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Department of Agriculture, Fisheries and Forestry
ABARES

2012 OUTLOOK

Agricultural commodities

Research by the Australian Bureau of Agricultural and Resource Economics and Sciences

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Regional Outlook conferences 2012

ABARES is delivering commodity forecasts, research and analysis directly to rural and regional Australia again in 2012.

Promoting industry productivity, community vitality and environmental sustainability, the 2012 conferences will balance national and regional perspectives; focus on the future; and emphasise agricultural, fisheries and forestry strategies that work in a context of economic volatility and climatic variability.

ABARES invites collaboration from regional, state and national agencies to focus on industries and issues relevant to each region. Delegates from businesses, government, and the community will discuss industry trends, access forecasts and other information, make new contacts in their community and be exposed to new ideas while gaining an understanding of global issues that affect their region.

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2012 locations and dates

South Australia	Berri	16 May
Northern Territory	Alice Springs	13 June
Western Australia	Margaret River	5 July
Victoria	Horsham	25 July
New South Wales	Bega	29 August
Tasmania	Burnie	26 September
Queensland	Toowoomba	25 October

Economic overview

Economic overview

Outlook to 2016–17

Patrick Hamshere and Neil Thompson

- World economic growth is assumed to moderate to 3.5 per cent in 2012, following an estimated growth rate of 3.8 per cent in 2011. Toward 2017, world economic growth is assumed to average around 4 per cent a year.
- Emerging economies, particularly China and India, are expected to remain the main drivers of world economic activity, although growth rates in these economies are assumed to moderate.
- In contrast, concerns over the financing of government debt in advanced economies are expected to slow economic growth in the OECD region, especially in the short-term.

Global economy

Global economic growth to moderate further in 2012

Global economic growth moderated over the course of 2011, reflecting weak private demand and concerns over public debt levels in major OECD economies. Emerging economies, particularly in Asia, continue to underpin world economic activity; however, they have been adversely affected, to some extent, by recent weak growth in the OECD region because of reduced export demand.

Private sector demand in major OECD economies is expected to remain weak in the near term. High unemployment and weak property markets, exacerbated by concerns over the financing of sovereign debts, are expected to hold back consumer confidence and hence consumer spending. Economic growth in the OECD region as a whole is assumed to be 1.5 per cent in 2012, compared with an estimated rate of 1.6 per cent in 2011.

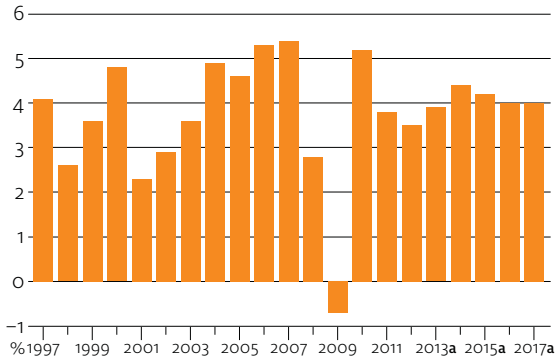
For emerging economies the short-term outlook remains positive, although an easing of economic growth is expected. Export performance in many developing Asian economies is expected to moderate in response to weaker growth in developed economies. Countries that have strong trade links with the United States and Western Europe will be particularly vulnerable to the spillover effects of weaker economic activity in the OECD region. Partially offsetting this, robust domestic demand is expected to support economic activity. For developing economies as a whole, economic growth is assumed to average 6.1 per cent in 2012, following growth of 6.4 per cent in 2011.

Against this backdrop, world economic growth is assumed to moderate to 3.5 per cent in 2012, following growth of 3.8 per cent in 2011.

Medium-term growth outlook

Looking ahead, global economic growth is assumed to recover to 3.9 per cent in 2013, before increasing to 4.4 per cent in 2014. The assumed improvement in economic growth largely reflects a gradual recovery in private demand, particularly in OECD economies. Toward 2017, world economic growth is assumed to average around 4 per cent a year.

World economic growth



a ABARES assumption.

Projected rises of public sector debt in some major OECD economies remain a downside risk to growth prospects. Projections from the International Monetary Fund indicate that gross general government debt, as a share of gross domestic product, for some major OECD economies such as the United States and Japan, is likely to increase over the outlook period if no significant reduction measures are taken. In the United States, gross general government debt is projected to increase from 102 per cent of gross domestic product in 2011 to around 115 per cent by 2016, while Japanese debt is expected to rise from an estimated 233 per cent in 2011 to 253 per cent in 2016.

General government debt (gross) in selected countries, per cent of GDP

Country	2007a	2011b	2012b	2013b	2016
Brazil	65.2	66	64.2	62	57.2
China	19.6	26.6	23.3	20.9	10.9
France	64.2	87	90.7	93.1	87.7
Germany	65	81.5	81.6	79.8	75
India	72.7	65.8	65.3	64.4	59.7
Italy	103.6	121.4	125.3	126.6	114.1
Japan	187.7	233.4	241	246.8	253.4
United Kingdom	43.9	80.8	86.6	90.3	80.4
United States	62.3	102	107.6	112	115.4

a Pre-global financial crisis. **b** Updated January 2012.
Source: International Monetary Fund

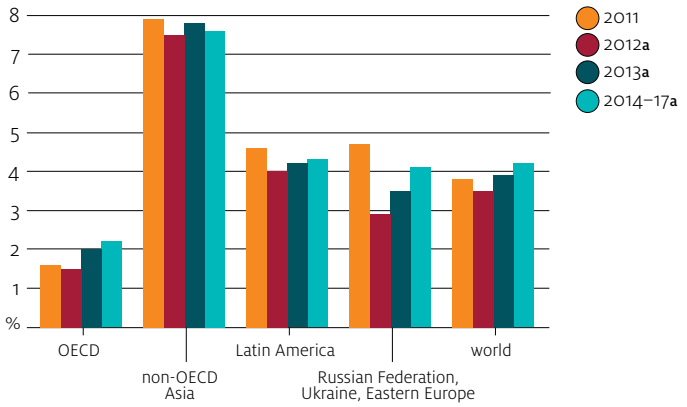
Many OECD governments, particularly in Western Europe, have begun to review public spending and implement measures to reduce budget deficits and public sector debt. These measures are expected to have a negative effect on economic growth in the short-term, as government spending is cut and taxes increase. As recently seen in a number of European economies, financial markets can perceive an economy with high levels of government debt as a high risk investment destination, leading to declining inflows of foreign investment, rising real interest rates (reflecting a risk premium to prevent capital outflows) and currency devaluation. The ongoing debt problem poses a significant downside risk to the OECD and world economic outlook.

In the medium-term, recovery of economic activity in the OECD region is expected to be relatively modest through much of 2013, with economic growth assumed to average 2 per cent for the year as a whole. In 2014, economic growth is assumed to recover to 2.5 per cent, in line with increases in private consumption and investment. Economic activity is assumed to grow at slightly over 2 per cent a year toward 2017.

For developing economies, economic growth is assumed to be relatively strong over the medium-term. While growth in domestic demand in non-OECD Asia is expected to be robust, strong intraregional trade and investment flows will continue to underpin regional economic growth. Economies in Africa, the Middle East and Latin America are also expected to maintain solid growth in the next few years under the assumption of relatively strong commodity prices. In Eastern Europe, the Russian Federation and Ukraine, economic growth is assumed to continue, although activity is expected to be adversely affected by weakness in Western Europe in the short-term.

For developing countries as a whole, economic growth is assumed to strengthen to 6.4 per cent in 2013, before recovering to 6.6 per cent in 2014. Toward 2017, economic growth is assumed to ease gradually to around 6.3 per cent a year.

Regional economic growth



a ABARES assumption.

Key macroeconomic assumptions

	unit	2010	2011	2012 a	2013 a	2014 a	2015 a	2016 a	2017 a
Economic growth b									
OECD	%	3.2	1.6	1.5	2.0	2.5	2.3	2.1	2.1
United States	%	3.0	1.7	2.0	2.4	2.8	2.6	2.5	2.5
Japan	%	4.4	– 0.9	2.0	1.6	1.6	1.5	1.5	1.5
Western Europe	%	1.9	1.5	0.0	1.0	1.9	1.8	1.8	1.8
Germany	%	3.7	3.0	0.8	1.5	2.1	2.0	1.8	1.8
France	%	1.4	1.7	0.4	1.2	1.7	1.6	1.6	1.6
United Kingdom	%	2.1	0.9	0.7	1.8	2.6	2.5	2.4	2.4
Italy	%	1.5	0.3	– 1.5	– 0.2	0.8	1.0	1.2	1.2
Korea, Rep. of	%	6.2	3.6	3.6	4.2	4.2	4.1	4.0	4.0
New Zealand	%	1.3	1.6	2.7	3.1	2.7	2.6	2.6	2.6
Developing countries	%	7.9	6.4	6.1	6.4	6.6	6.5	6.3	6.3
Non-OECD Asia	%	9.5	7.9	7.5	7.8	7.9	7.7	7.4	7.4
South-East Asia c	%	6.9	4.8	5.1	5.7	5.9	5.7	5.6	5.6
China d	%	10.4	9.2	8.5	8.6	8.5	8.3	8.0	8.0
Chinese Taipei	%	10.7	4.0	3.8	4.8	4.7	4.5	4.2	4.2
Singapore	%	14.5	4.8	3.4	4.8	4.7	4.3	4.2	4.2
India	%	8.7	7.3	7.5	8.0	8.5	8.5	8.0	8.0
Latin America	%	6.1	4.6	4.0	4.2	4.4	4.2	4.2	4.2
Middle East	%	4.3	3.1	3.4	3.9	5.1	5.0	5.0	5.0
Russian Federation	%	4.0	4.1	3.5	3.7	4.2	4.0	4.0	4.0
Ukraine	%	4.2	4.9	3.8	4.0	4.1	4.0	4.0	4.0
Eastern Europe	%	4.5	5.1	1.5	2.8	3.8	4.3	4.4	4.4
World e	%	5.2	3.8	3.5	3.9	4.4	4.2	4.0	4.0
Inflation b									
United States	%	1.6	3.2	1.9	2.0	2.0	2.0	2.0	2.0
Interest rates									
US prime rate f	% pa	3.3	3.3	3.3	3.3	3.7	4.2	4.6	4.6

a ABARES assumption. **b** Change from previous period. **c** Indonesia, Malaysia, the Philippines, Thailand and Vietnam. **d** Excludes Hong Kong. **e** Weighted using 2010 purchasing power parity (PPP) valuation of country gross domestic product by the International Monetary Fund. **f** Commercial bank prime lending rates in the United States.
Sources: ABARES; Australian Bureau of Statistics; International Monetary Fund; Organisation for Economic Cooperation and Development; Reserve Bank of Australia

Economic prospects in Australia's major export markets

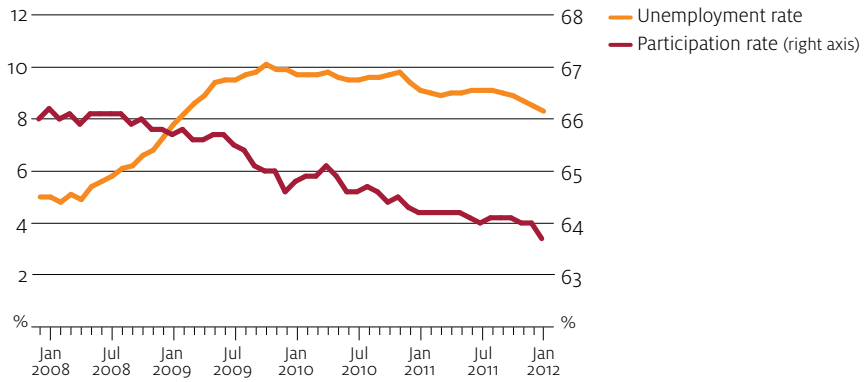
United States

After a strong recovery in 2010, economic growth in the United States has moderated. Real gross domestic product is estimated to have expanded by 1.7 per cent in 2011, compared with 3 per cent in 2010. The weaker economic growth mainly reflects weak private sector demand.

Partial indicators released recently suggest that private sector demand, in particular consumer spending, is unlikely to strengthen markedly. Consumer spending expanded year-on-year by 1.4 per cent in December 2011, following growth of 1.6 per cent in November. This compares with growth of 2.8 per cent in December 2010 and 3.2 per cent in November 2010.

Relatively high unemployment and a weak housing market have held back consumer spending. Despite some improvement in recent months, the unemployment rate was 8.3 per cent in January 2012, down from a recent high of 9.1 per cent in August 2011. Although job creation has increased over the five months to January 2012, the decline in the unemployment rate largely reflects a significant fall in the number of people looking for work. Total home sales were around 4.5 million in the September quarter 2011, around half of the pace during the housing boom in 2006 and around 1 million less than during the global financial crisis in 2008.

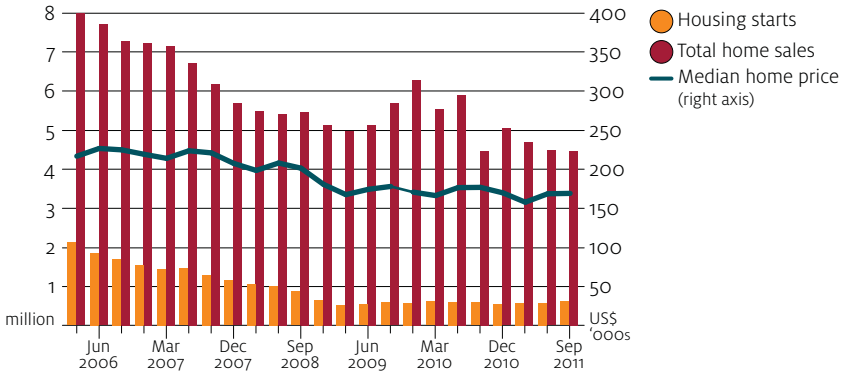
US labour market indicators



The manufacturing sector, which grew strongly in the first quarter of 2011, has moderated. Industrial production grew at a year-on-year rate of 2.9 per cent in December 2011, down from a recent high of 4.4 per cent in October. With a slowing growth rate, manufacturing activity is unlikely to provide significant support to employment growth in coming quarters.

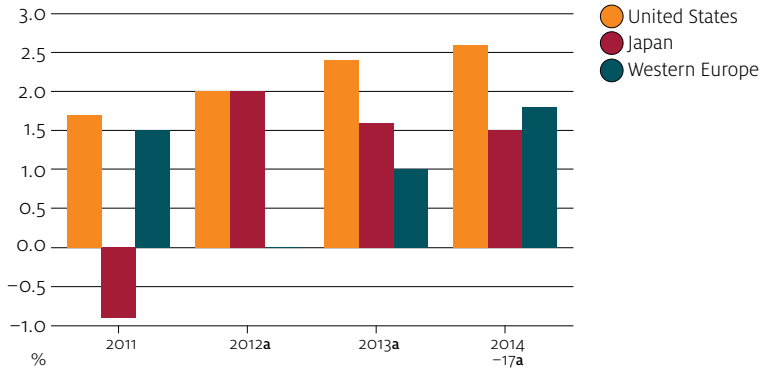
While the most immediate need for the United States is to strengthen the pace of economic growth, public spending cuts to reduce the fiscal deficit will need to be implemented. According to the US Congressional Budget Office, the US budget deficit was around 8.7 per cent of gross domestic product in 2011 and is projected to be around 7 per cent in 2012. The challenge for US fiscal policy will continue to be balancing the short-term need to stimulate economic activity with fiscal consolidation over the medium-term.

US housing market indicators



Against this backdrop, economic growth in the United States is assumed to improve to 2.4 per cent in 2013, following growth of 2 per cent in 2012, in line with an assumed gradual improvement in housing and labour markets. Over the medium-term, economic growth in the United States is expected to average around 2.6 per cent a year, slightly lower than its potential growth rate of around 3 per cent a year.

OECD economic growth



a ABARES assumption.

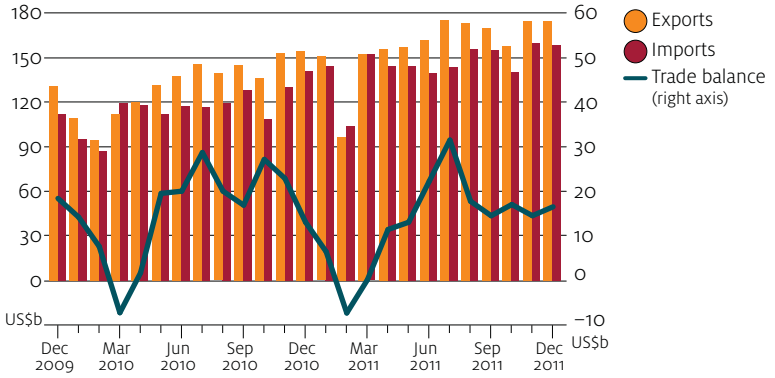
China

Economic growth in China remained strong in 2011, albeit slightly slower than in 2010. For 2011 as a whole, the Chinese economy is estimated to have expanded by 9.2 per cent, down from 10.4 per cent in 2010. The moderation of economic activity largely reflects the effect of tighter monetary conditions on domestic investment spending and weak external demand on export growth.

Economic growth in China continued to be underpinned by domestic demand in 2011. Supported by government spending, investment in fixed assets grew by 23.8 per cent in 2011, largely unchanged from the rate achieved in 2010. Growth in consumer spending also remained strong, despite easing somewhat from 2010. Retail sales increased by 17.1 per cent in 2011 compared with 18.4 per cent in 2010.

In contrast, China's export growth eased, as weaker economic activity in major OECD economies led to a decline in export demand. Export earnings increased by 20 per cent in 2011, compared with growth of more than 30 per cent in 2010. In recent months, growth in export earnings declined further, with a year-on-year growth rate of 13 per cent recorded in December 2011.

Recent trade indicators for China



Consumer prices, which increased significantly in early 2011, have eased in recent months in response to tighter monetary conditions implemented by the Chinese Government. Consumer prices rose at a year-on-year rate of 4.5 per cent in January 2012, down from a recent high of 6.5 per cent in July 2011.

In preparing this set of agricultural commodity forecasts, economic growth in China is assumed to average 8.5 per cent in 2012 and 8.6 per cent in 2013. The main downside risk relates to a more severe downturn in Western Europe than currently assumed and the negative effect this would have on export demand. However, easing inflationary pressures are likely to provide room for more accommodative monetary conditions if external demand continues to weaken. On the upside, China has proven to be more resilient to both internal and external shocks than other major world economies. Consequently, there is a possibility that economic growth in China will again outperform current expectations.

A major challenge for sustained economic growth in China, over the medium-term, is the need to rebalance its sources of economic growth toward private sector demand and away from exports. As its importance in world trade rises, it will be difficult for China to maintain rapid export growth, particularly given increased tensions on market access issues between China and other major world economies.

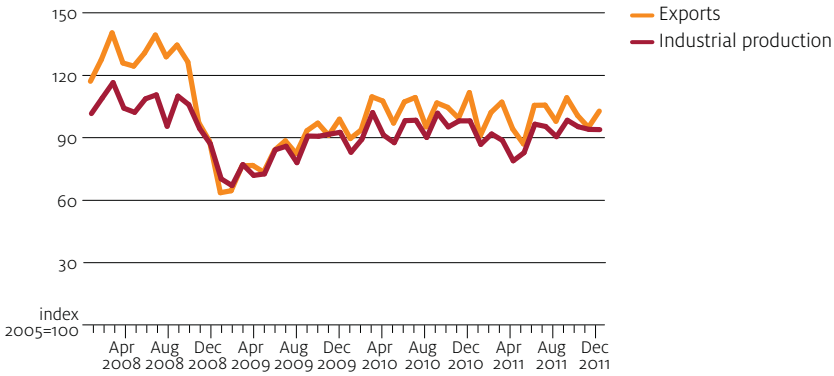
Over the medium-term, economic growth in China is assumed to ease gradually to an annual rate of 8 per cent in 2017.

Japan

Following the devastating effects of the earthquakes and tsunami in early 2011, economic activity in Japan has remained weak. Real gross domestic product contracted at a year-on-year rate of 1 per cent in the December quarter 2011, after contracting 0.5 per cent in the September quarter and 1.7 per cent in the June quarter. For 2011 as a whole, Japan's economy contracted by 0.9 per cent.

A slowdown in external demand and appreciation of the yen against its major trading partners have moderated growth in exports and factory production. Exports contracted at a year-on-year rate of 8 per cent in December 2011, following a contraction of 4 per cent in November and October. Industrial production has declined at a similar rate, contracting by 4 per cent year-on-year in December and November 2011, following relatively flat growth in October.

Japan industrial production and exports



Despite an uncertain outlook for the export sector, reconstruction spending is expected to underpin economic activity in the short-term. In preparing this set of agricultural commodity forecasts, economic growth in Japan is assumed to average 2 per cent in 2012, following a contraction of 0.9 per cent in 2011.

Over the medium-term, an assumed improvement in external demand will provide support for economic activity. However, high public debt, weak productivity performance, especially in the non-traded sector, and an ageing population are expected to be the major challenges for sustaining economic growth in Japan. Economic growth in Japan is assumed to ease to 1.5 per cent by 2017.

Western Europe

The economic performance of Western Europe (mainly Germany, the United Kingdom and Italy) weakened in 2011, though growth varied among the regional economies. In Germany, real gross domestic product grew at a year-on-year rate of 1.5 per cent in the December quarter, down from growth of around 5 per cent earlier in the year. For 2011 as a whole, economic activity in Germany expanded by 3 per cent. In the United Kingdom, growth was 0.9 per cent in 2011, down from 2.1 per cent in 2010.

The weakening pace of economic activity in recent quarters mainly reflects decreased private sector demand. This has been underpinned by high unemployment and financial market uncertainty, as a result of concerns over financing sovereign debts (see Box). The decline of domestic demand in the region has led to a slowdown of intraregional trade, weakening export performance and hence factory production.

In response, the European Central Bank has reversed the tightening cycle which began in April 2011, cutting interest rates by 25 basis points in November and again in December. The benchmark rate is now 1 per cent, the same level as during the global financial crisis.

Economic activity in Western Europe is assumed to record little growth in 2012. Despite the European Central Bank's recent efforts to boost demand, significant improvements in consumer and business confidence are unlikely as regional governments reduce public spending and unemployment remains high. A gradual recovery in regional economic activity is assumed to begin sometime in 2013, with economic growth assumed to average 1 per cent for the year as a whole.

Given the current weakness in Western Europe, significant downside risks surround the economic outlook for the region. Private consumption and business spending could remain weak for an extended period under tight lending conditions in the banking sector and credit markets. In addition, fiscal consolidation measures, which will reduce government spending, are likely to have a negative effect on economic growth.

Over the medium-term, economic growth in Western Europe is assumed to strengthen to 1.9 per cent in 2014, before easing to around 1.8 per cent in 2017.

Non-OECD Asia

Despite some easing in recent quarters, growth in non-OECD Asia (mainly developing countries in Asia) remained strong for 2011 as a whole. In India, economic activity is estimated to have expanded by 7.3 per cent for 2011. In Singapore, growth averaged 4.8 per cent in 2011, but the quarterly growth rate declined from 9.1 per cent in the March quarter to 3.6 per cent in the December quarter.

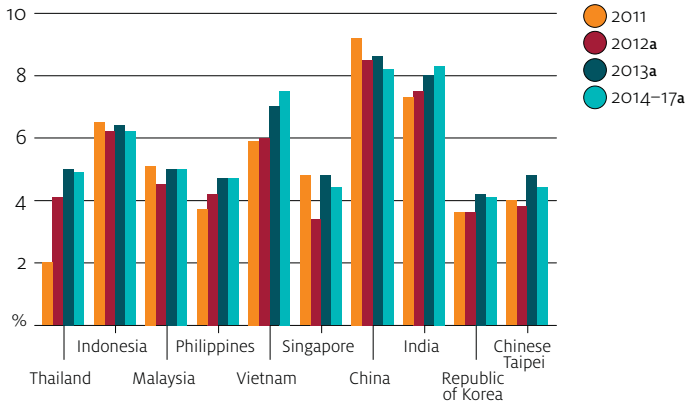
Falling demand from major OECD economies has led to a reduction in exports from the region. Because exports account for a relatively large share of economic activity in many Asian economies, declining export growth has the potential to adversely affect regional industrial production, business investment and labour markets. In Malaysia, for example, the value of exports rose by 8.7 per cent in 2011, compared with an increase of almost 16 per cent in 2010. Similarly, growth in manufacturing production in Malaysia slowed to 4.1 per cent in 2011, down from growth of 11 per cent in 2010.

Inflationary pressures remain an issue for some regional economies, although they have eased in recent quarters. For example, consumer prices in India rose at a year-on-year rate of 8.9 per cent in the December quarter, down from 9.7 per cent in the September quarter 2011. In Malaysia, inflation was 3.2 per cent in the December quarter 2011, down slightly from 3.4 per cent in the September quarter.

Domestic demand and intraregional trade will remain the main drivers of economic activity across the region in the short-term. In addition, the recent easing of consumer prices will allow the implementation of more accommodative monetary conditions to support domestic activity if export demand from major OECD economies weakens further. For non-OECD Asia as a whole, economic growth is assumed to average 7.5 per cent in 2012 and 7.8 per cent in 2013.

Looking forward, inflationary pressures are expected to remain a concern for governments in the region. Regional economies will benefit from a more balanced growth strategy with a greater reliance on domestic demand. More balanced growth would also help address global trade and current account imbalances. Over the medium-term, economic growth in the region is assumed to average around 7.6 per cent.

Economic growth in Asia



a ABARES assumption.

Economic prospects in Australia

In Australia, real gross domestic product rose by a seasonally adjusted rate of 2.5 per cent in the September quarter 2011, after expanding by 1.9 per cent in the June quarter. Economic growth in the September quarter largely reflects continued strong commodity exports and investment spending, particularly in the mining sector.

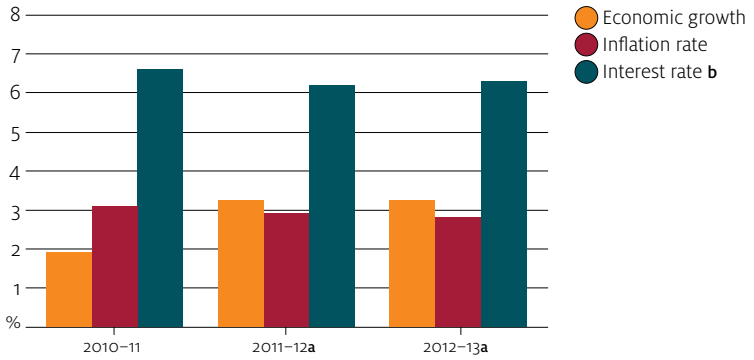
In coming quarters, domestic demand is expected to grow at a relatively solid pace, driven largely by mining related activity. Uncertainty about the outlook for global economic growth poses a downside risk to commodity demand and hence Australian export earnings and investment spending. In preparing this set of agricultural commodity forecasts, economic growth in Australia is assumed to average 3.25 per cent in 2011–12 and 2012–13. Over the medium-term, the Australian economy is assumed to grow by around 3 per cent a year, close to its potential growth rate at the current stage of economic development.

Inflation

Inflationary pressures in Australia remain moderate. The consumer price index rose year-on-year by 3.1 per cent in the December quarter 2011, compared with an increase of 3.5 per cent in the September quarter.

The most significant rises in the December quarter were for domestic holiday travel and accommodation, rents, telecommunication equipment and services, beer, and automotive fuel. Partially offsetting these rises were price falls for fruit and vegetables, pharmaceutical products, audio, visual and computing equipment, international holiday travel and accommodation, and motor vehicles.

Australian economic indicators



a ABARES assumption. **b** Large business weighted average variable rate on credit outstanding.

Inflationary pressures in Australia are expected to remain moderate, with the inflation rate assumed to average 2.9 per cent in 2011–12, before easing slightly to 2.8 per cent in 2012–13. Toward 2016–17, the inflation rate is assumed to be around 2.5 per cent a year.

Australian exchange rate

The Australian dollar remained strong in the second half of 2011 against both the US dollar and on a trade-weighted basis. For the first eight months of 2011–12, the Australian dollar averaged around US103 cents and TWI 76.

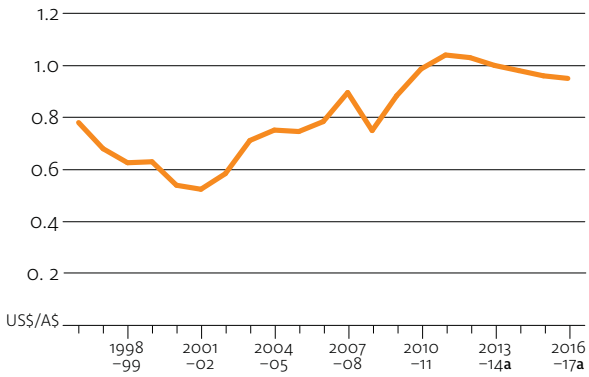
In the short-term, the value of the Australian dollar is assumed to remain relatively high; a number of reasons underpin this assessment. First, assumed strong commodity demand, especially for mineral resources, will likely provide support for world commodity prices and, hence, Australia's export earnings and terms of trade. Despite some possible easing in commodity prices in the short-term, in line with assumed weaker world economic growth, Australia's terms of trade is likely to remain relatively high in the foreseeable future. Second, Australia's interest rates have been relatively high compared with major OECD countries. Although an easing of monetary policy is assumed in the short-term, the interest rate differentials relative to the United States and other major OECD countries will remain, and this will provide support for the Australian exchange rate.

In preparing this set of agricultural commodity forecasts, the Australian dollar is assumed to average US104 cents and TWI 77 in 2011–12 and US103 cents and TWI 76 in 2012–13.

Over the medium-term, it is assumed that the value of the Australian dollar will ease gradually from current levels, but will remain relatively strong. Australia's terms of trade is expected to ease somewhat toward 2016–17 as commodity prices moderate gradually in response to supply increases. The assumed gradual recovery of major OECD economies, especially the United States, is expected to improve financial market sentiment toward the US dollar and the euro, putting some downward pressure on the value of the Australian dollar. When economic recovery begins in major OECD economies, the interest rate differentials between Australia and those countries would also narrow.

The Australian dollar is therefore assumed to remain above parity against the US dollar in the next few years, but to ease gradually toward the latter part of the outlook period. By 2016–17, the Australian dollar is assumed to average around US95 cents and TWI 70.

Australian exchange rate



a ABARES assumption.

While the Australian dollar is assumed to remain relatively strong in the next few years, significant volatility in the value of the Australian exchange rate is likely to occur. This is because changes in financial market sentiment can have a significant influence on movements in the Australian dollar. For example, when looking back over the past year, the Australian dollar has been as low as US95 cents in October 2011 and as high as US110 cents in August 2011. Consequently, it remains important for primary producers and exporters to manage the risks associated with fluctuations in the Australian exchange rate.

Key macroeconomic assumptions for Australia

	unit	2009 –10	2010 –11	2011 –12 a	2012 –13 a	2013 –14 a	2014 –15 a	2015 –16 a	2016 –17 a
Economic growth **b**	%	2.3	1.9	3.25	3.25	3.0	3.0	3.0	3.0
Inflation **b**	%	2.3	3.1	2.9	2.8	2.5	2.5	2.5	2.5
Interest rates **c**	% pa	6.0	6.6	6.2	6.3	6.6	6.8	6.8	6.8
Nominal exchange rates **d** – US$/A$	US$	0.88	0.99	1.04	1.03	1.00	0.98	0.96	0.95
Trade weighted index for A$ **e**	index	69	74	77	76	74	73	71	70

a ABARES assumption. **b** Change from previous period. **c** Large business weighted average variable rate on credit outstanding. **d** Average of daily rates. **e** Base: May 1970 = 100.
Sources: ABARES; Australian Bureau of Statistics; Reserve Bank of Australia

Outlook for Australian agricultural, fisheries and forestry exports

The total volume of farm production is forecast to increase by around 1 per cent for 2012–13, following a forecast increase of 4.2 per cent in 2011–12.

Following the wettest two-year period on record during 2010 and 2011 and generally wet conditions in early 2012, the climate is expected to move to neutral or drier conditions in the next few years. This expectation is based on currently available information and reflects the historic climate record, which indicates that prolonged, widespread wet periods do not generally extend beyond two years.

However, the widespread rainfall of the past two years has replenished soil moisture and water storages, which is expected to support agricultural production in most areas of Australia in the short-term. Over the medium-term, farm production is projected to rise gradually. By 2016–17, the volume index of farm production is projected to be 5.4 per cent higher than the level forecast for 2011–12.

The index of unit returns for Australian farm exports, in aggregate, is forecast to decline by 4.1 per cent in 2012–13, after remaining largely unchanged in 2011–12. This forecast decline reflects expected lower world prices for wheat, soybeans, cotton, dairy products, sugar, wool and rice.

Unit returns for farm exports are projected to decline further in 2013–14 before recovery, in real terms, over the remainder of the outlook period. By 2016–17, the index of unit returns for farm exports is projected to reach a similar level as forecast in 2011–12.

Earnings from farm exports are forecast to be around $35.1 billion in 2012–13, marginally lower than a forecast $35.5 billion in 2011–12. Farm commodities for which export earnings are forecast to be higher in 2012–13 include canola (2 per cent), raw cotton (9 per cent), grain sorghum (12 per cent), wine (5 per cent), beef and veal (1 per cent) and sheep meat (22 per cent).

Export earnings for crops are forecast to be around $19.8 billion in 2012–13, compared with $20.7 billion in 2011–12. The export value of livestock and livestock products is forecast to increase by 3.6 per cent in 2012–13 to $15.3 billion.

Over the medium-term, the value of Australian farm exports is projected to remain relatively high. Australian farm exports are projected to be $35.1 billion (in 2011–12 dollars) in 2016–17. This compares with an average of $32.3 billion (also in 2011–12 dollars) in the five years to 2010–11.

For fisheries products, export earnings are forecast to be around $1.3 billion in 2012–13, largely unchanged from the forecast value in 2011–12. Export earnings for forest products are forecast to increase by 1.1 per cent to around $2.4 billion in 2012–13.

In total, the value of Australian agricultural, fisheries and forestry exports is forecast to be around $38.9 billion in 2012–13, compared with the $39.2 billion forecast in 2011–12. By 2016–17, the value of Australia's agricultural, fisheries and forestry exports is projected to be around $38.8 billion (in 2011–12 dollars).

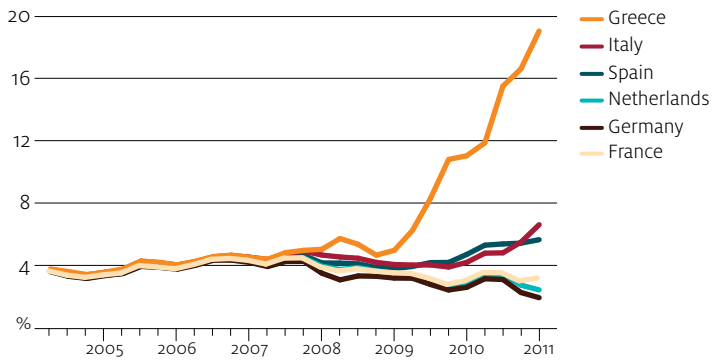
Government debt in the European Union

Patrick Hamshere and Neil Thompson

Financial market concerns over the sustainability of high public debt levels in many Euro area economies have increased markedly. In particular, a number of Euro area governments have experienced difficulties in financing their debt obligations, which has raised concerns of sovereign defaults in the region.

Reflecting these issues, credit rating downgrades on sovereign debt and the risk of contagion within the Euro area have placed further pressure on highly indebted European economies. Government bond spreads (the interest rate differential on different countries' government bonds) within the Euro area have risen significantly for some economies. For example, concerns over Italy's public debt have resulted in a substantial premium for its bond yields relative to stronger economies with lower debt obligations, such as Germany and the Netherlands. In early February 2012, the interest rate differential between Italian and German 10-year government bonds was around 380 basis points.

10-year government bond yields in selected Euro area economies



The heightened risk of the crisis spreading to other Euro area economies has occurred for several reasons. First, European banks, which hold around one-third of all Euro area sovereign debt on issue, have incurred valuation losses on their holdings of sovereign debt. This has raised concerns about the financial soundness of banks in the Euro area, which were already weak following the global financial crisis. Second, changing market sentiment toward highly indebted governments, in particular the level of sovereign risk, has changed significantly. This increase in risk has led to interest rates on government debt rising markedly for some regional economies.

In response, European governments have indicated ongoing support for highly indebted countries. For example, the European Financial Stability Fund was established, and subsequently enlarged in 2011, to provide financial assistance to highly indebted Euro area economies. A number of governments have successfully sought financial assistance from this fund as well as from the International Monetary Fund. The European Central Bank has also taken steps to stabilise financial markets and stimulate economic activity. Benchmark lending rates have been reduced twice since late 2011, while liquidity provisions have been expanded and reserve ratio requirements for European banks reduced.

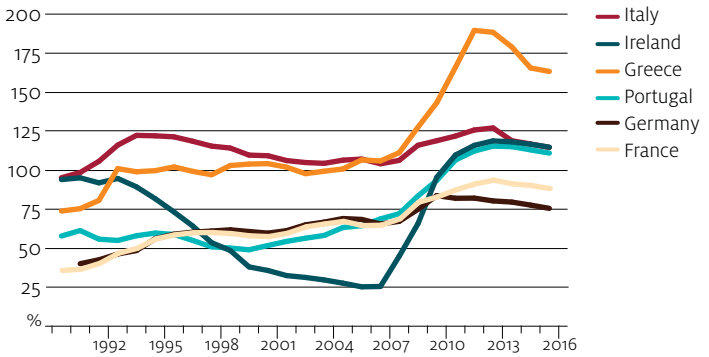
...continued

Government debt in the European Union ...continued

Outlook for government debt in the Euro area

Projections from the International Monetary Fund indicate that gross government debt, as a share of gross domestic product, will remain high over the outlook period for Euro area economies, if no significant reduction measures are taken. In Italy, gross general government debt is projected to decline only slightly, from 121 per cent of gross domestic product in 2011 to around 114 per cent by 2016. In Portugal, government debt is expected to increase from an estimated 106 per cent of gross domestic product in 2011 to 110 per cent in 2016.

General government debt (gross) in selected Euro area countries, per cent of GDP



Source: International Monetary Fund

However, many governments in the Euro area have or are expected to implement fiscal consolidation packages to reduce budget deficits and public debt levels. Implementation of these packages is expected to ease market concerns over the sustainability of high public debt levels and help restore consumer and business confidence. On the downside, reduced public spending is expected to detract from already weak economic growth in the short-term. As a result, some highly indebted nations (such as Greece, Italy and Portugal) are facing a sustained period of weak growth, which will likely result in these economies remaining in recession for 2012 and into 2013.

While reducing public debt will be a long-term process, financial markets are likely to remain volatile in the short-term, raising the risk of further shocks to the financial system, with the potential to adversely affect regional economic growth.

