## Box F: Growth in the Factors of Production

Growth in GDP over the longer term depends on growth in the labour force and capital stock, and the change in productivity (the way labour and capital are used). This box discusses recent trends in these key variables.

Over recent years, the rate of population growth in Australia has picked up noticeably, with the population estimated to have increased by a little more than 2 per cent over the year to the March quarter 2009 (Graph F1). This is the fastest rate of growth since the 1960s and

<sup>3</sup>/<sub>4</sub> percentage point faster than the average of the past 20 years. It is also significantly faster than that in all of the major advanced economies (Graph F2). The recent pick-up in Australia's population growth is largely due to a substantial rise in the rate of immigration, which accounted for almost two-thirds of the increase in population over the period, although the rate of natural increase has also risen a little. The recent stronger population growth has translated into relatively strong growth in the labour force, with the participation rate having also tended to rise over recent years.

Growth in Australia's capital stock (excluding dwellings and livestock) has also risen strongly recently, with the share of investment in GDP around its highest levels in recent decades (Graph F3). The capital stock is not measured directly, but is estimated by the ABS based on cumulated investment flows less depreciation, with assumptions made about the useful life of assets and the rates at which they lose value. Based on this approach, the capital stock is estimated to be currently growing at



to 1994–95', RBA Occasional Paper No 8, rev 1997; OECD





more than 5 per cent a year, around double the average pace of growth in the 1990s, with a considerable share of this growth in the resources sector. Again, this is a significantly faster rate of increase than that occurring in the G7 economies.

Capital services are estimated to represent around 40 per cent of total factor inputs into GDP, with labour accounting for around 60 per cent. Faster rates of labour and capital growth should therefore over time lead to a faster rate of GDP growth, although trends in multifactor productivity (MFP) are also important. Assessments of trend growth in MFP are notoriously difficult, reflecting measurement problems and natural cyclical variation, as well as true changes in underlying productivity growth over time. Over recent years, MFP growth has tended to be quite weak (Graph F4). There are a number of potential reasons for this. One possibility is that it has partly reflected some natural slowing in productivity growth as the economy reached high levels of resource utilisation in the late stages of the expansion phase of the business

cycle. It might also partly reflect the often long lags between investment and output in the resources sector. Measurement problems may also be part of the explanation. Notwithstanding the difficulties in explaining recent developments, if current rates of factor accumulation were to continue, and there was even modest growth in MFP, growth in potential output in the immediate period ahead is likely to be above the standard estimates of recent years.  $\pi$