

Summaries of the Papers

The Determinants of Long-Run Growth

Steve Dowrick

During the post-war period, economic growth rates have differed substantially between regions. In OECD economies, the rapid growth of the 1950s and 1960s has been followed by a pronounced slowdown. In contrast, East-Asian economies have sustained remarkably high growth rates, while the performance of Latin America and Africa has been unimpressive. These disparities in growth performance have engendered a renewed interest in the determinants of long-run growth.

A simple model is developed to explain phases of growth common to all developing countries. Upon reaching a productivity threshold, growth takes off, accelerates and subsequently slows down as the economy matures and opportunities for growth provided by technological catch-up are exhausted. Estimation results suggest that over half of the disparate growth performance between regions in the post-war period is explicable by this model. Seen in this light, productivity growth in Asian economies is not substantially different from the earlier productivity performance of developing European economies.

A discussion of the importance of initial conditions to this growth dynamic is supplemented by a review of other determinants of growth – some are complements, and some are substitutes for the model of catch-up and convergence. The importance of investment in a general context is underscored by the evidence that countries which encouraged substantial capital deepening experienced superior growth performance. The role of specific types of investment is also considered. Investment in human capital is growth enhancing, as is government investment to some critical level at which the cost of distortionary taxation needed to finance the public investment outweighs the benefits. Finally, investment in research and development, the linchpin of a class of endogenous growth models, is found to be the source of substantial feedback and spillover effects due to the public good nature of knowledge and the increasing returns it generates.

Empirical evidence of the determinants of growth is reviewed in an Australian context. It is concluded that once an allowance is made for each country's position on their development path, Australia's post-war growth has been approximately average for a mature industrialised economy. Such average performance implies room for either improvement or deterioration, contingent upon policy action. Here an important part of the policy debate is the role that can be played by savings, recognition of the private-sector productivity gains that arise from public-sector investment, continued improvement in educational attainment and facilitation of research.

Measuring Economic Progress

Ian Castles

Among economists, and the public generally, considerable attention is paid to quantitative measures of economic progress, such as official league tables of relative real income. Of particular concern has been the fall in Australia's real per capita income relative to other countries: where in the late 1930s Australia ranked 4th in such league tables, its position has slipped progressively and is presently 15th. There are, however, a great many conceptual and practical difficulties associated with identifying these relativities. Consequently, there is a need for greater circumspection in the use of such comparisons, and for a more informed understanding of their limitations.

International comparisons of economic progress are the outcome of an extensive pricing exercise. Meaningful comparisons require that national currency expenditures are converted to a common currency unit by the price of a set of representative goods. By representative it is meant that *between* countries the goods are identical in quality, and that *within* countries they have a similar weight in consumption and a similar relative price. A fundamental problem is that items that are identical in quality and quantity tend not to be typical of the relevant area of expenditure. There can be little doubt that estimates of Australia's relative economic position are substantially affected by the fact that the list of items priced was initially prepared for the purpose of supporting comparisons between European countries. When attempts are made to address this problem by utilising unofficial surveys, or comparisons of actual contents of typical family budgets, different rankings in real income levels are obtained. In fact, when account is also taken of differences in living conditions and the preferences of communities, there is a far more positive picture of Australia's relative living standard than implied by conventional league tables.

The decline of Australia's relative position on the real income scale does not, however, depend on the reliability of purchasing power studies, but is due to the growth rate of Australia's real per capita output being lower than that of most other high-income countries. This is not of itself cause for concern. This outcome inevitably reflects Australians' social choices – their choice to distribute resource wealth through relatively high real wages, encouragement of a wider dispersion of resources through fast population and labour-force growth and, perhaps most prominently, the higher priority paid to those aspects of life that are not included in conventional national accounts. These factors, more than any others, may explain the relatively slow growth in measured real incomes in Australia through this century.

Labour Productivity Growth and Relative Wages: 1978-1994

Philip Lowe

Between 1985 and 1991 there was virtually no growth in labour productivity in the non-farm sector in Australia. While wage restraint played an important role in generating this outcome, this paper argues that it is not the sole explanation. The approach adopted

in the paper is to use industry-level data to examine some of the other possible explanations for the productivity slowdown. It also uses the industry-level data to examine the relationships between wages, prices and productivity growth.