Major indicators of Australia's agriculture and natural resources based sectors

		2009–10	2010–11	2011–12 f	2012–13 f	2013–14 z	2014–15 z	2015–16 z	2016–17 z
Exchange rate	US$/A$	0.88	0.99	1.04	1.03	1.00	0.98	0.96	0.95
Australian export unit returns a									
Farm	index	100.0	110.6	110.2	105.7	104.0	105.2	107.1	110.8
Value of exports									
Farm	A$m	28 550	32 444	35 478	35 096	35 696	36 780	38 017	39 823
– real b	A$m	30 277	33 372	35 478	34 144	33 880	34 058	34 344	35 098
Crops	A$m	15 231	17 621	20 711	19 792	19 423	19 837	20 510	21 544
– real b	A$m	16 153	18 125	20 711	19 255	18 435	18 368	18 529	18 988
Livestock	A$m	13 318	14 823	14 767	15 304	16 273	16 943	17 507	18 279
– real b	A$m	14 124	15 247	14 767	14 889	15 445	15 689	15 816	16 110
Forest and fisheries products	A$m	3 508	3 723	3 747	3 765	3 869	3 989	4 046	4 185
– real b	A$m	3 720	3 829	3 747	3 663	3 672	3 694	3 655	3 689
Forestry	A$m	2 261	2 474	2 403	2 431	2 478	2 532	2 599	2 686
– real b	A$m	2 398	2 545	2 403	2 365	2 352	2 345	2 348	2 368
Fisheries	A$m	1 247	1 249	1 344	1 334	1 391	1 457	1 448	1 499
– real b	A$m	1 322	1 285	1 344	1 298	1 320	1 349	1 308	1 321
Gross value of production c									
Farm	A$m	39 656	48 162	49 040	48 741	49 473	50 667	51 694	53 308
– real b	A$m	42 055	49 541	49 040	47 419	46 957	46 917	46 701	46 984
Crops	A$m	21 119	27 106	27 568	27 026	27 040	27 724	28 335	29 526
– real b	A$m	22 396	27 882	27 568	26 292	25 665	25 672	25 598	26 023
Livestock	A$m	18 537	21 057	21 473	21 716	22 433	22 943	23 359	23 782
– real b	A$m	19 659	21 660	21 473	21 126	21 292	21 245	21 103	20 961
Forestry and fisheries	A$m	3 974	3 953	4 071	4 282	4 479	4 717	4 964	5 244
– real b	A$m	4 214	4 067	4 071	4 166	4 252	4 368	4 484	4 622
Forestry	A$m	1 778	1 779	1 875	1 994	2 134	2 297	2 495	2 738
– real b	A$m	1 886	1 830	1 875	1 940	2 025	2 127	2 254	2 413
Fisheries	A$m	2 196	2 175	2 196	2 288	2 346	2 420	2 469	2 506
– real b	A$m	2 329	2 237	2 196	2 225	2 226	2 241	2 231	2 209
Volume of production									
Farm	index	107.6	114.3	119.2	120.1	121.8	123.1	124.0	125.6
– crops	index	114.3	126.3	136.0	134.0	133.9	134.2	134.4	136.2
– livestock	index	98.8	100.6	100.9	104.5	107.8	109.8	111.4	112.8
Forestry	index	118.7	119.1	122.7	127.7	133.5	140.5	148.9	159.5
Production area and livestock numbers									
Crop area (grains and oilseeds)	'000 ha	23 793	24 112	24 077	23 878	23 917	23 942	23 984	24 051
Forestry plantation area	'000 ha	2 009	na	na	na	na	na	na	na
Sheep	million	68.1	74.3	78.2	81.5	83.2	84.6	85.1	85.0
Cattle	million	26.6	28.8	30.2	31.4	31.8	31.6	31.4	31.2
Farm sector									
Net cash income d	A$m	9 967	16 315	16 510	15 342	14 877	14 821	14 795	15 184
– real b	A$m	10 570	16 782	16 510	14 926	14 120	13 724	13 366	13 383
Net value of farm production e	A$m	5 173	11 370	11 417	10 102	9 495	9 296	9 121	9 359
– real b	A$m	5 486	11 695	11 417	9 828	9 012	8 608	8 240	8 249
Farmers' terms of trade	index	88.6	98.5	94.7	92.4	91.2	90.7	90.6	90.9

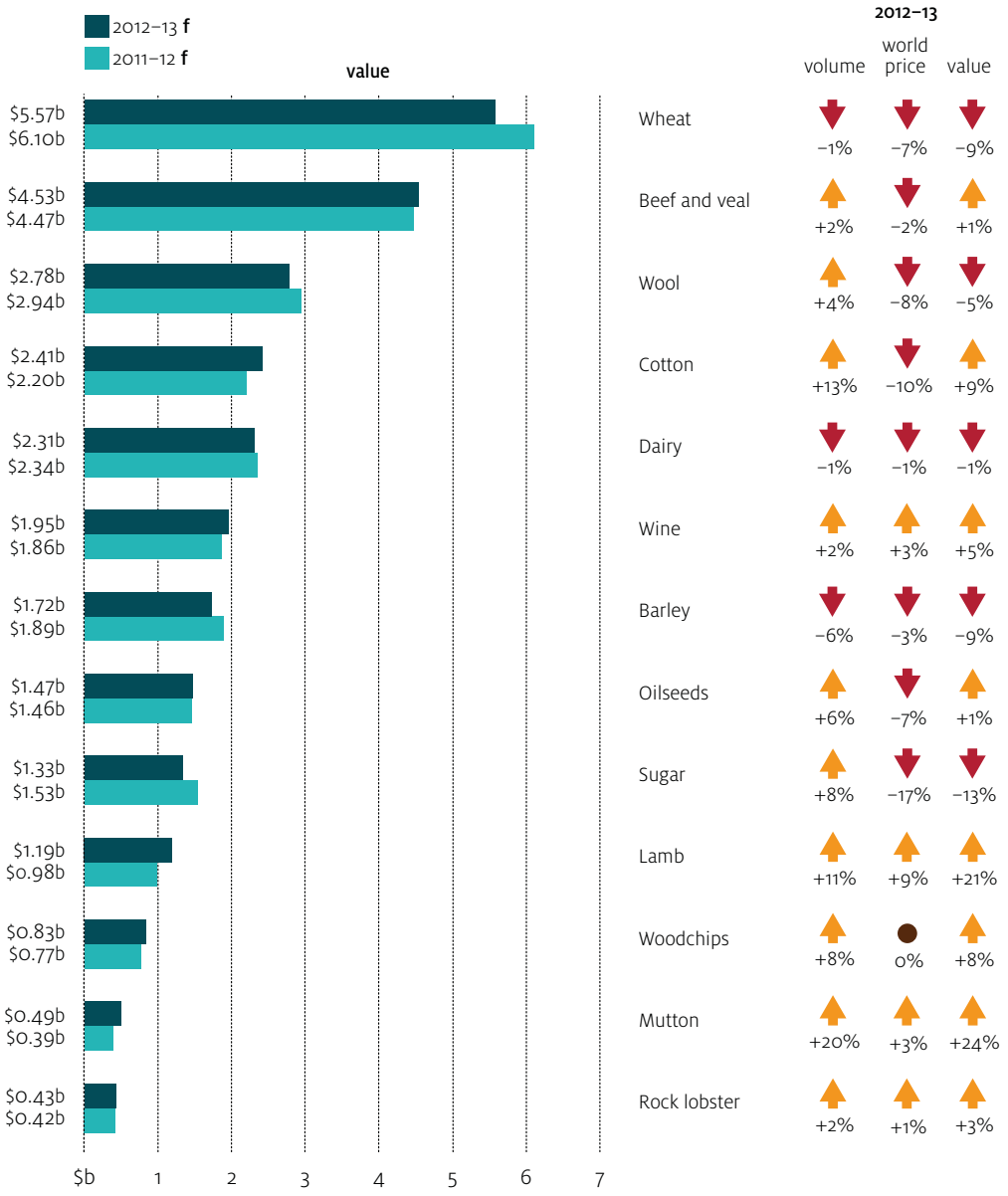
a Base: 2009–10 = 100. **b** In 2011–12 Australian dollars. **c** For a definition of the gross value of farm production see Table 13. **d** Gross value of farm production less increase in assets held by marketing authorities and less total cash costs. **e** Gross value of farm production less total farm costs. **f** ABARES forecast. **z** ABARES projection. **na** Not available.

Note: ABARE revised the method for calculating farm price and production indexes in October 1999. The indexes for the different groups of commodities are calculated on a chain weight basis using Fishers' ideal index with a reference year of 1997–98 = 100.

Sources: ABARES; Australian Bureau of Statistics

Major Australian agricultural, fisheries and forestry commodity exports

Wheat, cotton, sugar and oilseeds are world indicator prices in US$. All other commodities are export unit returns or domestic prices in A$. For export value, annual forecasts are the sum of quarterly forecasts. As a result, annual export values do not necessarily reflect variations in export volumes, world prices and exchange rates.



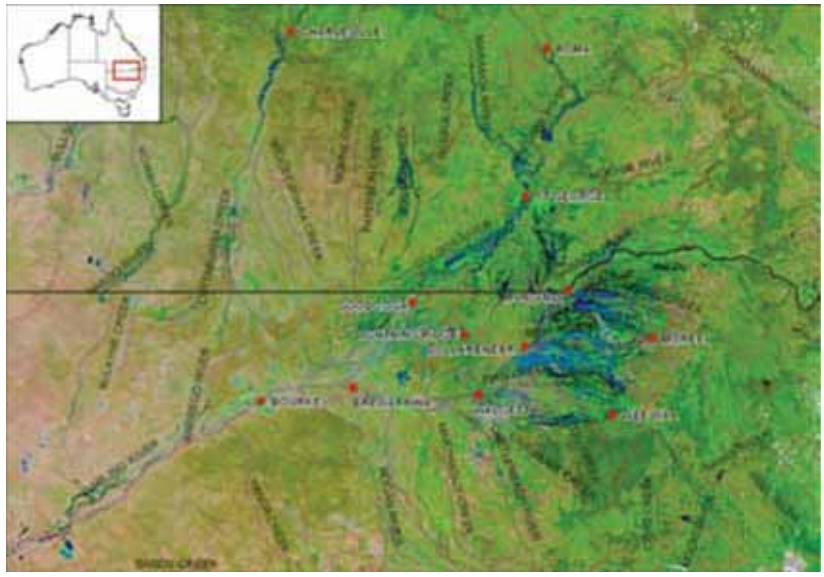
f ABARES forecast.

Impact on agricultural production of recent floods in northern New South Wales and southern Queensland

Extent of the floods

Widespread heavy rainfall during late 2011 and early 2012 resulted in flooding in parts of northern New South Wales and southern Queensland. The central-north and north-west regions of New South Wales and the south-west region of Queensland experienced the most severe flooding. Some regions were affected by floodwater for up to a week; the extent of damage to agricultural production is still being assessed. The most significant damage to crop production is likely to be in western areas, where floodwaters from various smaller rivers that flow north-east to south-west converged and resulted in a longer period of inundation.

MAP 1 MODIS satellite image (6 February 2012)



Source: NASA/GSFC, MODIS Rapid

Damage to agricultural production

Despite the flooding causing some damage to summer crops in southern Queensland and northern New South Wales, the outlook for summer crop production remains favourable. In most regions, rainfall has been above to much above average and upper and lower layer soil moisture profiles are at near record levels. While some producers suffered hardship and production losses because of the flooding, the full extent of damage remained unclear at the time this report was prepared (mid–February 2012).

Grain sorghum

While around 75 000 hectares of grain sorghum were estimated to have been planted in the Moree region, 15 000 hectares around Narrabri and 60 000 hectares around Gunnedah, the area of grain sorghum crops directly affected by floodwater is expected to have been smaller because the effects of flooding tend to be localised.

...continued

Impact on agricultural production of recent floods in northern New South Wales and southern Queensland ...continued

In the floods last season, producers were generally surprised by how well grain sorghum recovered once the water had receded. The damage this year depends on crop maturity and the length of time it took for floodwaters to recede. There was a significant variation in crop maturity at the time of inundation, ranging from just emerged to nearing harvest.

Cotton

Some cotton growing regions, particularly the Gwydir, Namoi, Mungindi and Walgett valleys in northern New South Wales and the Mungindi, Dirranbandi and St George valleys in southern Queensland were affected by flooding.

While around 48 per cent of the total area planted to cotton is in regions affected by floods, the full extent of damage to cotton crops was unclear at the time this report was prepared, with the actual damage dependent on the level of inundation and the growth stage of the plants. The effect on total cotton production is not expected to be substantial, with the St George region protected by a large flood levee. The floods that occurred in late 2010 and early 2011 caused only minor damage to cotton crops in the St George and Dirranbandi regions.

Sugar

Flooding in sugarcane-producing regions was confined to northern New South Wales, which accounts for around 5 per cent of Australian sugar production. The 2011–12 cane harvest in this region was completed in December 2011.

Livestock

While some localised stock losses were reported, the overall impact on livestock production is not expected to be significant.

According to the Queensland Department of Employment, Economic Development and Innovation, some cattle producers in the Mitchell region of southern Queensland deployed helicopters to round up stock before the worst of the floods eventuated.

Crops outside inundated areas

In areas not inundated by floodwater, summer crop yields are expected to be above average, reflecting full moisture profiles of the subsoil as a result of the above average rainfall across the major summer cropping regions.

The recent heavy rainfall will also recharge surface and groundwater storages in the upper Murray–Darling Basin.

Harvesting of winter crops was complete in southern Queensland and northern New South Wales before the inundation occurred.

Agriculture
Crops

Grains

Outlook to 2016–17

Fiona Crawford, James Fell and David Mobsby

Short-term outlook

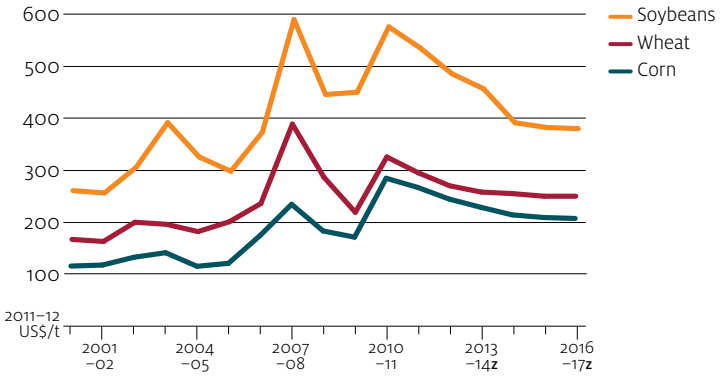
Prices to fall in 2012–13

The world wheat indicator price (US hard red winter, fob Gulf) is forecast to fall by 7 per cent in 2012–13 to average around US$275 a tonne, reflecting record world opening stocks and expected high global production for a second year. World supplies of higher protein wheat are forecast to increase in 2012–13, leading to a fall in the premium that US hard red winter wheat has held in 2011–12 over other wheat grades.

The world coarse grains indicator price (US corn, fob Gulf) is forecast to decrease by 7 per cent in 2012–13 to US$258 a tonne. The world indicator price for barley (French Rouen feed) is expected to fall by 10 per cent to US$248 a tonne. These price forecasts reflect expected increases in world coarse grain supplies.

The world oilseeds indicator price (soybeans, cif Rotterdam) is forecast to decrease by 7 per cent in 2012–13 to US$495 a tonne. The forecast decline reflects an increase in world soybean export supplies, driven by a forecast recovery of the United States soybean crop, and relatively high closing stocks from the 2011–12 season.

World wheat, corn and soybean indicator prices



z ABARES projection.

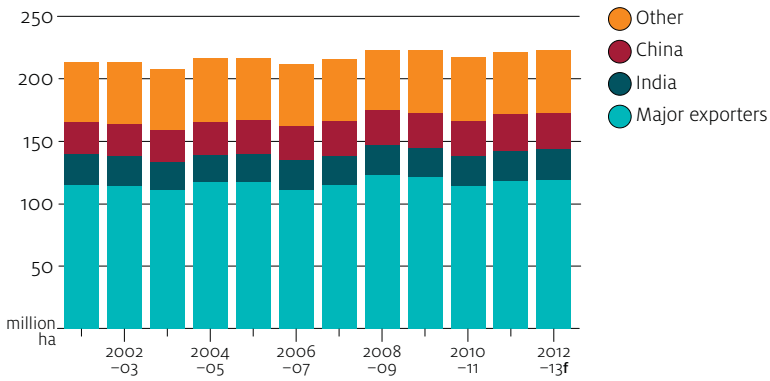
The world canola indicator price (cif Hamburg) is forecast to decrease by 8 per cent in 2012–13 to US$580 a tonne. A forecast recovery of the European rapeseed/canola crop combined with expected high production from Canada, are the factors driving the forecast price fall.

World production

Record world wheat area in 2012–13

Despite an expected rise in world wheat harvested area in 2012–13, world wheat production is forecast to fall by 2 per cent to around 682 million tonnes. This forecast reflects an assumed return to average yields following the record production achieved in the 2011–12 season. Planting of 2012–13 winter wheat took place from September to December 2011 in the northern hemisphere, with seasonal conditions and returns being relatively favourable for growers, leading to a rise in planted area.

World wheat area



f ABARES forecast.

In the United States, wheat production is forecast to rise by 6 per cent in 2012–13 to around 58 million tonnes as a result of larger areas harvested and a return to average yields following poor 2011–12 seasonal conditions. Total winter and spring wheat harvested area is forecast to rise by 6 per cent to around 20 million hectares. This largely reflects an assumed lower abandonment rate compared with the drought-affected 2011–12 season, and an estimated rise in winter wheat planted area.

US winter wheat planted area for the 2012–13 crop rose by 3 per cent, particularly in the southern hard red winter wheat areas, in response to favourable world prices for higher protein wheats. Forecast higher production from the southern US states is expected to lead to an increase in higher protein wheat supplies in 2012–13. Area harvested of spring wheat, which accounts for around one-third of US production, is also forecast to recover following the 17 per cent fall in 2011–12 as a consequence of rain-affected planting.

Wheat production in Canada in 2012–13 is forecast to rise by 2 per cent to around 26 million tonnes. An assumed improvement in planting conditions for spring wheat, which accounts for around 90 per cent of the Canadian crop, is forecast to lead to a rise in wheat planted area. Higher production in Canada is likely to contribute to an increase in world supplies of higher protein wheat in 2012–13.

In the European Union, wheat production in 2012–13 is forecast to rise by 2 per cent to around 140 million tonnes. Dry conditions in some regions led to a lower area planted to rapeseed, encouraging planting of winter wheat which is sown later. Seasonal conditions also improved when the winter wheat was being planted.

In China, total winter and spring wheat production is forecast to increase by 2 per cent to around 120 million tonnes in 2012–13.

In India, the world's third largest producer of wheat after the European Union and China, wheat production is forecast to fall by 4 per cent to around 83 million tonnes in 2012–13. This reflects a return to average yields despite an estimated 1 per cent rise in harvested area. In 2011–12, India's wheat producers achieved record yields, leading to a record crop.

In Argentina, production is forecast to be largely unchanged in 2012–13 at around 13 million tonnes. Improved yields are forecast to offset a fall in harvested area.

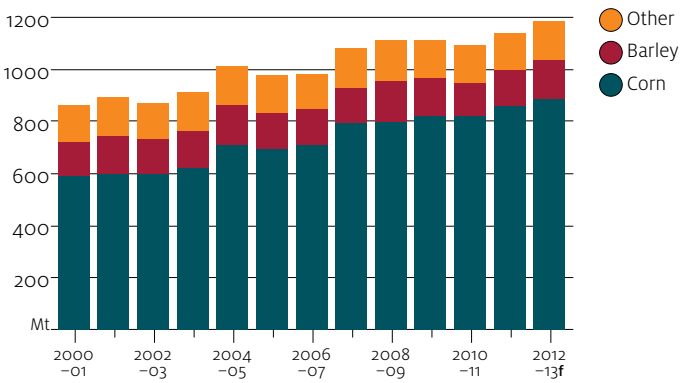
In the Russian Federation, wheat production is forecast to increase by 5 per cent to around 59 million tonnes in 2012–13. This reflects generally sufficient rainfall at planting time; and sufficient snow cover over winter. In Ukraine, wheat production is forecast to fall as a result of dry conditions in early winter over the western half of the country, leading to a higher forecast abandonment rate.

In Kazakhstan, wheat production is forecast to fall by 31 per cent to around 16 million tonnes in 2012–13, as a result of a return to average yields. Seasonal conditions in the previous season were exceptionally favourable for wheat production (see Box), with growers achieving record yields which were almost 60 per cent above the previous 10-year average.

Corn to drive world coarse grains production in 2012–13

World coarse grain production is forecast to rise by 4 per cent in 2012–13 to a record of almost 1.2 billion tonnes. This reflects an expected increase in corn production in the United States and China, as well as an increase in barley production in major producing nations.

World coarse grains production



f ABARES forecast.

World corn production is forecast to increase by 3 per cent in 2012–13 to a record 887 million tonnes, reflecting an expected increase in harvested area in major producing nations.

In the United States, corn production is forecast to rise by 6 per cent in 2012–13 to 333 million tonnes, recovering from the decline in 2011–12 brought about by adverse seasonal conditions. If favourable seasonal conditions prevail, the harvested area for corn is forecast to rise by 1 per cent to 34 million hectares.

In China, corn production in 2012–13 is forecast to increase by 5 per cent to 194 million tonnes. The harvested area to corn is expected to increase marginally to 33 million hectares. Despite expected record production in 2011–12 of 184 million tonnes, domestic prices remain high as consumption is expected to continue to exceed production. In December 2011, the Chinese government raised the support price for corn by 10 per cent, to an average of 1980 yuan a tonne from 1800 yuan a tonne. However, this support price remains below the average market price between July and December 2011. The expectation that the domestic corn price will continue to remain above the support price is likely to lead producers to plant more hectares to corn in 2012–13.

Barley production globally is forecast to increase by 6 per cent in 2012–13 to 147 million tonnes, with increases expected from most major producing regions, including the European Union and the Black Sea region.

In the European Union, barley production is forecast to increase by 8 per cent in 2012–13 to 56 million tonnes. Producers are expected to respond to expected high premiums for malting barley, following the widescale downgrade of the barley crop in 2011–12, by increasing planted area. Assuming favourable seasonal conditions, the area harvested to barley is forecast to increase by 5 per cent to 13 million hectares.

In the Black Sea region, barley production is expected to increase by 9 per cent in 2012–13 to 32 million tonnes. Area harvested is forecast to increase by 8 per cent to 14 million hectares, as favourable returns for barley lead to increased planting area. In Ukraine, production is expected to reach 15 million tonnes, reflecting a 16 per cent increase in the area harvested.

In Canada, barley production is forecast to increase by 20 per cent in 2012–13 to 9.6 million tonnes as producers respond to high domestic prices. The harvested area to barley is expected to recover by 19 per cent to 3 million hectares, following the decline in 2011–12 which came as a result of wet spring planting conditions.

Record oilseed production forecast in 2012–13

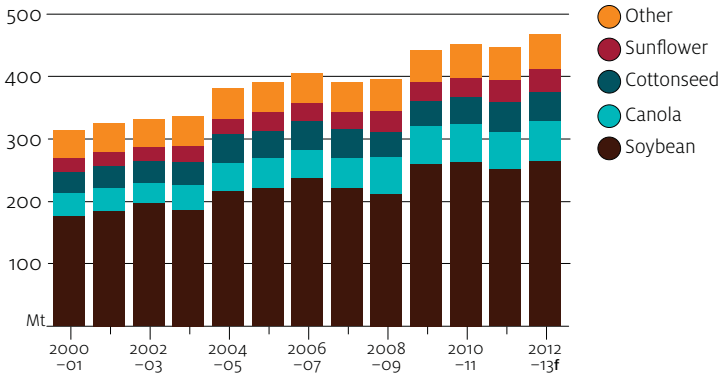
World oilseed production is forecast to increase by 4 per cent in 2012–13 to a record 467 million tonnes. A forecast recovery of the US soybean crop and continued high production of canola in Canada and sunflower in the Black Sea region are the main drivers of this forecast.

Canola

World canola production is forecast to increase by 7 per cent in 2012–13 to 64 million tonnes, reflecting a recovery in the European Union as a result of improved seasonal conditions.

In Canada, canola production is forecast to increase by 6 per cent in 2012–13 to a record 14.9 million tonnes. Adverse weather conditions last season limited the planting window and planting intentions were not fulfilled. It is forecast that the area planted to canola this season will increase by 12 per cent to 7.7 million hectares. This increase in area planted, combined with forecast favourable yields are expected to drive the increase in production this season.

World oilseed production



f ABARES forecast.

Rapeseed/canola production in the European Union is forecast to increase by 8 per cent in 2012–13 to 20.5 million tonnes. While some countries in the European Union are experiencing dry conditions, a return to more normal seasonal conditions in most countries is forecast to result in a 4 per cent increase in planted area to around 7 million hectares. The adverse seasonal conditions in 2011–12 resulted in yields reaching 10-year lows. In contrast, yields in the European Union this season are forecast to return to average.

Soybeans

World soybean production is forecast to increase by 5 per cent in 2012–13 to 264 million tonnes as production in the United States and China rebounds from last season.

In the United States, the world's largest soybean producer, soybean production is forecast to increase by 5 per cent in 2012–13 to 87 million tonnes. Unfavourable early spring weather during the planting period last season delayed plantings of soybeans and corn, while continued adverse conditions during key growing periods lowered soybean yields to 10-year lows. In contrast, area planted this season is forecast to increase by 3 per cent to 30.8 million hectares. Assuming normal seasonal conditions, yields are forecast to return to average which will increase production.

In Argentina and Brazil, the soybean harvest for 2011–12 is currently underway, with total production forecast to decline by 4 per cent to 119 million tonnes. Long periods of hot dry weather caused by a La Niña event have adversely affected crops. Reduced subsoil moisture has caused some irreversible damage to crops in the Brazilian states of Paraná and Rio Grande do Sul. However, even with a reduction of average yields in Brazil, production is still forecast to be 71 million tonnes; the second largest on record. In Argentina, planting intentions were not met as dry conditions shortened

the planting window and later lowered yields. Production in 2011–12 is therefore forecast to fall by 2 per cent to 48 million tonnes. In 2012–13, the area planted to soybeans in Argentina and Brazil is forecast to increase by 2 per cent and 5 per cent, respectively, to 19 million hectares and 26 million hectares. Yields are forecast to return to average following the La Niña affected yields of 2011–12 (in contrast to Australia, La Niña events are associated with dryer conditions in South America), with production forecast to increase by 6 per cent in Argentina to 51 million tonnes and 3 per cent in Brazil to 73.7 million tonnes.

Sunflower

World production of sunflower seed is forecast to increase by 2 per cent in 2012–13 to a record 36 million tonnes. This forecast is driven by record production in all major sunflower producing regions including Argentina, the European Union, the Russian Federation and Ukraine.

In the Black Sea region, record sunflower production is forecast in 2012–13 in the Russian Federation and Ukraine at around 9 million tonnes and 7.7 million tonnes, respectively. This forecast represents an increase of 3 per cent in both countries mainly as a result of expected higher than average yields following the 2010–11 drought.

In the European Union, sunflower seed production is forecast to increase by 2 per cent in 2012–13 to just over 8 million tonnes. Sunflower in the European Union is slowly becoming a more profitable crop for producers as sunflower crush margins have improved over the past two seasons. This has resulted in an increase of sunflower seed crushing at the expense of rapeseed and soybeans.

In Argentina, sunflower production is forecast to increase by 1 per cent in 2012–13 to 3.4 million tonnes. In 2011–12 sunflower yields and, ultimately, the crop were adversely affected by extended hot dry conditions associated with La Niña. In 2012–13 it is forecast that yields will recover and production will increase.

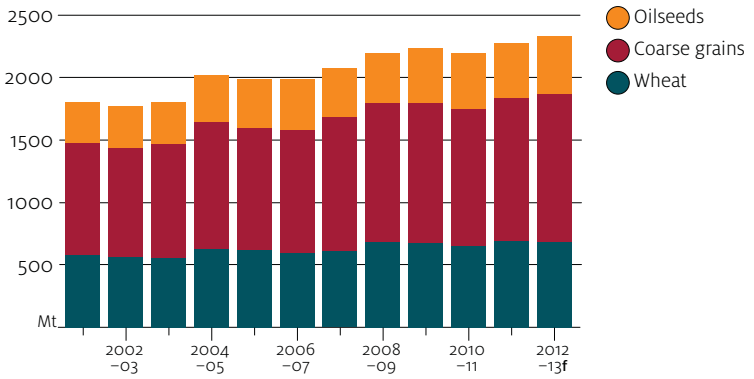
Crush

World total oilseed crush is forecast to increase by 3 per cent in 2012–13 to 399 million tonnes. The forecast increase in production of all major oilseeds as well as continued high prices for vegetable oils is supporting crush margins, driving this increase in crush. Sunflower seed crush is forecast to increase by 5 per cent this season, the highest growth rate of all the oilseeds. This increase is principally the result of the favourable crush margin for sunflowers relative to rapeseed and soybeans. Strong demand and record sunflower crops have also boosted sunflower seed crushing in Ukraine and the Russian Federation to record highs.

In India, soybean crush is forecast to increase by 4 per cent in 2012–13 to around 10.2 million tonnes. Over the past decade the profitability of the oilseed crushing sector in India has increased substantially, resulting in a 48 per cent increase in total oilseed crush between 2001–02 and 2011–12.

In the European Union, total oilseed crush is forecast to increase by around 4 per cent in 2012–13 to 42.5 million tonnes. A 3 per cent recovery in rapeseed/canola crush to 21 million tonnes following an improvement in rapeseed/canola production is one of the main contributors of the forecast total crush increase. Another contributor is the continued high sunflower crush, which is forecast to increase by 7 per cent to 7.2 million tonnes in the European Union.

World grains and oilseeds production



f ABARES forecast.

Consumption

Population growth driving wheat consumption higher

World consumption of wheat is forecast to increase marginally to 681 million tonnes in 2012–13. This increase is largely driven by growth in human consumption of wheat for food, in line with world population growth.

Consumption of feed wheat is forecast to remain high relative to recent years, but to fall from the record level of 2011–12. In 2011–12, feed wheat consumption rose in response to a rise in corn prices relative to feed wheat. Much of the increase in consumption in recent years has been in East Asia, where demand has been partially met by imports of Australian feed wheat from the rain-affected 2010–11 harvest.

World feed grain demand to increase in 2012–13

World consumption of coarse grains is forecast to increase by 2 per cent in 2012–13 to 1.2 billion tonnes. Use of coarse grains is expected to increase by 2 per cent to 680 million tonnes for feed use and by 2 per cent to 490 million tonnes for food and industrial use.

Industrial and food use of corn in the United States is forecast to rise by 1 per cent in 2012–13 to 163 million tonnes, of which around 135 million tonnes will be used to produce ethanol. The Renewable Fuels Standard, created under the Energy Independence and Security Act of 2007, mandates incrementally higher use of biofuels to 2022. In 2012 and 2013, the mandated requirement for biofuel production is 58 billion litres and 63 billion litres, respectively, of which the maximum amount of ethanol that can be derived from corn in 2012 and 2013 is 50 billion litres and 52 billion litres, respectively. The US Energy Information Administration forecasts continued high fuel prices over 2012–13, which is expected to support the United States ethanol industry. The United States is expected to produce beyond the Renewable Fuels Standard capped amount allocated to corn ethanol in 2012–13.

Industrial and food use for the rest of the world is expected to grow in 2012–13 but at a slower rate than the past several years. In China, industrial and food use in 2012–13 is forecast to grow by 3 per cent to 59 million tonnes, a decline from the five-year average growth rate of 7 per cent.

World feed demand for corn is expected to rise by 2 per cent in 2012–13 to 521 million tonnes. This reflects expected increases in livestock production in Asia and Brazil more than offsetting the expected cattle herd contraction in the United States. In the United States, lower cattle numbers are forecast to lead to a 2 per cent decline in feed consumption of corn in 2012–13 to 115 million tonnes. In contrast, feed consumption in China is forecast to increase by 4 per cent to 140 million tonnes, reflecting an increase in intensive livestock production.

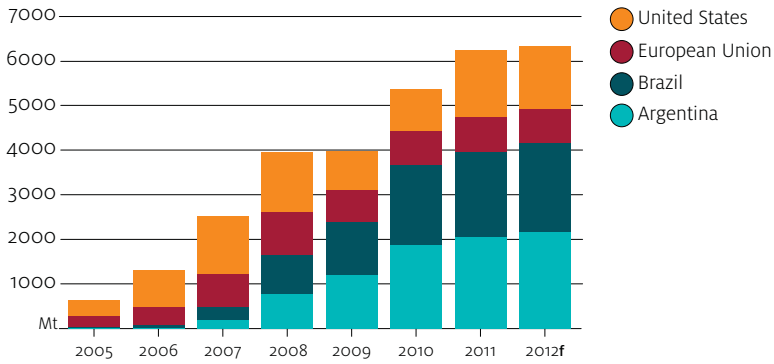
Feed barley use is forecast to increase by 4 per cent in 2012–13 to 98 million tonnes. This is largely driven by higher domestic availability in major producing countries. In the Russian Federation, in particular, consumption of barley in 2012–13 is forecast to increase by 10 per cent to 11 million tonnes, reflecting greater domestic production as well as growing livestock numbers.

Sustained industrial demand driving oilseed consumption

World oilseed consumption is forecast to rise by 3 per cent in 2012–13 to 469 million tonnes. World vegetable oil consumption is forecast to increase by 3 per cent to 158 million tonnes. Population growth and rising incomes in developing countries (especially China and India) as well as sustained growth in industrial demand are driving this forecast increase.

World industrial use of vegetable oil is forecast to rise by 6 per cent in 2012–13 to around 36 million tonnes. The European Union is the largest consumer of vegetable oil for industrial use and consumption is forecast to increase by 2.5 per cent to 12.5 million tonnes because of higher mandates for biofuels. However, European production of biodiesel is forecast to decrease in 2012–13 as a result of increased production costs relative to imported biodiesel from Latin America and Indonesia.

World biodiesel use



f ABARES forecast.

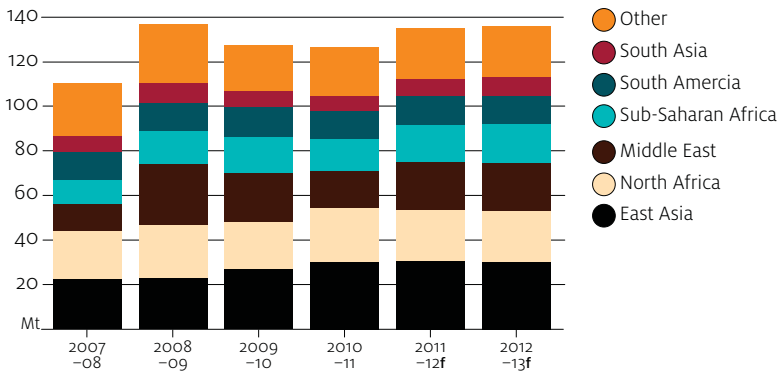
World consumption of protein meal is forecast to increase by 5 per cent in 2012–13 to 269 million tonnes. Growth in intensive livestock production, especially in developing countries, is driving this expected increase in demand. China remains the world's largest consumer of protein meal and is forecast to increase consumption by 8 per cent to 69 million tonnes in 2012–13 given the increased size of its pig herd. Similarly, India's consumption of protein meal is forecast to increase by 9 per cent to around 13 million tonnes.

Trade

Wheat trade to increase marginally

In 2012–13, trade in wheat is forecast to rise marginally to around 136 million tonnes, largely as a result of forecast record opening stocks and another year of relatively high forecast production in major exporting countries. Exports are forecast to be similar to 2011–12 in most major exporting countries except the United States, where they are forecast to rise by 4 per cent to around 25 million tonnes as a result of expected higher production. World imports of wheat are forecast to rise marginally in 2012–13, in line with exports. Quantities imported typically reflect patterns in each region's consumption, and this is forecast to continue in 2012–13.

World wheat imports by region



f ABARES forecast.

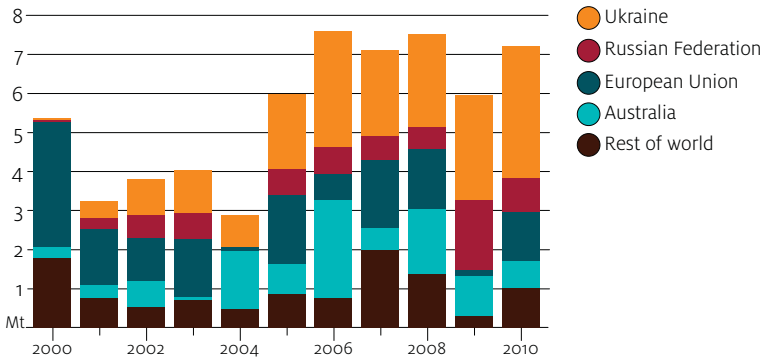
Record coarse grains production pushes trade higher

World trade in coarse grains is forecast to increase by 10 per cent in 2012–13 to 131 million tonnes. This reflects higher production in major exporting countries leading to greater tradable supplies. World trade in corn in 2012–13 is forecast to increase by 17 per cent to 103 million tonnes, driven predominantly by a recovery in US production. World barley trade in 2012–13 is forecast to increase by 5 per cent to 20 million tonnes given the expected production increase in the Black Sea region and Canada.

In China, corn imports are forecast to decrease by 11 per cent in 2012–13 to 4 million tonnes. Although corn consumption is expected to exceed production for a third consecutive year, the abundance of alternative, lower priced feeds such as wheat is forecast to lead to some substitution away from corn. Despite the forecast decline, imports will still be above the five-year average of 1.3 million tonnes.

Over the past decade Saudi Arabia has become an increasingly important market for barley. In recent years, Ukraine and the Russian Federation have dominated exports to this market. In 2012–13, Saudi Arabia is forecast to import around 7.7 million tonnes of barley; equivalent to around 39 per cent of world barley trade. Removal of an export tax on barley in Ukraine combined with a trade agreement between Ukraine and Saudi Arabia are expected to lead to an increase in Ukraine barley exports to Saudi Arabia in 2012–13.

Share of Saudi Arabia barley imports



World trade in oilseeds is forecast to increase by 4 per cent in 2012–13 to 115 million tonnes, reflecting increased trade of all three major oilseeds (soybeans, canola and sunflower seed). World trade in soybeans is forecast to increase by 5 per cent to 98.3 million tonnes, primarily because of the forecast rise in production in the United States and consequent increase in export supplies. World canola trade is forecast to increase by 1 per cent in 2012–13 to 10.8 million tonnes. The European Union is expected to import less rapeseed/canola in 2012–13 in response to higher domestic production following a recovery from the 2011–12 crop. World trade in sunflower seed is forecast to increase by 5 per cent to 2.3 million tonnes in 2012–13, largely as a result of continued high shipments from the Black Sea region.

Stocks

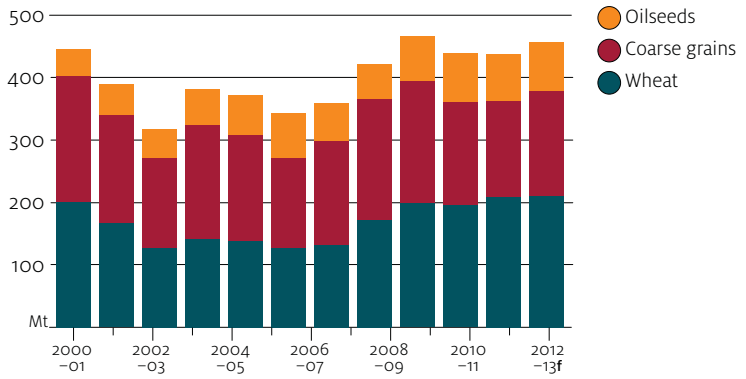
Stocks to increase

World wheat closing stocks in 2012–13 are forecast to increase by 1 per cent to around 210 million tonnes, as a result of production exceeding consumption. Stocks in most major exporters are forecast to remain largely unchanged in 2012–13, with the exception of the United States, where they are forecast to rise by 10 per cent to around 28 million tonnes, given the expected increase in production.

World closing stocks of coarse grains are forecast to increase by 10 per cent in 2012–13 to 168 million tonnes as world production is expected to exceed consumption. World corn stocks are forecast to increase by 7 per cent to 129 million tonnes. In the United States, corn stocks are expected to increase by 20 per cent to 26 million tonnes as production recovers and feed use declines. In China, corn stocks are expected to be relatively unchanged in 2012–13 at around 56 million tonnes, as the expected shortfall in domestic production is forecast to be filled by imports. World stocks of barley are forecast to increase by 15 per cent to 26 million tonnes, slightly below the long-term average of 27 million tonnes, as production in Canada and the European Union rises.

World closing oilseed stocks are forecast to increase by 4 per cent in 2012–13 to 79 million tonnes. This forecast reflects an expected 11 per cent rise in world canola stocks to 4.9 million tonnes and a 2 per cent rise in world soybean stocks to 64 million tonnes. Sunflower seed stocks are expected to grow the fastest, albeit from a low base, with a forecast 23 per cent increase in closing stocks to 3.3 million tonnes in 2012–13. This forecast increase in world oilseed stocks is a direct result of an expected increase in production following unfavourable seasonal conditions in many key oilseed growing regions in 2011–12.

World wheat, coarse grains and oilseeds closing stocks



f ABARES forecast.

Australian production and exports

Wheat production to fall in 2012–13

Australian wheat production is forecast to fall by 13 per cent to around 26 million tonnes in 2012–13, reflecting an assumption of a return to average yields and an expected smaller area planted. Area planted to wheat is forecast to fall by 3 per cent to 13.7 million hectares as the forecast prices for wheat, relative to other major crops, become less favourable. Following relatively lower average protein levels in Australian wheat in both 2010–11 and 2011–12, the premium held by higher-protein wheat on world markets is likely to provide an incentive to growers to raise wheat protein levels in 2012–13; for example, through applying nitrogenous fertiliser, which can contribute to higher protein levels.

Australian wheat exports are forecast to remain largely unchanged at around 21 million tonnes in 2012–13. Despite this expected decline, the forecast remains relatively high compared with historical averages. Export value is forecast to fall by 9 per cent to around $5.6 billion in 2012–13, reflecting lower export shipments and world prices.

The area planted to canola is forecast to increase by 5 per cent in 2012–13 to 1.8 million hectares, reflecting favourable prices and strong global demand for high-bearing oilseeds. Production is forecast to be 5 per cent higher at around 2.9 million tonnes. This forecast is driven by continued high yields following the drought-affected crop in Western Australia in 2010–11. Export value is forecast to decrease to around $1.1 billion in 2012–13, reflecting an expected fall in prices more than offsetting a 1 per cent rise in export volume to 1.9 million tonnes.

The area planted to barley is forecast to increase by 3 per cent in 2012–13, reflecting relatively favourable prices and high world demand for feed grains. Assuming favourable seasonal conditions production is forecast to rise by 5 per cent to 9 million tonnes. Export value is forecast to decrease by 1 per cent to around $1.7 billion in the 2012–13 marketing year (November–October), as an expected fall in prices more than offset a 4 per cent increase in export volume to 6 million tonnes.

Medium–term outlook

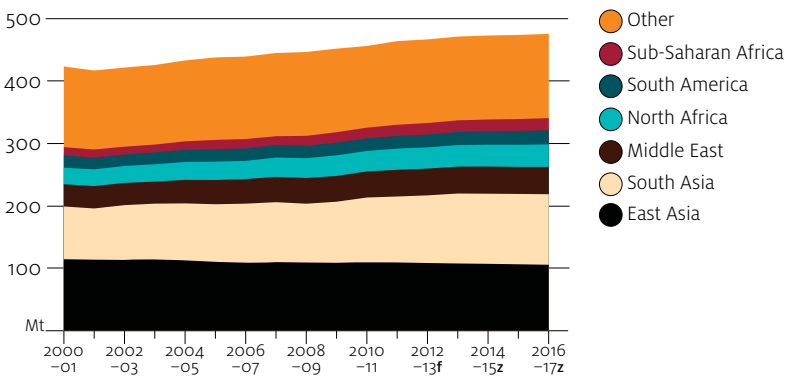
World grains and oilseeds prices are projected to trend downwards in real terms over the projection period from 2012–13 to 2016–17, while remaining above the averages observed in the early 2000s. Assuming favourable seasonal conditions, an increase in grains and oilseeds production over the medium-term is projected to arise from yield growth and increases in areas sown. Demand will be the key factor supporting prices over this projection period because of rising industrial use, continued rising incomes and population growth in key import markets.

Current supplies of wheat are relatively high compared with recent years, leading to a greater decline in wheat prices at the beginning of the projection period compared with coarse grains and oilseeds. However, climate and soil in many of the major wheat exporters are typically not suited to corn and soybeans. As a consequence, large shifts out of wheat production and into coarse grains or oilseeds in those countries are unlikely.

World consumption

World wheat consumption is projected to rise by an average of 1 per cent a year to just under 705 million tonnes by 2016–17. This will be largely driven by increases in food use of wheat, which accounts for a little less than 70 per cent of total wheat use. Food consumption of wheat is projected to rise by an average of less than 1 per cent a year to around 475 million tonnes by 2016–17. While per person food consumption of wheat has been falling over the past decade, the effect of population growth has more than offset this trend in each region of the world, except East Asia. This is projected to continue over the medium-term.

World food use of wheat



f ABARES forecast. **z** ABARES projection.

World coarse grains consumption is projected to rise by around 2 per cent a year to 1.3 billion tonnes by the end of the projection period. From 2004–05 to 2010–11 industrial and food use of corn (especially in ethanol production) were the major drivers of coarse grains consumption. However, over the medium-term this is expected to change as expansion of the corn ethanol industry in the United States slows and increasing livestock numbers in Asia and Latin America strengthen demand for feed use.

World oilseed consumption is projected to rise by around 3 per cent a year to 525 million tonnes by 2016–17. The major drivers of oilseed consumption since the mid-2000s have been industrial use, primarily for biodiesel, and protein meal for animal feed. Most growth in protein meal for animal feed stems from increased demand in developing countries with higher intensive livestock production. Global consumption of vegetable oil is projected to increase by 21 per cent over the projection period to 185 million tonnes by 2016–17.

Rising incomes to drive feed demand

Growth in incomes around the world is projected to continue being a major driver of demand for feed grains and oilseeds over the medium-term. As incomes rise, consumer diets have diversified and there has been increasing substitution away from grains (such as wheat and rice) toward livestock products (such as meat and dairy). This trend is projected to continue.

