

Box A: Economic Effects of the Drought

Over the course of this year, conditions have been extremely dry across a wide stretch of the country. The drought has severely reduced winter-crop production and brought forward livestock slaughtering, and will significantly curtail farm output and incomes.

The direct effects of the drought will be most evident in a decline in agricultural production and an associated reduction in rural exports (around two-thirds of agricultural production is exported). However, fluctuations in rural exports tend not to be as pronounced as those of agricultural production as rural exports include output of the forestry and fishing industries, as well as processed agricultural products. In addition, agricultural inventories tend to be run down during periods of drought. The reduction in farm incomes will translate into lower farm consumption and investment (farm equipment is, on average, around 8 per cent of total machinery and equipment investment spending). Although difficult to quantify, the drought will also have indirect effects on the economy, most particularly in those industries that supply and service agriculture, such as the wholesale and transport sectors, as well as retail operations in rural areas.¹

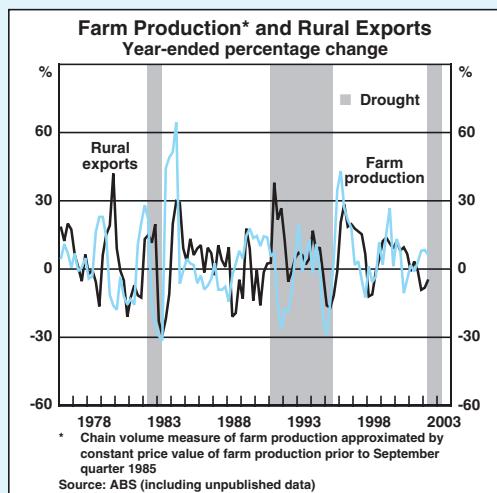
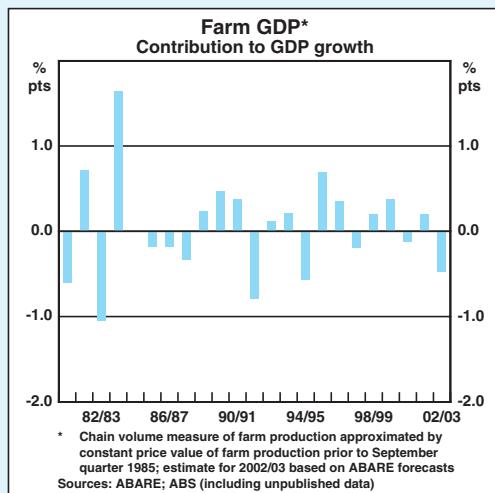
The adverse effect of a drought on production varies across the different parts of the farm sector. Drought conditions lead to an immediate reduction in grain production, whereas a downturn in meat production tends to occur with some delay as farmers initially increase slaughter rates in response to the rising cost of feed. Conversely, crop production recovers faster than meat production following the breaking

of a drought, with meat production delayed by the need to rebuild stock numbers. Similarly, there are differing effects on rural commodity prices, with wheat and other grain prices initially rising, reflecting the reduced supply, and meat prices initially falling; the reverse price movements typically occur following the cessation of the drought.

To provide some guidance as to the likely effects of the current drought on the economy, it is useful to examine the effect of earlier droughts. Although changing weather conditions are an ever-present source of volatility in agricultural production, two particularly severe droughts are identifiable in the past 20 years: the first in 1982–1983, which affected eastern and southern Australia; and the second, a series of low-rainfall years from 1991 to 1995, during which several regions across Australia experienced varying degrees of drought conditions at different times. In both episodes, agricultural production and rural exports declined significantly and then recovered strongly following the breaking of the drought (Graph A1). The sharp fall and subsequent rise in agricultural production during the 1982–1983 drought first subtracted, and subsequently added, around 1–1½ percentage points to GDP growth (Graph A2). In the 1991–1995 drought, GDP was reduced by around 1½–¾ percentage point in both 1991/92 and 1994/95, and was subsequently boosted by around ¾ percentage point in 1995/96.

Based on the latest Australian Bureau of Agricultural and Resource Economics (ABARE) estimates of crop and livestock production, agricultural production could fall by close to 15 per cent in 2002/03, more than half the fall experienced in 1982/83 and

1. See Aspden C (1996), ‘Impact of the 1995–96 farm season on Australian production’, Australian National Accounts: National Income, Expenditure and Product, ABS Cat No 5206.0, September quarter, pp 123–131, for examples of how these indirect effects might be estimated.

Graph A1**Graph A2**

close to the falls in 1991/92 and 1994/95. The smaller expected fall in production in the current episode in part reflects improvements in cropping techniques since the 1980s, which have enabled farmers to cope more effectively with adverse weather conditions.² Another factor reducing the impact on the aggregate economy is that the share of agricultural production in GDP has fallen from around 6 per cent in the early 1980s to just over 3 per cent in recent years. Nevertheless, the forecast decline in production would still directly subtract around $\frac{1}{2}$ a percentage point from aggregate economic growth in 2002/03 and as much as 1 percentage point from growth over the year to June 2003.

Fluctuations in farm incomes – that is, the proceeds of sales net of operating costs – tend to be of considerably larger magnitude than the fluctuations in production. In September, ABARE estimated that farm incomes will be around 60 per cent lower in 2002/03 than the relatively high levels in the previous year.

To some extent, the increased use of Farm Management Deposits (FMD) in recent years has provided scope for farmers to smooth their income and expenditures. The recent high levels of farm income have facilitated a large build-up of FMDs, which should help insulate farmers from some of the effects of the expected fall in earnings. Nonetheless, a significant decline in expenditure by rural producers can be expected as a consequence of the drought.

While the drought is a serious negative shock to the economy, past experience suggests that there will subsequently be a significant boost to growth when the drought breaks, as crop production typically rebounds strongly following drought years. In the past, El Niño episodes have tended to start towards the middle of the calendar year and last a little less than 12 months. At this stage, the Bureau of Meteorology expects drier-than-average conditions to persist in much of the country for at least the next several months. ↗

2. Ha A and L Chapman (2000), 'Productivity growth trends across Australian broadacre industries', *Australian Commodities: Forecasts and Issues*, 7(2), pp 334–340.