Labour-productivity growth rates vary widely across industries. Over the past decade and a half, annual rates of productivity growth have exceeded 5 per cent in the utilities and communications industries. In contrast, the level of labour productivity has fallen in both the recreation, personal and other services industry and in the finance, property and business services industry. It is virtually unchanged in the construction industry and in retail and wholesale trade, labour productivity growth has averaged just 0.7 per cent per year.

The paper analyses productivity trends in those industries which experienced declines in labour productivity over the second half of the 1980s, and examines the contributions of various industries to the aggregate slowdown. The largest single industry in the economy is the retail and wholesale trade industry and it experienced a particularly large decline in productivity growth. This 'deterioration' in performance can be attributed, in part, to the deregulation of trading hours. While deregulation of hours has set in train changes that will make for a more efficient industry, it did require more hours to be worked in retail stores. Under current measurement practices, the result is a decline in labour productivity as the increased output of 'convenience' is ignored. As the service sector continues to expand, the difficulty of measuring convenience and quality will make interpretation of the data on productivity increasingly difficult.

Given that extensive deregulation of shopping hours has now occurred, the retail industry should again make positive contributions to measured labour-productivity growth. Measurement problems in a number of other industries may also be less severe than they were over the second half of the 1980s. In addition, continuing microeconomic reform suggests that the rate of productivity growth over the second half of the 1980s is not the right benchmark for the second half of the 1990s. While rates of productivity growth experienced between 1991 and 1994 are unlikely to be sustained, labour-productivity growth should continue at a faster pace than in the 1980s.

Finally, the data on prices and wages by industry show that differences in productivity growth rates across industries are reflected in differences in price movements and not differences in wage movements. Eventually, even those industries with no productivity growth pay their workers higher wages; the counterpart is an increase in the relative price of the output of low-productivity-growth sectors.

Problems in the Measurement and Performance of Service-Sector Productivity in the United States

Robert J. Gordon

For a number of years, American economists have been concerned with the slowdown in US productivity growth that has been evident since the early 1970s. Productivity growth has slowed from an average of 2.27 per cent during 1950-72 to an average of just over 1 per cent during 1972-94, and has generally been lower than in other G7 countries. This paper examines whether the experience is a common international phenomenon and

also whether the productivity slowdown was common to all sectors of the US economy. It suggests some possible explanations of the slowdown, focussing in detail on the problem of measurement.

The productivity performance of the various sectors of the US economy has actually been quite diverse. Some sectors (agriculture and mining) have experienced quite high rates of productivity growth by international standards, whilst other sectors (particularly service sectors) have performed very poorly – both absolutely and by international standards. Overall, the post-1972 slowdown in productivity growth in the US was, in fact, smaller than in other countries, but this was partly because US productivity growth was relatively poor in the earlier period.

Mismeasurement has often been advanced as a cause of the slowdown in growth and the poor aggregate productivity performance in the US. To provide a satisfactory explanation, however, measurement problems need to have increased in the recent period and be greater than in other G7 countries. Contrary to earlier findings, this does appear to be the case. The paper argues that the use of a single base year in the US, rather than regularly changing base years, does bias the US results because it fails to take account of changes in relative prices. Productivity growth may also be mismeasured because of sources of bias in the consumer price index caused by factors such as changes in relative prices, the increasing importance of discount stores and changes in the quality of goods and services. Since these factors tend to bias the CPI upwards, output and productivity are biased downwards.

The impact of the oil shocks and a decline in public infrastructure are ruled out as explanations for the productivity slowdown. Instead, the paper advances three alternative explanations. The first of these is the increased importance of ‘hard-to-measure’ sectors of the economy. The second is the fall in real wages in the bottom half of the income distribution, caused by the weak bargaining position of labour, that may have resulted in the employment of less productive workers. Finally, the slowdown is attributed to an exhaustion of ideas. Certainly, until this problem is addressed there remains a bleak trade-off between productivity improvements and unemployment.

Case Studies of the Productivity Effects of Microeconomic Reform

The apparent slowdown in productivity for much of the 1980s has reflected disparate productivity performance between sectors of the economy. Levels of productivity have fallen in a number of intermediate industries. And yet, many of these industries have been the target of microeconomic reform. The suggestion is that much of the fall in productivity can be attributed to measurement problems, since the output of these industries is inherently difficult to value. Given these measurement difficulties, case studies can provide valuable insights to productivity development at the enterprise level.