World consumption of coarse grains for feed is projected to increase by an average of 2 per cent a year to 750 million tonnes by 2016–17. Oilseed meal is a significant source of protein in livestock feed. Consumption of oilseed meal is projected to rise by an average of around 5 per cent a year over the same period to 330 million tonnes by 2016–17. World wheat use for feed is forecast to increase on average by 1 per cent a year to around 130 million tonnes by the end of the projection period, largely as a result of relatively high coarse grains prices encouraging substitution toward wheat as a feed stock.

Industrial use

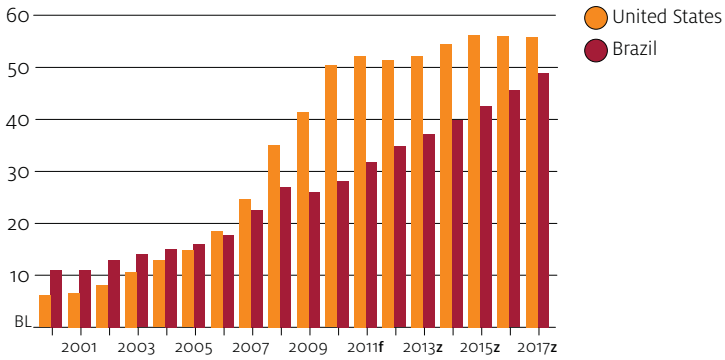
Production of ethanol was the major driver of corn consumption in the United States over the past decade. This growth was mainly the result of the Renewable Fuel Standard created under the US Energy Independence and Security Act of 2007, but was also assisted by an ethanol blender subsidy and an import tariff on foreign ethanol. On 31 December 2011 the blender's subsidy and the import tariff expired. This is expected to increase the cost of producing ethanol and open the market to imported product, thereby putting downward pressure on demand for domestically produced ethanol.

Over the medium-term, production of ethanol from corn in the United States is projected to plateau at around 56 billion litres in 2015, before declining gradually as ethanol imported from Brazil begins to compete with domestically produced ethanol. Brazil, which produces ethanol from sugar cane, has a production cost advantage over the United States, which produces most of its ethanol from corn. Because Brazil has ample available land to increase its sugarcane production, it has the scope to markedly increase ethanol production and hence exports.

In the United States, a separate subsidy for producers of biodiesel from soyoil also expired on 31 December 2011. Termination of the subsidy is expected to increase the cost of producing biodiesel and trigger a decline in biodiesel production over the medium-term.

Currently the European Union is the largest producer of biodiesel in the world followed by Brazil, the United States and Argentina. Over the medium-term, it is projected that the biodiesel mandates in Brazil and Argentina will increase from B5 to B10 and from B7 to B10, respectively, representing the proportion of biodiesel blended into fuel. Given the relatively lower costs of biodiesel production in Argentina, it is projected that Argentina will become the third largest producer of biodiesel, surpassing the United States over the medium-term.

Ethanol production in the United States and Brazil



f ABARES forecast. z ABARES projection.

Grain production, exports and storage in Kazakhstan

In 2011–12, Kazakhstan produced an estimated 27 million tonnes of grain, almost 60 per cent above its average over the past five years. Production of such an abnormally large crop places a focus on Kazakhstan's ability to store and export large crops over both the short and medium-term.

Kazakhstan grain production by region

f ABARES forecast.

Kazakhstan typically produces around 15 million tonnes of grain a year, 80 per cent of which is wheat. It is one of the world's major wheat exporters, with export volumes on a par with Argentina and Ukraine. Kazakhstan's major export markets are Afghanistan, Uzbekistan, Tajikistan, Azerbaijan, the European Union and North Africa. Quality is typically high, in contrast to other producing countries in the Black Sea region.

Production is supported by government subsidies for inputs, such as fertiliser and seed, and through price stabilisation.

...continued

Grain production, exports and storage in Kazakhstan ...continued

The cost of transport poses a challenge for Kazakhstan's exporters over the short and medium-term. Kazakhstan's only sea port is on the Caspian Sea, a landlocked body of water, effectively making Kazakhstan the only major exporter of wheat without direct access to ocean transport. The cost of rail transport to Black Sea ports from northern Kazakhstan has been estimated at around US$150 a tonne. To support grain exports following the bumper 2011–12 harvest, the government introduced a subsidy of around US$40 a tonne to Black Sea and Baltic ports, which represents at least 25 per cent of the transport cost. The government also leased 5500 railcars from the Russian Federation amid concerns about marketers' access to rail transport.

Kazakhstan's capacity to export grain is expected to improve over the medium-term as a result of planned investment in export infrastructure. Investment is occurring, with three new grain terminals on the Caspian Sea in Kazakhstan, Iran and Azerbaijan now operational and allowing greater access to the markets of the latter two countries. In the case of Iran, the new grain terminal allows better access to Iran's rail network, which potentially allows rail access to the Indian Ocean. Construction of a railway line from Kazakhstan to Iran along the Caspian Sea is also underway. Ultimately this will allow greater access to Indian Ocean ports.

Grain storage capacity is also an issue over the short and medium-term. The government of Kazakhstan estimates storage capacity of grain receival sites and agricultural companies at around 23 million tonnes. Given the size of the 2011–12 grain crop, as estimated by the Kazakhstan State Statistics Agency, it appears that temporary storage, such as tarpaulin-covered paved areas, will need to be used. Over the medium-term, grain storage capacity in Kazakhstan is projected to increase on the assumption of continued investment in grain storage facilities. In 2011 the government reportedly allocated more than US$60 million toward additional grain storage capacity, with around 500 000 tonnes of additional capacity expected to have been added.

World production

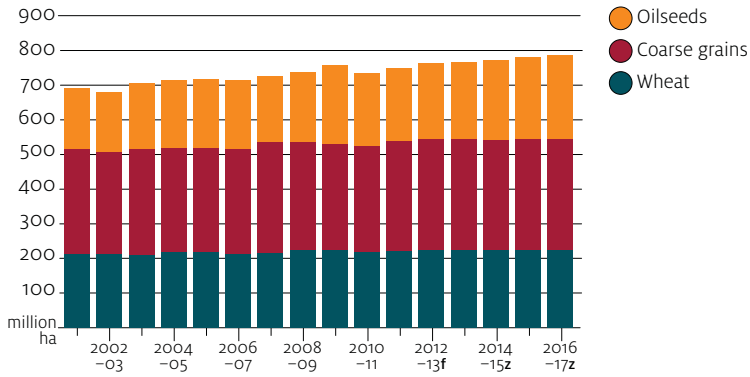
Although the global area planted to the major grains and oilseeds (wheat, barley, corn and soybeans) has grown slowly over the past 20 years, production has increased more significantly as a result of improvements in yields.

World wheat production is projected to increase by an average of 1 per cent a year over the medium-term to around 705 million tonnes by 2016–17. The global area planted to wheat is projected to rise marginally to around 224 million hectares by 2016–17. Most of this rise is expected to occur in the Black Sea region.

World production of coarse grains is projected to rise by 2 per cent a year to 1.3 billion tonnes by 2016–17. This increase is driven principally by an assumed improvement in yields in major production countries including China, Brazil and Argentina. With the decline in the prices of oilseeds and coarse grains projected to be less than for wheat, the area planted to coarse grains is projected to increase to 320 million hectares by the end of the projection period. Most of this projected rise is expected to occur in Latin America.

World oilseed production is projected to rise by around 3 per cent a year to 520 million tonnes by 2016–17. The global area planted to oilseeds is projected to rise by around 2 per cent a year to around 241 million hectares by 2016–17. Most of this increase is expected to occur in Argentina and Brazil for soybean production and the Black Sea region for sunflower seed production.

World grains and oilseeds area



f ABARES forecast. **z** ABARES projection.

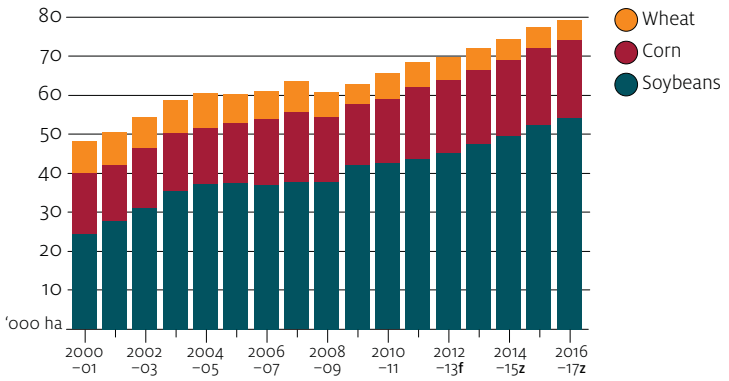
Competition for land in Latin America

Cropping areas in Brazil and Argentina have expanded rapidly over the past 10 years, increasing by 44 per cent between 2000–01 and 2011–12 to around 70 million hectares. The area planted to soybeans has dominated this rise, increasing by 125 per cent over the same period. Latin America has the potential to further expand its agricultural activities, particularly in the northern parts of Brazil, not including the Amazon Rainforest or protected areas. Land availability in Brazil, according to reports from the US Department of Agriculture and the Brazilian Agricultural Ministry, ranges between 50 and 200 million hectares. The cattle industry competes with the cropping sector for land in Brazil and Argentina, although over the past decade pasture area has decreased slightly.

Over the projection period, the area planted to soybeans is expected to reach 23.5 million hectares in Argentina and 31 million hectares in Brazil. Favourable returns, strong demand for vegetable oil in biodiesel production, and growth in feed consumption of protein meal are expected to drive this expected expansion. Production in Argentina and Brazil is projected to rise by around 2 per cent and 1 per cent a year to 57 million tonnes and 77 million tonnes, respectively, by 2016–17.

In comparison, corn plantings in Brazil and Argentina are projected to increase by 7 per cent by 2016–17 to 20 million hectares, reflecting strong global demand for livestock feed. The area planted to corn is projected to rise to 4.2 million hectares in Argentina and 15.7 million hectares in Brazil by the end of the projection period.

Wheat, corn and soybeans—Brazil and Argentina



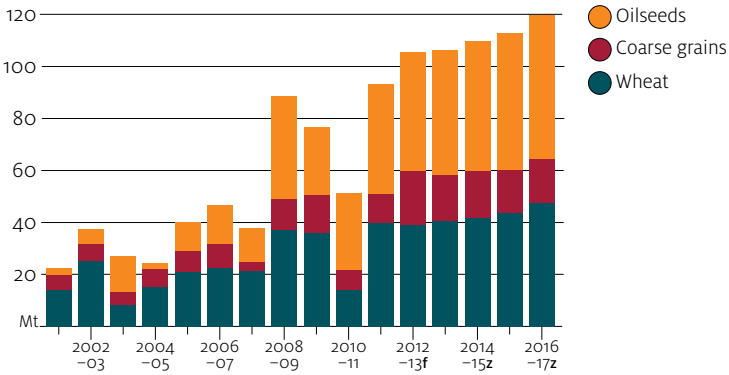
f ABARES forecast. **z** ABARES projection.

Exports from the Black Sea region to rise

Over the medium-term, the area sown to wheat, coarse grains and oilseeds in the three Black Sea exporting countries (Kazakhstan, the Russian Federation and Ukraine) is projected to increase by an average of 2 per cent a year to around 90 million hectares. Between 11 and 13 million hectares of idle land suitable for cropping currently remains available for expansion. Production of grains and oilseeds is projected to increase on average by 2 per cent a year to just under 200 million tonnes by 2016–17.

Exports of wheat, coarse grains and oilseeds are projected to increase by an average of 6 per cent a year to around 120 million tonnes by 2016–17. The major crop produced in the region is wheat. Wheat exports are projected to increase by an average of 4 per cent a year to just under 50 million tonnes by 2016–17. While the Black Sea region is forecast to be the world's largest wheat exporting region in 2011–12, the Russian Federation is projected to become the world's largest exporter of wheat over the medium-term.

Wheat, coarse grains and oilseeds exports from the Black Sea region

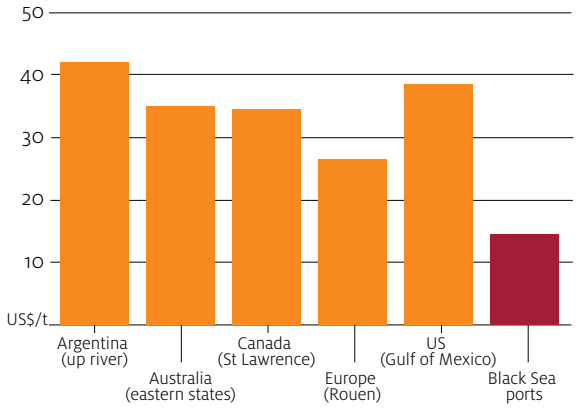


f ABARES forecast. **z** ABARES projection.

According to a United Nations Food and Agricultural Organization report, current annual grain export capacity of Black Sea ports is over 46 million tonnes. Actual exports in the Black Sea region have exceeded this figure as a result of exports from the Baltic Sea and shipments over land to nearby countries, which are major export destinations for grain from Kazakhstan, the Russian Federation and Ukraine. Over the medium-term, the Russian Federation's Black Sea port export capacity is expected to increase to over 28 million tonnes.

Black Sea exporters (except Kazakhstan, which faces the challenge of extensive land transport requirements, see Box) have a freight cost advantage over other major grain exporters to major markets in the Middle East and North Africa. This relative freight cost advantage is projected to continue over the medium-term and, as a consequence, Black Sea exporters' dominance in these major markets is projected to be maintained over the medium-term.

Indicative ocean grain freight rates to Alexandria, Egypt, early February 2012



Corn production to increase in China

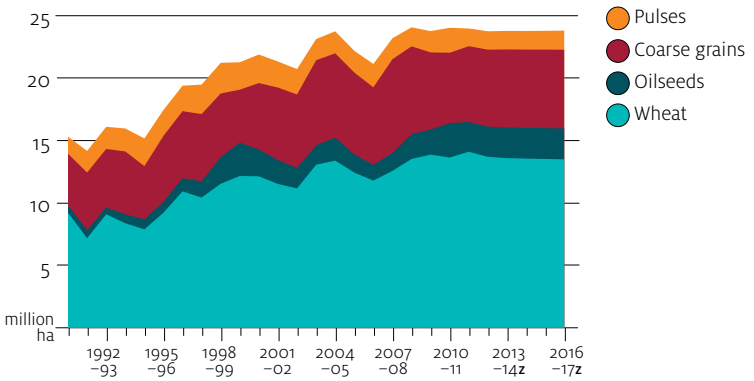
China is currently the world's second largest producer of corn. In 2011–12, China harvested 33 million hectares, roughly the same area as the United States, the world's largest corn producer. However, China is a relatively inefficient producer so lower yields resulted in a crop of 185 million tonnes; around 60 per cent the size of the United States. Because of constraints on the availability of arable land in China, the potential for production expansion through increased cropping area is limited. Further increases in production will need to be achieved through improvements in yields.

Corn production is projected to increase at a rate of 4 per cent a year to 225 million tonnes by 2016–17. The Chinese Government has made higher agricultural production a target in its 2011 five-year plan. To achieve this objective, government expenditure on agricultural research, development and implementation, water and logistics infrastructure, and investment in farm capital is expected to increase.

Australian medium-term outlook

The total area sown to grains and oilseeds in Australia is projected to average around 24 million hectares. This projection is consistent with historical land use and a small expansion of the sheep flock, which competes for land resources with grains and oilseeds. Changes in the wheat, coarse grains and oilseeds areas are projected to reflect relative movements in world prices. Wheat area is projected to decline gradually over the projection period, while coarse grains and oilseeds areas are projected to rise.

Australian grains and oilseeds area



z ABARES projection.

Production of grains and oilseeds in Australia over the medium-term is projected to increase by an average of 1 per cent a year to reach 45 million tonnes by 2016–17. For wheat and coarse grains, this reflects an assumption of favourable seasonal conditions over the period and an assumed annual yield growth of under 2 per cent, consistent with observed productivity growth over the past 10 years.

Australian production of wheat is projected to rise by under 1 per cent a year between 2012–13 and 2016–17 to around 26 million tonnes, reflecting the effect of yield growth more than offsetting small decreases in area planted. Area planted to wheat is projected to fall by an average of under 1 per cent a year to 13.5 million hectares over the same period. Australian wheat exports are projected to remain around 20 million tonnes up to 2016–17, in line with production and relatively high stocks over the projection period. Although stocks are projected to remain relatively high, they are expected to decline as a result of greater domestic use and relatively high exports.

Barley production is projected to rise by 10 per cent by 2016–17 to 10 million tonnes. The area planted to barley is projected to rise by 6 per cent to 4.4 million hectares, largely reflecting a response to expected relatively high world feed grain prices. Over the medium-term, exports of feed barley are projected to increase, particularly to the Asian region, in line with expectations of continued high demand for feed grains.

Canola production is projected to increase by 12 per cent by 2016–17 to around 3.2 million tonnes. The area planted to canola is projected to rise by 12 per cent to almost 2 million hectares by the end of the projection period. Canola yields are projected to increase by 1 per cent a year over the outlook period, with the expected increase in adoption of genetically modified canola varieties.

Outlook for wheat

	unit	2009–10	2010–11	2011–12 f	2012–13 f	2013–14 z	2014–15 z	2015–16 z	2016–17 z
World									
Area	million ha	222	218	221	223	223	224	224	224
Yield	t/ha	3.05	3.00	3.13	3.05	3.09	3.11	3.13	3.14
Production	Mt	679	653	693	682	690	695	700	705
Consumption	Mt	652	656	679	681	687	693	698	704
Closing stocks	Mt	199	195	209	210	213	215	217	218
Trade	Mt	128	126	135	136	137	138	139	140
Stocks-to-use ratio	%	30.5	29.8	30.8	30.9	31.0	31.0	31.1	31.0
Price **a**									
– nominal	US$/t	209	317	295	275	268	270	270	276
– real **b**	US$/t	219	325	295	270	258	255	250	250
Australia									
Area	'000 ha	13 881	13 645	14 058	13 700	13 600	13 560	13 530	13 500
Yield	t/ha	1.57	2.04	2.10	1.87	1.90	1.92	1.94	1.96
Production	kt	21 834	27 891	29 515	25 675	25 800	26 000	26 200	26 400
Export volume **c**	kt	13 725	18 431	21 200	21 000	19 900	19 500	19 250	19 050
Export value **c**									
– nominal	A$m	3 692	5 516	6 095	5 570	5 225	5 300	5 365	5 460
– real **d**	A$m	3 915	5 673	6 095	5 419	4 959	4 908	4 847	4 812
APW pool return **e**									
– nominal	A$/t	249	346	268	257	257	264	270	280
– real **d**	A$/t	264	356	268	250	244	245	244	247

a US hard red winter wheat, no. 2, fob Gulf, July–June. **b** In 2011–12 US dollars. **c** July–June years. **d** In 2011–12 Australian dollars. **e** Free on board Estimated Pool Return (EPR) for APW1 and APW2. **f** ABARES forecast. **z** ABARES projection.
Sources: ABARES; Australian Bureau of Statistics; International Grains Council

Outlook for coarse grains

	unit	2009–10	2010–11	2011–12 f	2012–13 f	2013–14 z	2014–15 z	2015–16 z	2016–17 z
World									
Area	million ha	309	307	315	320	319	319	320	320
Yield	t/ha	3.61	3.55	3.61	3.70	3.79	3.84	3.90	3.97
Production	Mt	1 114	1 092	1 140	1 184	1 210	1 224	1 248	1 270
Consumption	Mt	1 107	1 126	1 145	1 169	1 191	1 219	1 239	1 265
Closing stocks	Mt	196	165	153	168	186	192	201	205
Trade	Mt	123	114	115	131	134	154	157	165
Stocks-to-use ratio	%	18.17	14.39	13.97	14.35	15.65	15.75	16.19	16.16
Price **a**									
– nominal	US$/t	163	277	276	258	241	238	232	230
– real **b**	US$/t	171	285	276	253	232	224	214	208
Australia									
Area									
barley	'000 ha	4 422	3 740	4 038	4 157	4 273	4 320	4 368	4 415
oats	'000 ha	850	832	1 003	983	953	925	897	870
triticale	'000 ha	350	330	330	323	317	311	307	305
sorghum	'000 ha	498	674	632	649	654	658	661	665
maize	'000 ha	59	61	77	58	57	58	58	60
total	'000 ha	6 179	5 637	6 080	6 171	6 255	6 271	6 291	6 315
Production									
barley	kt	7 865	8 145	8 572	9 010	9 101	9 379	9 662	9 950
oats	kt	1 162	1 142	1 734	1 717	1 673	1 631	1 594	1 560
triticale	kt	545	685	580	599	588	577	576	570
sorghum	kt	1 508	2 068	2 331	2 210	2 272	2 327	2 382	2 435
maize	kt	328	351	422	333	327	340	343	350
total	kt	11 408	12 391	13 639	13 868	13 961	14 253	14 557	14 865
Domestic use **c**	kt	6 132	6 205	6 903	6 969	6 953	7 148	7 368	7 585
Export volume	kt	4 974	5 337	7 217	6 883	7 039	7 145	7 236	7 332
Export value									
– nominal	A$m	1 280	1 493	2 123	1 994	1 996	2 002	2 014	2 020
– real **d**	A$m	1 358	1 535	2 123	1 940	1 894	1 854	1 820	1 780
Price – nominal									
barley **e**	A$/t	172	207	184	186	183	182	180	180
grain sorghum	A$/t	196	217	193	204	199	194	190	187
Price – real **d**									
barley **e**	A$/t	183	213	184	181	174	168	163	159
grain sorghum	A$/t	208	223	193	198	189	180	172	165

a US corn, fob Gulf, September–August. **b** In 2011–12 US dollars. **c** Includes changes to stocks. **d** In 2011–12 Australian dollars. **e** Gross unit value of production. **f** ABARES forecast. **z** ABARES projection.
Sources: ABARES; Australian Bureau of Statistics; United States Department of Agriculture

Outlook for oilseeds

	unit	2009–10	2010–11	2011–12 f	2012–13 f	2013–14 z	2014–15 z	2015–16 z	2016–17 z
World									
Oilseeds									
Production	Mt	442	452	448	467	481	493	505	520
Consumption	Mt	423	442	454	469	484	497	512	525
Closing stocks	Mt	72	78	75	79	82	82	83	85
Indicator price **a**	US$/t	429	560	535	495	475	415	414	413
– real **b**	US$/t	450	576	535	486	457	391	382	374
Protein meals									
Production	Mt	239	253	258	267	276	283	292	300
Consumption	Mt	236	249	256	269	285	300	316	330
Closing stocks	Mt	7	8	10	10	11	12	13	15
Indicator price **c**	US$/t	391	418	321	284	265	270	313	312
– real **b**	US$/t	410	429	321	279	254	254	289	282
Vegetables oils									
Production	Mt	139	146	152	159	167	174	181	185
Consumption	Mt	138	151	152	158	166	171	177	185
Closing stocks	Mt	12	9	9	10	11	13	16	20
Indicator price **d**	US$/t	924	1 299	1 746	1 716	1 636	1 529	1 431	1 429
– real **b**	US$/t	969	1 335	1 746	1 683	1 573	1 442	1 322	1 295
Australia									
Total production	kt	2 609	3 782	4 459	4 621	4 722	4 801	4 898	4 996
Winter	kt	1 933	2 397	2 788	2 937	3 015	3 090	3 168	3 246
Summer	kt	676	1 385	1 671	1 683	1 707	1 711	1 730	1 750
Canola									
Area	'000 ha	1 712	2 093	1 705	1 786	1 822	1 858	1 895	1 933
Production	kt	1 920	2 382	2 775	2 925	3 001	3 077	3 154	3 233
Export volume **e**	kt	1 187	1 530	1 995	1 950	2 178	2 245	2 314	2 457
Export value **e**									
– nominal	$m	553	908	1 208	1 133	864	872	901	1 080
– real **g**	$m	586	934	1 208	1 102	820	807	814	952
Price **h**	A$/t	440	557	529	449	418	403	395	387
– real **g**	A$/t	466	572	529	437	397	373	357	341
Sunflowers									
Area	'000 ha	27	29	40	42	44	45	46	47
Production	kt	41	44	47	50	53	38	39	40
Exports **i**	kt	3	1	4	6	5	5	5	6
Price **j**	A$/t	550	605	563	478	445	429	421	412
– real **g**	A$/t	583	622	563	465	422	397	380	363

a Soybean, cif Rotterdam, October–September basis. **b** In 2011–12 US dollars. **c** Soybean meal, cif Rotterdam, 45 per cent protein. **d** Soybean oil, Dutch, fob ex–mill. **e** Marketing year: November–October. **f** ABARES forecast. **g** In 2011–12 Australian dollars. **h** Delivered Melbourne, November–October. **i** Marketing year, April–March. **j** Delivered Sydney, April–March. **z** ABARES projection.
Sources: ABARES; Australian Bureau of Statistics; United States Department of Agriculture

Sugar

Outlook to 2016–17

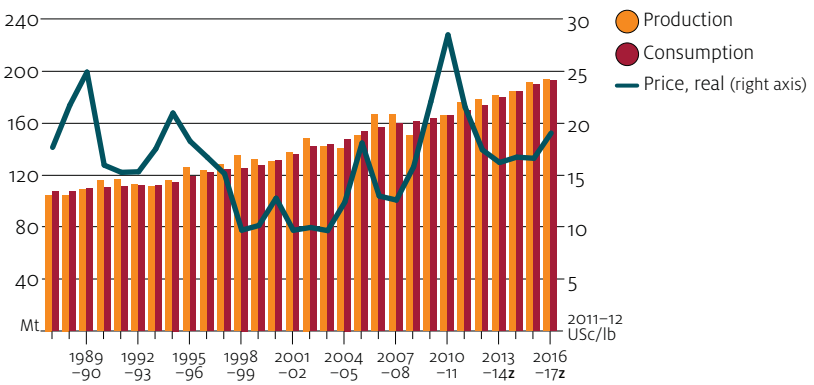
Max Foster

Short-term outlook

Lower sugar prices in 2011–12 and 2012–13

The world indicator price for raw sugar (Intercontinental Exchange, nearby futures, no. 11 contract, see Box) is forecast to decline by around 22 per cent in 2011–12 to average US21.5 cents a pound (October to September). The forecast decline reflects the expectation that record world sugar production in 2011–12 will enable rebuilding of world sugar stocks, despite a forecast increase in consumption.

World sugar indicators

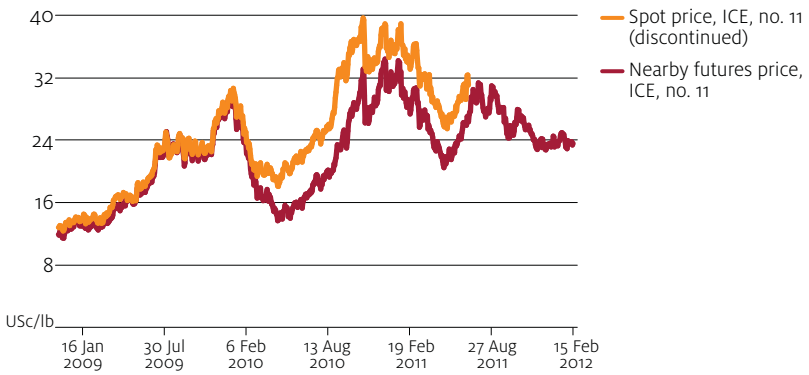


z ABARES projection.

At 14 February 2012, the world sugar indicator price was US23.4 cents a pound, compared with US29.4 cents a pound at the same time in 2011.

The world sugar indicator price is forecast to ease further in 2012–13, to average US17.8 cents a pound, as the world sugar balance remains in surplus in 2012–13, despite only a modest forecast increase in world sugar production.

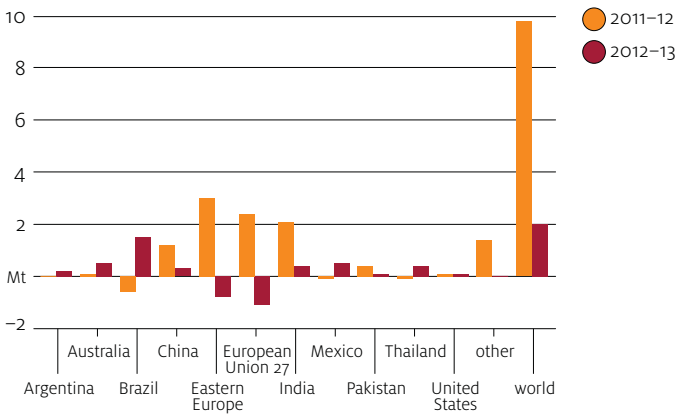
Spot and nearby futures prices (daily, ended 14 February 2012)



Record world sugar production in 2011–12 and 2012–13

World sugar production is forecast to increase by 9.8 million tonnes in 2011–12 to a record 175.8 million tonnes, as sugarcane and beet producers around the world respond to relatively high world sugar prices. The production increase is largely due to bumper beet sugar harvests in Eastern and Western Europe.

Forecast change in world sugar production, 2011–12 and 2012–13 a

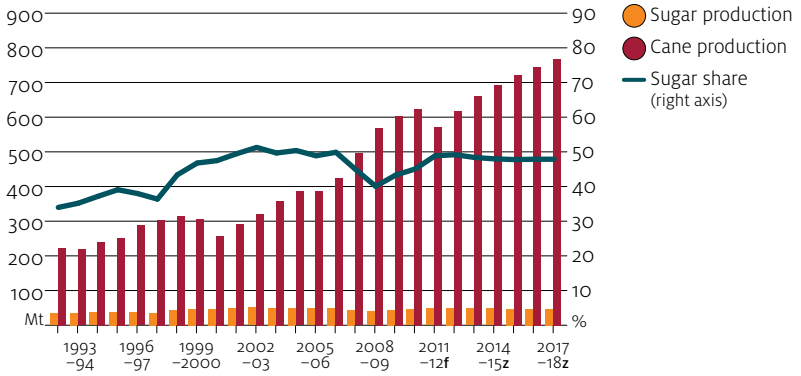


a October–September years.

Brazilian sugar production is forecast to increase by 2 million tonnes in 2012–13 (October to September) to 39 million tonnes, after declining in 2011–12 for the first time since 2000–01. The forecast period of 2012–13 covers production on the last six months of the 2011–12 Brazilian harvest season (April to March) and the first six months of the 2012–13 harvest season. Brazilian sugarcane production in the 2011–12 harvest season was adversely affected by a combination of crop disease, ageing cane plantings and adverse seasonal conditions. Lower cane production led

to an increase in the proportion of cane allocated to sugar production in 2011–12, despite increasing ethanol prices. In the 2012–13 harvest season, cane production is forecast to recover but demand for ethanol in Brazil should cause the proportion of cane allocated to sugar production rather than ethanol production to fall.

Sugarcane production and allocation, Brazil **a**



a April–March years. **f** ABARES forecast. **z** ABARES projection.

Indian sugar production is forecast to increase by 2.1 million tonnes in 2011–12 to 28.5 million tonnes. This reflects an increase in cane area harvested and a favourable Indian (or south-west) monsoon in 2011.

Sugar production in the European Union is forecast to increase sharply to 18.1 million tonnes in 2011–12, 2.4 million tonnes or 15 per cent higher than in 2010–11, due to increased plantings and record yields.

Favourable seasonal conditions have also been experienced in the beet producing regions of Eastern Europe. Sugar production in the Russian Federation is forecast to increase by 79 per cent in 2011–12, to a record 5.2 million tonnes.

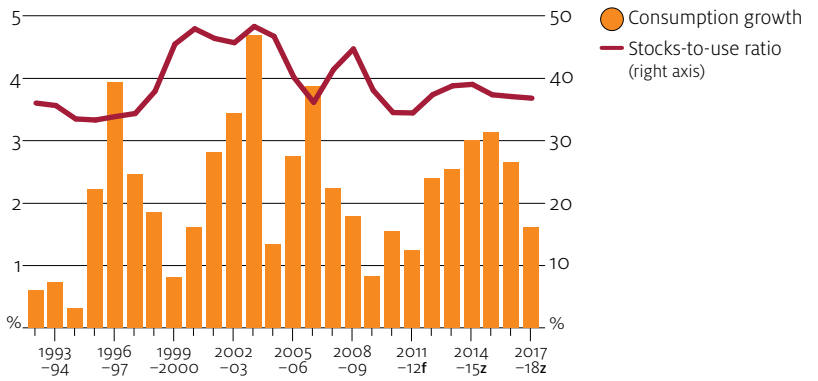
In 2012–13, world sugar production is forecast to increase by a further 2 million tonnes to 177.8 million tonnes. This mostly reflects an assumed recovery from poor seasonal conditions in Australia, Brazil and Mexico, offset by a return to more normal sugar beet yields in the European Union, the Russian Federation and Ukraine following expected excellent yields of 2011–12.

Lower prices boost world sugar consumption growth

World sugar consumption is forecast to grow by 2.4 per cent in 2011–12 to 169.5 million tonnes. This forecast mainly reflects world population growth and steadily rising consumer incomes, particularly in developing countries such as China and India.

Boosted by low sugar prices, world sugar consumption is forecast to grow by 2.7 per cent in 2012–13, which is significantly higher than the average of the 10 years to 2010–11 of 2.4 per cent a year.

World sugar consumption growth and stocks-to-use ratio



f ABARES forecast. **z** ABARES projection.

Rebound in world sugar exports in 2012–13

World sugar exports are forecast to decline by 1.8 million tonnes in 2011–12 to around 50 million tonnes, but recover in 2012–13 to 52.6 million tonnes. The forecast decrease in 2011–12 is driven by lower import demand from Eastern Europe (mainly the Russian Federation and Ukraine) and India, which will be only partially offset by higher imports by China. The forecast recovery in world trade in 2012–13 largely reflects a return to more normal production and import levels in Eastern Europe.

India is forecast to export around 3.5 million tonnes of sugar in 2011–12, based on current stock levels and forecast higher 2011–12 sugar production, after being a large net importer of sugar in 2009–10 and early 2010–11. The Indian Government decides how much sugar India exports annually, taking into account the impact on domestic sugar prices. With domestic prices in India currently similar to world prices, the Indian Government has delayed reimposing an import tariff of 60 per cent on raw sugar imports until March 2012, after having lowered the tariff to zero in early 2009 to contain increases in domestic sugar prices.

The large harvest in the European Union will enable its sugar exports to non-EU countries in 2011–12 to approach the maximum of 1.3 million tonnes permitted under its World Trade Organization obligations. EU imports from non-EU countries are forecast to decrease slightly in 2011–12, from the 3.2 million tonnes imported in 2010–11, due to its preferential market access agreements with developing countries.

World sugar stocks recovery to continue

A substantial surplus in world sugar production in 2011–12 is forecast to increase world closing stocks of sugar by 6.3 million tonnes, to 63.3 million tonnes. If realised, this would increase the stocks-to-use ratio to 37.4 per cent in 2011–12, compared with 34.4 per cent in 2010–11 and the average of the 10 years to 2010–11 of 41 per cent, placing downward pressure on world sugar price.

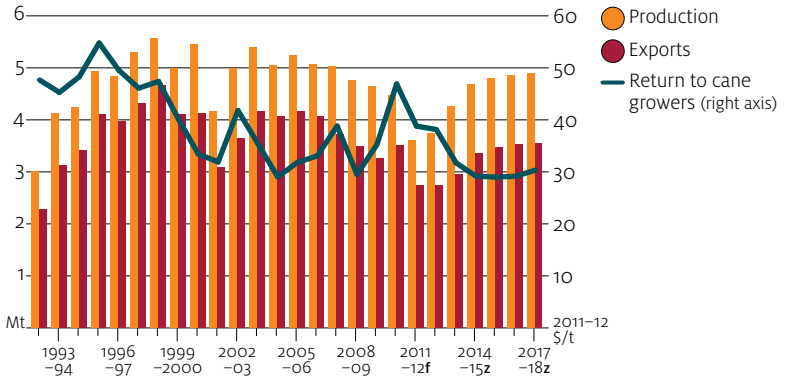
Australian sugar production to recover in 2012–13

Queensland Sugar Limited is forecasting its 2011–12 seasonal pool return to be in the range of $500 to $520 a tonne of sugar, International Polarity Scale, compared with an actual return of $444 a tonne in 2010–11.

Based on current expectations for prices and sugar yields from cane, the average mill-gate return for sugar cane to Australian growers is forecast to be $41.40 a tonne in 2011–12, and to decline to $35.50 a tonne in 2012–13. Taking into account the higher expected sugar yields from cane, this implies a seasonal pool return in 2012–13 of around $460 a tonne of sugar, International Polarity Scale.

Australian sugar production is forecast to recover to 4.25 million tonnes in 2012–13, compared with an estimated 3.73 million tonnes in 2011–12, based on an increase in the area harvested and assuming a return to more normal cane and sugar yields (Australian sugar cane is harvested between June and December). Sugar production was adversely affected in 2011–12 by damage from tropical cyclone Yasi and low sugar yields from the extensive areas of cane that had been carried over from the 2010–11 harvest due to excessive rainfall.

Australian sugar production, exports and returns to cane growers



f ABARES forecast. **z** ABARES projection.

Australian sugar exports in 2011–12 are forecast to be 2.7 million tonnes, around the same level as in 2010–11. However, the value of Australian sugar exports is forecast to increase by 6 per cent in 2011–12 to around $1.53 billion. If forecasts of increased Australian sugar production are realised, Australian sugar exports are forecast to recover to nearly 3 million tonnes in 2012–13, but with a forecast export value of only $1.33 billion.

Medium-term outlook

World sugar prices to bottom in 2013–14

The world sugar indicator price (in constant 2011–12 dollars) is projected to decline to US15.4 cents a pound by 2013–14 under the weight of surplus world sugar production, before recovering to US19 cents a pound by 2016–17. While projected world sugar prices are lower than in recent years, they are still significantly higher than the depressed levels in the late 1990s and early 2000s in real terms.

World sugar production is projected to grow to 193 million tonnes in 2016–17, 17.4 million tonnes higher than the forecast for 2011–12. This mainly reflects increased production in Brazil, but higher production is also projected for most of the main cane sugar producing countries, namely Australia, India, Pakistan, Thailand and Mexico.

Over the period up to 2016–17 the main sugar beet producing countries in Eastern and Western Europe are projected to be regularly producing at the levels achieved in 2011–12. Sugar production in the Russian Federation is being encouraged by policies aimed at achieving over 90 per cent self-sufficiency in meeting domestic consumption.

Brazil's sugar production is projected to reach 48 million tonnes by 2016–17, compared with a forecast 39 million tonnes in 2011–12. This is despite increasing demand for ethanol in Brazil that will see the proportion of sugar cane allocated to ethanol production increase steadily to 55 per cent by 2016–17, compared with a forecast 51 per cent in 2011–12. The expansion in sugarcane production in Brazil will be boosted by a US$2.2 billion Brazilian Government loan package, aimed at enabling replacement of ageing cane plantings and bringing new land into cane production.

European Union sugar production is projected to be 17.5 million tonnes by 2016–17. The current sugar regime under the Common Agricultural Policy is set to expire after the 2014–15 marketing year. A legislative proposal under the sugar regime (that still needs EU member state approval) is for eliminating sugar and isoglucose quotas and supporting prices from 2015–16, or phasing them out over the period 2015–16 to 2017–18. The argument the European Commission advanced for eliminating quotas is that it would shift sugar production in the European Union toward more efficient regions. A European Commission impact assessment suggests that area planted to sugar beet in the European Union would increase by less than 2 per cent by 2020, if quotas were eliminated from 2015–16.

Indian sugar production is projected to reach 29.5 million tonnes by 2016–17, compared with 28.5 million tonnes in 2011–12 and the record production to date of 30.7 million tonnes in 2006–07.

Sugar production in Thailand is projected to increase to 11.7 million tonnes in 2016–17, compared with 10.1 million tonnes in 2011–12. Projected world sugar prices, promises of government investment in new mills and government support for ethanol production in Thailand should maintain land in sugar production, rather than switching back to cassava or rice production. Sugar production in Thailand is also encouraged through administered prices for sugar consumed domestically that are much higher than world sugar prices (see Box).

World sugar consumption growth to 2016–17

World sugar consumption is projected to grow by an average 2.6 per cent a year to 193 million tonnes by 2016–17, due mainly to population and income growth. The rate of growth in world sugar consumption is projected to be faster in the early years of the projection period, reflecting projected sugar price declines.

World sugar stocks-to-use ratio to peak in 2013–14

The world sugar stocks-to-use ratio is projected to peak at 39 per cent in 2013–14, below the average of 41 per cent for the 10 years to 2010–11, before declining to 37 per cent by 2016–17. The projected decline in the world sugar stocks-to-use ratio is expected to provide support for world sugar prices toward the end of the projected period.

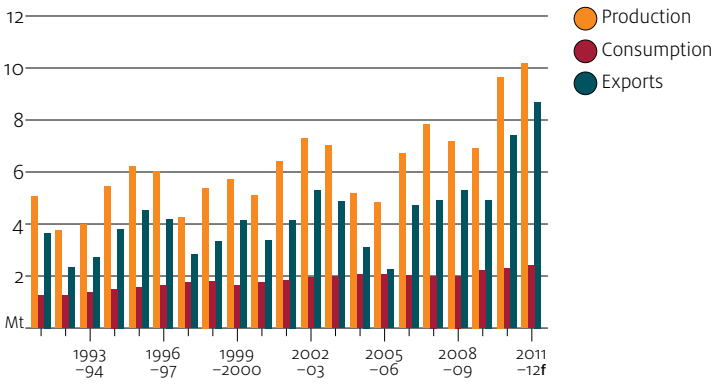
Australian sugar production assumed at higher levels to 2016–17

Returns to Australian sugarcane growers are projected to decline to $30 a tonne in 2016–17 (in 2011–12 dollars), compared with a forecast $41 a tonne in 2011–12. This mainly reflects the effect of a projected decline in world sugar prices, partially offset by an assumed gradual depreciation of the Australian dollar over the medium-term.

Sugar industry in Thailand

Thailand accounted for 6 per cent of world production of sugar in 2010–11 and around 13 per cent of world sugar exports. Domestic sugar consumption has been growing at around 1.8 per cent a year over the 10 years to 2010–11, faster than the rate of population increase of 0.6 per cent. Thailand also accounts for around 15 per cent of world molasses trade.

Sugar production, consumption and exports, Thailand

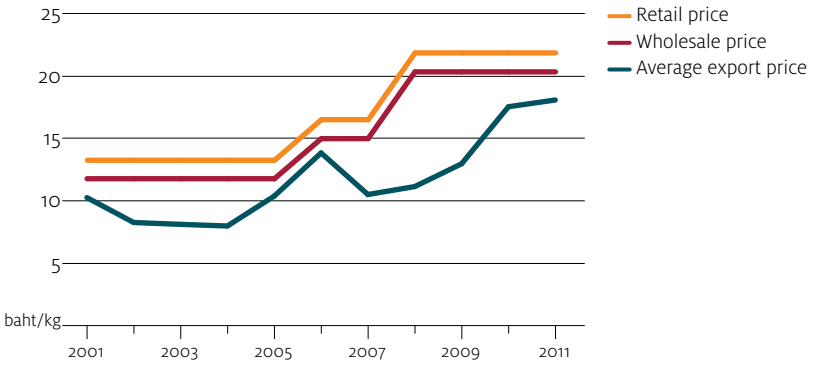


f ABARES forecast.

