were monopoly-controlled markets. Competition in telecommunications, for example, has lowered many telephone charges, effectively transferring productivity benefits to the consumers of these services.

The distribution of productivity gains between urban and regional communities is an issue of interest. Many argue that the deregulation of the dairy industry will effectively transfer income benefits from dairy farmers to the major dairy processors and supermarkets, with consumers receiving no real advantage. While the impacts of dairy deregulation are too recent to have any impact on available statistics, there has been a mixed picture in relation to the distribution of income gains between urban and non-urban communities. At the aggregate level, no overall trend is evident, but statistics suggest that regional NSW and Victoria have experienced relative declines in income, and slower declines in unemployment than urban areas. Regional areas in growth or mining States such as Queensland and Western Australia have not experienced the same decline. Whether these trends would have emerged irrespective of economic reforms is a moot point.

A further issue is whether or not the deregulation of the Australian economy, and the opening up of domestic markets to international competition has resulted in a net transfer of income overseas. The conclusion reached in the recent report is that there is no evidence that foreigners received a greater share of the 1990s income gains than has been the case in the past.

The productivity benefits Australia is now experiencing are not a 'free lunch'. There are costs associated with these reforms, although many of them are difficult to quantify. Forsyth points out that there has been a transfer of risk and search costs from producers to consumers.⁷ For example, in the past electricity supply utilities invested in excess capacity to avoid the risk of a blackout, however electricity consumers now bear increased risk of supply interruptions. Search costs now arise for consumers in areas ranging from telephone services to travel, requiring them to invest time and money in finding suitably structured and priced services, although the net result still appears to benefit consumers.

Structural adjustment also brings its costs. Labour and capital are not infinitely mobile, and do not quickly switch from one sector of the economy to another. The social adjustment cost can be significant for governments and taxpayers, as dairy deregulation has shown.

Governments also face a requirement for enhanced but different regulatory structures as a result of economic reforms.

Bodies such as the ACCC obviously have a more significant role to play, as do the various tribunals that are required to oversee prices in monopoly markets such as electricity transmission and railway line operations.

Productivity does Matter

The overriding conclusion however, is that the end result of Australia's decade of economic reforms has been an enhancement of national productivity, leading to the generation of greater wealth in the national economy. The benefits of this have, in turn, been distributed widely throughout the community.

Economic reforms have undoubtedly not been the sole reason for Australia's productivity growth, and developments over the next five years will probably clarify how much of our recent economic performance can be attributed to reforms. Whether Australia has added a 'turbocharger' to its economic engine that will allow productivity and national wealth to grow at a faster rate in the future, or whether recent economic performance is a one-off response to reforms is also still unclear. Evidence to date suggests a degree of turbocharging has occurred. This sets the economy up well for future productivity growth, and indicates that those as yet incomplete economic reforms should be proceeded with. The rest of the world is not standing still, productivity-wise.

COMMENTS CONTAINED IN THIS DOCUMENT ARE BASED ON INFORMATION AVAILABLE AT TIME OF PUBLICATION.

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⁷ Forsyth (2000) op. cit.