Four case studies of enterprise activity were conducted. Three of these – BHP Steel, the New South Wales electricity industry, and the National Australia Bank – related to productivity performance of providers of a key intermediate input. The fourth case study – the Australian labour market – related to the way in which organised labour is responding to the objectives of enterprises. A key message to emerge from these studies

is that, at an enterprise level, much stronger evidence of productivity improvement can be found than is evident in data for the aggregate economy. Invariably, the initial improvement in productivity has been motivated by some crisis. Efforts to address the crisis have then evolved into a more comprehensive program of reform aimed at sustaining productivity growth and improving competitiveness.

Despite the diversity of enterprises examined, there are striking similarities in the features of their reform programs. There is a general tendency to cultivate better use of resources, both human and capital. This is evidenced by increased commitment to the development of skills, improvement of relations between workers and management, and the rationalisation of capital requirements. Technology is also being harnessed to exploit scale economies or to improve the range and quality of services. However, competitiveness is the abiding concern of enterprises. Regardless of whether they are private or corporatised, or whether they trade in domestic or international markets, enterprises are striving to increase their competitiveness and approach world best practice. Productivity improvements are central to this goal. Furthermore, it is a goal increasingly shared by organised labour.

Microeconomic reform in the labour market has encouraged a transition to enterprise-based wage agreements. Consequently, organised labour has increased its focus on the objectives of enterprises and returns to labour are now more rigorously benchmarked against indicators of performance. Against this background, the union movement in Australia explicitly promotes productive performance in the context of the macroeconomic policy objective of sustained low-inflationary growth.

Growth in East Asia: What We Can and What We Cannot Infer From It

Michael Sarel

East-Asian economies have achieved a remarkable record of high and sustained economic growth. This achievement is one of the most important economic developments of recent decades. Quite apart from raising living standards in a populous area of the world, explaining this success might permit such growth performance to be replicated elsewhere. There is also the intellectual challenge of explaining this economic phenomenon in terms of economic conditions and policies, rather than describing it as 'miraculous'.

Debate about the East-Asian growth experience centres on four main issues. The first is whether growth has been driven by improvements in productivity or by massive, but unsustainable, factor accumulation. The second is whether public policy, in particular selective interventions, have successfully promoted growth. The third is whether high rates of investment and export orientation have been the engines of growth. Finally, there is debate about the importance of the conditions that prevailed at the beginning of the growth episode.

The paper challenges the view that East-Asian growth has been driven solely by massive factor accumulation by demonstrating the sensitivity of growth-accounting exercises to changes in parameter estimates of these factor shares. It argues that while factor accumulation has been important, so too has technology. This is, in fact, an optimistic finding, since technology is the key to achieving continuous growth.

The role of public policy is, however, more difficult to assess; in particular those policies which encourage investment and exports. In the first place, there is a clear selection bias. The East-Asian growth performance has been so impressive that it is hard to believe that policies have inhibited growth. More problematic, though, is identifying whether economic growth has permitted the adoption of particular policies, or whether the policies have generated the growth.

The paper deals with this issue of reverse causality by examining initial conditions. In particular, it looks at whether high rates of investment and exports accompanied or preceded growth. If particular conditions precede growth, one can be more confident that they helped generate the growth. If, however, they accompany growth, it may be that they have been induced by it. Evidence is presented that high rates of investment and exports have evolved quite gradually, rather than preceding growth in East Asia. It is suggested that the conventional view that investment and exports have been the engines of growth may be overstated. However, there are a number of initial conditions common to the high-performing East-Asian economies that may have played a role in their success. These economies were characterised by low initial-income levels, less inequality of land and income distribution, and better primary education than other developing countries that have since been much less successful. When attempts are made to control for these initial conditions, a large part of the so-called East-Asian miracle can be explained. This suggests that a promising avenue for the explanation of growth performance, in particular the disparities that exist between regions, is the examination of initial conditions.

The Growth Experience of Japan – What Lessons to Draw?

Kengo Inoue

The Japanese economy experienced very rapid growth in the 1960s, but this growth has since decelerated. So far, in the 1990s, economic activity has been subdued and productivity has diminished further. Concerns have been expressed that, as a result, Japan's growth potential has fallen. The paper attempts to shed light on the Japanese experience of productivity and growth by performing a sectoral analysis of labour and capital inputs, together with output prices and returns to capital.