Sugarcane production competes for land in Thailand with cassava, rice and corn production. The Thai Government sets the domestic price for cane, operates a revenue-sharing arrangement for cane growers and millers, and imposes quota systems for sugar exports and imports.

The domestic price is usually well above the world price. This arrangement is permitted under World Trade Organization obligations with an import tariff quota of 13 760 tonnes, to which a tariff rate of 65 per cent is applied. The out-of-quota tariff rate is 94 per cent.

Prices, white plantation sugar, Thailand



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Sugar industry in Thailand ...continued

Under the revenue-sharing arrangement for growers, the net proceeds of domestic and export sales of raw sugar and by-products (mainly molasses) are allocated 70 per cent to cane growers and 30 per cent to millers. Cane growers also receive 13.86 per cent of the additional revenue from refined sugar exports.

Cane growers receive a preliminary price for cane, determined at the start of each season (December to October) that is not less than 80 per cent of the forecast for the final cane price made by the Office of the Cane and Sugar Board. If the final price announced at the end of the season is higher than the preliminary price, then millers pay growers the final price. Any shortfall between the preliminary and final price is reimbursed to the millers from the Cane and Sugar Fund. The fund is raised through a tax on the value of domestic and export sales but is also augmented by government subsidies when necessary.

Each season, the government estimates production, domestic market requirements, and export commitments and then divides the availabilities into quotas A, B and C.

Quota A is refined sugar for domestic consumption and is sold to wholesalers at the fixed domestic price.

Quota B is an amount of 800 000 tonnes of raw sugar, half of which is sold to world sugar brokers and half to domestic sugar factories for export. Pricing of this sugar is done by the government's Thailand Cane and Sugar Corporation. Along with the domestic price, the average price realised with Quota B sugar is the price used in the determination of the final price to cane growers.

Quota C is the exportable surplus after Quotas A and B are filled. This is allocated to licensed exporters and is priced at the discretion of millers and refiners.

The Thai Government set phased targets for ethanol production of 3 million litres a day between 2008 and 2011; 6.2 million litres a day between 2012 and 2016; and 9 million litres a day for the period 2017 to 2022. Ethanol production for fuel use is encouraged through an excise tax exemption of 7 Thai baht a litre, and subsidies for ethanol blends and ethanol-friendly vehicles. Molasses accounted for 61 per cent of the feedstock used in ethanol production in 2011, cassava 25 per cent and sugarcane streams 14 per cent.

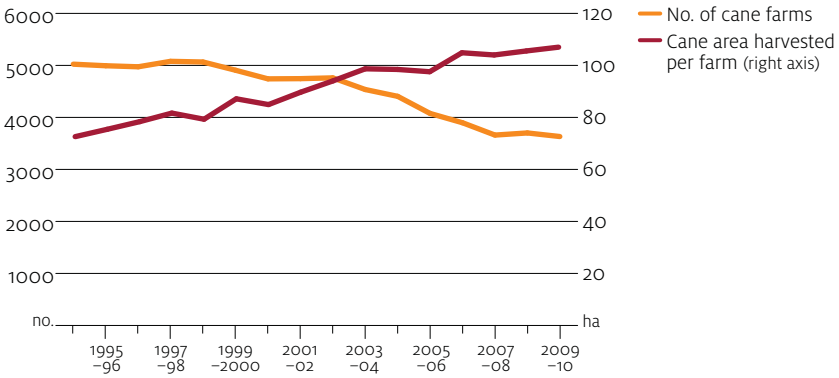
Under the assumption of relatively favourable seasonal conditions, the area harvested of cane in Australia is projected to recover quickly over the next two years, but then to stabilise at around 405 000 hectares by 2016–17. This is still below the record area harvested of 448 000 hectares in 2003–04 and 2004–05. Suitable land close to existing sugar mills is limited and some cane land has been permanently assigned to other uses, particularly plantation forestry. The sugarcane industry in the Ord River Irrigation Area in the north of Western Australia, that peaked at 4100 hectares in 2003–04, closed in 2007.

Australian sugar production is projected to increase to about 4.9 million tonnes by 2016–17, based on projected expansion in area and some sugar yield improvement related to newer plantings of sugar cane. This is 1.2 million tonnes higher than the forecast for 2011–12, but below the record 5.7 million tonnes of 1997–98.

Further consolidation of sugarcane landholdings is likely over the medium-term to larger farms. The number of cane farms has declined from 5080 in 1997–98 to 3634 in 2009–10 (the latest year for which data are available). Over the same period, the average cane area harvested has increased from 72.6 hectares to 107 hectares. A competing strong demand for labour from the mining industry in the cane-producing regions could hasten consolidation.

Australian sugar exports are projected to be about 3.5 million tonnes by 2016–17, up from a forecast 2.7 million tonnes in 2011–12, but well below the record 4.7 million tonnes in 1997–98.

Cane farms and average area harvested per farm



Outlook for sugar

	unit	2009–10	2010–11	2011–12 f	2012–13 f	2013–14 z	2014–15 z	2015–16 z	2016–17 z
World a									
Production	Mt	158.8	166.0	175.8	177.8	181.5	183.7	190.8	193.2
Consumption	Mt	163.5	165.5	169.5	173.8	179.0	184.6	189.5	192.6
Stocks b	Mt	56.4	57.0	63.3	67.4	69.8	69.0	70.2	70.9
Price c									
– nominal	USc/lb	21.0	27.7	21.5	17.8	16.0	17.5	17.9	20.7
– real d	USc/lb	22.0	28.5	21.5	17.4	15.4	16.5	16.5	18.7
Australia e									
Production g	kt	4 472	3 610	3 733	4 251	4 685	4 800	4 862	4 896
Export volume	kt	3 506	2 735	2 732	2 955	3 354	3 479	3 523	3 539
Export value									
– nominal	A$m	1 887	1 436	1 531	1 334	1 355	1 429	1 541	1 693
– real h	A$m	2 001	1 477	1 531	1 298	1 286	1 324	1 392	1 493

a October–September years. **b** Historical estimates of closing stocks are based on individual country estimates of production, consumption, trade and stocks. Given possible under/over reporting of statistics in individual countries, changes in world closing stocks from year to year may not necessarily equal the difference in world production and world consumption. **c** Nearby futures price, Intercontinental Exchange, New York, No. 11 contract. **d** In 2011–12 US dollars. **e** July–June years. **f** ABARES forecast. **g** Raw tonnes actual. **h** In 2011–12 Australian dollars. **z** ABARES projection.
Sources: ABARES; Australian Bureau of Statistics; International Sugar Organization; Intercontinental Exchange

Cotton

Outlook to 2016–17

Benjamin K Agbenyegah

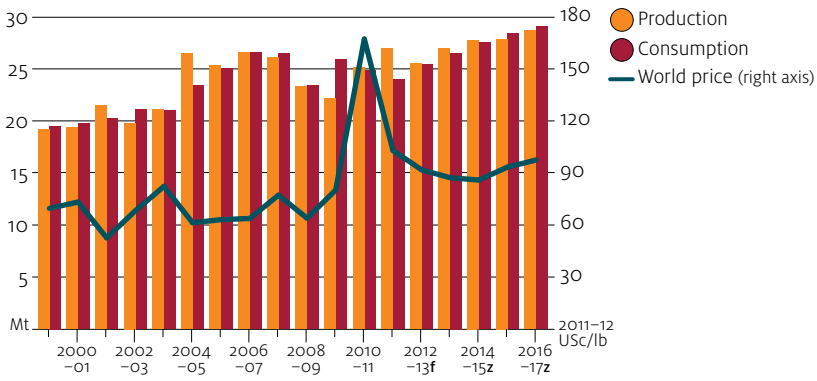
Short-term outlook to 2012–13

World cotton prices lower in the short-term

The world indicator price for cotton (Cotlook 'A' index) is forecast to fall by 37 per cent in 2011–12 (August to July) to average US103 cents a pound. This forecast price decline reflects the significant increase in world cotton supplies as a result of markedly higher world production in 2010–11. Forecast record production in 2011–12 and the expected decline in demand from the major apparel consuming countries of the United States and the European Union are also expected to place downward pressure on prices in the short-term.

In 2012–13, the world cotton indicator price is forecast to fall by a further 10 per cent to US93 cents a pound. This forecast price decline in 2012–13 mainly reflects an expected further rise in world supplies of cotton stemming from relatively high world production for the second consecutive year under the assumption of relatively favourable seasonal conditions in major producing countries.

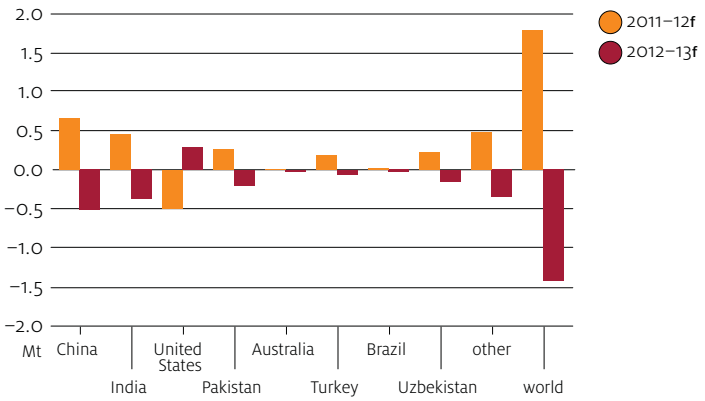
World cotton indicators



f ABARES forecast. **z** ABARES projection.

World cotton production is forecast to increase by 7 per cent in 2011–12 to a record 26.9 million tonnes. Production is forecast to increase in most major producing countries; the world cotton area harvested is forecast to increase by 7 per cent to 35.8 million hectares (the largest in 17 years). The forecast increase in world production is in response to the record high world cotton prices in 2010–11 and expected favourable returns to cotton production relative to soybeans and corn. The harvest is completed in the northern hemisphere. Increased production has been reported in all major producing countries, except the United States and Turkmenistan, which have experienced adverse seasonal conditions.

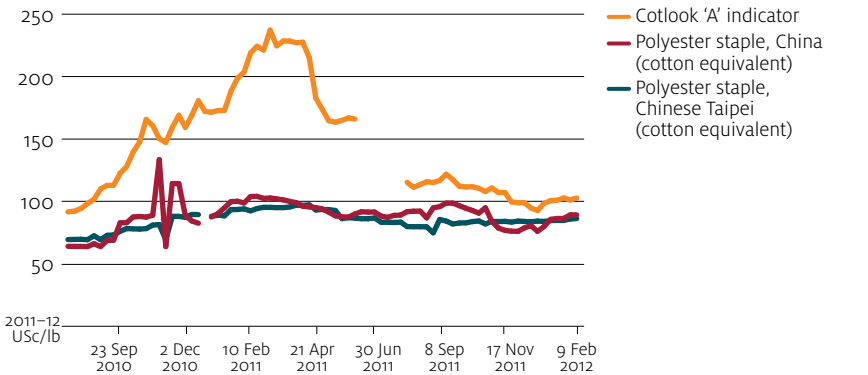
Forecast changes in world cotton production, by country



f ABARES forecast.

World cotton production is forecast to fall by 5 per cent in 2012–13 to 25.5 million tonnes. This forecast reflects an expected decrease of 3.5 million hectares in world cotton harvested area to 32.3 million hectares. Lower cotton production is forecast for all major producing countries in 2012–13 except the United States, where an assumed return to average seasonal conditions is expected to lead to a recovery from the poor season of 2011–12. At this forecast level, world cotton production in 2012–13, if realised, would still be one of the largest since 2008–09.

World weekly apparel fibre prices



World cotton consumption is expected to decrease by 4 per cent in 2011–12 to 24 million tonnes due mainly to the economic downturn in some major apparel consuming markets, particularly the United States and the European Union. Additionally, the gap between cotton and polyester prices, while narrowing, is expected to persist in the short-term, placing continued downward pressure on the demand for cotton.

In 2012–13, world cotton consumption is forecast to increase by 6 per cent to 25.4 million tonnes in response to declining world cotton prices, an assumed gradual recovery in the world economy, and strong income growth in two of the largest consuming markets, China and India.

The world cotton closing stocks-to-use ratio is forecast to increase to around 53 per cent in 2011–12, the highest in three years. World cotton stocks are forecast to increase by 28.7 per cent in 2011–12 to 12.7 million tonnes. Closing stocks are forecast to be higher in all major cotton producing and consuming countries, particularly China, Brazil, India, the United States, Australia and Pakistan. Much of the rebuilding in world cotton stocks in 2011–12 occurred in China, where the government reserve stocks are forecast to reach around 3 million tonnes after being almost exhausted at the end of 2010–11. World cotton stocks are forecast to increase by a further 1.2 per cent to 12.9 million tonnes in 2012–13.

Water supplies to drive bumper Australian cotton production

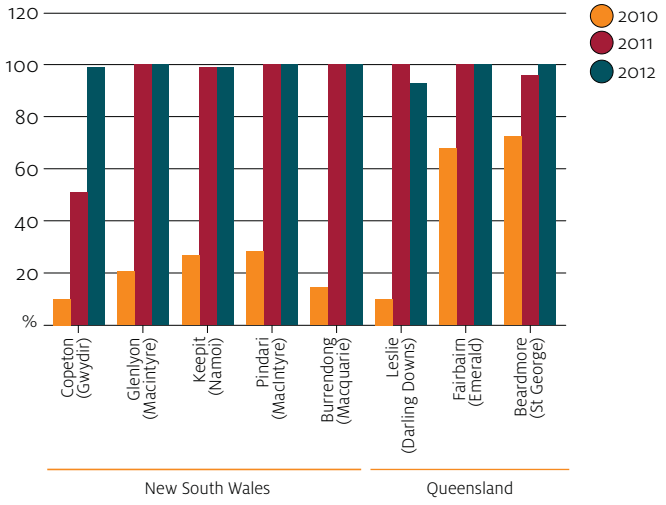
Australian cotton production is forecast to increase by around 20 per cent in 2011–12 to a record 1.1 million tonnes. The forecast increase reflects a combination of high cotton prices at planting time and a second year of good supplies of irrigation water.

Some cotton growing areas, particularly the Gwydir, Namoi, Mungindi and Walgett regions in northern New South Wales and the Mungindi, Dirranbandi and St George regions in southern Queensland have been affected by flooding. While it is estimated that around 48 per cent of the total area planted to cotton is in flood-affected regions, the area of cotton crops directly affected by floodwater will be smaller because the effects of flooding tend to be localised. The full extent of any damage to cotton crops in flood-affected regions will not be clear until the water recedes; actual crop damage will depend on the level of inundation and the growth stage of the plants. The effect on total production is not expected to be substantial.

The average storage level of public irrigation dams serving the Australian cotton-growing regions, at 13 February 2012, was 99 per cent of capacity which is far higher than the 51 per cent average at 13 February 2010. This level of stored irrigation water is expected to provide support for maintaining cotton production in 2012–13.

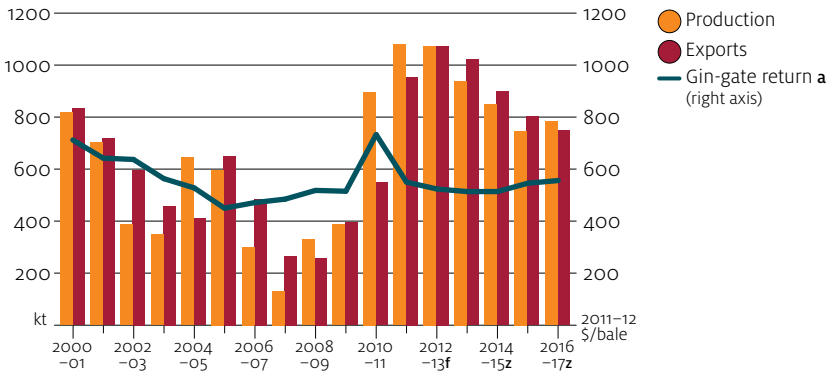
Returns at the gin gate to Australian cotton growers are forecast to decrease by 25 per cent in 2011–12 to $551 a bale (227 kilograms) of lint (including the value of cottonseed and net of ginning costs). While declining, the forecast returns are still favourable compared with the five-year average to 2009–10 of around $488 a bale. Forward cash prices for lint on offer to Australian cotton growers at 7 February 2012 were around $466 a bale for 2012 delivery (2011–12 crop), $472 a bale for 2013 delivery and $450 a bale for 2014 delivery. In 2012–13, the return to Australian cotton growers is forecast to fall by $26 a bale and average $524 a bale, reflecting the forecast decline in world cotton prices.

Storage levels of main irrigation dams, at 13 February



Australian cotton exports are forecast to increase by 89 per cent in 2011–12 to a record 955 000 tonnes. This forecast is driven by strong export demand and forecast record cotton production in 2011–12. Cotton exports are forecast to increase by a further 12.5 per cent in 2012–13, to a record 1.1 million tonnes. If realised, Australia would become the third largest cotton exporter in the world, behind the United States and India and surpassing Uzbekistan.

Australian cotton production, exports and gin-gate returns



a Value of lint and cottonseed, less ginning costs. **f** ABARES forecast. **z** ABARES projection.

Medium-term outlook to 2016–17

Cotton prices to be relatively favourable

World prices for cotton are projected to decline to US86 cents in 2014–15 (in 2011–12 dollars) before increasing at the end of the projection period. The world cotton indicator price is projected to average US97 cents a pound (in 2011–12 dollars) by 2016–17, compared with US103 cents a pound in 2011–12. Strengthening demand for world cotton, driven by strong income growth in India and China and an assumed improvement in economic growth in the European Union and the United States, underpins the increase in prices at the end of the projection period.

World cotton production is projected to increase steadily from 2013–14 and set a new record in each year over the medium-term. By 2016–17, production is projected to reach 29 million tonnes. Production is expected to increase in response to expected favourable returns to cotton production relative to crop alternatives, such as soybeans and corn. Although the world price is projected to fall in 2013–14 and 2014–15, it would remain favourable compared with the average over the 10 years to 2009–10. Beyond 2014–15, growth in world consumption is projected to outpace world production increases and the world cotton price is projected to rise, maintaining the favourable relative returns to cotton production.

The projected growth in world cotton production is expected to be achieved by increases in world cotton area and lint yields. The world cotton area harvested is projected to rise on an annual rate of 1.5 per cent and cotton lint yields are to grow at 1.4 per cent a year toward the medium-term. The forecast expansion of area planted to cotton is expected to occur despite strong competition for land from corn and soybeans. The rate at which yields can grow is limited since uptake of the current generation of genetically modified cotton crops that have contributed to world yield improvements since 1996 is nearly complete in the major producing countries. An increase in cotton production is projected for the United States and Turkmenistan over the medium-term following several years of adverse seasonal conditions.

World cotton consumption is projected to grow at an average rate of 3.5 per cent a year over the medium-term. This compares with an average of 2.5 per cent in the 10 years to 2010–11. The main factors to drive world demand for cotton in the next several years will be world population growth, income growth (especially in developing countries) and a projected decline in the relative price of cotton compared with most competing apparel fibres, particularly polyester.

Synthetic fibres, in particular polyester, are by-products of refined petroleum and therefore their prices are responsive to changes in the world oil market. Oil and polyester prices increased in 2010–11 and remained relatively firm in the first seven months of 2011–12. Crude oil prices are projected to remain historically high over the medium-term (OECD 2011) and synthetic fibre prices are expected to remain close to the average price for 2011–12 (in 2011–12 dollars) toward the medium-term. Cotton prices are projected to decrease in 2013–14 and 2014–15 and, consequently, the gap between cotton and polyester prices is expected to narrow. Cotton is expected to regain some of the market share it lost in 2010–11 when the world cotton price was historically high. However, this gap is expected to widen again by the end of the projection period when cotton prices start to recover.

World carryover stocks of cotton are projected to remain relatively high over the medium-term. World cotton closing stocks are projected to grow at an average rate of around 1.5 per cent a year over the medium-term to around 13.7 million tonnes by 2016–17. As a result, the cotton stock-to-use ratio is projected to be 47 per cent; however this is still lower than the average ratio of 52.8 per cent over the 10 years to 2008–09.

Australian cotton prices to strengthen toward 2016–17

After two years of record cotton production in 2010–11 and 2011–12 in response to high prices and very high water storage and soil moisture levels, production is projected to decline steadily until 2015–16 as grower returns decline. The area planted to cotton is also projected to fall over this period. In 2016–17 production is projected to increase by a small amount as grower returns improve. Australian cotton production in 2016–17 is projected to be 784 000 tonnes, well above the average of 552 000 tonnes produced in the 15 years to 2010–11. Some improvements in lint yields in Australia are also projected over the medium-term.

While Australian cotton exports are projected to decline from a forecast record of 1.1 million tonnes in 2012–13 to around 749 000 tonnes by 2016–17. Australian cotton is harvested mainly between March and June, but most is not exported until the following marketing year. It is for that reason that Australian cotton exports are higher than production in the years following a bumper cotton harvest.

Outlook for cotton

	unit	2009–10	2010–11	2011–12 f	2012–13 f	2013–14 z	2014–15 z	2015–16 z	2016–17 z
World a									
Production	Mt	22.08	24.95	26.90	25.52	26.99	27.78	27.89	28.66
Consumption	Mt	25.78	25.37	24.00	25.41	26.54	27.57	28.41	29.08
Closing stocks	Mt	9.64	9.26	12.60	12.93	13.62	14.08	13.81	13.66
Stocks-to-use ratio	%	37.4	36.5	52.5	50.9	51.3	51.0	48.6	47.0
Cotlook 'A' index									
– nominal	USc/lb	78	164	103	93	90	91	101	107
– real **b**	USc/lb	81	169	103	91	87	86	93	97
Australia c									
Area harvested	'000 ha	208	590	600	525	530	536	541	546
Lint production	kt	387	898	1 080	1 075	938	849	748	784
Value of production									
– nominal **d**	A$m	828	2 818	2 621	2 553	2 240	2 079	1 994	2 178
– real **e**	A$m	879	2 898	2 621	2 484	2 126	1 925	1 802	1 920
Export volume	kt	395	505	955	1 075	1 022	899	803	749
Export value									
– nominal	A$m	755	1 367	2 204	2 412	2 292	2 053	1 985	1 918
– real **e**	A$m	800	1 406	2 204	2 346	2 176	1 901	1 793	1 690
Export unit value									
– nominal	Ac/kg	191	271	231	224	224	228	247	256
– real **e**	Ac/kg	202	279	231	218	213	211	223	226

a August–July years. **b** In 2011–12 US dollars. **c** July–June years. **d** Includes cottonseed value. **e** In 2011–12 Australian dollars. **f** ABARES forecast. **z** ABARES projection.
Sources: ABARES; Australian Bureau of Statistics; United States Department of Agriculture

Horticulture

Outlook to 2016–17

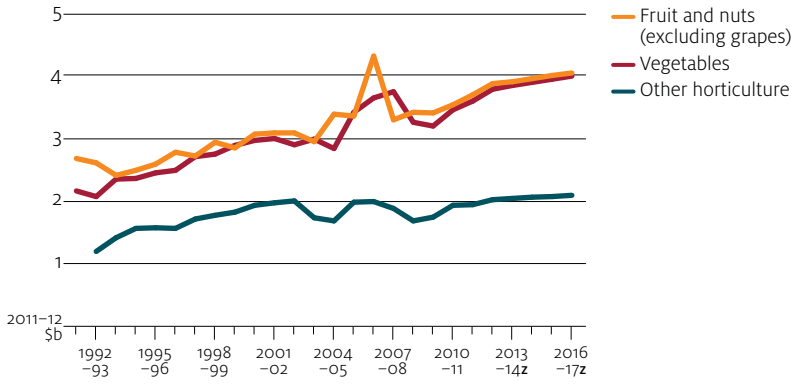
Max Foster

Production growth to 2016–17

The gross value of Australia's diverse horticulture industry (see Box) is projected to increase to $10.2 billion (in 2011–12 dollars) by 2016–17, compared with a forecast $9.3 billion in 2011–12. The key drivers of this projected growth are population and income growth in Australia, production from emerging fruit and tree nut industries, and growth in global demand for fruit and vegetables, especially from China, driven by continued strong income growth.

Growth in the horticulture industry is expected to be relatively strong in the next few years, supported by abundant supplies of irrigation water. Water storage in the Murray–Darling Basin was at 83 per cent of total capacity at 9 February 2012, compared with an average of only 37 per cent over the 10 years to 2011.

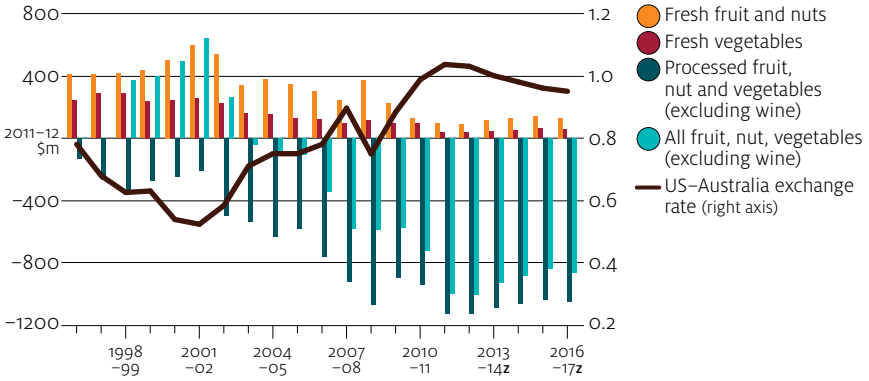
Gross value of Australian horticulture, excluding wine grapes



z ABARES projection.

The value of Australia's net trade (export less imports) in fruit and vegetables is closely related to movements in the Australian exchange rate, especially against the US dollar. During the 2000s, the value of net trade in fruit and vegetables fell, partly as a result of appreciation of the Australian dollar. Extended drought over that period was also a factor in limiting export availabilities. particularly in the Murray–Darling Basin that typically accounts for around one-third of the gross value of Australian horticulture production. There was also a loss of market access for certain periods of time, in some cases due to tightening plant health protocols; for example, stonefruit and cherries into Taiwan.

Australian net trade in fruit, tree nuts and vegetables



z ABARES projection.

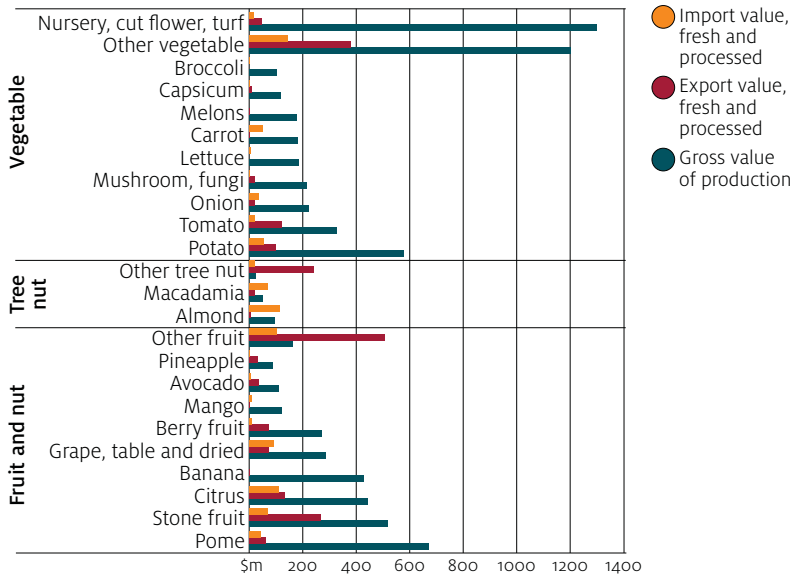
With the presently high value of the Australian dollar against major international currencies, Australia's net surpluses (in real value terms) of fresh fruit and vegetables are forecast to reach record lows in 2011–12, while the real value of the trade deficit for processed fruit and vegetables is forecast to reach a record high. Over the medium-term, the surpluses for fresh fruit and vegetables are projected to grow in real terms through to 2016–17, supported by higher production and hence export shipments. However, the deficit for processed horticultural product is projected to continue reflecting the effect of relatively high labour costs in Australia compared with other importing sources.

Australian horticulture industry

The Australian horticulture industry (excluding wine grapes) accounted for an estimated 18 per cent of the gross value of Australian agriculture in 2010–11. Vegetables made up 39 per cent of the total gross value of Australian horticulture production (excluding wine grapes), fruit 36 per cent and tree nuts 4 per cent. Other horticulture—largely made up of nursery products (pot plants and plant stock for industry), cut flowers, cultivated turf and specialty crops like oilseed poppy and pyrethrum daisy—accounted for the remaining 21 per cent.

Over the 20 years to 2010–11, the gross value of Australian vegetable production increased at an annual average of 2.6 per cent, while the gross value of fruit and nut production (excluding wine grapes) increased at 2.2 per cent a year. These growth rates are much higher than the average annual growth of 0.6 per cent for the gross value of production in the rest of Australian agriculture.

Composition of gross value and trade of Australian horticulture (excluding wine grapes), 2010–11



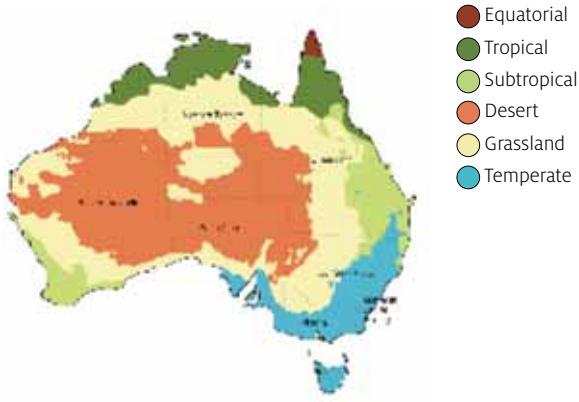
Horticulture production in Australia is located around the different climatic zones. As such each of the many producing regions has its particular 'window' for supplying the fresh market or processors. The bulk of production of fruit, nuts and vegetables occurs in the temperate and subtropical regions but the tropical and grassland regions are also important producing regions. The so-called grassland producing areas include mostly the irrigated regions on the lower Murray River region of South Australia and the Gascoyne River region of Western Australia.

Employment on fruit and vegetable farms has been declining over the past 10 years while the gross value of production has been growing as a result of productivity increases.

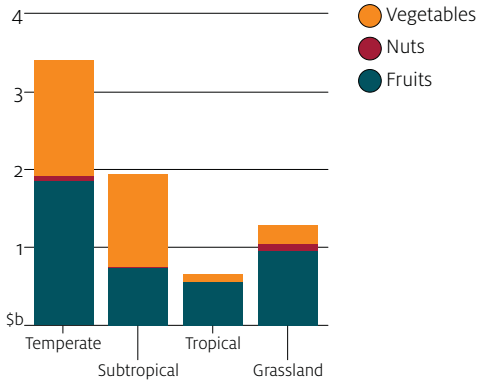
...continued

Australian horticulture industry ...continued

Gross value of Australian horticulture, by climate zone, 2009–10



Köppen classification. *Source:* Bureau of Meteorology



Increasingly, the Australian fruit and vegetable industries are oriented toward producing for the fresh market because Australia's relatively high labour costs make it difficult for the processing sector to compete on price with products produced in countries like Brazil, China, Chile, Thailand, New Zealand, Peru and South Africa. Several fruit and vegetable processing plants in Australia have closed in recent years.

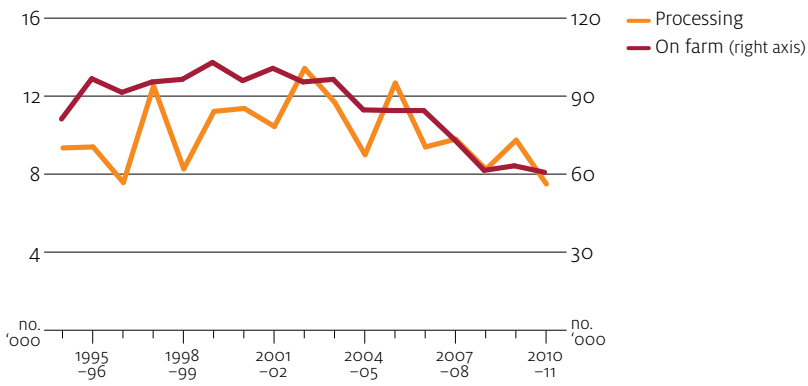
Although the Australian horticulture industry is oriented toward producing for the domestic market, total imports of fruit and vegetable products have increased. In 2010–11, 40 per cent of the value of Australia's fresh fruit and vegetable imports came from the United States, 20 per cent from New Zealand, 9 per cent from China and 3 per cent from Thailand.

In 2010–11, the Australian fruit industry generated export revenue of $446 million and faced competition from imports worth around $2 billion. The Australian tree nut industry achieved an export value of $207 million, with imports of $267 million. The Australian vegetable industry recorded exports of $313 million and imports of $651 million. The nursery cut flower and turf industry earned export revenue of $17 million, compared with imports of $46 million.

...continued

Australian horticulture industry ...continued

Employment in fruit and vegetable production and processing in Australia a

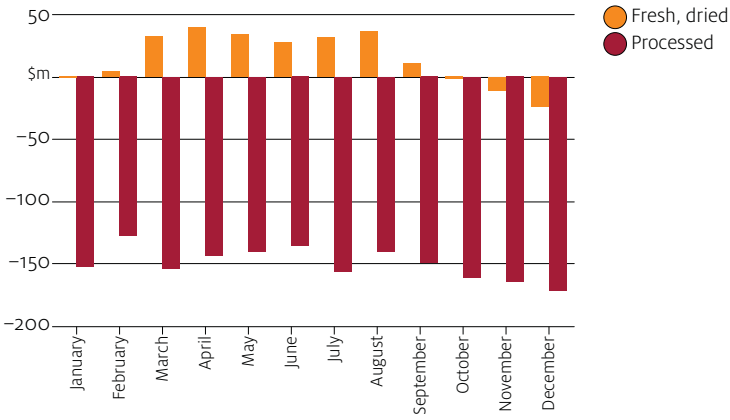


a Includes vineyards and wineries.

Seasonality plays a major part in Australia's trade in fruit, nuts and vegetables, particularly for fresh produce. For example, Australia exports fresh navel oranges to the United States in Australia's harvest season in winter but imports navels from the United States in Australia's off season. Other fresh fruit and vegetable types that Australia exports and also imports include asparagus, bean, avocado, blueberry, capsicum, cherry, grape, mango, mandarin and exotic tropical fruit.

Australia has a monthly trade surplus of fresh fruit and vegetables from February through to September, but a monthly trade deficit from November to January. While trade deficits are generally recorded for processed fruit, nuts and vegetables in all months, the deficits are mostly larger over spring and early summer.

Seasonal pattern of net trade in fresh and processed horticulture products a



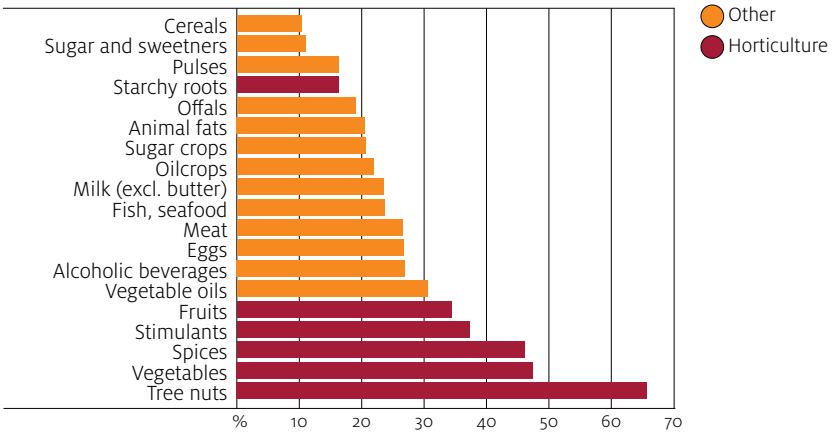
a Exports less imports, average, 2009 to 2011.

Strong global prospects for fruit, nuts and vegetables

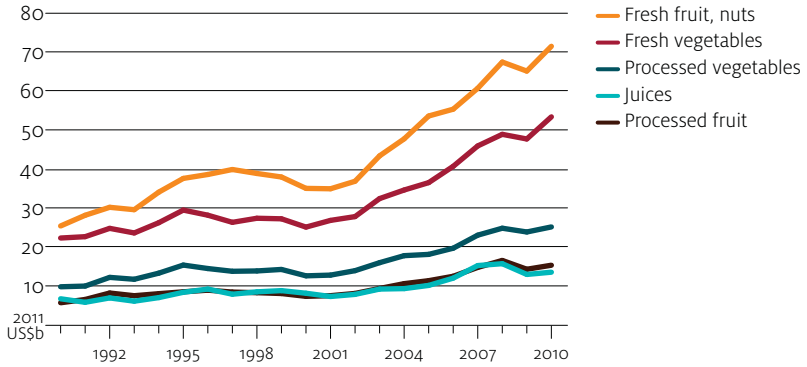
Strong growth is projected in world demand for fruit, nuts and vegetables over the medium-term, driven by world population and income growth, particularly in China and India. The fastest growing consumption of food type over the last decade has been of horticultural products; tree nuts, vegetables, spices, stimulants (tea, coffee and cocoa) and fruit are the top five growth products.

World trade in fruit, nuts and vegetables has also experienced strong growth since 2000. The increase is particularly significant for fresh fruit, nuts and vegetables, which have grown at annual averages of nearly 9 per cent and 7 per cent, respectively, since 2000. The value of world exports of fruit and nuts declined in 2009, due to the global financial crisis, which highlights the importance of income growth as a driver of world demand for these products.

World food consumption growth between 1995–97 and 2005–07



Value of world exports of fruit, nuts and vegetables

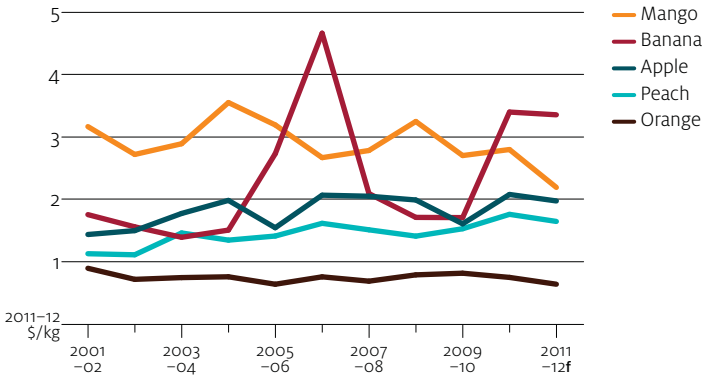


Outlook for fruit

The gross value of Australian fruit production is forecast to grow by 7 per cent in 2011–12 to $3.7 billion. This reflects bumper harvests and excellent quality for most fruit types, particularly for pome, citrus, stone fruit, avocados and mangoes, partially offset by lower prices for most fruit types.

Fruit prices generally experienced downward pressure in Australia in 2011–12 due to bumper harvests and appreciation of the Australian dollar, lowering the Australian dollar price of imports.

Gross unit values, selected fruit types, Australia



f ABARES forecast.

By 2016–17, the gross value of Australian fruit production (excluding wine grapes) is projected to increase to $4.1 billion (in 2011–12 dollars).

The Australian fruit industry is characterised by traditional industries—particularly bananas, citrus, pome and stone fruit—and a number of growth industries, mainly avocados, mangoes, berry fruit and olives.

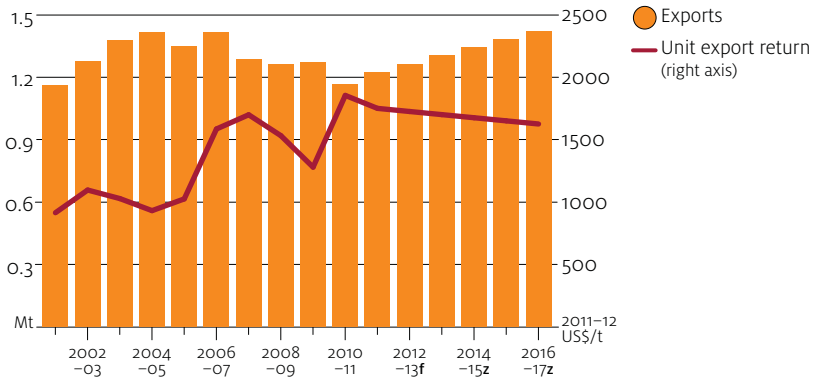
The real gross value of the traditional fruit industries in Australia is projected to grow by 1.7 per cent a year over the outlook period to 2016–17. This is faster than the projected rate of Australian population growth of 1.3 per cent over this period. This projected growth also reflects a gradual change in consumer tastes toward more healthy products such as fresh fruit, nuts and vegetables. The growth is projected to occur despite continued competition in the domestic market from imports.

Citrus

World prices for fresh oranges and orange juice increased during 2011–12 reflecting a forecast 4 per cent decline in world orange production to 51 million tonnes, due mainly to adverse seasonal conditions in Brazil and Mexico.

Orange production in Brazil is an important factor affecting the medium-term price outlook for citrus products because Brazil accounts for around 80 per cent of world exports of orange juice. Brazilian orange production is projected to increase to 21.7 million tonnes by 2016–17, compared with 19.4 million tonnes in 2010–11, based on an increase in the area planted to orange trees of 1.2 per cent a year and yield improvements relating to orange tree maturity.

Brazilian exports and export prices of orange products a

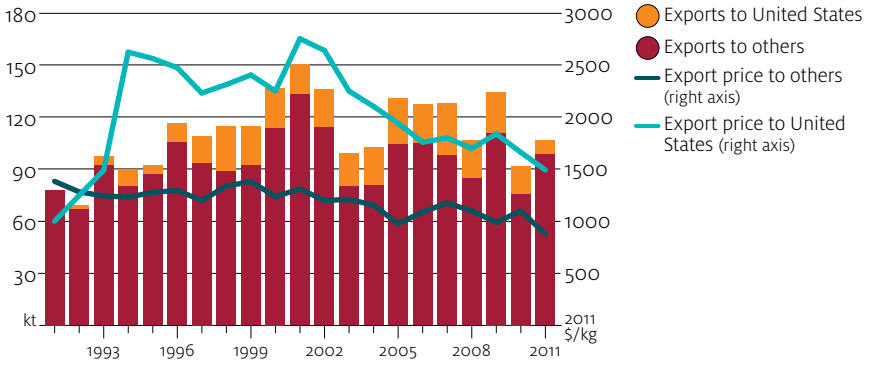


a In frozen concentrated orange juice-equivalent terms. **f** ABARES forecast. **z** ABARES projection.

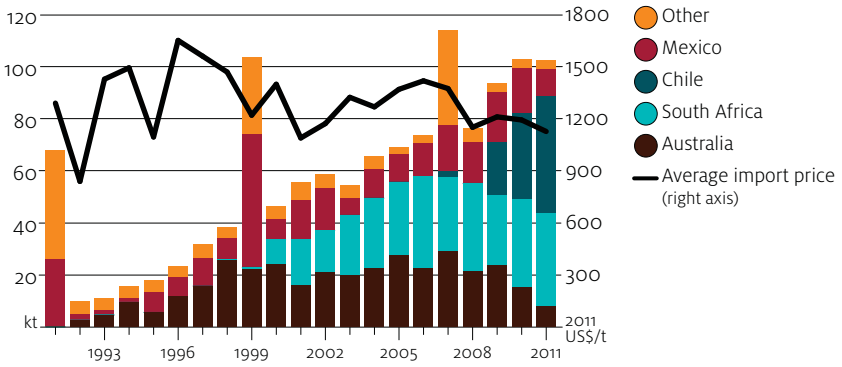
A markedly larger Australian citrus crop is forecast for 2011–12 partly as a result of improved water availability in south-eastern Australia. Production in 2011–12 is forecast to increase by around 45 per cent for navel oranges, 31 per cent for mandarins and 76 per cent for valencia oranges (harvested in 2011–12).

Returns to Australian orange growers over the period to 2016–17 will continue to be influenced by larger Brazilian exports of orange juice and increased competition in the US import market for fresh oranges, especially from Latin America.

Australian exports and export prices for fresh oranges



United States imports of fresh oranges, by country



The Riverland, Sunraysia and Riverina regions are the only regions in Australia from which fresh citrus fruit can be exported to the United States. US market access was enabled in the early 1990s through meeting US marketing orders and quarantine requirements (mainly fruit fly–free status). The arrangement for exports of fresh oranges to the United States has been under the export control powers of Horticulture Australia Limited. These powers are currently under review.

However, increased competition from South Africa and other emerging suppliers is eroding Australia's share in the US market for fresh oranges. In late 2006, Chile gained access to the US market and by 2011 had achieved a 32 per cent market share. Over the same period, Australia's share of the US import market declined from 30 per cent to 8 per cent.

Apples

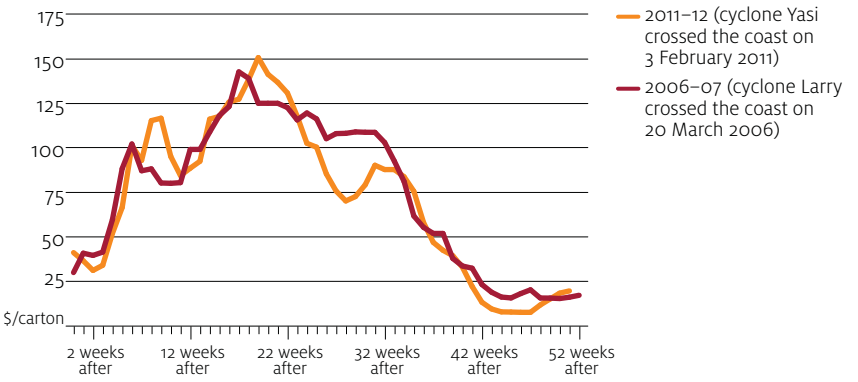
Australian apple production is projected to increase to 310 000 tonnes by 2016–17, up from a forecast 270 000 tonnes in 2011–12. This is despite approval being given in 2011 for fresh apples to be imported from China and New Zealand. China and New Zealand are the first apple exporting countries that have been able to meet Australia's quarantine requirements for fresh apples since the 1920s. In the first half of 2011, Australia imported 703 tonnes of apples.

The increased import competition is likely to lower Australian apple prices and lead to smaller, inefficient apple producers leaving the industry. Increased competition is likely to encourage other Australian apple producers to raise productivity over the medium term.

Bananas

Australian banana production is forecast to increase by 11 per cent in 2012–13. Damage from tropical cyclone Yasi sharply reduced Australian banana production in 2011 in the northern Queensland region that accounts for more than 90 per cent of Australia's banana production. The pattern of wholesale prices of bananas in the aftermath of tropical cyclone Yasi closely followed that experienced after tropical cyclone Larry in 2006. No country has yet been able to meet Australia's quarantine requirements for fresh banana imports and so climatic events that significantly affect Australian banana production have a greater effect on banana prices than for fruit with origins more geographically dispersed (both with Australia and overseas).

Cavendish banana prices, Melbourne wholesale market, after tropical cyclones Larry and Yasi



Source: DATAFRESH, Fresh State Limited, Melbourne Markets

Growth fruit industries in Australia

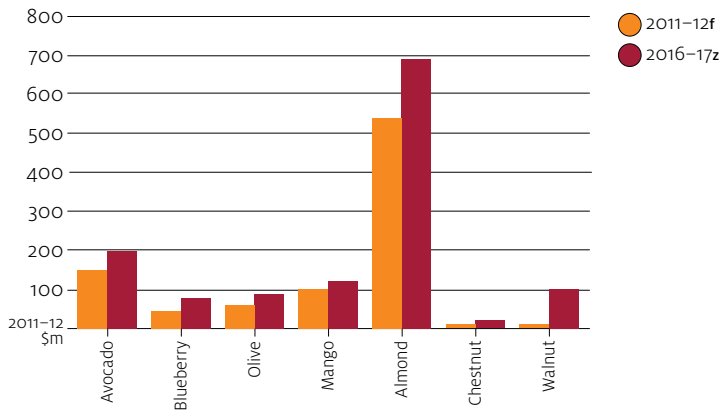
The Australian fruit industry is characterised by a number of growth industries, most notably the avocado, berry, mango, and olive industries.

Avocado production in Australia is projected to increase to 70 000 tonnes by 2016–17, compared with 52 800 tonnes in 2010–11. Australian avocado production is domestically oriented, with forecast exports in 2011–12 of only 2200 tonnes. The Australian avocado industry faces strong competition in the domestic market from New Zealand. Australia increased its imports of avocados by 58 per cent in 2011 to a record 14 700 tonnes with all these imports coming from New Zealand (the only country that currently meets Australia's quarantine requirements).

Mango production in Australia is projected to grow to 77 000 tonnes in 2016–17, compared with a forecast 63 000 tonnes in 2011–12, but production and fruit quality is likely to remain highly variable from year to year.

Olive production in Australia is projected to grow to 109 000 tonnes in 2016–17, compared with a forecast 103 500 tonnes in 2011–12. This is a slower rate of increase than occurred in the period 2000 to 2010 because the rate of new plantings in Australia has slowed in recent years.

Projected gross value of production, selected fruit and tree nut industries, Australia



f ABARES forecast. **z** ABARES projection.

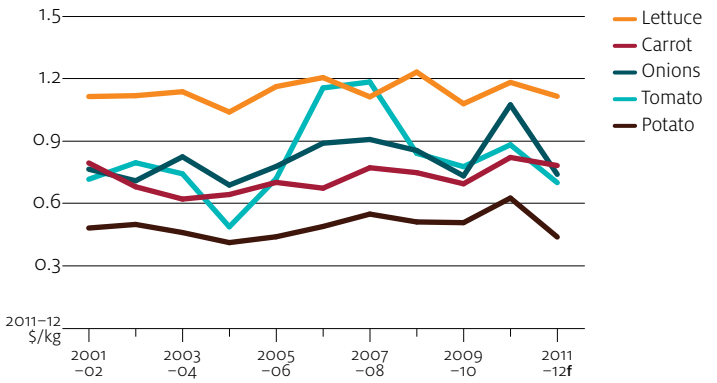
Vegetables

The gross value of Australian vegetable production is forecast to grow by 7 per cent in 2011–12 to $3.6 billion. It is expected that favourable seasonal conditions will allow higher production to outweigh the effects of lower prices.

Vegetable prices declined in Australia in 2011–12, due to favourable seasonal conditions and abundant supplies of irrigation water, which together increased supply from Australian produce. Additionally, the strong Australian dollar has lowered the Australian dollar price of vegetable imports, particularly from New Zealand. Vegetable prices were high in 2010–11 due to extensive floods in the eastern states of Australia and the Gascoyne region of Western Australia.

By 2016–17, the gross value of Australian vegetable production is projected to increase to $4 billion in real terms, compared with a forecast $3.6 billion in 2011–12.

Gross unit values, selected vegetables, Australia



f ABARES forecast.

Outlook for tree nuts

The gross value of Australian production of tree nuts (almond, chestnut, hazelnut, macadamia, pecan, pistachio and walnut) is forecast to increase by 50 per cent in 2011–12 to $225 million. This reflects a forecast 47 per cent increase in production of almonds, an industry that accounts for over 90 per cent of the gross value of Australian tree nut production.

By 2016–17, the gross value of the Australian tree nut industry is forecast to more than triple to $765 million in real terms. This projected increase largely reflects expected yield increases as almond, macadamia and walnut trees planted in the 2000s approach maturity, rather than increases in tree nut plantings.

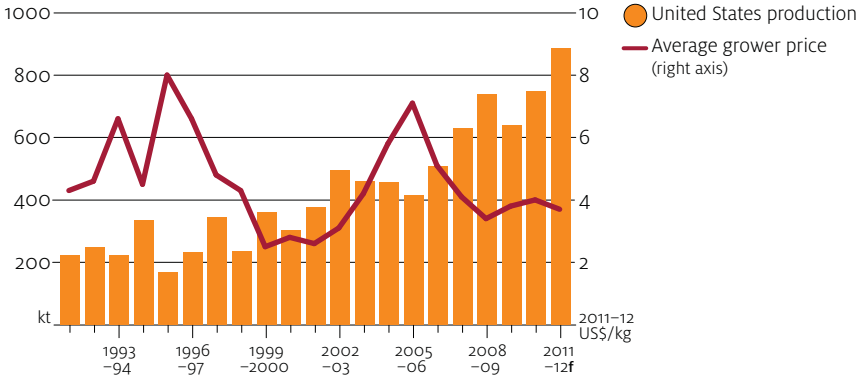
Almonds

World almond prices are forecast to decline in 2011–12 in response to record world almond production outpacing strong world demand. Demand growth is being driven by income growth, particularly in China and India, and perceptions of the healthiness of almonds.

World almond production is forecast to grow by 16 per cent in 2011–12 to a record 1 million tonnes shelled, due mainly to a 20 per cent increase in production in the United States. The United States is forecast to account for around 80 per cent of world almond production in 2011–12, while Australia and Spain are forecast to each account for around 4 per cent.

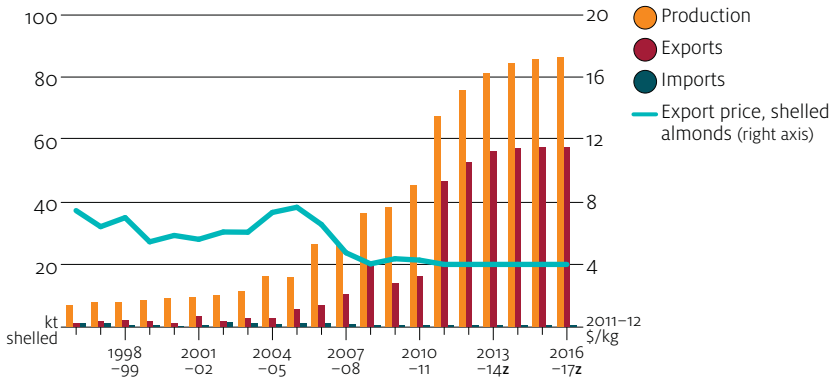
World almond imports rose at an annual average of nearly 8 per cent over the past two decades. In Australia, almond consumption grew at nearly 12 per cent a year over the same period. However, world production has more than kept pace with the rising demand, putting downward pressure on world almond prices.

Almond production and grower returns, United States



f ABARES forecast.

Australian almond production, trade and export price



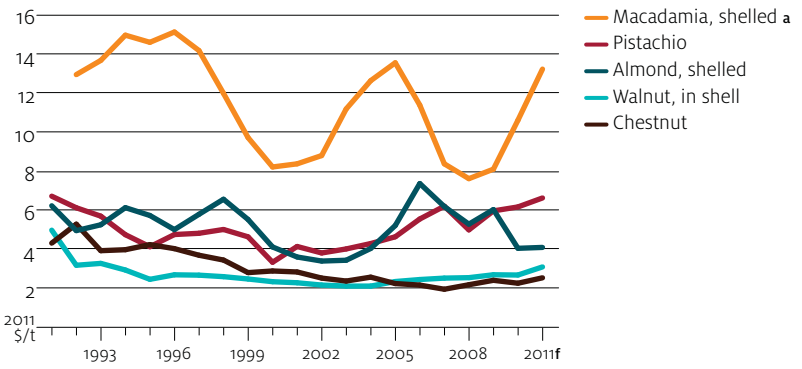
z ABARES projection.

Almond production in Australia is forecast to increase by 47 per cent in 2011–12 to 67 400 tonnes shelled. Annual Australian almond production grew from less than 3000 tonnes in the early 1990s as the large number of trees planted in the 1990s and 2000s matured. Australian production will continue to increase over the medium-term as the yields of more recently planted almond trees approach maturity. By 2016–17, Australian almond production is projected to be 86 300 tonnes, 28 per cent higher than the forecast for 2011–12.

Other tree nuts

The Australian macadamia industry is forecast to produce around 13 000 tonnes (shelled) in 2011–12, based on area planted of around 18 000 hectares. By 2016–17, Australia is projected to produce 17 000 tonnes of shelled macadamia nuts, with a further 4000 hectares of trees reaching full production. World prices for macadamias increased in recent years, after declining over an extended period due to large increases in world macadamia production, as growing world demand catches up with supply.

Average world export prices for selected tree nuts



a Australian export price in US dollars. f ABARES forecast.

Production of walnuts in Australia is forecast to be around 1000 tonnes (in shell) in 2011–12, but is projected to reach 15 000 tonnes by 2016–17, based on a planted area of around 3100 hectares, which was largely established in Victoria, New South Wales and Tasmania in the 2000s. World prices for walnuts have increased sharply recently in response to increased demand as a result of increasing consumer perceptions of the healthiness of walnuts.

Production of chestnuts in Australia is forecast to be 1200 tonnes in 2011–12 and is projected to grow to 2000 tonnes by 2016–17, as a large number of trees reach maturity.

There are small industries in Australia producing hazelnuts, pistachios and pecans. Production growth in these industries over the period to 2016–17 is projected to be relatively low.

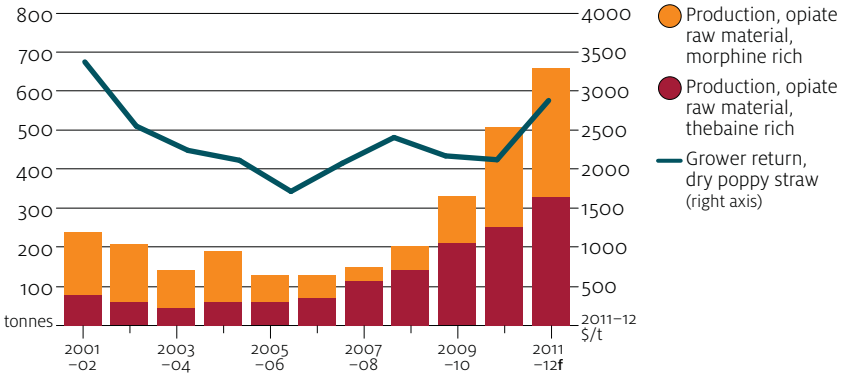
Other horticulture

The gross value of other horticulture production is forecast to grow by 5 per cent in 2011–12 to $1.95 billion. Factors contributing to this forecast growth are abundant supplies of irrigation water in most regions and easing of household water restrictions in most states, which is likely to encourage re-establishment of gardens and consequent higher nursery sales. Additionally, oil poppy and pyrethrum production has increased in Tasmania.

The area planted to oil poppy in Tasmania is forecast to increase to 36 000 hectares in 2011–12, 8400 hectares more than in 2010–11 and up from only 9200 hectares in 2006–07. The increase in planted area is a response to high world prices for oil poppy product due to the effects of war on production in Afghanistan (a key oil poppy producer) and an outbreak of poppy blight in some producing countries. The farmgate price for dry opium in Afghanistan more than tripled between July 2009 and December 2010. The gross value of Australian oil poppy production is forecast to be around $100 million in 2011–12, up from 65 million in 2010–11.

By 2016–17, the gross value of Australia's other horticulture production (except wine grapes) is projected to increase to around $2.1 billion (in 2011–12 dollars). The level of Australian exports of plants and foliage is projected to remain relatively low at around $19 million (in 2011–12 dollars) by 2016–17.

Tasmanian production of opiate raw material from poppy and grower returns



f ABARES forecast.

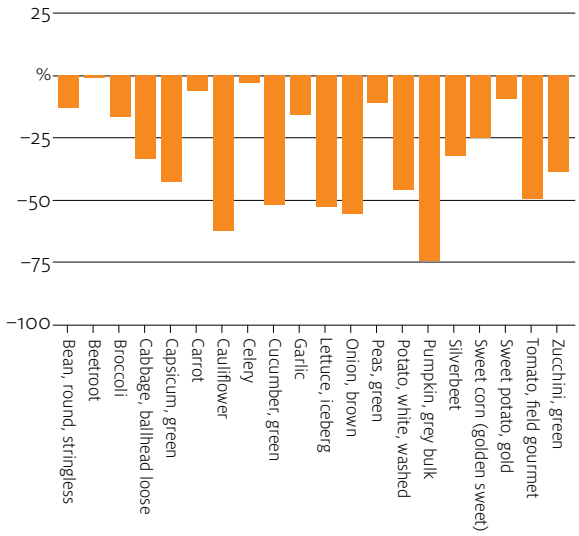
The effect on producers of announced cuts to fruit and vegetable retail prices by the major supermarkets

Coles announced on 30 January 2012 that it had reduced the cost of selected fruit and vegetables by up to 50 per cent. On 1 February, Woolworths announced it would meet or beat many advertised Coles prices. The price cuts applied to a dozen popular fruit and vegetables each week.

Declines in the wholesale prices for most fruit and vegetables were observed in advance of the announcement by Coles. In its Weekly Australian Climate, Water and Agricultural Update released on 3 February 2012, ABARES reported that virtually all vegetable prices were lower in the Melbourne wholesale market in the week ending 28 January 2012, than in the same period in 2011. The declines in vegetable prices ranged from less than 5 per cent for carrots and celery to over 50 per cent for grey pumpkins, cauliflowers, brown onions and iceberg lettuces (Figure 1).

Of a selected basket of fruit, only prices of granny smith apples, bananas, cherries and pineapples were higher than at the same time in 2011 (Figure 2). There was also record throughput of fruit and vegetables in the Sydney wholesale market in December 2011.

FIGURE 1 Year-on-year changes in selected vegetable prices, Melbourne wholesale market, 28 January 2012



Source: DATAFRESH, Fresh State Limited, Melbourne Markets.

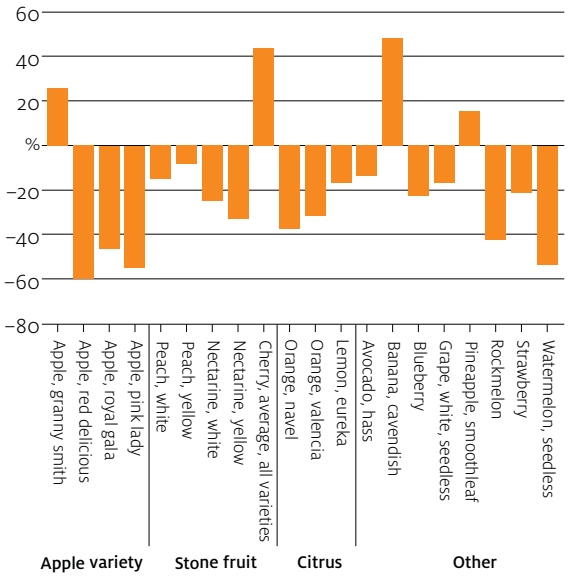
The overall effect of lower wholesale prices on producers will depend upon:

- the extent to which consumers increase demand for fruit and vegetables in response to lower retail prices
- for how long prices are reduced and for which products
- the extent to which improved seasonal conditions may have reduced farm input costs.

...continued

The effect on producers of announced cuts to fruit and vegetable retail prices by the major supermarkets ...continued

FIGURE 2 Year-on-year changes in selected fruit prices, Melbourne wholesale market, 28 January 2012



Source: DATAFRESH, Fresh State Limited, Melbourne Markets.

ABARES next farm survey on the financial performance of vegetable growing farms will provide some insight into the effect of these factors on producer returns in 2011–12. Horticulture Australia Limited has commissioned and funded ABARES to undertake an annual survey to collect data on the physical, financial and socioeconomic characteristics of vegetable-growing farms. The most recent report, released in November 2011, covered the financial performance of vegetable growing farms in 2009–10 and some provisional projections for 2010–11. ABARES has started collecting data on vegetable growing farms for 2010–11; the next report is scheduled for release around September 2012 and will contain provisional projections for 2011–12.

ABARES also collects some data on fruit growing farms as part of a survey of irrigation farms in the Murray–Darling Basin. Again, this survey has just begun for this year and the report findings are planned to be released around late 2012.

Outlook for horticulture

		2009–10	2010–11	2011–12 f	2012–13 f	2013–14 z	2014–15 z	2015–16 z	2016–17 z
Gross value									
– nominal	A$m	7 895	8 705	9 266	9 993	10 353	10 739	11 134	11 540
– real **a**	A$m	8 372	8 954	9 266	9 722	9 826	9 944	10 059	10 171
Fruit and tree nuts									
– nominal	A$m	3 223	3 453	3 708	3 997	4 131	4 286	4 445	4 609
– real **a**	A$m	3 418	3 552	3 708	3 888	3 920	3 969	4 016	4 062
Vegetables									
– nominal	A$m	3 023	3 370	3 606	3 908	4 063	4 222	4 385	4 552
– real **a**	A$m	3 206	3 467	3 606	3 802	3 857	3 910	3 961	4 012
Other horticulture									
– nominal	A$m	1 649	1 882	1 952	2 089	2 159	2 231	2 304	2 380
– real **a**	A$m	1 748	1 935	1 952	2 032	2 049	2 066	2 082	2 098
Exports									
– nominal	A$m	1 309	1 248	1 227	1 127	1 201	1 273	1 350	1 423
– real **a**	A$m	1 388	1 283	1 227	1 097	1 140	1 178	1 220	1 254
Fruits									
– nominal	A$m	593	463	474	420	436	449	463	474
– real **a**	A$m	628	476	474	409	414	416	418	418
Vegetables									
– nominal	A$m	497	561	519	420	446	470	496	519
– real **a**	A$m	528	577	519	408	423	436	448	458
Tree nuts									
– nominal	A$m	198	207	219	269	300	334	372	411
– real **a**	A$m	210	213	219	261	285	309	336	363
Nursery									
– nominal	A$m	20	17	15	19	19	19	19	19
– real **a**	A$m	22	18	15	18	18	17	17	17

a In 2011–12 Australian dollars. **f** ABARES forecast. **z** ABARES estimate.
Sources: ABARES; Australian Bureau of Statistics

Agriculture
Livestock

Beef and veal

Outlook to 2016–17

Clay Mifsud

The Australian weighted average saleyard price for beef cattle is forecast to increase by 2 per cent in 2011–12 to 330 cents a kilogram (dressed weight). Higher saleyard prices largely reflect continued re-stocker demand for young cattle and historically low slaughter rates. In 2012–13, saleyard prices are forecast to remain relatively strong at an average of around 325 cents a kilogram (dressed weight).

While young cattle prices are expected to remain relatively high in 2012–13, prices of other categories of cattle are forecast to average lower for several reasons. First, forecast higher slaughter and production is expected to put downward pressure on the weighted average price of slaughter cattle. Second, average export unit returns are forecast to decline, putting downward pressure on saleyard prices for slaughter cattle, as shipments of lower valued frozen cuts are forecast to increase more than higher valued chilled beef exports.

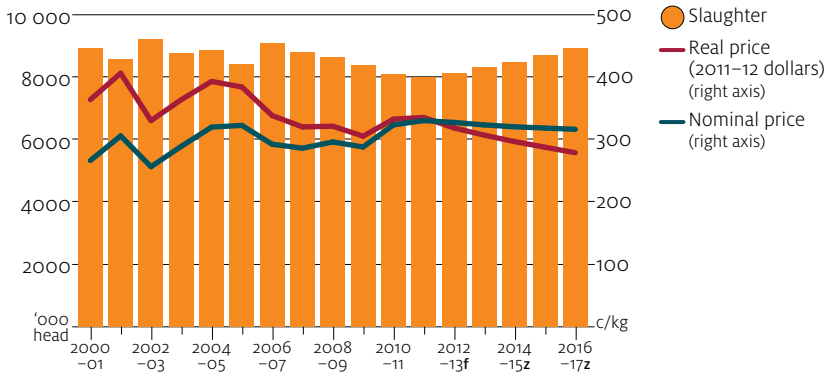
In northern Australia, prices for light steers and heifers in 2012–13 are forecast to decline from the record highs recorded in 2011. This forecast fall reflects the announced reduction in the Indonesian Government's live cattle import quota from 500 000 head in 2011 to 283 000 head in 2012, which may result in cattle suitable for export to Indonesia being redirected to domestic or other markets where this is feasible. It is possible, however, that the quota may increase during the course of 2012, which would reduce the downard pressure on prices.

Over the medium-term, saleyard cattle beef prices are projected to trend downwards in real terms as slaughter rates increase following a projected expansion in the herd. An increased supply of beef and greater competition in major export markets from other exporters are expected to result in a higher proportion of Australian beef exported to emerging markets, which have historically offered lower returns than the major markets of Japan and the Republic of Korea. By 2016–17, the weighted average saleyard price for beef cattle is projected to be around 275 cents a kilogram in 2011–12 dollar terms.

Herd numbers to peak and then fall

The Australian beef cattle herd is forecast to increase by 5 per cent in 2011–12 to 27.6 million head, before rising a further 4 per cent in 2012–13 to 28.8 million head. This forecast takes into account the preliminary estimate of herd numbers at the end of 2010–11 released by the Australian Bureau of Statistics (ABS), on 2 December 2011. The ABS estimates that beef cattle numbers rose by 9 per cent year-on-year to 26.2 million head as at 30 June 2011.

Australian cattle slaughter and prices



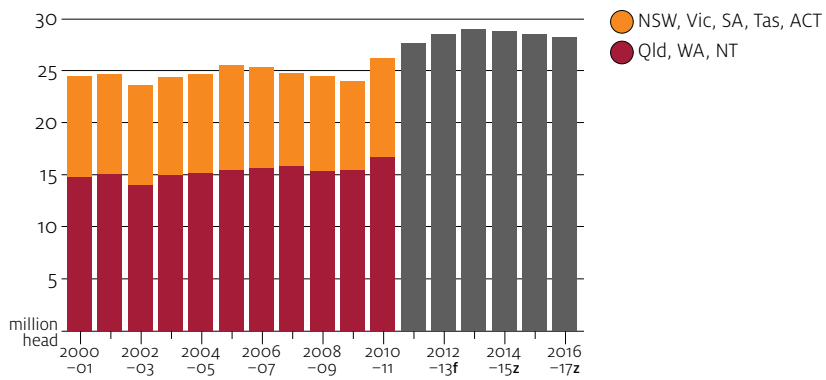
f ABARES forecast. **z** ABARES projection.

Since 2009–10, improved seasonal conditions have resulted in significant pasture growth in most cattle producing regions. This has encouraged producers in most states to retain female cattle for herd rebuilding. Herd growth in 2010–11 was highest in South Australia (27 per cent year-on-year), followed by Victoria (16 per cent), Queensland (13 per cent) and New South Wales (8 per cent). Retention of female cattle is expected to continue into 2012–13, particularly in the southern part of Western Australia where the proportion of females in the total slaughter declined considerably in the second half of 2011.

Assuming relatively favourable seasonal conditions over the medium-term, the Australian beef cattle herd is projected to expand to 29.1 million head in 2013–14. If achieved, this would represent the largest beef cattle herd since 1975–76. Herd numbers are expected to decline gradually from 2013–14 onwards as cattle slaughter increases, contributing to projected lower saleyard prices in real dollar terms over the medium term.

Since 2000–01, Australian beef cattle numbers have increased by 7 per cent; most of the increase has occurred in Queensland, Western Australia and the Northern Territory. In contrast to the growth pattern of the previous decade, the proportion of beef cattle in southern Australia, relative to the nation as a whole, is expected to increase over the outlook period.

Australian beef cattle numbers



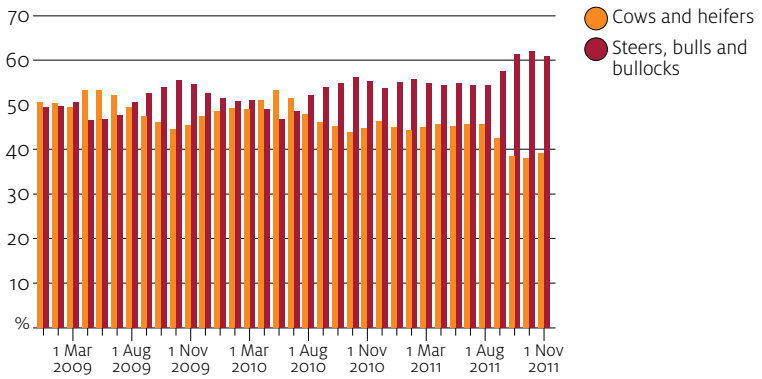
f ABARES forecast. **z** ABARES projection.

Slaughter and production

Beef cattle slaughter is forecast to fall by 2 per cent in 2011–12 to 7.9 million head, before increasing to 8.1 million head in 2012–13. In the short-term, slaughter is forecast to remain lower than the average recorded over the past 10 years. Over the remainder of the outlook period, cattle slaughter is projected to increase more rapidly in response to growth in export demand, particularly from emerging markets. As slaughter rises, the proportion of females slaughtered is expected to increase from the lows recorded in 2011–12, as producers turn-off surplus breeding stock.

Beef and veal production is forecast to increase by 1 per cent in 2011–12 to 2.1 million tonnes, before increasing by 2 per cent in 2012–13 to 2.2 million tonnes. In the short-term, production is expected to grow more quickly than slaughter because of the high proportion of adult males in the total turn-off, resulting in higher average carcass weights. Over the medium-term, production growth is projected to slow, as the higher proportion of females and calves slaughtered lowers average carcass weights.

Australian cattle slaughter, by gender



Exports to increase over the medium-term

The Australian cattle industry is highly reliant on overseas trade, with nearly two-thirds of its production exported. As such, export demand for beef is an important driver of the direction for the industry. Over the short-term, export volumes are forecast to rise by 2 per cent in 2011–12 to 955 000 tonnes, before increasing further to 970 000 tonnes in 2012–13. With forecast higher export prices, the total export value in 2011–12 is forecast to grow by 3 per cent, to $4.47 billion. In 2012–13 earnings from Australian beef exports are forecast to increase to $4.53 billion mainly as a result of increased export volumes.

Export performance for Australian beef in the three largest markets (of Japan, the United States and the Republic of Korea) is forecast to be mixed in the short-term. In Japan, demand for Australian beef is expected to fall as a result of stagnant per person beef consumption and increasing competition from US beef. In the United States, the lower supply of domestic beef available to US consumers is expected to drive a small recovery in imports. However, Australia faces increased competition in that market from Canada, and low cost producers of Latin America, particularly Mexico and Brazil. In the Republic of Korea, growth in beef consumption and reduced supplies of locally produced beef as a result of an outbreak in foot-and-mouth disease in 2011 is driving demand for imports from Australia and the United States.

Over the medium-term, Australian beef exports are projected to increase moderately to around 1.04 million tonnes by 2016–17, with higher demand from emerging markets. Given the increased competition facing Australian beef in the three traditional markets, the proportion of total Australian beef exports to these markets is projected to fall from the current level of 70 per cent to around 65 per cent by the end of the outlook period.

Exports to the United States to grow

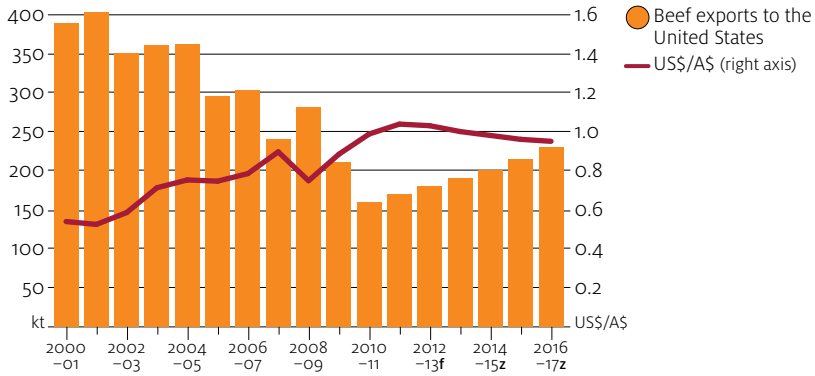
Australian beef exports to the United States are forecast to rise by 6 per cent in 2011–12 to 170 000 tonnes (shipped weight), before increasing a further 6 per cent in 2012–13 to 180 000 tonnes. In its latest market report, the United States Department of Agriculture (USDA) forecast US beef production to fall and exports to remain historically high, resulting in a lower supply of beef for the US domestic market. As a result, Australian beef exports to that market are expected to rise in 2012–13.

Drought conditions continue to prevail in many southern United States beef producing regions. High feed costs have significantly lowered producer returns despite relatively high cattle prices. In response, producers have increased slaughter with a higher proportion of younger cattle. US cattle slaughter is expected to be near record highs in 2011–12.

The US cattle herd is currently around 90.8 million head, the lowest since 1958. Reduced calf numbers and feeder cattle placements, and disproportionally large cow and bull slaughter is expected to lead to a further decline in the herd in 2012–13. Over the medium-term, herd rebuilding depends on seasonal conditions and could take several years before sufficient breeding stock is replenished. As a result, US import demand for beef is likely to remain relatively high in the next several years.

Despite a positive outlook for US beef imports, Australian beef exporters are likely to continue to encounter strong competition from other exporters such as Canada, which has a freight cost advantage, and Mexico, which also has lower production costs. Since 2008–09, Canada's share in the US beef import market has risen from 30 per cent to 35 per cent, while Mexico's share has increased from 2 per cent to 8 per cent.

Beef exports to the United States and exchange rate



f ABARES forecast. **z** ABARES projection.

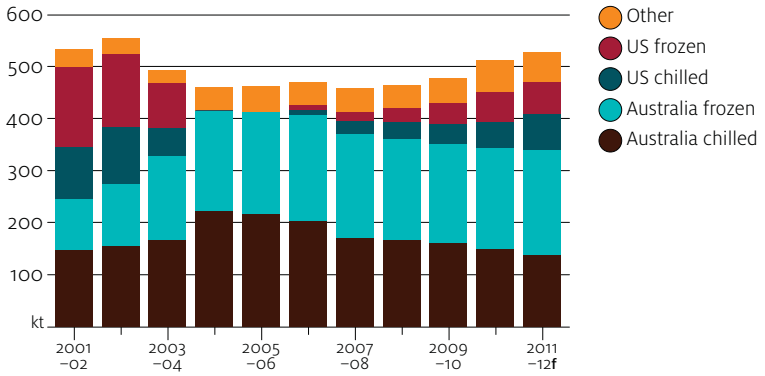
In 2016–17, Australian beef exports to the United States are projected to increase to 230 000 tonnes. US demand for manufacturing beef is expected to remain high due to limited domestic supplies. As a result, domestic beef prices are expected to remain high, providing favourable returns to imported beef, including Australian beef.

Increased US beef in Japan

Australian beef exports to Japan are forecast to fall by 4 per cent in 2011–12 to 338 000 tonnes (shipped weight), and a further 2 per cent to 330 000 tonnes in 2012–13. While Japan's total beef imports are expected to rise in 2011–12, most of this increase is expected to be sourced from the United States. Aided by a relatively competitive exchange rate, US beef is expected to continue to displace beef from other major suppliers, including Australia, Canada and New Zealand, in the Japanese market.

Japan's total beef imports grew by 6000 tonnes year-on-year in the five months to November 2011 to 232 000 tonnes. Over the same period, imports of US beef grew by 11 000 tonnes to 58 000 tonnes, comprising an 8000 tonne increase in chilled beef and a 3000 tonne rise in frozen beef. By comparison, Japanese imports of Australian beef fell by 3000 tonnes to 149 000 tonnes, with chilled beef falling by 8000 tonnes but frozen beef rising by 5000 tonnes. The share of imported beef from Australia that was grain-fed fell to 40 per cent over this period, from an average of 46 per cent in 2010–11, a result of strong competition of marbled US beef.

Japan beef imports, by source



f ABARES forecast.

Since 2005, the Japanese Government has banned imports of US beef from cattle over 20 months of age, and required all bone marrow, spinal cord, brains and vertebrae be removed. In late 2011, Japan's Ministry of Health, Labour and Welfare proposed easing these restrictions. A review of the restrictions has since commenced, and the Japanese Food Safety Commission is conducting risk assessments of beef imports from the United States, Canada and several European countries.

Australian beef exports to Japan are projected to decline over the next few years, before stabilising toward the end of the outlook period. Per person beef consumption in Japan is projected to remain relatively stable over the medium-term, and demand for US grain-fed beef (which is typically preferred over Australian beef because of its higher marbling rates) is expected to rise. This is likely to result in a gradual reduction in Australian exports of high-value chilled cuts which are mainly used for household consumption. Australian exports of lower-value frozen cuts, which are mainly consumed by the food service sector, are expected to continue growing.

Greater competition in the Republic of Korea

Australian beef exports to the Republic of Korea are forecast to rise by 5 per cent in 2011–12 to 145 000 tonnes (shipped weight), before falling by 2 per cent in 2012–13 to 142 000 tonnes as competition from US beef increases, aided by a competitive US exchange rate. Imports of beef by the Republic of Korea have grown steadily in recent years in response to growing per person beef consumption, and substantially higher pig meat prices which arose following the cull of domestic pigs infected by foot-and-mouth disease. In the short-term, total Korean beef imports are expected to rise, with Australia remaining the largest supplier but by a smaller margin to other suppliers.

Over the medium-term, Australian beef exports to the Republic of Korea are projected to decline as Australian beef faces greater competition from the United States and Canada. In late 2011 the Korea–US Free Trade Agreement was ratified. As a result, the current 40 per cent tariff applied to all beef imports will be phased out for US beef by 2.7 per cent a year over the next 15 years. Competition of Australian exports with Canadian beef will also increase because the Korean Government lifted its ban on imports of Canadian beef in January 2012.

Exports to emerging markets increasingly important

Australian beef exports to emerging markets are forecast to increase by 6 per cent in 2011–12 to 302 000 tonnes, before rising a further 5 per cent in 2012–13. Exports to ASEAN nations (excluding Indonesia) are forecast to grow on account of relatively high income growth and growing demand for beef. Shipments to the Middle East are also expected to increase given the rising demand for packaged beef, as opposed to freshly slaughtered beef from live cattle imports. The Indonesian Government has moved to limit total beef imports from all sources to 34 000 tonnes in 2012, down from 72 000 tonnes in 2011. Australian beef exports to Indonesia are expected to fall by 16 per cent to 38 000 tonnes in 2011–12, before declining a further 20 per cent in 2012–13 to 30 000 tonnes.

Beef exports to emerging markets are projected to rise to 35 per cent of total Australian beef exports by 2016–17. However, average unit export prices from these markets are projected to be lower than those in Japan and the Republic of Korea because of the larger proportion of frozen beef exported (generally for manufacturing purposes).

Live exports

Australian live cattle exports are forecast to fall by 31 per cent in 2011–12 to 500 000 head. On 15 December 2011 the Indonesian Ministry of Agriculture announced its intention to limit live cattle imports in 2012 to 283 000 head. This is 237 000 head fewer than in 2011, and 417 000 head below the 2010 quota. Permits have been issued for the import of 60 000 head of cattle during the first quarter of 2012. If a similar number of permits is issued for the second quarter of 2012 and if it is strictly enforced, Australian live cattle exports to Indonesia in 2011–12 will be around 330 000 head, 29 per cent lower than in 2010–11.

Live cattle exports to markets other than Indonesia are also forecast to be lower in 2011–12. Australian exports to Turkey are facing greater competition, as the Turkish Government has recently allowed imports of cattle from Mexico, Hungary, Romania and France. A limited number of cattle originally destined for Indonesia may be redirected to other markets, such as Malaysia and the Philippines. In the past, these markets have sourced Australian cattle from northern ports. However, strong competition from Indian buffalo meat and Latin American beef exists in these markets.

In the short-term, it is unlikely that a significant number of cattle originally intended for export to Indonesia can be redirected to other markets. In 2010–11, all cattle exported to Turkey, Israel, Saudi Arabia and the Russian Federation were sourced from southern Australian ports, indicating a preference for bos taurus cattle. In addition, many of these markets generally import cattle from Australia that are close to slaughter weight because they lack large-scale feedlot infrastructure for finishing cattle prior to slaughter. The currencies of Turkey, Israel, Saudi Arabia and the Russian Federation have depreciated against the Australian dollar by an average of 8 per cent over the past year, making Australian cattle relatively more expensive in those markets.

On 21 October 2011, the Minister for Agriculture, Fisheries and Forestry the Hon. Joe Ludwig announced reforms to the livestock export trade in response to 14 recommendations made by the Farmer Review and the Industry Government Working Groups. The reforms are designed to ensure all Australian livestock exported for feeder and slaughter purposes are treated at or above the standards set out by the World Organisation for Animal Health. The supply chain assurance regulations recently applied to livestock exports to Indonesia will be extended to cover 75 per cent of the trade by 29 February 2012, 99 per cent of the trade by 31 August 2012, and 100 per cent by 31 December 2012. Livestock exporters will need to ensure they can track and control movements of individual animals through their supply chains, and conduct independent audits of their supply chains to ensure compliance with these new regulations. At this stage, it remains uncertain how these regulations will affect demand for Australian live cattle exports in international markets.

Growth in live cattle exports over the medium term will depend on development of new markets for northern Australian cattle (especially if the Indonesian Government strictly enforces the new import restrictions). Over the past decade, the number of cattle exported from northern Australian ports to markets other than Indonesia fell from 293 000 head to 76 000 head.