Evidence is presented that, in the 1960s, the fall in the relative size of the primary sector in Japan did not contribute substantially to the gain in overall productivity during this rapid growth phase. This was because the artificially high return on capital in this sector encouraged growth in capital inputs in agriculture and resulted in a huge loss of productivity. However, a major change in agricultural pricing policy in the 1970s reduced the return on capital and curtailed investment in agriculture. Furthermore, what took place was much less inefficient. Consequently, the negative contribution from agriculture was much smaller, but the positive contribution from the resource shift between sectors was also smaller.

The growth in total-factor productivity in the manufacturing sector is shown to be much smaller in the 1970s than in the 1960s, but it is argued that there is no evidence of a declining trend, at least until the recent recession. Furthermore, the return on capital in this sector has been stable since the 1970s, again until recently.

The tertiary sector has offered much higher returns on capital than the manufacturing sector. The gain in total-factor productivity, on the other hand, has been much less because labour inputs have grown persistently faster in tertiary industries than elsewhere. Furthermore, since this sector is less exposed to international competition and is more subject to regulation, there is much scope for productivity-enhancing reform.

The early part of the 1990s is difficult to interpret given the cyclical influence of recessed activity on productivity. Successful demand management policy is considered vital to avoid such cyclical influences becoming structural and reducing Japan's potential output. So too is the dismantling of regulations that have long outlived their usefulness. If efforts on these fronts are successful, it is argued that the sectoral evidence of growth and productivity performance prior to the recent recession suggest no reason for a bleak future for Japan.

Macroeconomic Policies and Growth

Palle Andersen and David Gruen

While economic theory is largely mute on the question of whether macroeconomic policies affect long-run growth, an examination of the experience of different countries over various periods and the policies they pursued, lends strong support to the idea that macro policies do play a role in the growth process.

A macroeconomic policy framework conducive to growth can be characterised by five features: a low and predictable inflation rate; an appropriate real interest rate; a stable and sustainable fiscal policy; a competitive and predictable real exchange rate; and a balance of payments that is regarded as viable. Countries with these macroeconomic characteristics tend to grow faster than those without them, though there are many individual cases of both developing and developed countries suggesting that satisfying only some of these conditions does not sustain strong growth. It is also important to recognise that the direction of causation is somewhat ambiguous: while good macro outcomes should be conducive to growth, strong growth is also conducive to good macroeconomic outcomes.

The paper presents a wide-ranging examination of both theoretical and empirical evidence on the many ways macroeconomic policies may influence economic growth. Given monetary policy's crucial role in determining the inflation rate in the longer run, there is a particular emphasis on the relationship between inflation and growth.

The following five broad conclusions are drawn. First, although growth models assign a major role to capital accumulation, there is little evidence that aggregate investment yields excess returns, and so special policy incentives to boost aggregate investment appear inappropriate. Second, countries with low national saving invest less and grow more slowly than they would if saving were higher. Ultimately, the extent to which a country can rely on foreign savings to fund domestic investment and growth depends on the rate of capital inflow the market accepts as sustainable. For Australia, with abundant natural resources and a stable political environment, this may be higher than for many other capital importing countries. Third, declining national saving rates in many industrial countries are primarily a consequence of lower government saving, suggesting

a need for reduced fiscal deficits. In Australia, however, private savings have also fallen substantially, suggesting a possible role for specific incentives to boost private savings.

Fourth, when economies are near potential, short-run rises in output seem to be more inflationary than falls in output are disinflationary. This implies that macroeconomic policy acting pre-emptively to counter expected future demand pressures and quickly mitigating the effects of unexpected shocks has a positive effect on the level of output, compared with a more hesitant approach acting only when demand pressures have appeared. Further, provided inflation is kept close to its target in the medium term, policy which tolerates some short-term deviations of inflation from its target reduces fluctuations in real output and generates a higher long-run output level than a policy with the sole goal of keeping inflation close to its target.

Finally, although most economists believe even moderate rates of inflation adversely affect growth, unambiguous evidence has been difficult to come by. There is still professional disagreement on the robustness of the empirical evidence, but it does appear that higher inflation, and the associated increased uncertainty about future inflation, adversely affects growth in the industrial countries. The gains from lower inflation appear to exceed the initial costs of reducing inflation within about a decade.