Outlook for beef and veal

	unit	2009–10	2010–11	2011–12 f	2012–13 f	2013–14 z	2014–15 z	2015–16 z	2016–17 z
Saleyard price a									
– nominal	Ac/kg	288	323	330	325	322	319	315	312
– real b	Ac/kg	305	332	330	316	306	295	285	275
Cattle numbers c	million	26.6	28.8	30.2	31.4	31.8	31.6	31.4	31.2
– beef	million	24.0	26.2	27.6	28.8	29.1	28.9	28.7	28.5
Slaughterings	'000	8 364	8 097	7 935	8 090	8 275	8 485	8 695	8 930
Production	kt	2 109	2 133	2 145	2 190	2 230	2 255	2 280	2 310
Consumption									
per person	kg	35.1	33.2	31.7	32.7	33.0	32.6	32.3	31.9
Export volume d	kt	899	937	955	970	985	1 005	1 020	1 040
– to United States	kt	211	160	170	180	190	200	215	230
– to Japan	kt	350	351	338	330	325	320	320	315
– to Korea, Rep. of	kt	124	139	145	142	140	137	135	135
Export value									
– nominal	A$m	3 953	4 328	4 468	4 530	4 580	4 655	4 710	4 795
– real bc	A$m	4 192	4 452	4 468	4 407	4 347	4 310	4 255	4 226
Live cattle exports	'000	871	728	500	500	520	535	550	575

a Dressed weight. **b** In 2011–12 Australian dollars. **c** At 30 June. **d** Fresh, chilled and frozen, shipped weight. **f** ABARES forecast. **z** ABARES projection.
Sources: ABARES; Australian Bureau of Statistics; Department of Agriculture, Fisheries and Forestry

Sheep meat

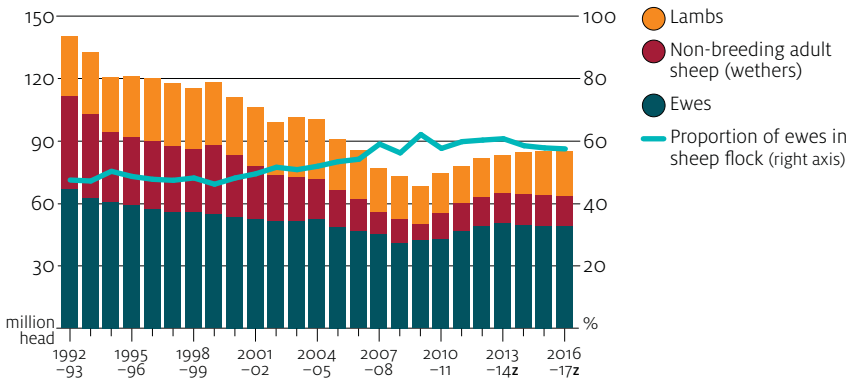
Outlook to 2016–17

Neil Thompson

Strong demand for sheep meat and wool on world markets, combined with favourable seasonal conditions in Australia's eastern states, have resulted in a significant increase in sheep numbers over the past two years. With grower returns projected to remain favourable over the outlook period, producers are expected to continue rebuilding the sheep flock with a continued focus on sheep meat production.

After declining to its lowest number since 1887 at 68 million head in 2009–10, the Australian sheep flock is forecast to reach 81 million head in 2012–13. This follows an expected increase of 5 per cent to 78 million head in 2011–12. Over the medium-term, the flock is expected to continue to expand, albeit at a slower rate, to around 85 million head by 2016–17.

Australian sheep flock



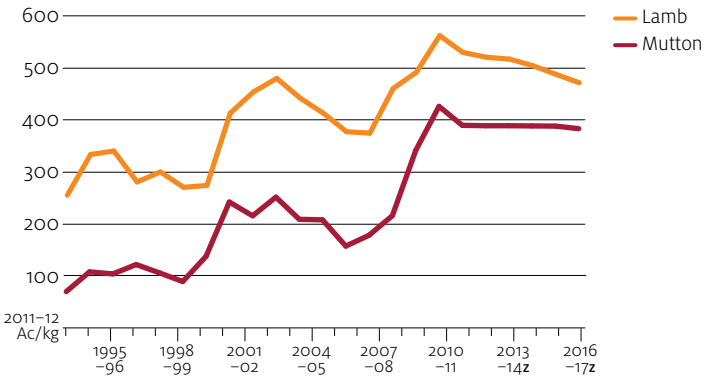
z ABARES projection.

Prices to remain high as flock rebuilding continues

The Australian weighted average saleyard price for lambs is forecast to increase marginally in 2012–13 to average 535 cents a kilogram. This forecast reflects continued strong demand from both export markets and producers rebuilding flocks.

Although the supply of lambs is expected to increase over the projection period, average saleyard lamb prices in real terms are forecast to remain relatively high (at 471 cents a kilogram in 2011–12 dollars by 2016–17). The effect of continued strong demand for lambs over the medium-term is expected to partially offset any downward pressure on saleyard prices.

Australian saleyard prices



z ABARES projection.

The average saleyard price of sheep is forecast to increase by 3 per cent in 2012–13 to around 400 cents a kilogram. This reflects reduced sheep availability as producers respond to strong prices for lambs and wool by retaining breeding ewes for flock expansion and wethers for wool production. Over the medium-term, the upward pressure on prices stemming from strong demand for mutton and live sheep from export markets is expected to more than offset any fall in price resulting from the projected increase in sheep turn-off. As a result, sheep prices are projected to remain relatively high in historical terms, at around 383 cents a kilogram (in 2011–12 dollars) in 2016–17.

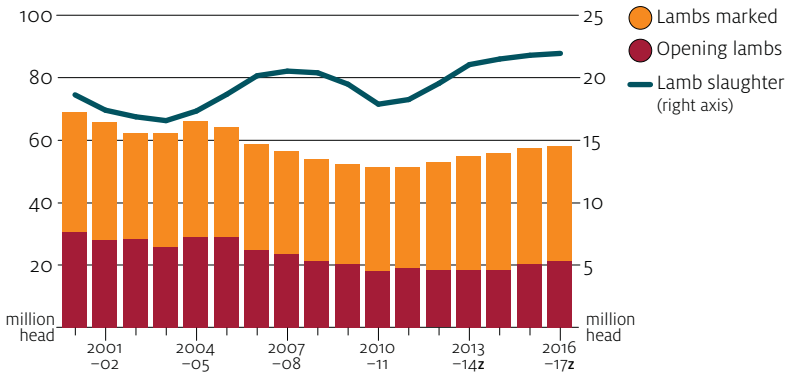
Production to increase as sheep flock expands

Lamb slaughter is forecast to rise by 7 per cent in 2012–13 to almost 19.6 million head, following recent seasons of constrained supply because of flock rebuilding. Over the medium-term, lamb slaughter is projected to rise steadily to around 22 million head by 2016–17. The projected increase in slaughter largely reflects continued strong demand from export markets, particularly those with rapid income growth, such as China and the Middle East.

Lamb production is forecast to follow the same trend as slaughter, rising by around 6 per cent in 2012–13 to 425 000 tonnes. Over the medium-term the increasing focus of many producers on improving the productivity of sheep meat production, through improved genetics and finishing lambs on grain, is expected to lead to higher average carcass weights. By 2016–17, lamb production is projected to be around 480 000 tonnes.

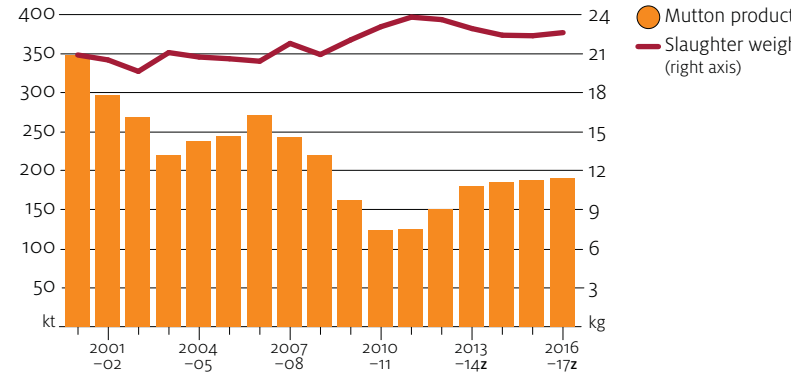
Adult sheep slaughter is forecast to be around 6.4 million head in 2012–13, an increase of 21 per cent from the expected historical low of 5.3 million head in 2011–12. The forecast increase in 2012–13 largely reflects the turn-off of older ewes that producers held onto in previous seasons to increase lamb numbers. Over the medium-term, sheep slaughter is projected to increase as flock rebuilding slows, reaching 8.4 million head by 2016–17.

Australian lamb flock and lamb slaughter



z ABARES projection.

Mutton production and carcass weight



z ABARES projection.

Mutton production is forecast to rise by 20 per cent in 2012–13 to 150 000 tonnes, from an estimated 125 000 tonnes in 2011–12. This significant increase reflects the expected increase in sheep slaughter and high average carcass weights stemming from improved pasture growth in Australia's eastern states.

Toward 2016–17, mutton production is projected to continue increasing, albeit at a slower rate, reaching 190 000 tonnes by the end of the outlook period. Carcass weights are expected to fall slightly on the assumption of relatively favourable seasonal conditions over the medium-term.

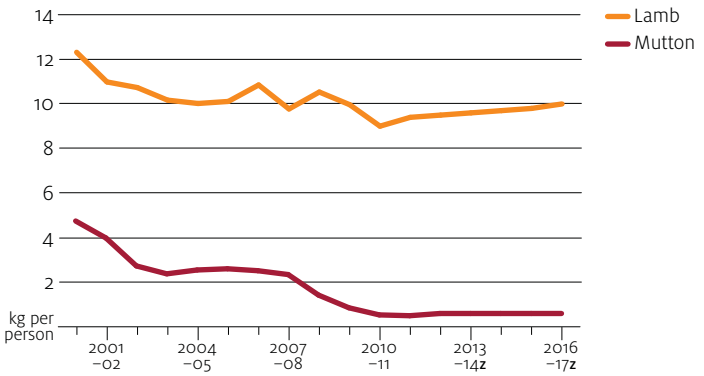
Domestic consumption to rise modestly

Domestic lamb consumption averaged around 10.2 kilograms per person over the five years to 2009–10. In 2010–11, per person consumption fell to 9 kilograms as a result of a significant increase in lamb prices compared with other meats.

Domestic consumption of lamb per person is projected to gradually recover over the outlook period as increased production puts some downward pressure on price in real terms. However, per person consumption is expected to reach only 10 kilograms by 2016–17. This reflects strong demand from major export markets, and substitution of consumers away from lamb to relatively cheaper alternative sources of protein, such as chicken.

Similar to lamb, domestic per person consumption of mutton is projected to increase over the outlook period as higher production causes the price for mutton to decline in real terms. However, at less than 1 kilogram per person, domestic mutton consumption is a small component of total mutton sales, with around 88 per cent of production exported in the past three years.

Australian sheep meat, per capita consumption



z ABARES projection.

Lamb exports to grow

Australian lamb export volumes are forecast to increase by 11 per cent in 2012–13 to 170 000 tonnes, following a decline of 2 per cent in 2011–12. Despite an expected increase in domestic lamb consumption in 2012–13, the majority of the forecast increase in lamb production will be destined for export. Coupled with favourable export prices, the increase in export volumes is expected to result in the value of Australian lamb exports increasing by 21 per cent to $1.2 billion in 2012–13.

Over the medium-term, the volume of lamb exports is projected to continue its upward trend, rising to around 200 000 tonnes by 2016–17. Export volumes to established markets, particularly the United States, are projected to rise. At the same time, demand for lamb in developing markets such as China, the United Arab Emirates, Jordan, Saudi Arabia and Qatar is projected to strengthen in response to growth in incomes. As a result, the value of lamb exports is projected to rise, peaking at $1.3 billion (in 2011–12 dollars) in 2013–14 before easing toward the end of the outlook period, as increased supply puts downward pressure on prices.

United States and China to import more Australian lamb

Lamb exports to the United States, Australia's largest export market, are forecast to rise by around 8 per cent in 2012–13 to 36 000 tonnes (shipped weight). Poor seasonal conditions in major producing regions of the United States have led to lower lamb production. In the short-term, this trend is not expected to reverse and lamb imports in the United States are forecast to rise.

Over the medium-term, Australian lamb exports to the United States are projected to increase to around 44 000 tonnes by 2016–17. While export shipments to the United States are projected to increase, the projected growth rate for Australian lamb is expected to be higher for some other destinations, including China and the Middle East, as those markets develop.

The importance of markets in Asia and the Middle East as destinations for Australian lamb is expected to increase over the medium-term. China became the second largest destination for Australian sheep meat exports by volume in 2010–11, following average growth of more than 30 per cent a year over the past decade. Rising incomes and changing consumer preferences are forecast to be the major drivers of this projected increase. With relatively tight supplies of mutton, this is also expected to encourage some substitution to lamb, particularly in Middle Eastern markets.

Competition from New Zealand to increase

Increased competition from New Zealand is expected in major export markets over the outlook period, although this is not expected to be a significant factor in the short-term. New Zealand producers' ability to respond to current favourable world prices has been limited by recent poor seasonal conditions combined with a longer-term run down of the New Zealand sheep flock. While Beef and Lamb New Zealand reported a 7 per cent increase in the number of lambs marked in spring 2011, this growth follows the 2010 season where the number of lambs marked was the lowest in more than 50 years.

New Zealand lamb production is projected to rise over the outlook period, albeit at a slower rate than the rise in Australian production. The consequent increase in New Zealand exports is not expected to significantly affect the demand for Australian sheep meat as demand growth in importing countries is expected to be sufficient to absorb the increase in exportable supplies from both countries.

Export demand for mutton to remain strong

While Australian exports of mutton have fallen in recent years as producers rebuild sheep flocks, this trend is set to reverse in 2012–13 as producers increase sheep turn-off. Mutton exports are forecast to increase by 20 per cent in 2012–13 to 106 000 tonnes (shipped weight). This forecast significant increase in export volumes is expected to translate into a 25 per cent increase in the value of mutton exports in 2012–13 to around $490 million. The strong growth in mutton export values also reflects the effect of higher unit export value stemming from strong demand in the Middle East and China.

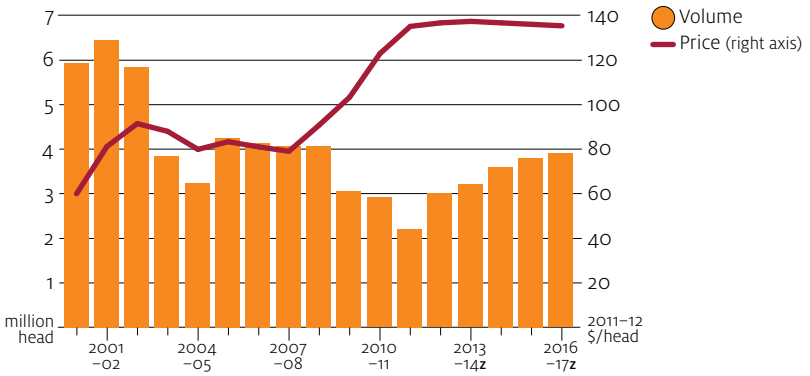
Toward 2016–17, mutton exports are projected to reach 140 000 tonnes, with a projected value of $645 million (in 2011–12 dollars). While unit values are projected to ease in real terms as sheep availability increases, income growth in major export markets is expected to provide support for demand.

Live sheep exports to recover from historical lows

Live sheep exports are forecast to increase by 36 per cent in 2012–13 to around 3 million head, following an expected 24 per cent fall in 2011–12. The strong competition between processors, restockers and live exporters observed in domestic saleyards throughout 2011–12 is expected to continue in the short-term, with prices per head to remain firm.

The Australian Government introduced new supply chain regulations, the Exporter Supply Chain Assurance System (ESCAS), to address animal welfare concerns. The regulations require exporters to ensure animal welfare standards and traceability of livestock are maintained throughout the supply chain, from pre export preparation in Australia to disembarkation and final slaughter in the importing country.

Australian live sheep exports



z ABARES projection.

Implementation of the regulations for major markets, including Kuwait, Qatar, Bahrain and Turkey, is scheduled for completion by 29 February 2012. At the time this report was prepared (mid-February 2012), significant progress had been achieved in meeting that deadline. All other export markets will adopt the regulations during 2012. Given the progress achieved in implementing the regulations in major markets, which accounted for almost 80 per cent of Australia's live sheep exports in 2010–11, it is unlikely the new regulations would significantly affect live sheep exports.

Over the medium-term, live sheep exports are projected to increase as the pace of flock rebuilding eases and sheep availability increases. In 2016–17, live sheep exports are projected to reach 3.9 million head. At this projected level, live sheep exports will still be significantly below the 20-year annual average of 4.7 million head as producers continue to take advantage of expected favourable lamb and wool prices by retaining more adult sheep.

Outlook for sheep meat

	unit	2009–10	2010–11	2011–12 f	2012–13 f	2013–14 z	2014–15 z	2015–16 z	2016–17 z
Saleyard price for sheep a									
– nominal	Ac/kg	322	414	389	400	410	420	430	435
– real b	Ac/kg	341	426	389	389	389	388	388	383
Saleyard price for lambs a									
– nominal	Ac/kg	464	546	530	535	545	545	540	535
– real b	Ac/kg	492	562	530	521	517	504	488	471
Sheep numbers c	million	68	74	78	81	83	85	85	85
Slaughterings									
Sheep	'000	7 333	5 341	5 250	6 350	7 850	8 250	8 400	8 400
Lamb	'000	19 478	17 880	18 250	19 550	21 050	21 500	21 800	21 950
Production d									
Mutton	kt	162	123	125	150	180	185	188	190
Lamb	kt	413	391	400	425	455	465	475	480
Consumption per person									
Mutton	kg	0.9	0.5	0.5	0.6	0.6	0.6	0.6	0.6
Lamb	kg	10.0	9.0	9.4	9.5	9.6	9.7	9.8	10.0
Exports									
Mutton exports e	kt	111	86	88	106	130	133	136	140
Lamb exports e	kt	157	158	154	170	191	195	199	200
– to United States	kt	35	33	33	36	40	43	44	44
Lamb export value									
– nominal	$m	916	1 033	979	1 186	1 406	1 435	1 451	1 445
– real b	$m	971	1 062	979	1 154	1 334	1 329	1 311	1 274
Live sheep exports	'000	3 055	2 909	2 200	3 000	3 200	3 600	3 800	3 900

a Dressed weight. **b** In 2011–12 Australian dollars. **c** At 30 June. **d** Carcass weight. **e** Fresh, chilled and frozen, shipped weight. **f** ABARES forecast. **z** ABARES projection.

Sources: ABARES; Australian Bureau of Statistics; Department of Agriculture, Fisheries and Forestry

Pig meat

Outlook to 2016–17

Laurie Walker and Clay Mifsud

The Australian pig industry has experienced considerable competition from imports in the domestic processed pig meat sector. Under Australia's quarantine arrangements, all imported frozen pig meat must be processed (mostly into bacon and ham). Over the 10 years to 2010–11, pig meat imports as a share of total domestic pig meat consumption grew from 15 per cent to 48 per cent. Over the medium-term, competition from imports in the processed pig meat sector is projected to increase. As a result, Australian producers are expected to continue focusing their efforts on producing meat mainly for the fresh meat market.

The weighted average Australian over-the-hooks price of pigs is forecast to fall by 2 per cent in 2012–13 to around 275 cents a kilogram. Lower forecast prices of feed grains, which account for about 55 per cent of total production costs, are expected to support higher domestic production in 2012–13. While weighted average prices have fallen since their peak in 2007–08, lower feed grain costs have since resulted in an increase in the pig-to-feed price ratio, providing support for returns to Australian pig producers.

Australian pig-to-feed price ratios yearly, ended December 2011

Over the medium-term, the weighted average over-the-hooks price of pigs is projected to fall to around 265 cents a kilogram (in 2011–12 dollars) by 2016–17. This reflects a projected increase in domestic fresh pig meat production, continued productivity improvements and the effect of increased competition with imported processed pig meat. With the Australian dollar assumed to remain relatively strong over the medium-term, demand for imported processed pig meat is projected to rise.

Production for the fresh market to rise

Australian pig meat production is forecast to increase by 1 per cent in 2012–13 to around 352 000 tonnes. Over the medium-term, pig meat production is projected to increase gradually to 370 000 tonnes by 2016–17, partly as a result of projected lower feed grain costs and increased demand for pig meat.

The composition of domestic pig meat production is projected to change over the medium-term. According to Australian Pork Limited, fresh pig meat accounts for around 40 per cent of pig meat consumption in Australia. Over the medium-term, domestic production of fresh pig meat is projected to increase to 315 000 tonnes by 2016–17, compared with 273 000 tonnes in 2010–11. Greater industry emphasis on the fresh market is expected to lead to a slight decline in average slaughter weights, as more young pigs are turned off.

Processed pig meat accounts for the remaining 60 per cent of pig meat consumption in Australia. Given the increasing emphasis on the fresh pig meat market, the proportion of domestic processed pig meat production relative to total domestic pig meat production has fallen, from 37 per cent in 2003–04 to 20 per cent in 2010–11. By 2016–17 this share is projected to decline further, to around 15 per cent, as a result of strong import competition. This represents about a 20 per cent fall in production of Australian processed pig meat over the medium-term, from 69 000 tonnes (carcass weight equivalent) in 2010–11 to around 55 000 tonnes by 2016–17.

Australian pig meat consumption was rising by an average of around 2 per cent a year in the 1990s and early 2000s. However, growth in pig meat consumption has slowed in the past five years, with per person consumption reaching around 25 kilograms a year. Over the medium-term, relatively higher projected retail prices for red meats, namely beef and sheep meat, are expected to support pig meat consumption. Per person consumption of pig meat is projected to rise slightly to 25.6 kilograms by 2016–17.

Imports continue to grow

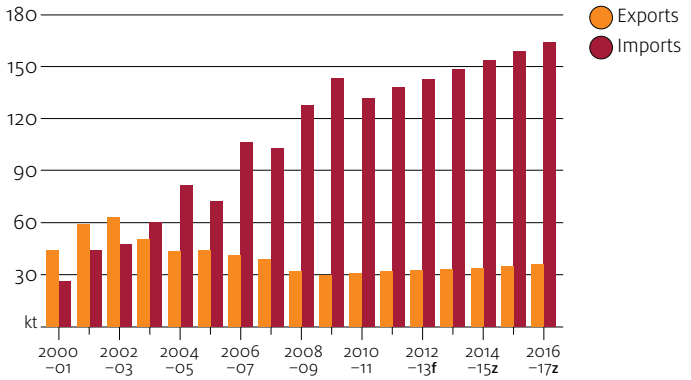
Australian pig meat imports have grown steadily over the past 10 years, from 26 000 tonnes in 2000–01 to 132 000 tonnes in 2010–11 (shipped weight). In 2012–13, imports are forecast to increase by 4 per cent to 143 000 tonnes, up from 138 000 tonnes in 2011–12. Over the medium-term, pig meat imports are projected to increase further, reaching 164 000 tonnes by 2016–17.

In 2010–11, pig meat imports fell 8 per cent compared with the previous year. Coinciding with this reduction in Australian imports was an outbreak of foot-and-mouth disease in the Republic of Korea in late 2010, which led to the culling of more than a million pigs. Subsequently, Korean demand for imported pig meat rose strongly and imports from the United States, Canada and Denmark (Australia's three largest suppliers) increased by 35 per cent. Although the United States was able to increase pig meat exports to Australia, exports from Canada and Denmark to Australia fell by 25 per cent and 18 per cent, respectively.

Export growth to slow over the medium-term

Australian pig meat exports are forecast to increase by 2 per cent in 2012–13 to around 32 500 tonnes (shipped weight), compared with 32 000 tonnes in 2011–12. Singapore, Papua New Guinea and New Zealand are expected to remain Australia's largest markets for pig meat, accounting for around two-thirds of total shipments. Over the medium-term, Australian pig meat exports are projected to remain around 15 per cent of domestic production (on a carcass weight equivalent basis), reaching about 36 000 tonnes by 2016–17.

Australian pig meat imports and exports



f ABARES forecast. **z** ABARES projection.

Outlook for pig meat

	unit	2009–10	2010–11	2011–12 f	2012–13 f	2013–14 z	2014–15 z	2015–16 z	2016–17 z
Pig meat									
Breeding sows **a**	'000	268	298	302	310	318	322	325	329
Over the hooks price **b**									
– nominal	Ac/kg	309	269	280	275	280	287	294	301
– real **c**	Ac/kg	328	277	280	268	266	266	266	265
Slaughterings	'000	4 561	4 643	4 689	4 755	4 930	4 973	4 991	4 995
Production	kt	331	342	347	352	356	360	365	370
Consumption									
per person	kg	25.6	24.5	24.8	24.9	25.1	25.3	25.3	25.6
Import volume **d**	kt	143.3	132.1	138.0	143.0	148.5	153.5	159.0	164.0
Export volume **de**	kt	30.0	31.0	32.0	32.5	33.3	34.0	35.0	36.0
Export value									
– nominal	$m	109.0	106.3	109.9	111.8	117.0	122.4	128.5	135.0
– real **c**	$m	115.6	109.3	109.9	108.8	111.0	113.3	116.1	119.0

a Numbers at 30 June. **b** Dressed weight. **c** In 2011–12 Australian dollars. **d** Shipped weight. **e** Excludes preserved pig meat. **f** ABARES forecast. **z** ABARES projection.
Sources: ABARES; Australian Bureau of Statistics

Poultry

Outlook to 2016–17

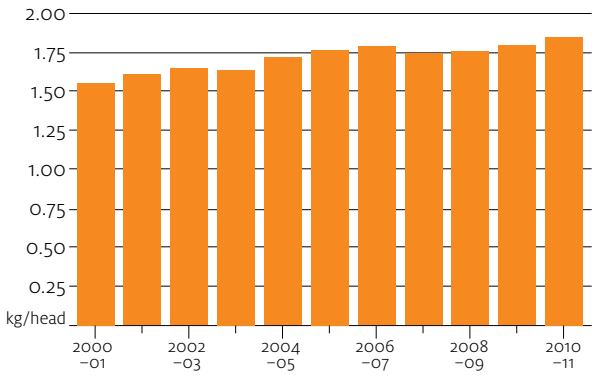
Laurie Walker and Clay Mifsud

Australian poultry production is forecast to increase by 2 per cent in 2012–13 to 1 105 000 tonnes. Forecast higher production is largely in response to increased consumer demand for poultry, in part as a result of relatively higher retail prices for beef, lamb and pork. Over the medium-term, production is projected to increase by around 2 per cent a year to 1 210 000 tonnes by 2016–17. Prices for poultry are expected to remain favourable compared with other meats at retail outlets.

Poultry consumption is forecast to rise by 1 per cent to 45.5 kilograms per person in 2012–13. Over the projection period, consumption is projected to grow by 1 per cent a year to 46.4 kilograms per person by 2016–17. Poultry is expected to remain Australia's most consumed meat (on a carcass weight equivalent basis) over the medium-term.

Productivity in the Australian poultry industry has improved significantly over the past decade. Improved genetic stock has contributed to higher fertility, feed conversion rates and average carcass weights. Between 2000–01 and 2010–11 average chicken slaughter weights increased by 19 per cent to 1.85 kilograms a head. This improvement in productivity is likely to continue over the medium-term.

Chicken slaughter weights



In 2012–13, poultry exports are forecast to increase by 3 per cent to 41 000 tonnes (shipped weight), with Hong Kong, Papua New Guinea, the Philippines and South Africa accounting for around three-quarters of total shipments. While export shipments are projected to increase somewhat over the medium-term, most Australian poultry production will be consumed domestically.

Outlook for poultry

	unit	2009–10	2010–11	2011–12 f	2012–13 f	2013–14 z	2014–15 z	2015–16 z	2016–17 z
Poultry meat									
Production	kt	873	1 056	1 080	1 105	1 130	1 155	1 180	1 210
Consumption									
per person	kg	38.0	45.3	45.2	45.5	45.7	45.9	46.0	46.4
Export volume a	kt	28.4	32.3	39.5	40.8	42.0	44.4	46.2	48.1

a Shipped weight. **f** ABARES forecast. **z** ABARES projection.
Sources: ABARES; Australian Bureau of Statistics

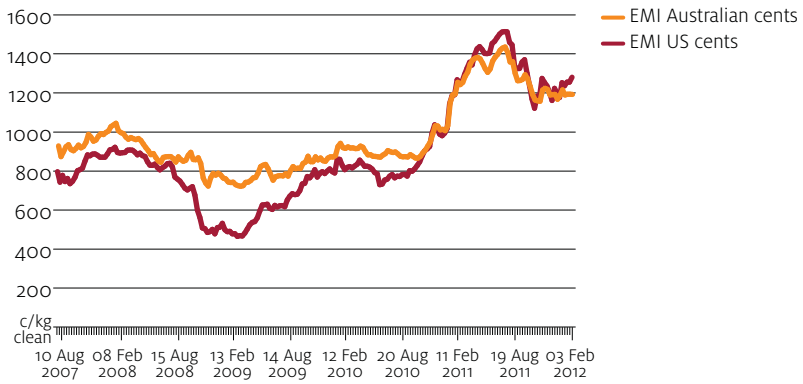
Wool

Outlook to 2016–17

David Barrett

Following a relatively strong price rise during much of 2010–11, the Australian Eastern Market Indicator (EMI) price of wool declined during the first seven months of 2011–12. A proportionately sharper decline in the price of fine and superfine wool occurred relative to the price fall for medium wool. The decline in prices was driven largely by weaker consumer demand for woollen apparel products in Western Europe, the United States and Japan. However, the extent to which wool prices continue to fall in the short-term is likely to be mitigated by current low wool stocks in the main exporting countries. While wool prices are expected to decline further over the remainder of the year, the EMI is forecast to average 1180 cents a kilogram clean in 2011–12; 4.2 per cent higher than the previous year.

Australian wool price, eastern market indicator



Wool prices to average lower

In 2012–13 the EMI is forecast to decline by 8 per cent to average 1085 cents a kilogram clean. Continuing weak demand for discretionary consumer products, such as wool apparel, in many of the main consuming countries, an assumed relatively strong Australian dollar and a slight increase in global wool production are expected to place downward pressure on wool prices in 2012–13.

Wool supplies in most major apparel wool exporting countries (Australia, South Africa, Uruguay and Argentina) are low. Production in South Africa, Uruguay and Argentina declined in 2010–11 and is forecast to decline further in 2011–12. In contrast, Australian shorn wool production rose by 2 per cent in 2011–12 and is forecast to increase further in 2012–13, with the prospect of greater supplies being placed on the market at a time when market demand is expected to be weak.

In the medium-term, assumed stronger economic growth in the European Union and the United States is expected to lead to renewed consumer spending and increased demand for wool. However, a projected increase in global supplies of apparel wool over the outlook period is expected to have a dampening effect on wool prices. The EMI for wool in real terms (2011–12 dollars) is projected to decline by 16 per cent to average 990 cents a kilogram clean in 2015–16 before rising slightly in 2016–17. Overall, the EMI is expected to average around 8 per cent higher over the projection period compared with the average price for the period 2004–05 to 2009–10.

Shorn wool production driven by a larger flock

Australian sheep numbers increased by 9 per cent to 74.3 million head in the year ending 30 June 2011 and are forecast to rise by a further 5 per cent in 2011–12 to 78 million head. The turnaround in the sheep flock follows a period of around 20 years during which sheep numbers fell by around 60 per cent. It reflects producers' responses to favourable wool and sheep meat prices, and is aided by favourable seasonal conditions in the main sheep growing areas of Australia over the past two years.

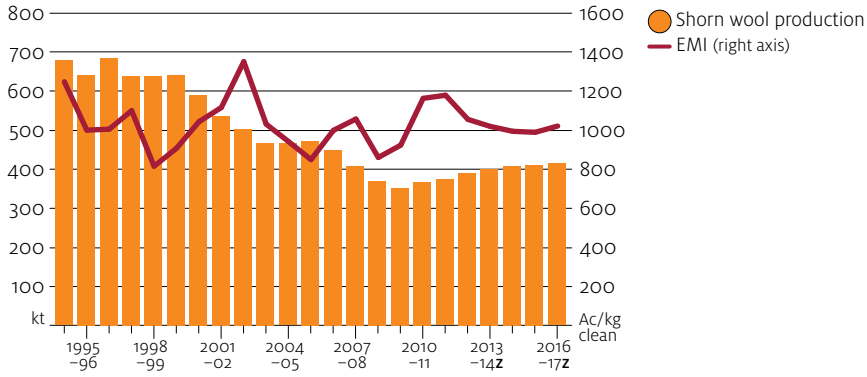
Australian shorn wool production is forecast to increase by 4 per cent in 2012–13 to 390 400 tonnes, largely as a result of an increase in the number of sheep shorn.

Over the medium-term Australian shorn wool production is projected to increase further, reaching 415 000 tonnes in 2016–17 as the number of sheep shorn continues to increase and the average wool cut per head rises slightly because of a greater proportion of wethers in the flock.

Wethers are large-bodied, neutered male sheep which produce a heavier fleece than ewes and lambs. In the early 2000s the proportion of wethers in the flock was around 27 per cent but declined to 11 per cent by 2010–11. With flock rebuilding taking place in the past two years, the national flock has consisted of a relatively high proportion of breeding ewes and lambs and a low proportion of wethers. This change in flock composition contributed to lower average fleece weights. An expected shift of some resources to merino wool production over the medium-term is expected to result in wool producers retaining more wethers; this is expected to contribute to a slight rise in average fleece weights. However, continued retention of breeding ewes and lambs for meat production will keep the wool cut per head below the longer-term average recorded during the 1990s and early 2000s.

The build-up in sheep numbers is expected to continue mainly in Australia's sheep–wheat zone and high rainfall zones of the agricultural regions. These two zones account for around 56 per cent and 35 per cent, respectively, of the national flock. An expected increase in merino sheep for wool production in the wheat–sheep zone is expected to lead to higher production of medium and strong merino wool (19.6 micron to 24.5 micron). Production of this category of wool declined sharply during the 1990s and 2000s when the flock was contracting, while the production of fine and super fine wool (less than 19.5 microns) increased.

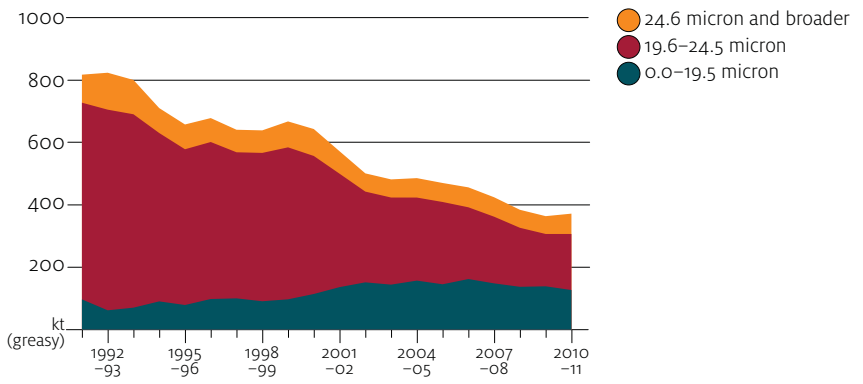
Australian wool production and price



z ABARES projection.

At the same time, greater use of crossbred sheep to increase sheep meat production is expected to lead to production of broader micron wool (crossbred wools 25 micron to 36 micron). The micron distribution of the wool clip will also depend on seasonal conditions. For example, the above average seasonal conditions in many wool growing areas of eastern Australia in the past two years resulted in slightly stronger wool (higher micron categories) than in the drier period between 2003–04 and 2009–10.

Australian wool production, by micron



Weaker consumer demand for wool apparel

A slowdown in economic growth in the European Union and weak economic activity in the United States and Japan are expected to dampen retail demand for woollen apparel in 2012–13. In the European Union, consumer spending on apparel is expected to be affected by slowing economic growth, rising unemployment and concerns over public debt in many countries. While economic growth in the United States is expected to pick up in 2012–13, consumer spending on discretionary items such as clothing is expected to remain weak. At the same time, in Japan consumer spending on woollen apparel is expected to be subdued, reflecting continuing weak economic activity.

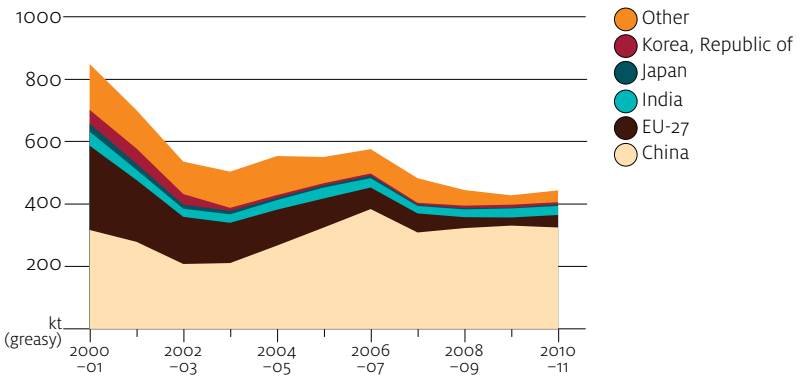
China is a growing market for woollen apparel, with around half its imported raw wool processed into woollen products for domestic consumption. Although depressed demand in the OECD will continue to have an effect on Chinese imports of wool, firm economic growth in China will support domestic retail growth and thus demand for wool in 2012–13.

Recovery in demand over the medium-term

Consumption of woollen products has fallen in many traditional markets, such as Western Europe, the Russian Federation, Eastern Europe and Japan over the past 20 years, reflecting changing consumer demand and increased competition with cotton and man-made fibres.

As a result of lower Chinese labour costs global wool processing capacity has gradually shifted from traditional processors, such as Western Europe, to China. China is now the dominant wool processing country in the world, accounting for just under half of global imports of wool. The changes in the location of the world's woollen apparel manufacturing base have been reflected in the changing destination of Australian wool exports. China accounted for around 73 per cent of Australian wool exports in 2010–11 compared with 37 per cent in 2000–01. Over this same period Australian wool exports to the European Union contracted, accounting for 32 per cent of the export share in 2000–01 to 9 per cent in 2010–11. Furthermore, since 2000–01 Australian wool exports to Japan and the Republic of Korea have significantly declined.

Australian wool exports



The trend to locate wool processing facilities in China has led to the Chinese wool textile industry increasing its capacity to manufacture high quality wool textile products. This has been reflected in increased use of imported fine and superfine wools. Australian exports of fine and superfine wool accounted for around 35 per cent of Australian wool exports to China in 2010–11 compared with 9 per cent in 2000–01.

As a result, China has become a significant exporter of high quality wool products to the European Union, United States and Japan. The share of China's exports of woollen apparel products to the European Union increased from 7 per cent in 2000 to 26 per cent in 2010, while the US share remained around 14 per cent. In contrast, China's share of exports to Japan contracted by 26 percentage points to 23 per cent, a smaller yet still significant share.

Given relatively weak consumer demand for woollen apparel projected for Western Europe and the United States over the next few years, the demand for fine wool by Chinese mills is likely to remain subdued. However, the economies of Western Europe and the United States are assumed to strengthen in the second half of the projection period which should lead to a strengthening of consumer demand for woollen clothing. Given these conditions, the demand for fine and superfine wool by Chinese mills is projected to strengthen in the latter part of the projection period, benefitting Australian wool exporters.

In China, rising per person incomes, changes in consumer lifestyle and apparel preferences over the past decade have translated into increasing demand for higher quality textiles. Currently per person consumption of apparel wool products in China is low compared with other wool consuming countries. In the mid-2000s per person consumption of apparel wool in China was estimated to be 0.09 kilograms compared with 0.62 kilograms per person in Japan, 0.56 kilograms per person in the Republic of Korea, and 0.69 kilograms per person in the United Kingdom. Over the medium-term, Chinese demand for woollen products is expected to increase in response to rising per person incomes.

Competition with alternative fibres

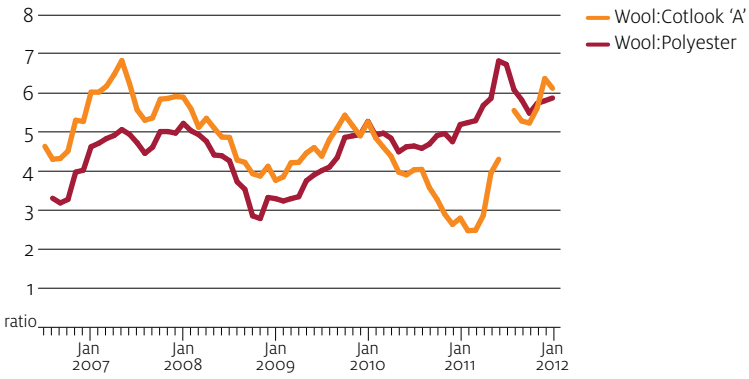
Textiles manufacturing supports a high degree of substitutability between wool, cotton and synthetic fibres, such as polyester and acrylic. The relative prices of textile fibres are an important factor influencing the degree of substitution between fibres in textile manufacturing. The ratio of wool prices to synthetic fibre and cotton prices provides a guide to wool's relative price competitiveness.

Over the first six months of 2011–12 polyester fibres became more price competitive relative to wool. The 21 micron wool-to-polyester price ratio averaged 5.8:1 over this period compared with an average of 4.3:1 over the period 2006–07 to 2009–10.

Synthetic fibres, in particular polyester, are produced from refined petroleum and therefore their price is responsive to changes in the world oil market. Oil and polyester prices increased in 2010–11 and remained relatively firm in the first seven months of 2011–12. With oil prices projected to remain historically high over the medium-term synthetic fibre prices are expected to remain close to the average price for 2011–12 (in 2011–12 dollars). In these circumstances, the wool-to-synthetic price ratio is projected to trend down as wool prices are forecast to decline out to 2015–16. Such an outcome would lead to stronger demand for wool as manufacturers increase the proportion of wool in blended yarns and fabric.

The 21 micron wool-to-Cotlook 'A' price ratio increased from 2.9:1 to 6.1:1 between April 2011 and February 2012. While both cotton and wool prices declined over this period, the proportionately sharper fall in the cotton price led to a significant rise in the price ratio. This led to a significant improvement in the price competitiveness of cotton relative to wool and may have led some manufacturers to substitute cotton for wool in their fibre blends, thereby reducing the demand for wool. With both wool and cotton prices projected to fall over the next few years it is likely that the wool-to-Cotlook 'A' price ratio will remain above the historical average of around 3.4:1. Under these circumstances cotton is likely to maintain its price competitiveness with wool over the next few years.

Price ratio of wool to alternative fibres



Australian wool exports

Australian wool exports are projected to rise by 16 per cent to 476 000 tonnes by 2016–17. However, some rebuilding of stocks held on farm and brokers' stores is expected in response to weaker demand in Australia's export markets, particularly over the next two years.

The value of Australian wool exports in real terms are projected to fall by around 9 per cent to $2.67 billion in 2013–14 before increasing over the remainder of the projection period.

Outlook for wool

	unit	2009 –10	2010 –11	2011 –12 f	2012 –13 f	2013 –14 z	2014 –15 z	2015 –16 z	2016 –17 z
Eastern market indicator (clean)									
– nominal	Ac/kg	872	1 132	1 180	1 085	1 074	1 074	1 095	1 160
– real **a**	Ac/kg	924	1 164	1 180	1 056	1 020	995	990	1 022
Sheep numbers **b**	million	68	74	78	81	83	85	85	85
Sheep shorn	million	83	85	87	91	93	95	95	96
Cut per head	kg	4.25	4.34	4.28	4.31	4.32	4.32	4.33	4.33
Wool production (greasy)									
– shorn	kt	353	368	374	390	401	409	412	415
– other **c**	kt	70	61	60	64	72	74	75	76
– total	kt	423	429	434	455	473	483	488	490
Wool exports									
– volume (greasy equivalent)	kt	428	444	410	426	440	460	472	476
– nominal value **d**	A$m	2 306	3 048	2 936	2 777	2 815	2 947	3 086	3 382
– real value **a**	A$m	2 445	3 135	2 936	2 702	2 671	2 729	2 788	2 981

a In 2011–12 Australian dollars. **b** At 30 June. **c** Includes wool on sheepskins, fellmongered and slipe wool. **d** On a balance of payments basis. **f** ABARES forecast. **z** ABARES projection.
Sources: ABARES; Australian Bureau of Statistics; Australian Wool Exchange

Dairy

Outlook to 2016–17

David Barrett

World dairy prices to ease in 2012–13

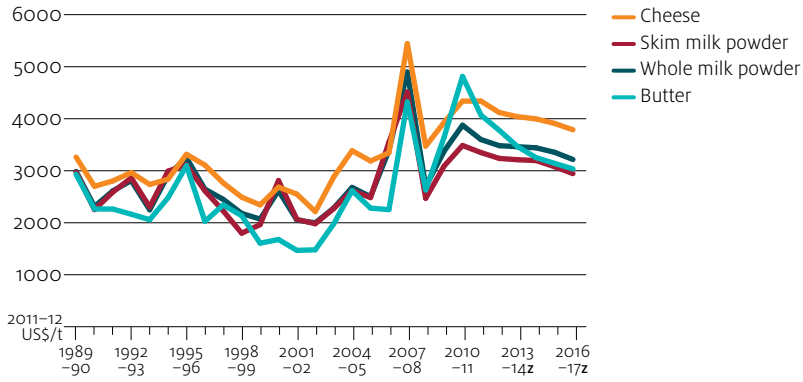
World dairy product prices are forecast to fall slightly in 2012–13. While demand for dairy products is expected to remain firm in developing countries, an assumed slowdown in economic growth in the European Union and weak economic growth in the United States are expected to dampen demand for dairy products in these countries. Furthermore, continuing high production in key producing and exporting countries is expected to add to the downwards pressure on dairy product prices in the short-term.

World prices for butter are forecast to fall by 5 per cent in 2012–13 to average US$3850 a tonne, mainly reflecting higher supplies in the major exporting countries. World prices for skim milk powder and whole milk powder are both forecast to decline by around 1 per cent to US$3300 a tonne and US$3550 a tonne, respectively. Cheese prices are forecast to fall by around 3 per cent and average US4200 a tonne.

Medium-term outlook for world dairy prices

Over the medium-term, world dairy product prices in real terms are projected to decline slowly but still average around 20 to 30 per cent higher than the average prices over the five years to 2006–07. Although demand for dairy products in

World dairy prices



z ABARES projection.

developing countries is expected to provide some support to world dairy prices over the next few years, an expected increase in supply of dairy products in the main producing and exporting countries in the second half of the projection period is expected to outpace the projected rise in demand.

Global supplies to remain high

In 2012–13, milk production in most major producing and exporting countries is forecast to increase as a result of further gains in milk yields, albeit at a slower rate than in 2011–12, leading to higher supplies of dairy products. Over the medium-term, milk production is projected to rise in the key exporting countries as dairy product prices remain historically favourable. At the same time, milk output in the developing countries of Asia is also expected to rise.

European Union

Following a relatively strong increase in milk production in the European Union in 2011–12, the growth in milk output is expected to moderate in 2012–13 in response to lower profitability.

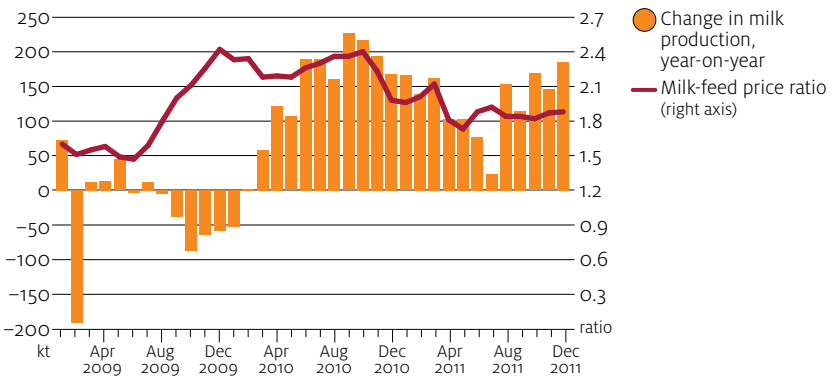
In the European Union, milk production is projected to increase over the medium-term as higher milk yields offset an expected decline in dairy cow numbers. There is likely to be further restructuring within the EU dairy industry as those member countries with relatively high costs of milk production, such as Romania, Bulgaria, Slovakia and Hungary, reduce milk output over the next five years.

While the EU milk quota will increase by 1 per cent a year through to 2013–14 before complete removal of quotas from 1 April 2015 the quotas are unlikely to be a binding constraint on production. Over the past two years EU milk production was 6 to 7 per cent below the overall quota and production is expected to remain below quota until 2014–15.

United States

Milk production in the United States is forecast to rise by 1.3 per cent in 2012 to 90 million tonnes, driven by rising average milk yields per cow. While milk yields are forecast to rise, production growth is forecast to be slowed by relatively high feed grain costs and lower milk prices, which are expected to lower producers'

US dairy



profitability and increase dairy cow culling. Further gains in milk yields and a projected decline in the cost of feed grain in the second half of the projection period is likely to lead to improvement in profitability and increase US milk production over the medium-term.

New Zealand

Assuming average seasonal conditions, New Zealand milk production is forecast to be 1 to 2 per cent higher in 2012–13 following an expected 6 per cent increase in production in 2011–12. This forecast higher production is expected to be supported by an increase in dairy cow numbers, particularly in the South Island. It is expected that an additional 80 to 100 dairy farms in the South Island will come into production in the second half of 2012 as beef farms are converted to dairy.

Milk production in New Zealand is projected to expand by around 2 per cent annually over the medium-term. Favourable milk prices are expected to result in further increases in dairy cow numbers as more beef farms are converted to dairy farms in the South Island. Additionally, further gains in milk production per hectare are expected to be underpinned by genetic improvements to the herd and improved pasture management.

Argentina

Milk production in Argentina is expected to increase by around 3 per cent over the medium-term as producers invest in new equipment and dairying technologies. The extent to which new farmers enter the industry is likely to be limited by the high capital costs of dairying compared with alternative enterprises, such as soybean production.

Global dairy trade to expand

While the demand for some dairy products is expected to weaken in 2012 in developed economies, particularly Western Europe, import demand by the developing countries of Asia, North Africa and the Middle East is expected to remain relatively firm.

Nearly all the growth in world dairy trade over the medium-term is expected to result from increasing consumption of dairy products in developing economies. The key factors driving demand in developing countries are expected to be: increases in per person incomes, increasing consumption of Western foods in Asian diets, and population growth.

China

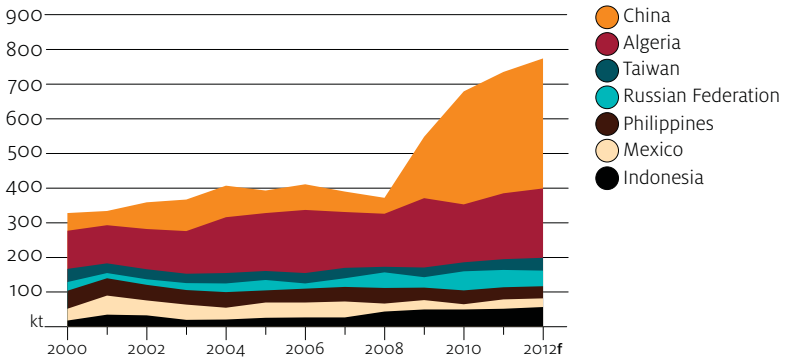
China has become a significant importer of milk powders since 2009 and accounted for around 25 per cent of world trade in whole milk powder in 2011. This increase in imports has been driven by strong growth in domestic demand for dairy products and consumer concerns about the safety of domestically produced products following detection of melamine in 2008.

The growth in Chinese consumption of dairy products is expected to continue over the medium-term, driven largely by rising per person incomes.

Over the medium-term, China is expected to remain a significant importer of dairy products with a projected rise in milk production unlikely to match the expected growth in domestic demand. Chinese milk production has partially recovered since 2008 and is forecast to rise by 5 per cent in 2012 to around 32.2 million tonnes. Milk production is expected to increase further over the next few years as herd genetics are enhanced by imported breeding cows.

While New Zealand is expected to remain the largest exporter of milk powders to China, the United States has the potential to expand its exports of skim milk powder to this market over the medium-term. China is likely to remain an important market for Australian exports of whole milk powder and cheese.

Major whole milk powder importers



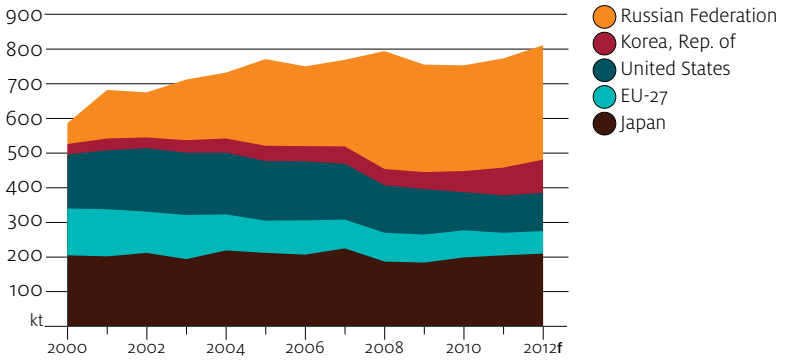
f ABARES forecast.

Russian Federation

The Russian Federation is expected to remain a significant importer of dairy products with further growth in domestic demand and limited increases in milk production. In 2011, the Russian Federation imported 130 000 tonnes of butter and 315 000 tonnes of cheese; slightly higher import volumes are forecast for 2012.

Milk production in the Russian Federation declined in 2010 following a severe drought in the main agricultural regions and milk output has increased only slightly since. A modest rise in milk production over the medium-term is likely to be driven by higher milk yields. However, despite the projected increase in production, expected growth in consumption of dairy products, particularly cheese, is expected to lead to a further rise in cheese imports over the medium-term.

Major cheese importers



f ABARES forecast.

India

Historically, India imported small quantities of dairy products and this is likely to remain the case as expected increases in milk production are forecast to match increases in demand. However, there are likely to be periods when demand exceeds supply which will result in increased imports of dairy products. Milk production in India is steadily increasing and is forecast to rise by 4.5 per cent in 2012 to 127 million tonnes in response to favourable milk prices. Milk yields are relatively low but government programs to improve the genetics of the breeding stock and the quality of the feed have the potential to increase yield.

While dairy products are a traditional part of the Indian diet, an emerging middle class is driving demand for greater diversity of choices of dairy products. Demand for products such as yoghurt, ice cream and western style cheese is increasing particularly in urban centres where modern retail outlets are proliferating. India has recently increased its imports of skim milk powder, butter and butter oil in response to strong domestic demand and concern over seasonal domestic supplies. The Indian Government increased the import quota for skim milk powder (subject to a zero tariff rate) from 30 000 tonnes in 2010–11 (April to March) to 50 000 tonnes in 2011–12. The import quota for butter and butter oil (subject to a zero tariff rate) remained unchanged at 15 000 tonnes for 2011–12 (April to March).

North Asia

Cheese imports by Japan are forecast to rise by 2 per cent in 2012 to 210 000 tonnes in response to increased household consumption and expanded use of cheese in the food service sector. Over the medium-term, Japan is expected to remain a large and stable export market for cheese. While milk production is expected to continue to fall over the next few years, an expected decline in drinking milk consumption is likely to lead to a higher proportion of milk being used in the manufacture of processed dairy products in Japan.

Cheese imports by the Republic of Korea are forecast to increase by around 20 per cent in 2012 to 96 000 tonnes. This follows a 60 per cent rise in cheese imports between 2007 and 2011 and reflects the strong growth in consumption of cheese. The increase in demand for dairy products in the Republic of Korea is being driven by increased exposure to Western diets, a rise in fast food outlets and availability of a greater diversity of dairy products.

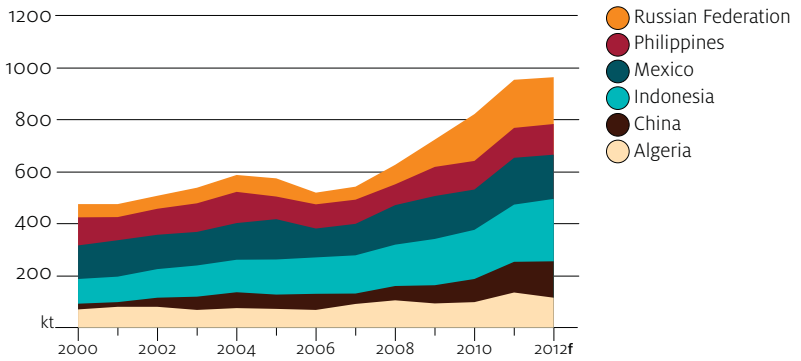
Developing countries of Asia, Middle East and North Africa

Import demand for dairy products, particularly milk powders, in most developing countries is expected to remain firm in 2012 following strong growth in imports in 2011. Indonesia and the Philippines are expected to increase imports of skim milk powder in 2012 by 9 per cent and 3 per cent to 240 000 tonnes and 118 000 tonnes, respectively. The United States, having increased its exports of skim milk powder to the Asian region in the past two years, is expected to remain a competitive supplier in these markets.

In most developing countries in Asia, the per person consumption of milk and dairy products is low compared with the more developed Asian countries such as Japan and the Republic of Korea, even after experiencing strong growth in recent years. Given that demand for dairy products rises as incomes increase, further increases in consumption of milk and dairy products are likely over the medium-term. Expected limited growth in domestic milk production will mean most developing countries are likely to increase their imports of milk powders over the next few years.

The Middle East and North Africa are large importers of milk powders, butter and, to a lesser extent, cheese. While some countries in the region, such as Algeria, are expected to increase milk production in response to increased government support, the increase in production is unlikely to meet expected growth in demand. Algerian imports of whole milk powder are forecast to increase slightly in 2012 to around 200 000 tonnes.

Major skim milk powder importers



f ABARES forecast.

Prospects for Australian dairy industry

The Australian farm-gate price for milk is forecast to fall by 3 per cent in 2012–13 to average around 39.6 cents a litre. Forecast lower world prices for dairy product prices will reduce unit returns to Australian dairy exporters.

Australian farm-gate prices for milk are projected to fall slightly over the outlook period to reach around 36 cents a litre (in 2011–12 dollars) in 2016–17, reflecting lower world dairy prices toward the end of the outlook period.

Milk production to expand over the medium-term

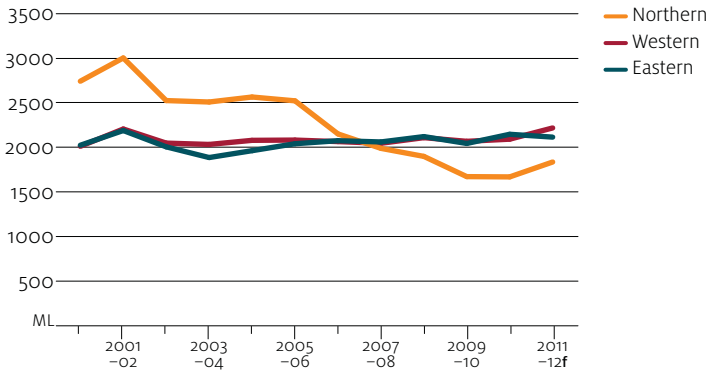
Australian milk production is forecast to increase by 1.4 per cent in 2012–13 to 9.55 billion litres, following a 3 per cent rise in 2011–12. Most of the rise in milk production is expected to occur in the irrigation areas of northern Victoria and southern New South Wales where water availability has improved in the past two seasons. Milk production in Tasmania is also forecast to rise further following relatively strong growth in dairy cow numbers.

Relatively firm milk prices and favourable seasonal conditions resulted in dairy producers increasing their cow herds in the 12-month period to June 2011 and the national cow herd is forecast to rise by a further 1 per cent to reach 1.62 million head in June 2012.

Over the medium-term, Australian milk production is projected to rise to reach around 10 billion litres in 2016–17 reflecting further increases in the dairy cow numbers and milk yield per cow.

The significant improvement in water availability for irrigation in northern Victoria and southern New South Wales is expected to underpin a further expansion in milk production. As at early February 2012, water storage levels in the Murray–Darling Basin were approximately 83 per cent of capacity, significantly higher than the 25 per cent in 2009. Additionally, farmers are expected to continue implementing improved water irrigation technologies that will raise dairy farm productivity.

Victorian milk production



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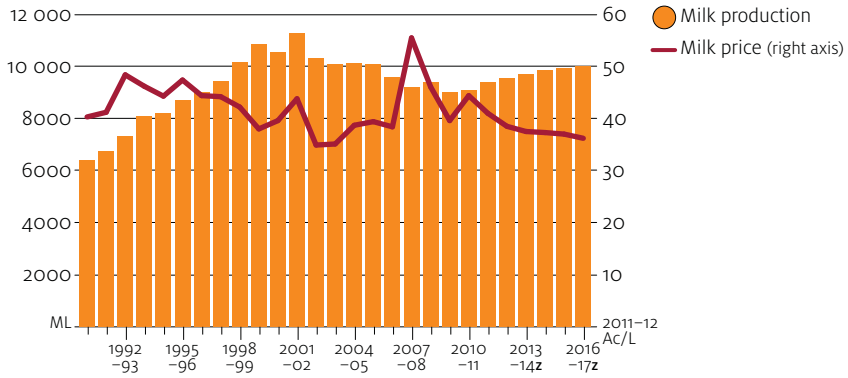
Australian milk production and price



z ABARES projection.

Australian dairy exports

The total value of Australian dairy exports is forecast to decline by 4 per cent in 2012–13 to $2.3 billion, reflecting lower average world dairy product prices. Over the medium-term, the total value of Australian dairy exports is projected to increase slightly to $2.3 billion (in 2011–12 dollars) in 2014–15 reflecting projected higher volumes of exports, before easing slightly to $2.2 billion (in 2011–12 dollars) in 2016–17.

Australian exports of dairy products are concentrated in the Asian region which accounted for around three-quarters of the total value of dairy exports in 2010–11. Japan is the single most important market, accounting for 16 per cent of the value of dairy exports and importing just under half of Australia's total cheese exports.

Supermarket price discounting of milk

Since late January 2011, the major supermarket chains have reduced the retail price for their home brand fresh milk to $1 a litre, well below prices for branded milk.

The pricing strategy adopted by the major supermarket chains appears to have had some effect on total milk sales. Sales of fresh milk increased by around 2.9 per cent year-on-year in the 11 months ending December 2011, compared with year-on-year growth of 1.4 per cent in the 11 months ending December 2010. The average annual growth in fresh milk sales was 1.9 per cent over the five years to 2009–10.

While total fresh milk sales increased modestly, there has been a more noticeable shift in sales from branded to home brand milks. Between the end of January 2011 and December 2011, the share of home brand milk sold through supermarkets increased by 5 percentage points to 54 per cent while branded milk sales declined by 5 percentage points to 46 per cent. Overall, supermarkets increased their share of fresh milk sales by 1 percentage point to 53 per cent year-on-year for the 11 months ending December 2011.

Although the Australian farm-gate price for milk is forecast to decline by 5 per cent to average 41 cents a litre in 2011–12, it is unclear at this stage whether the pricing strategy of the supermarkets has had any effect on producer returns. In December 2011, for example, negotiations between a processor and producers in northern New South Wales and Queensland were brought forward 12 months and farmers were offered a shorter contract of three years commencing 1 January 2012, instead of the previous contract period of five years. It has been reported that the contract milk price was reduced by 3 cents a litre to between 50 and 55 cents a litre.

However, there is a range of factors that may have led to lower contract prices for these producers. First, previous contracts were negotiated in 2007–08 when manufacturing milk prices were high. Second, production costs fell for dairy farmers because of the increased availability of fodder. Third, manufacturing milk prices fell, especially in the southern dairying regions.

Farm cash incomes by state

Based on information from ABARES farm surveys, average farm cash income for dairy farms in Victoria is projected to fall slightly to an average of $134 000 per farm in 2011–12. The effect on average farm cash income of lower prices paid for milk used to manufacture dairy products is expected to be largely offset by an increase in milk production. In Tasmania, a relatively larger increase is expected in milk production; resulting in farm cash income rising by 32 per cent to an average of $211 000 per farm in 2011–12 (see the farm performance paper in this issue).

In Western Australia and South Australia, farm cash incomes for dairy farms are projected to fall by 10 per cent and 18 per cent to $126 000 and $152 000 per farm, respectively, in 2011–12, reflecting largely the effects of lower milk prices and milk production. Farm cash incomes for dairy farms in Queensland are projected to decline by 23 per cent to an average of $89 000 per farm in 2011–12 in response to lower milk prices and reduced milk production, despite an expected reduction in total cash costs.

Outlook for dairy

	unit	2009–10	2010–11	2011–12 f	2012–13 f	2013–14 z	2014–15 z	2015–16 z	2016–17 z
World									
Indicative price									
Butter									
– nominal	US$/t	3 477	4 683	4 070	3 850	3 600	3 450	3 400	3 350
– real **a**	US$/t	3 646	4 814	4 070	3 776	3 462	3 252	3 142	3 036
Skim milk powder									
– nominal	US$/t	2 948	3 392	3 350	3 300	3 340	3 390	3 330	3 250
– real **a**	US$/t	3 091	3 486	3 350	3 237	3 212	3 196	3 078	2 945
Cheese									
– nominal	US$/t	3 748	4 221	4 340	4 200	4 200	4 240	4 230	4 180
– real **a**	US$/t	3 930	4 339	4 340	4 119	4 039	3 997	3 910	3 788
Australia									
Cow numbers **b**	'000	1 596	1 604	1 620	1 650	1 663	1 669	1 671	1 668
Yield per cow	L	5 653	5 675	5 815	5 787	5 833	5 902	5 955	5 995
Production									
Total milk	ML	9 023	9 102	9 420	9 550	9 700	9 850	9 950	10 000
– Market sales	ML	2 269	2 316	2 368	2 417	2 464	2 510	2 556	2 604
– Manufacturing	ML	6 754	6 787	7 052	7 133	7 236	7 340	7 394	7 396
Butter **c**	kt	128	122	121	122	119	119	118	117
Cheese	kt	349	338	354	363	374	381	387	391
Skim milk powder	kt	190	222	221	220	214	215	213	213
Wholemilk powder	kt	126	151	156	155	158	162	167	168
Farmgate milk price **d**									
– nominal	Ac/L	37.3	43.2	41.0	39.6	39.5	40.3	41.0	41.1
– real **e**	Ac/L	39.6	44.4	41.0	38.5	37.5	37.3	37.0	36.2
Export volume									
Butter **c**	kt	74	56	53	53	51	51	51	50
Cheese	kt	168	163	170	173	180	183	184	186
Skim milk powder	kt	126	156	152	149	141	144	143	143
Wholemilk powder	kt	91	108	116	112	114	119	124	126
Export value									
– nominal	A$m	2 088	2 344	2 344	2 310	2 379	2 485	2 529	2 522
– real **e**	A$m	2 214	2 411	2 344	2 247	2 258	2 301	2 284	2 223

a In 2011–12 US dollars. **b** At 30 June. **c** Includes the butter equivalent of butteroil, butter concentrate, ghee and dry butterfat. **d** Includes freight from farm gate to processor in some states. **e** In 2011–12 Australian dollars. **f** ABARES forecast. **z** ABARES projection.
Sources: ABARES; Australian Bureau of Statistics; Dairy Australia

Fisheries

Fisheries

Outlook to 2016–17

Maggie Skirtun, Hasam El-Tarifi, Mary Hormis, Daniel George and Robert Curtotti

Fisheries production growth projected for the outlook period

The gross value of Australia's fisheries production is forecast to rise in 2012–13, by 4 per cent, to $2.3 billion.

The real value of Australian fisheries production has declined significantly over the past decade, attributable to a decrease in the value of production of some higher value species groups, such as rock lobster, prawns, abalone and tuna. However, over the past five years, the pace of decline has slowed, primarily reflecting growth in farmed salmonids production, which partly offset continued declines in the wild-catch sector. Over the outlook period to 2016–17 the real value of Australian fisheries production is projected to remain steady at around 2.2 billion.

Australia's fisheries resources and production

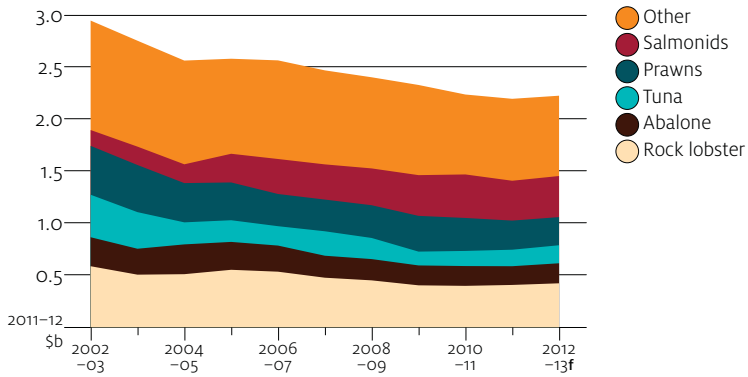
In 2009–10, Australia's gross value of fisheries production was $2.2 billion, 0.8 per cent lower than in the previous year. This is the lowest gross value of production in over a decade, having fallen by 31 per cent ($1057.3 million) in real terms since 2000–01 (in 2011–12 dollars). Most of the decline occurred between 2000–01 and 2004–05, when gross value of production fell on average by 7 per cent a year; and between 2004–05 and 2009–10 when the value fell on average by 2 per cent a year.

The product composition of the gross value of production of Australian fisheries has not changed substantially over the past few years. The top five species groups (by value) comprise salmonids, rock lobster, prawns, abalone and tuna. Rock lobster has frequently ranked as Australia's most valuable species group over the past decade. However, salmonids surpassed rock lobster to be Australia's most valuable species group in 2009–10 at $369.1 million, representing 17 per cent of the gross value of fisheries production. This was followed by rock lobster ($368.8 million, 17 per cent), prawns ($324.1 million, 15 per cent), abalone ($180.3 million, 8 per cent) and tuna ($125.3 million, 6 per cent).

TABLE 1 Australia's fisheries production, volume and value in 2009–10

Top five, by volume in 2009–10		Top five, by value in 2009–10	
Australian sardine	40 737 tonnes	Salmonids	$369.1 million
Salmonids	31 915 tonnes	Rock lobster	$368.8 million
Prawns	27 034 tonnes	Prawns	$324.1 million
Oysters	14 807 tonnes	Abalone	$180.3 million
Tuna	10 957 tonnes	Tuna	$125.3 million

Real value of Australian fisheries production, by key species group



Note: Rock lobster production value includes Queensland bugs. **f** ABARES forecast.

The wild-catch sector

In 2000–01, the wild-catch sector accounted for around 74 per cent of Australia's gross value of production from fisheries products. Of this, state fisheries (generally classified as fisheries adjacent to each state and/or territory within three nautical miles of the coastline) accounted for 74 per cent. The remaining 26 per cent was from Commonwealth fisheries (defined as up to 200 nautical miles from the coastline—the Australian Fishing Zone). In 2009–10, the wild-catch share of Australia's fisheries gross value of production had declined to 62 per cent, reflecting a decline in the value of catches from both state and Commonwealth fisheries.

In value terms, the largest jurisdiction in the wild-catch sector in 2009–10 was Western Australia, accounting for 26 per cent ($271.9 million) of the total value of wild-catch from state fisheries. This represented a 7 per cent decline in the gross value of production, which mainly reflected decreases in the volumes of rock lobster, abalone and scallops, as these species groups accounted for 74 per cent of the total value of the state's wild-catch production in 2009–10.

The aquaculture sector

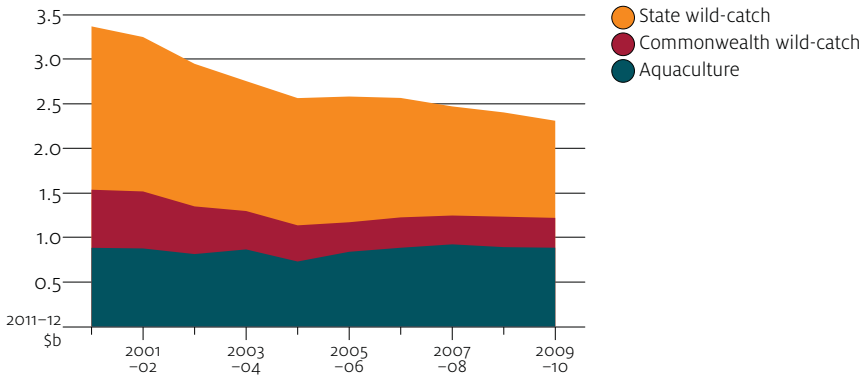
Over the past decade, the real gross value of production of Australia's aquaculture sector has declined by 4 per cent to $923 million in 2009–10 (in 2011–12 dollars). Most of the decline occurred in the early part of the decade, with the sector growing by 18 per cent since 2004–05. The slower pace of decline compared with the wild-catch sector has resulted in the aquaculture share of total fisheries value increasing from 26 per cent in 2000–01 to 38 per cent in 2009–10.

The largest contributor to Australian aquaculture production is salmonids, making up 43 per cent and 42 per cent of the total aquaculture production volume and value, respectively. Since 2004–05, the real value of Australian farmed salmonids production increased by 117 per cent ($210.9 million) to $391.5 million in 2009–10 (2011–12 dollars). This is supported strongly by rapid growth in Tasmanian aquaculture production.

Farmed tuna production consists solely of farmed southern bluefin tuna from South Australia, which accounted for 12 per cent ($102.2 million) of the total value of Australian aquaculture production in 2009–10. The farming of southern bluefin tuna involves transferring juvenile fish caught in the Commonwealth Southern Bluefin Tuna Fishery to farms in South Australia for maturation and fattening.

Aquaculture prawn production was valued at $77.4 million in 2009–10, representing around 9 per cent of the total value of aquaculture production in the year, and a 36 per cent ($20.6 million) increase compared with 2008–09. Most of the increase in farmed prawn production in 2009–10 occurred in Queensland where the volume of aquaculture prawn production increased by 37 per cent (1395 tonnes) to 5216 tonnes.

Real value of Australian fisheries production, by sector



a Aquaculture total was adjusted to exclude southern bluefin tuna caught in the Commonwealth Southern Bluefin Tuna Fishery, which was input to farms in South Australia. This avoids double counting.

Australia's trade in fisheries products in 2010–11 steady

Before 2007–08 Australia was a net importer of fisheries products in volume terms but a net exporter in value terms. This disparity reflects the composition of Australian fisheries exports compared with imports. Australian fisheries exports are dominated by high value products, such as rock lobster, tuna and abalone; while imports largely consist of lower value products, such as frozen fish fillets, canned fish and frozen prawns. In recent years, the gap between imports and exports in value terms closed and in 2007–08 Australia became a net importer of fisheries products in value terms.

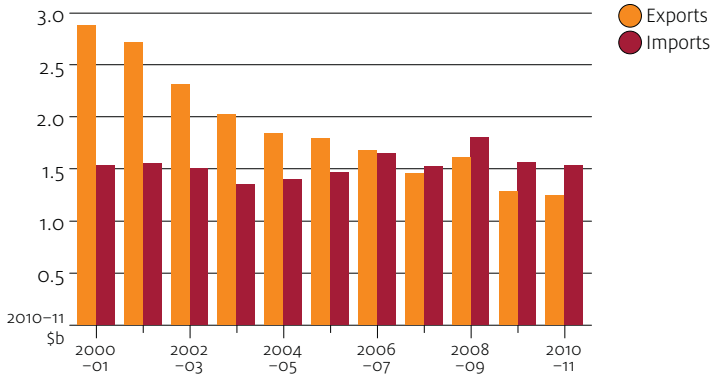
In 2010–11, Hong Kong remained Australia's largest export destination for fisheries products, accounting for 44 per cent ($539 million) of Australia's total fisheries product exports. The decline in exports to Hong Kong in 2010–11, which amounted to $90 million, reflects some redirection of trade to mainland China, where export value

TABLE 2 Key fisheries products exports in 2010–11

Top five exports, by value in 2010–11		Top five export destinations in 2010–11	
Rock lobster	$369 million	Hong Kong, China	$539 million
Pearls	$241 million	Japan	$269 million
Abalone	$212 million	China	$146 million
Tuna	$130 million	Singapore	$43 million
Prawns	$77 million	United States	$43 million

increased by $102 million in 2010–11. Other major export destinations for Australia's fisheries products in 2010–11 include Japan (22 per cent, $269 million), China (12 per cent, $146 million), the United States and Singapore (5 per cent, $64 million), China (4 per cent, $44 million) and Singapore (4 per cent, $43 million). Together, these five economies accounted for 86 per cent of the total value of Australian fisheries product exports in 2010–11.

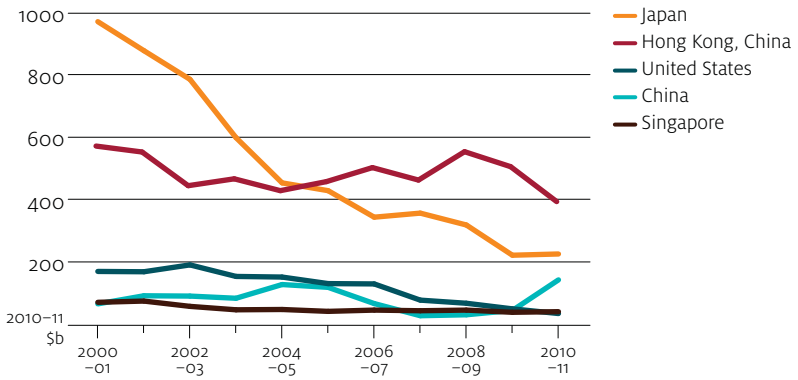
Real value of Australian fisheries exports and imports



In real terms, the value of Australian fisheries exports has fallen by 57 per cent ($1.7 billion) since 2000–01 to $1.2 billion, with most of this decline occurring over the period to 2004–05. The primary reasons for this decline were a 36 per cent (23 164 tonnes) decrease in the volume of edible exports and falling unit export prices for most major export products, particularly prawns, tuna and abalone. The decline in unit export prices is the result, in part, of an appreciation in the Australian dollar against both the Japanese yen and US dollar over this period. Since 2004–05, the real value of Australian fisheries exports decreased by 32 per cent ($601.8 million) as a result of lower export unit prices following a 32 per cent appreciation of the Australian dollar over the period to 2010–11.

In 2010–11, the total value of Australian fisheries imports increased by 1 per cent ($16.3 million) to $1.5 billion. Approximately 83 per cent of import value consisted of edible fishery products, which increased in value terms by 2 per cent ($27 million) to $1.3 billion driven mainly by lower import unit prices as a result of the sharp appreciation of the Australian dollar.

Australian exports of edible fisheries products (excluding live), by destination



Australian fisheries medium-term outlook (major products)

The value of Australia's fisheries production is forecast to rise in 2012–13, by 4 per cent to $2.3 billion. The production value of most major key export species is forecast to rise with the value of tuna and salmonids production increasing most—by 12 and 6 per cent, respectively (Table 3). Over the medium-term, fisheries production and value will continue to be affected by movements in fuel prices, labour constraints, and exchange rate movements, as well as management responses aimed at rebuilding stock levels. The assumed steady depreciation of the Australian dollar over the medium-term should result in favourable price movements for fishers, particularly for the major production species, which are generally export oriented. Any reduction in the value of total production in the wild-catch sector is likely to be offset to some extent by increases in the value of aquaculture production, particularly for abalone, salmonids and tuna.

The high value of the Australian dollar in 2011–12 and 2012–13 is forecast to keep the value of Australia's fishery product export value stable, at around $1.3 billion. Over the medium-term, the assumed depreciation of the Australian dollar and expected growth in production of high value species are likely to continue to support export earnings.

Prawns

About half of Australia's prawn production is from wild-catch from northern waters off Queensland and the Northern Territory. However, aquaculture is contributing a growing share of prawn production. In 2010–11, 17 per cent of Australian prawn production was farmed. Most prawn aquaculture occurs in Queensland, which produced 4500 tonnes in 2010–11, with a value of $65 million.

Total prawn production is estimated to have decreased by 2 per cent in 2010–11, to 26 400 tonnes. Lower production in 2010–11 is largely a result of lower production of wild-caught and aquaculture prawn production from Queensland, following floods and tropical cyclone Yasi in early 2011. Offsetting the decline to some degree was an exceptionally good banana prawn season in the Northern Prawn Fishery.

Banana prawn production rose by 19 per cent to 6900 tonnes, the highest catch this decade. Lower production volumes are estimated to result in the value of total production to decline in 2010–11, by 5 per cent to $308 million.

Over the outlook period, it is expected that wild-caught prawn production will remain stable but will continue to be influenced by economic factors. External economic factors, such as the price of fuel and the Australian exchange rate, will influence the quantity and value of prawn production. The assumed depreciation of the Australian dollar over the medium-term will improve both the domestic and export prices received for Australian prawns. However, it is expected that prawn aquaculture production will continue to increase through to 2016–17. As a result, the value of prawn production is forecast to fall by 2 per cent, to $266 million over the period to 2016–17.

Prawn export returns increased by 20 per cent in 2010–11 despite an appreciation of the exchange rate. This was as a result of a 38 per cent rise in the quantity of prawns exported. Tiger prawn catches in the Northern Prawn Fishery, most of which are exported, increased by 34 per cent contributing significantly to the rise in exports.

Rock lobster

Approximately 60 per cent of Australia's production of rock lobster has historically been from Western Australia. In 2010–11, Western Australia accounted for 54 per cent of Australia's total catch. The other two main rock lobster fisheries are located in South Australia and Tasmania, which accounted for 16 per cent and 13 per cent of total catch in 2010–11, respectively. In 2010–11, Western Australia, South Australia and Tasmania accounted for 48, 21 and 15 per cent of Australia's gross value of rock lobster production, respectively.

In recent years, total Australian rock lobster production dropped considerably (9765 tonnes in 2010–11) relative to the 2003–04 peak production of approximately 19 000 tonnes. The main driving factor behind the decline in production has been a large reduction in catch in Western Australia, where the 2010–11 catch was capped at 5500 tonnes by Individual Transferable Quotas. This compares with a peak catch of 14 000 tonnes in 2003–04 in Western Australia.

Production in the medium-term is expected to stabilise relative to historical changes in rock lobster production with the three major rock lobster producing states now being managed under a system of Total Allowable Catch and Individual Transferable Quotas. Prices in Western Australia are expected to increase slightly with the new Individual Transferable Quota system, with fishers likely to be making production decisions that allow maximum prices to be achieved for their catch in a given year. Overall domestic prices are expected to increase over the medium-term, in line with the assumed depreciation of the Australian dollar. As a result, production value is projected to rise to $421 million in 2016–17.

Total rock lobster exports are projected to remain relatively constant over the medium-term because of the production limitations in the major rock lobster producing states. Export prices are expected to increase due to assumed depreciation of the Australian dollar. As a result, export earnings are projected to be $412 million by 2016–17.

Abalone

Around 80 per cent of Australia's abalone production is harvested from wild-catch fisheries in Tasmania, Victoria and South Australia. While most abalone comes from wild-catch there has been a growing trend in aquaculture production. The abalone aquaculture sector has grown by 54 per cent over the past five years (to 721 tonnes in 2010–11) and it is expected that farmed abalone production will continue to grow strongly over the period to 2016–17. Most growth in farmed abalone production can be expected from Victoria with farms recovering from the Abalone Viral Ganglioneuritis disease.

The same virus caused falls in production from the wild-catch sector since its detection in 2005. Although production levels did not fully recover by 2010–11, it was the first year since 2004–05 to have experience positive growth in wild-catch production. In recent years, lower Total Allowable Catch limits have helped restore abalone health in affected areas and full, although gradual, recovery is expected over the next five years. It is forecast that Australian abalone production will be slightly lower at 5376 tonnes in 2011–12 but will increase in 2012–13. Over the medium-term, Australian abalone production is expected to increase by 10 per cent to around 6300 tonnes by 2016–17.

Australia continues to export around 60 to 70 per cent of its abalone harvest. Most abalone exports are destined for China and Hong Kong. Over the medium-term, it is expected that prices will improve, in line with an assumed depreciation of the Australian dollar exchange rate and support export returns. Production and export values are projected to reach $230 million and $235 million, respectively, in 2016–17.

Tuna

Approximately three-quarters of Australia's tuna production is exported, mostly to Japan and the United States, but increasingly to Thailand and the South Pacific. The principal tuna species in value and volume terms is southern bluefin, which is caught using purse seine methods from Commonwealth waters and then fattened in farms near Port Lincoln in South Australia. Other important export tuna species are yellowfin, bigeye and, more recently, albacore, caught predominantly in the Commonwealth Eastern Tuna and Billfish Fishery.

In 2010–11, the Southern Bluefin Tuna Fishery and the Eastern Tuna and Billfish Fishery are estimated to account for 59 per cent and 31 per cent, respectively, of the total production volume of tuna. In the same year, the value of tuna production increased by 13 per cent to $141 million. Of this, $115 million, or 81.5 per cent, of the total value of tuna production was attributable to southern bluefin tuna. In the same year, 17 per cent of the total value of production was produced by the Eastern Tuna and Billfish Fishery. Yellowfin tuna was the principal species caught in the Eastern Tuna and Billfish Fishery, accounting for 70 per cent of the total value of production in the fishery.

As a result of the cuts in the global Total Allowable Catch for southern bluefin tuna, farm production decreased by 19.7 per cent in volume terms between 2009–10 and 2010–11; the production volume of the Eastern Tuna and Billfish Fishery also decreased by 7 per cent.

Despite the high exchange rate, the price of tuna increased in 2010–11. This is mainly attributed to a decrease in world supply of tuna due to the recent changes in fishing conditions in the Western and Central Pacific that have resulted in lower catches.

Over the medium-term, world supply of northern and southern bluefin tuna is expected to be constrained by international quota limits, high production costs and high material costs. Australian production, export and value of tuna are expected to increase in the outlook period, driven by the recent increase in Australia's total allowable catch allocations of southern bluefin tuna for the 2013 and 2014 fishing seasons. However, over the outlook period, the increase in the value of exports and production is moderated due to the increasing Japanese exchange rate.

Salmonid

Salmonids are a key production species of Australian aquaculture, producing 35 000 tonnes in 2010–11. Over 90 per cent of the total Australian salmonids production occurs in Tasmania. The remainder of salmonids production generally occurs in Victoria and New South Wales. In 2010–11, Tasmania produced 34 229 tonnes, while Victoria produced just under 1000 tonnes.

The value of salmonids production is estimated to rise by 10 per cent in 2010–11, from $369 million (2009–10) to $407 million (2010–11). This increase was mainly driven by a 10.6 per cent increase in Tasmanian production volumes.

Tasmanian producers sell most of their salmonids on the domestic market and, as such, the industry is relatively unaffected by the exchange rate. A key factor contributing to past growth has been a strong focus on marketing salmon to Australian consumers and investment in research and development.

Over the medium-term, it is projected that production will rise by almost 15 000 tonnes, reflecting an anticipated production expansion of 40 per cent in the Tasmanian sector. The return of Chilean salmon to the international market, after disease significantly reduced its production, is forecast to lead to a large decrease in global salmon prices in 2011–12. Given the small proportion of Australian salmonids production that are exported, this is not expected to affect total production in Australia; however, it is forecast to significantly decrease domestic salmon prices from 2011–12 to 2016–17 due to more competitive imports.

Outlook for fisheries products

	2009–10	2010–11	2011–12 f	2012–13 f	2013–14 z	2014–15 z	2015–16 z	2016–17 z
Gross value of Fisheries production	$m	$m	$m	$m	$m	$m	$m	$m
Tuna a	125	141	159	178	198	209	211	211
– real b	133	145	159	173	188	194	191	186
Salmonids	369	407	383	406	433	461	491	524
– real b	391	418	383	395	411	427	444	462
Other fish	403	392	398	409	401	404	404	403
– real b	427	404	398	397	381	374	365	355
Prawns	324	308	280	278	284	292	298	302
– real b	344	317	280	271	270	270	269	266
Rock lobster c	380	386	406	434	447	469	474	478
– real b	403	397	406	422	424	434	428	421
Abalone	180	185	180	198	214	226	245	261
– real b	191	190	180	192	203	210	222	230
Scallops	26	17	10	16	18	24	31	37
– real b	27	18	10	16	17	22	28	33
Other	389	337	380	369	350	334	314	290
– real b	413	347	380	359	332	309	284	255
Total	2 196	2 175	2 196	2 288	2 346	2 420	2 469	2 506
– real b	2 329	2 237	2 196	2 225	2 226	2 241	2 231	2 209
Export value								
Tuna b	118	131	169	167	186	198	201	201
– real b	126	135	169	163	177	184	181	177
Other fish	140	156	134	138	143	139	143	147
– real b	148	160	134	134	136	129	129	130
Prawns d								
headless	5	4	2	2	2	2	2	2
– real b	5	4	2	2	2	2	2	2
whole	53	64	63	66	64	66	67	68
– real b	56	65	63	64	61	61	61	60
Rock lobster								
tails	35	24	19	19	20	21	21	21
– real b	37	25	19	19	19	19	19	19
whole	363	341	400	412	414	437	442	446
– real b	385	351	400	401	393	404	399	393
Abalone								
fresh, chilled or frozen	133	120	109	131	146	152	166	181
– real b	141	124	109	128	138	141	150	160
prepared or preserved	83	92	98	84	89	89	86	85
– real b	88	94	98	81	85	82	77	75
Scallops	30	15	21	21	21	25	30	33
– real b	31	16	21	20	20	23	27	29
Other fisheries products	43	60	99	64	68	86	41	62
– real b	46	62	99	62	64	79	37	55
Total (excluding pearls)	1 003	1 007	1 115	1 103	1 152	1 213	1 199	1 248
– real b	1 063	1 036	1 115	1 073	1 094	1 124	1 083	1 100
Pearls	244	241	229	231	238	243	248	251
– real b	259	248	229	225	226	225	224	221
Total (including pearls)	1 247	1 249	1 344	1 334	1 391	1 457	1 448	1 499
– real b	1 322	1 285	1 344	1 298	1 320	1 349	1 308	1 321

a Exports of tuna landed in Australia. Excludes tuna transhipped at sea or captured under joint venture or bilateral agreements. **b** In 2011–12 Australian dollars. **c** Includes Queensland bugs. **d** Includes headless and whole prawns only. **f** ABARES forecast. **z** ABARES projection.
Sources: ABARES; Australian Bureau of Statistics

Farm performance

Farm performance: broadacre and dairy farms, 2009–10 to 2011–12

Peter Martin, Therese Thompson, Paul Phillips and Bruce Bowen

- The average financial performance of Australian broadacre farms is expected to remain strong in 2011–12. At the national level, average farm cash income for broadacre farms is projected to decrease only slightly from an average of $117 300 per farm in 2010–11 to $116 000 per farm in 2011–12.
- Positive farm business profits and rates of return are projected on average for broadacre farms in all states and all industries, for the first time in over 30 years.
- Farm cash incomes are projected to increase in Western Australia, Queensland and Tasmania. The largest projected increase in farm cash income is in Western Australia, driven by record winter crop production.
- In contrast, reduced farm cash incomes are expected for broadacre farms in New South Wales, Victoria and South Australia as a consequence of lower grain and oilseed prices and a reduction in crop production from the record in 2010–11.
- Abundant pasture growth and higher wool prices have increased cash incomes for sheep farms. Farm cash income for sheep industry farms are projected to average $113 000 per farm, the highest farm cash income recorded since 1988–89, in real terms.
- Beef industry incomes and business profits are projected to increase in almost all regions in 2011–12 on the back of above average seasonal conditions, increased cattle prices and a reduction in beef cattle purchases.
- Farm cash income is projected to decline for most dairy farms in 2011–12 as milk prices are reduced, but incomes are expected to remain relatively high in historical terms.

Incomes for broadacre farms are expected to remain high in 2011–12, according to preliminary estimates from the ABARES Australian agricultural and grazing industries survey.

This outcome builds on a strong farm financial performance in 2010–11, when average farm cash income increased markedly due to increased crop and livestock production combined with higher prices.

In 2011–12, average to above average seasonal conditions for most Australian broadacre farms sustained high grain and livestock production and as a result average farm cash incomes are projected to be among the highest recorded (in real terms) since 2001–02. For broadacre farms, farm cash income is projected to average $116 000 a farm in 2011–12, while for dairy farms, farm cash income is projected to average $136 000 a farm.

The financial performance of broadacre farms in 2011–12 is characterised by uniformly high financial performance across all industries and states. For the first time in more than 30 years, all states and all industries are expected to record positive farm business profits and rates of return.

In the eastern states, crop production is expected to be above average while excellent pasture growth is expected to support increased livestock numbers. Although grain prices are expected to be lower this financial year compared with 2010–11, farm cash incomes in eastern states in 2011–12 are projected to remain high, in historical terms.

Western Australia experienced a marked turnaround in seasonal conditions in 2011–12. Increased rainfall over winter and spring resulted in record winter crop production and as a consequence, average Western Australian farm cash income is projected to substantially improve compared with 2010–11.

Broadacre and dairy farms account for 68 per cent of commercial scale Australian farm businesses (ABS 2011). These farms are also responsible for managing more than 90 per cent of the total area of agricultural land in Australia and account for the majority of Australia's family owned and operated farms. Located in all regions across Australia, these farms form a vital part of rural communities and local economies.

Each year ABARES interviews the operators of around 1600 broadacre farm businesses in its Australian agricultural and grazing industries survey (AAGIS) and 300 dairy farm businesses in the Australian dairy industry survey (ADIS), as part of its annual farm survey program. The AAGIS is targeted at commercial scale broadacre farms—farms that grow grains or oilseeds, or run sheep or beef cattle and that have an estimated value of agricultural output exceeding $40 000. Broadacre industries covered in this survey include wheat and other crops, mixed livestock–crops, sheep, and beef and sheep–beef industries (Box 1). The ADIS is targeted at commercial-scale milk producing farms.

The information collected provides a basis for analysing the current financial position of farmers in these industries and the expected changes in the short-term. Data from the AAGIS and ADIS were analysed to gain insights into the performance of Australian broadacre and dairy farms over the period from 2009–10, including projected farm financial performance in 2011–12 (Table 1).

ABARES uses the latest data available in producing estimates from its surveys. This means estimates are revised as new information becomes available. Preliminary estimates previously published are recalculated to reflect updated benchmark information obtained from the Australian Bureau of Statistics (ABS).

Box 1 **The broadacre sector of Australian agriculture is defined to include five industry types**

Wheat and other crops industry: representing the more specialised producers of cereal grains, coarse grains, pulses and oilseeds.

Mixed livestock–crops industry: representing those farms engaged in the production of sheep and/or beef cattle in conjunction with substantial activity in broadacre crops such as wheat, coarse grains, oilseeds and pulses.

Sheep industry: representing the more specialised producers of sheep and wool. Currently, sheep industry farms account for only 30 per cent of Australia's wool production. The majority of both wool and sheep meat production occurs on mixed enterprise farms, particularly on mixed livestock–crops industry farms.

Beef industry: representing properties engaged mainly in running beef cattle and which currently accounts for around 65 per cent of Australia's beef production. The beef industry contains a large number of small farms.

Sheep–beef industry: representing properties engaged in running sheep and beef cattle. As for the sheep and beef industries, this industry also contains a large number of small farms.

Farm production

2010–11

The total area sown to winter grain, oilseed and pulse crops decreased in 2010–11 compared with the area planted in 2009–10. The area planted to wheat and barley declined; however, there was a small increase in the area sown to oilseeds and pulses.

In the eastern states, the spring was the wettest on record and was followed by widespread heavy rainfall in December 2010 and January 2011, particularly in eastern Queensland, western New South Wales and Victoria. Rain delayed the harvest, lowered the quality of grain harvested and resulted in crop losses through flooding and disease. Nevertheless, yields were near record in eastern states. Total winter crop production was around 42.5 million tonnes, 20 per cent higher than in 2009–10.

Winter crop production in New South Wales was almost double 2009–10 production, Victorian production was 32 per cent higher, South Australian production 35 per cent higher, and Queensland total winter crop production was around 17 per cent higher. A high proportion of the grain harvested in eastern states was downgraded in quality because of weather damage. In Western Australia drought persisted throughout 2010 and total winter crop production was around 38 per cent less than 2009–10 production.

Well above average rainfall over spring and summer replenished irrigation dams and boosted soil moisture for summer crops. The total area planted to summer crops increased by around 67 per cent compared with 2009–10. The area planted to grain sorghum increased by 35 per cent, despite plantings being restricted by continual rain in central Queensland and the loss of some areas to flooding, and yields were well above average. In addition, the area of cotton harvested increased by 280 per cent despite the effects of flooding in Queensland, and lint production increased by 230 per cent in 2010–11. The area planted to rice was around four times the area planted in 2009–10.

Well above average rainfall in eastern and northern Australia resulted in abundant pasture growth and encouraged farmers in these areas to retain beef cattle and sheep and to build herd and flock numbers. Excess pasture created strong demand for livestock from restockers and higher saleyard prices. In contrast, poor seasonal conditions in Western Australia led to increased turn-off of beef cattle and sheep and a decrease in herd and flock sizes.

Despite improvement in grazing conditions and increased availability of irrigation water, milk production remained similar to 2009–10. A production increase in Western Australia and Victoria was offset by lower production in Queensland, Tasmania and New South Wales.

2011–12

The total area sown to winter grain, oilseed and pulse crops increased marginally in 2011–12 compared with the area planted in 2010–11. The area planted to wheat is estimated to have increased by around 3 per cent and the area planted to barley is also estimated to have increased, while the area planted to canola and lupins declined.

Growing conditions over winter and spring 2011–12 were generally favourable in the major winter cropping regions. Favourable winter and spring rainfall over Western Australia's cropping regions boosted yields resulting in winter crop production more than doubling in 2011–12, making this the highest winter crop harvest on record. However, the rain also slowed the harvest, and was reported to have lowered the quality of crops in some regions.

Major winter cropping regions in South Australia, Victoria and southern New South Wales recorded below average September rainfall. However, average to above average rainfall in October and November improved crops before harvest. In northern New South Wales and southern Queensland, above average rainfall during harvest also delayed harvest and affected crop quality in some regions.

Total winter crop production is estimated to be around 45.1 million tonnes in 2011–12. If achieved, this would be the largest winter crop on record. Wheat production is forecast to increase by 6 per cent in 2011–12; barley production is forecast to rise by 5 per cent; and canola production is forecast to increase by 16 per cent.

The total summer crop area is forecast to be largely unchanged in 2011–12 at 1.5 million hectares. Increased availability of irrigation water resulted in higher cotton and rice plantings; however, grain sorghum plantings are forecast to have decreased by around 6 per cent.

Cotton production is forecast to increase by 27 per cent in 2011–12 to a record 1.1 million tonnes. This increase is due to expected better returns relative to alternative crops, improved supplies of irrigation water and favourable soil moisture profiles in most of the cotton growing regions in New South Wales and Queensland.

Flooding during late summer caused damage to some summer crops in southern Queensland and northern New South Wales. The most severe flooding occurred in the central north and north-west regions of New South Wales and the south-west region of Queensland. However, since flooding generally affects low-lying areas that comprise a small proportion of crop area, the effects of flooding on summer crop production tend to be localised and above average yields are expected in areas not inundated by floods.

Average to above average seasonal conditions for most broadacre farms resulted in excellent pasture growth and cattle and sheep numbers are expected to continue increasing, with herd and flock sizes increasing in all states. Lambing and calving rates are projected to rise, together with sale weights for livestock increasing. Wool production is also expected to increase due to an increase in sheep and lambs shorn.

Improvement in grazing conditions, increased availability of irrigation water and low fodder prices are estimated to have contributed to an expected increase in milk production of around 3 per cent in 2011–12. A small increase is expected in the southern dairying region of New South Wales and in Victoria, while a relatively larger increase is expected in Tasmania. In Queensland, milk production is expected to be reduced in response to lower farmgate prices for milk in 2011–12.

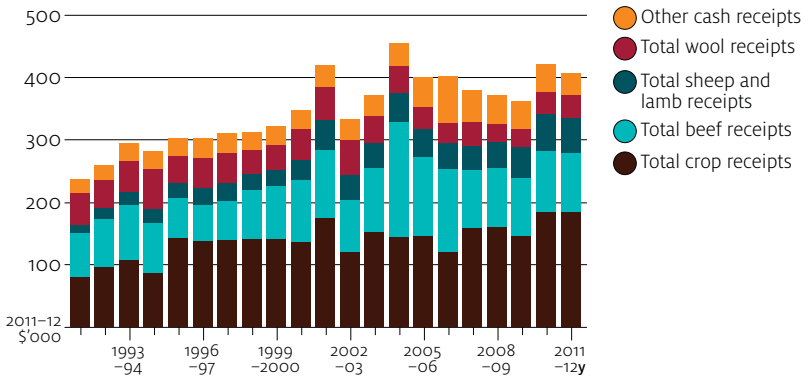
Farm receipts

2010–11

Average total cash receipts for broadacre farms increased by 20 per cent nationally in 2010–11, with increases in crop, sheep, lamb, wool and beef cattle receipts (Figure 1).

In 2010–11, average crop receipts per farm increased by 30 per cent compared with 2009–10. Yields for harvested crops were high and total production of grains, oilseeds and pulses is estimated to have increased as a result. Despite some downgrading of wheat and barley in eastern states, prices remained strong. Increased production, in combination with an increase in price in 2010–11 compared with 2009–10, resulted in higher crop receipts in 2010–11.

FIGURE 1 Farm cash receipts, broadacre industries



y ABARES provisional estimate.

Despite a decrease in the number of sheep and lambs sold, higher saleyard prices for sheep and lambs resulted in an increase of around 21 per cent in average sheep and lamb receipts per farm.

Higher wool prices resulted in average wool receipts per farm rising by 29 per cent in 2010–11, despite a small reduction of around 1 per cent in wool sold per farm.

Higher saleyard prices resulted in an increase in beef cattle receipts, despite a reduction in the number of beef cattle sold from broadacre farms of around 2 per cent in 2010–11.

Average total cash receipts for dairy farms increased by 13 per cent in 2010–11 as higher prices were paid for milk in southern regions producing mainly manufacturing milk, together with a small increase in milk production.

2011–12

Overall, average total cash receipts for broadacre farms are projected to remain largely unchanged in 2011–12 compared with 2010–11 (Figure 1).

In 2011–12, average crop receipts are projected to increase by 3 per cent with increases in total crop production expected to more than offset lower grain and oilseed prices. Receipts from canola increased and rice and cotton receipts are also expected to increase due to higher production.

Saleyard prices for sheep and lambs are expected to remain high in 2011–12 and combined with a small increase in numbers of lambs sold is projected to result in an increase of around 1 per cent in average sheep and lamb receipts per farm.

Higher wool prices together with an increase in wool produced and sold per farm are projected to result in an increase in wool receipts of around 3 per cent. Wool sold per farm is expected to increase as a result of an increase in the number of sheep to be shorn in 2011–12.

An expected reduction in the number of beef cattle sold per farm in 2011–12 is projected to more than offset a small increase in beef cattle prices and result in a small decrease in beef cattle receipts.

Overall, milk receipts for dairy farms are projected to decline by around 2 per cent in 2011–12, despite an increase in milk production in southern states.

Box 2 Major financial performance indicators

Farm cash income	= total cash receipts		– total cash costs				
	total revenues received by the farm business during the financial year		*payments made by the farm business for materials and services and for permanent and casual hired labour (excluding owner manager, partner and family labour)*				
Farm business profit	= farm cash income	+ changes in trading stocks		– depreciation		– Imputed labour costs	

Farm business profit = farm cash income + changes in trading stock – depreciation – imputed labour costs *(return produced by all the resources used in the farm business)*

Profit at full equity = farm business profit + rent + interest and finance lease payments – depreciation on leased items

Rate of return = profit at full equity ÷ total opening capital x 100 *(return to all capital used)*

Off-farm income = wages off-farm + other business income + investment + social welfare payments *(owner manager and spouse only)*

Methodology

ABARES surveys are designed, and samples selected, on the basis of a framework drawn from the Business Register maintained by the Australian Bureau of Statistics. This framework includes agricultural establishments in each statistical local area classified by size and major industry.

Data provided in this paper have been collected through on-farm interviews and incorporate detailed farm financial accounting information.

The estimates presented have been calculated by appropriately weighting the data collected from each sample farm. Sample weights are calculated so estimates of numbers of farms, areas of crops and numbers of livestock in various geographic regions and industries correspond as closely as possible to the most recently available ABS data, as collected in the Agricultural Censuses and updated annually with data collected in agricultural commodity surveys.

Estimates for 2009–10 and all earlier years are final. All data from farmers, including accounting information, have been reconciled. Final production and population information from the Australian Bureau of Statistics has been included and no further change is expected in the estimates.

The 2010–11 estimates are preliminary, based on full production and accounting information from farmers. However, editing and addition of sample farms may be undertaken and Australian Bureau of Statistics production benchmarks may also change.

The 2011–12 projections are based on data collected through on-farm interviews and telephone interviews between October and December 2011. The estimates include crop and livestock production, receipts and expenditure up to the date of interview, together with expected production, receipts and expenditure for the remainder of the financial year. Modifications have been made to expected receipts and expenditure for the remainder of 2011–12 where significant price change has occurred post interview.

Farm costs

2010–11

For broadacre farms, average total cash costs increased by around 3 per cent in 2010–11, mainly as a result of increased expenditure on livestock purchases, contracts, handling and marketing charges and fertiliser. These increases were partially offset by a reduction in expenditure on fodder.

For dairy industry farms in all regions, except Western Australia, fodder costs were lower as less fodder was purchased because of improved seasonal conditions and increased allocations of irrigation water; in Western Australia fodder costs increased. Small increases were experienced in most other categories of farm cash costs including interest payments, and overall average total cash costs for the Australian dairy industry remained largely unchanged in 2010–11 compared with 2009–10.

2011–12

Overall, at the national level, average total cash costs per farm are projected to remain similar to that recorded in 2010–11. Purchases of both beef cattle and sheep are expected to slow markedly in all states except Western Australia in 2011–12 (Figure 2). Sheep and beef cattle numbers were substantially rebuilt on many eastern state properties in the past two years. Improved pasture availability and lower feed grain prices are expected to result in a further small reduction in fodder expenditure on broadacre farms. In addition, a small reduction in farm debt together with slightly lower interest rates is projected to result in reduced interest payments. Overall, reductions in these cost items are expected to be mostly offset by increased expenditure on fuel, fertiliser, chemicals, repairs and maintenance.

For dairy industry farms, fodder costs for farms in all states, except Tasmania, are expected to be significantly lower as less fodder is purchased because of improved seasonal conditions combined with lower prices for purchased fodder. Fertiliser costs are expected to increase as dairy farms produce more feed on-farm. Small increases are expected in most other categories of farm cash costs, and overall average total cash costs at the national level are projected to remain largely unchanged in 2011–12 compared with 2010–11.

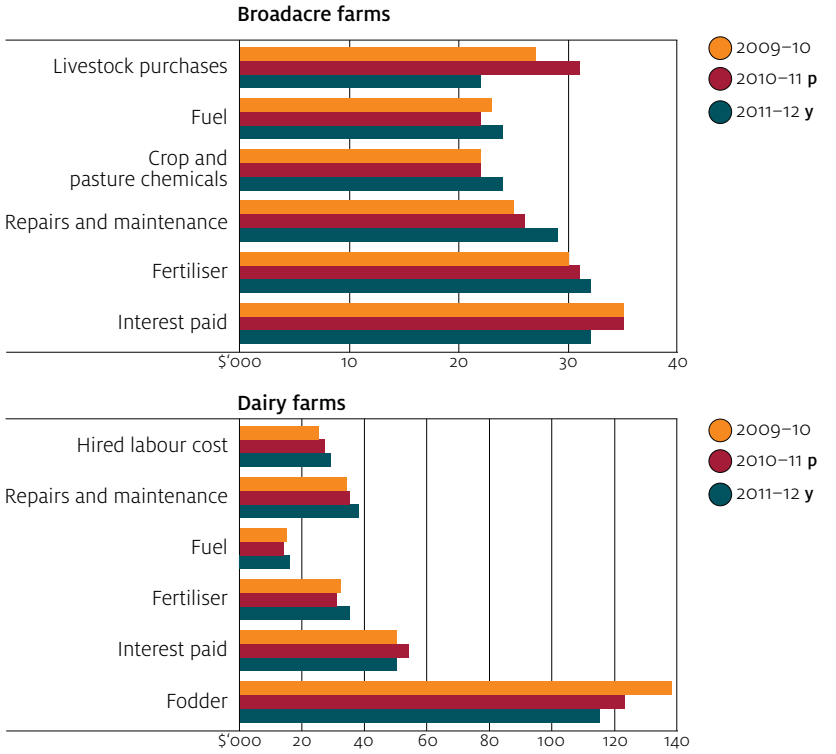
Farm incomes and profits

The financial performance of Australian broadacre farms is projected to remain strong, on average, in 2011–12.

Nationally, average farm cash income for broadacre farms increased from $59 470 in 2009–10 to $117 300 in 2010–11 and is projected to remain high at $116 000 in 2011–12 (Table 1), which is around 39 per cent above the average for the 10 years to 2010–11 of $83 000 (in real terms) (Figure 3, Table 1).

For the dairy industry, farm financial performance is projected to decline in 2011–12 because of lower milk prices. Nationally, average farm cash income for dairy farms was $75 110 a farm in 2009–10, increased to $141 000 a farm in 2010–11 and is projected to decline to $136 000 in 2011–12 (Table 5). Projected farm cash income in 2011–12 is still expected to be around 37 per cent above the average for the 10 years to 2010–11 of $98 600 (in real terms) (Figure 6).

FIGURE 2 Major cash costs



p ABARES preliminary estimate. **y** ABARES provisional estimate.

Farm cash income is a measure of cash funds generated by the farm business for farm investment and consumption after paying all costs incurred in production, including interest payments but excluding capital payments and payments to family workers. It is a measure of short-term farm performance because it does not take into account depreciation or changes in farm inventories. A measure of longer term profitability is farm business profit, as it takes into account capital depreciation and changes in inventories of livestock, fodder, grain and wool.

In 2010–11, large increases occurred in on-farm inventories of grain in eastern states, resulting in higher average farm business profit because of a build-up in the value of trading stocks. For 2011–12, a much smaller increase in grain inventories is expected overall. However, cattle and sheep numbers are expected to increase in all states, which is expected to largely offset reductions in the value of grain stocks.

With a slightly smaller value of farm inventories in 2011–12, combined with a small reduction in projected farm cash incomes in some states, average farm business profit for Australian broadacre farms is expected to decline to around $48 000 a farm. If achieved, this would rank as the third highest farm business profit recorded for the broadacre industries in the past 20 years. In addition, farm business profit in 2011–12 is expected to be positive, on average, in all states for the first time since 2001–02.

TABLE 1 Financial performance, all broadacre industries average per farm

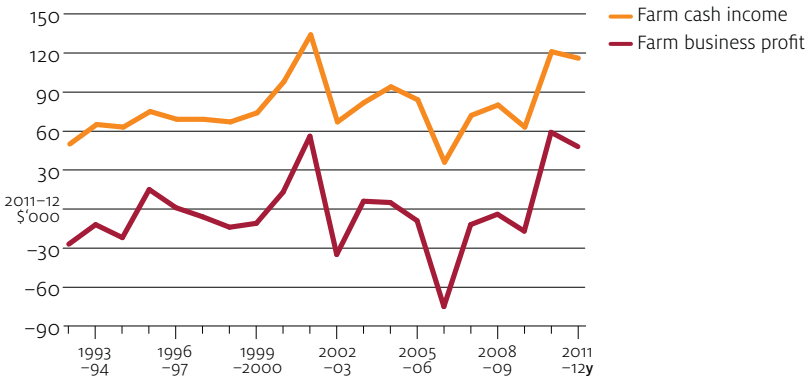
		2009–10	2010–11p		2011–12y
Total cash receipts	$	342 120	409 200	(4)	407 000
Total cash costs	$	282 650	291 900	(5)	291 000
Farm cash income	$	59 470	117 300	(5)	116 000
Farms with negative farm cash income	%	30	24	(7)	25
Farm business profit	$	–16 460	57 500	(10)	48 000
Farms with negative farm business profit	%	69	54	(4)	53
Profit at full equity					
– excl. cap. appreciation	$	23 920	98 600	(6)	87 000
– incl. cap. appreciation	$	–3 550	58 300	(28)	na
Farm capital at 30 June **a**	$	4 015 550	3 923 500	(4)	na
Net capital additions	$	55 370	48 500	(47)	na
Farm debt at 30 June **b**	$	492 540	460 400	(8)	435 000
Change in debt – 1 July to 30 June **b**	%	8	4	(32)	–1
Equity at 30 June **bc**	$	3 336 910	3 297 000	(4)	na
Equity ratio **bd**	%	87	88	(1)	na
Farm liquid assets at 30 June **b**	$	145 380	157 000	(7)	na
Farm management deposits (FMDs) at 30 June **b**	$	28 620	34 100	(9)	na
Share of farms with FMDs at 30 June **b**	%	20	24	(8)	na
Rate of return e					
– excl. cap. appreciation	%	0.6	2.5	(6)	2.3
– incl. cap. appreciation	%	–0.1	1.5	(28)	na
Off–farm income of owner manager and spouse **b**	$	32 270	32 300	(6)	na

a Excludes leased plant and equipment. **b** Average per responding farm. **c** Farm capital minus farm debt. **d** Equity expressed as a percentage of farm capital. **e** Rate of return to farm capital at 1 July. **p** ABARES preliminary estimates. **y** ABARES provisional estimates. **na** Not available.

Rates of return

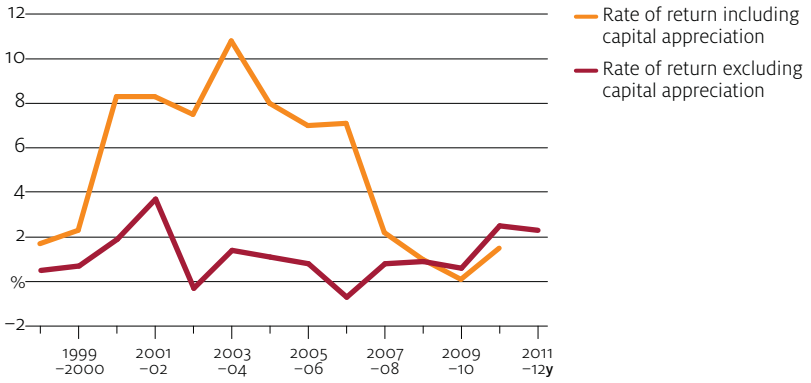
The average rate of return to total farm capital including capital appreciation for broadacre farms was relatively high between 2000–01 and 2006–07 but declined after 2007–08 (Figure 4). Strong demand for rural land during most of the 2000s resulted in a sharp increase in land values in most agricultural regions, which raised the total capital value of farms. Rapidly rising farm capital values resulted in high rates of return when including capital appreciation. However, from 2007–08 increases in land values have been much smaller and reported values declined in some pastoral and high-rainfall regions in 2009–10 and 2010–11. The reduction in land values in 2009–10 and 2010–11 resulted in lower estimates of average rate of return to total farm capital including capital appreciation for broadacre farms.

FIGURE 3 Financial performance, all broadacre industries



y ABARES provisional estimate.

FIGURE 4 Return on capital



y ABARES provisional estimate.

Rises in total farm capital values as a consequence of increases in land values during the 2000s have also acted to reduce rates of return excluding capital appreciation.

Average rates of return excluding capital appreciation increased in 2010–11 as farm business profits increased for broadacre farms in many regions. Rates of return excluding capital appreciation are expected to fall slightly from 2.5 per cent in 2010–11 to 2.3 per cent in 2011–12 (Figure 4) and, while still being relatively high in historical terms (Figure 4), are also expected to be more even across the states and the Northern Territory.

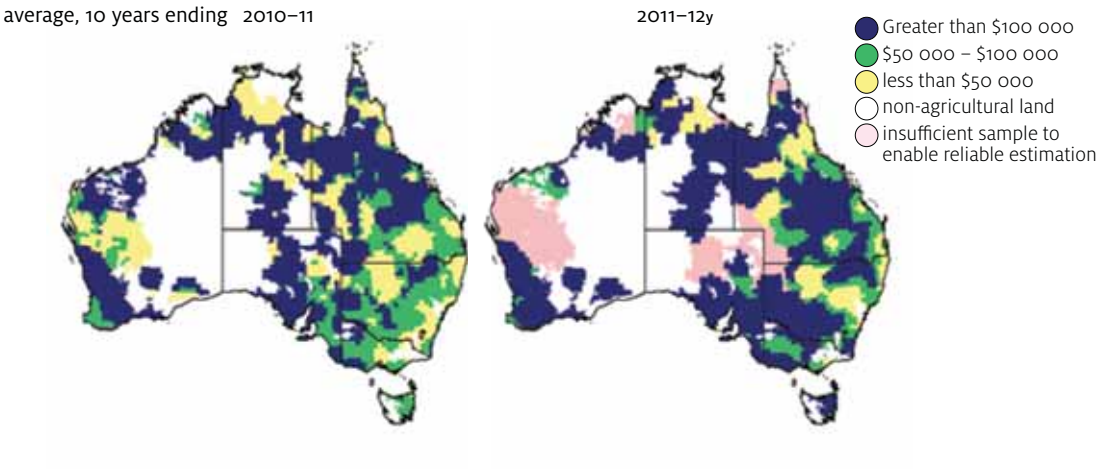
In 2011–12, the highest average rate of return excluding capital appreciation is projected for the Northern Territory at 5.8 per cent. This high rate of return is mainly due to an increase in beef cattle numbers and high farm cash incomes in the eastern and southern regions of the Northern Territory. In addition, reductions in reported land values in northern regions in 2008–10 and 2010–11 reduced capital values. Rates of return in all states are projected to be between 2 and 3 per cent, except for Victoria where the projected average return excluding capital appreciation is 1.3 per cent (Table 2).

Among the surveyed industries, the projected average rate of return excluding capital appreciation for the wheat and other crops industry is highest at 3.5 per cent with the sheep industry ranked second at 3.1 per cent (Table 4). If achieved, this would be the highest average return excluding capital appreciation recorded for the sheep industry since 1988–89.

Performance, by state

Projected farm financial performance for 2011–12 and how this performance ranks in historical terms varies markedly across states and regions (Tables 2 and 3, together with map 1).

MAP 1 Farm cash income broadacre and dairy farms



y ABARES provisional estimate.

TABLE 2 Financial performance , broadacre industries, by state average per farm

	Farm cash income				Farm business profit a				Rate of return excluding capital appreciation b				Rate of return including capital appreciation b			
	2009–10	2010–11p		2011–12y	2009–10	2010–11p		2011–12y	2009–10	2010–11p		2011–12y	2009–10	2010–11p		2011–12y
	$	$		$	$	$		$	%	%		%	%	%		%
Broadacre industries																
New South Wales	45 840	100 500	(9)	100 000	−41 250	63 400	(15)	43 000	0.0	3.1	(9)	2.4	−2.1	2.6	(45)	na
Victoria	46 470	97 400	(11)	85 000	−8 220	50 200	(22)	18 000	0.5	2.5	(15)	1.3	5.1	3.2	(35)	na
Queensland	53 260	89 100	(16)	103 000	−6 150	33 000	(31)	54 000	0.7	1.6	(13)	2.1	−1.4	−1.8	(45)	na
Western Australia	106 050	151 800	(12)	180 000	−38 700	−9 500	(192)	65 000	0.5	1.2	(29)	2.4	−1.2	0.9	(60)	na
South Australia	93 450	205 100	(10)	168 000	33 610	157 900	(13)	73 000	2.2	5.6	(9)	3.3	3.1	5.0	(11)	na
Tasmania	53 240	100 600	(10)	105 000	11 250	54 000	(21)	71 000	0.8	1.8	(18)	2.2	1.6	1.6	(50)	na
Northern Territory	−138 280	460 700	(38)	451 000	211 960	359 200	(41)	790 000	1.9	2.6	(25)	5.8	−4.5	−4.8	(36)	na
Australia	59 470	117 300	(5)	116 000	−16 460	57 500	(10)	48 000	0.6	2.5	(6)	2.3	−0.1	1.5	(28)	na

a Defined as farm cash income plus buildup in trading stocks, less depreciation and the imputed value of operator partner and family labor. **p** ABARES preliminary estimates. **y** ABARES provisional estimates.
Note: Figures in parentheses are standard errors expressed as a percentage of the estimate provided.

TABLE 3 Financial performance, all broadacre industries, by state average per farm

		New South Wales				Victoria			
		2009–10	2010–11p		2011–12y	2009–10	2010–11p		2011–12y
Total cash receipts	$	311 730	364 400	(7)	349 000	201 300	289 200	(16)	290 000
Total cash costs	$	265 890	263 900	(8)	250 000	154 830	191 800	(25)	205 000
Farm cash income	$	45 840	100 500	(9)	100 000	46 470	97 400	(11)	85 000
Farms with negative farm cash income	%	37	28	(12)	31	27	17	(19)	25
Farm business profit	$	–41 250	63 400	(15)	43 000	–8 220	50 200	(22)	18 000
Farms with negative farm business profit	%	73	51	(7)	57	70	52	(9)	54
Profit at full equity									
–excl. cap. appreciation	$	–420	100 400	(9)	76 000	13 430	74 700	(19)	41 000
–incl. cap. appreciation	$	–74 970	85 400	(44)	na	133 170	94 600	(23)	na
Farm capital at 30 June **a**	$	3 503 810	3 328 000	(5)	na	2 832 260	2 988 300	(19)	na
Net capital additions	$	32 180	64 900	(81)	na	81 860	–2 400	(999)	na
Farm debt at 30 June **b**	$	511 430	438 600	(12)	388 000	249 980	237 200	(54)	237 000
Change in debt – 1 July to 30 June **b**	%	5	3	(83)	0	14	0	(999)	–4
Equity at 30 June **bc**	$	2 924 140	2 791 800	(5)	na	2 537 290	2 709 600	(18)	na
Equity ratio **bd**	%	85	86	(1)	na	91	92	(3)	na
Farm liquid assets at 30 June **b**	$	114 390	104 300	(13)	na	166 530	183 300	(14)	na
Farm management deposits (FMDs) at 30 June **b**	$	17 410	24 900	(16)	na	25 840	30 900	(25)	na
Share of farms with FMDs at 30 June **b**	%	13	20	(15)	na	24	26	(19)	na
Rate of return e									
–excl. cap. appreciation	%	0.0	3.1	(9)	2.4	0.5	2.5	(15)	1.3
–incl. cap. appreciation	%	–2.1	2.6	(45)	na	5.1	3.2	(35)	na
Off-farm income of owner manager and spouse **b**	$	37 970	37 800	(12)	na	36 450	35 900	(11)	na

continued...

New South Wales

In New South Wales, overall average farm cash income for 2011–12 is projected to remain similar to that recorded in 2010–11. Farm cash incomes will be lower for farms predominantly involved in growing grain and oilseeds as crop receipts are reduced by both lower production and lower prices compared with last season. However, an increase in crop receipts and farm cash income is expected for broadacre farms growing cotton or rice as production increases in 2011–12. Farm cash incomes for beef cattle and sheep farms are projected to increase, with higher wool and beef prices as well as an increase in numbers of lambs sold and higher sale weights for livestock.

On average, farm cash income of broadacre farms in New South Wales is projected to average $100 000 a farm in 2011–12, which is around 68 per cent above the average farm cash income recorded for the 10 years to 2010–11.

Farm cash income for broadacre farms in New South Wales and the other eastern states—Victoria and Queensland—is strongly influenced by income from livestock. On average, around 60 per cent of farm receipts are derived from the sale of beef

TABLE 3 Financial performance, all broadacre industries, by state average per farm continued

		Queensland				Western Australia			
		2009–10	2010–11p		2011–12y	2009–10	2010–11p		2011–12y
Total cash receipts	$	348 800	379 900	(8)	363 000	662 280	632 400	(6)	713 000
Total cash costs	$	295 540	290 900	(10)	261 000	556 230	480 600	(6)	533 000
Farm cash income	$	53 260	89 100	(16)	103 000	106 050	151 800	(12)	180 000
Farms with negative farm cash income	%	26	27	(14)	21	32	23	(20)	21
Farm business profit	$	–6 150	33 000	(31)	54 000	–38 700	–9 500	(192)	65 000
Farms with negative farm business profit	%	74	63	(6)	51	68	69	(6)	49
Profit at full equity									
– excl. cap. appreciation	$	40 330	79 800	(13)	98 000	28 780	62 800	(29)	131 000
– incl. cap. appreciation	$	–77 880	–90 100	(45)	na	–67 060	50 000	(60)	na
Farm capital at 30 June **a**	$	5 492 750	4 995 000	(3)	na	5 662 080	5 433 800	(7)	na
Net capital additions	$	15 300	87 800	(45)	na	75 430	39 200	(163)	na
Farm debt at 30 June **b**	$	602 710	557 600	(9)	541 000	835 110	844 600	(10)	750 000
Change in debt – 1 July to 30 June **b**	%	7	5	(50)	4	10	5	(55)	–6
Equity at 30 June **bc**	$	4 602 720	4 105 600	(4)	na	4 439 980	4 542 700	(7)	na
Equity ratio **bd**	%	88	88	(1)	na	84	85	(2)	na
Farm liquid assets at 30 June **b**	$	119 090	122 100	(12)	na	217 010	247 800	(20)	na
Farm management deposits (FMDs) at 30 June **b**	$	29 060	31 500	(17)	na	63 480	55 600	(22)	na
Share of farms with FMDs at 30 June **b**	%	22	23	(17)	na	25	25	(20)	na
Rate of return e									
– excl. cap. appreciation	%	0.7	1.6	(13)	2.1	0.5	1.2	(29)	2.4
– incl. cap. appreciation	%	–1.4	–1.8	(45)	na	–1.2	0.9	(60)	na
Off-farm income of owner manager and spouse **b**	$	19 520	23 800	(12)	na	26 980	26 800	(11)	na

continued...

cattle, sheep, lambs and wool and 75 per cent of broadacre farms generate less than 20 per cent of their receipts from crops. In contrast, many more South Australian and Western Australian broadacre farms are mainly reliant on receipts from crops rather than those from livestock.

Victoria

Victorian cropping farm cash incomes are projected to decline moderately in 2011–12. Less favourable seasonal conditions led to reduced grain production compared with last season and wheat and oilseed prices were lower. On average, receipts from crops are projected to decrease by around 16 per cent compared with 2010–11.

In contrast, receipts from beef cattle are projected to increase slightly, with higher beef prices as well as an increase in sale weights for cattle. Receipts from sheep, lambs and wool are projected to be higher this season because of higher wool prices, together with an increase in wool production and an increase in the number of lambs sold. As a result, farm cash incomes for producers mainly reliant on sheep are projected to increase further in 2011–12.

TABLE 3 Financial performance, all broadacre industries, by state average per farm continued

		South Australia				Tasmania			
		2009–10	2010–11p		2011–12y	2009–10	2010–11p		2011–12y
Total cash receipts	$	356 040	549 400	(9)	515 000	242 250	296 700	(7)	312 000
Total cash costs	$	262 590	344 300	(10)	347 000	189 010	196 200	(8)	206 000
Farm cash income	$	93 450	205 100	(10)	168 000	53 240	100 600	(10)	105 000
Farms with negative farm cash income	%	23	21	(26)	18	32	11	(36)	15
Farm business profit	$	33 610	157 900	(13)	73 000	11 250	54 000	(21)	71 000
Farms with negative farm business profit	%	53	35	(18)	48	61	48	(11)	42
Profit at full equity									
– excl. cap. appreciation	$	74 330	199 200	(11)	118 000	31 900	78 100	(15)	102 000
– incl. cap. appreciation	$	106 300	177 800	(14)	na	60 290	70 300	(47)	na
Farm capital at 30 June **a**	$	3 566 580	3 656 100	(5)	na	3 853 990	4 480 000	(13)	na
Net capital additions	$	106 730	53 900	(76)	na	37 490	23 700	(126)	na
Farm debt at 30 June **b**	$	428 800	433 600	(10)	432 000	244 170	291 200	(17)	326 000
Change in debt – 1 July to 30 June **b**	%	11	5	(56)	–3	2	11	(67)	12
Equity at 30 June **bc**	$	2 988 200	3 110 500	(6)	na	3 497 800	4 011 500	(14)	na
Equity ratio **bd**	%	88	88	(1)	na	94	93	(1)	na
Farm liquid assets at 30 June **b**	$	148 680	202 100	(16)	na	177 970	231 000	(24)	na
Farm management deposits (FMDs) at 30 June **b**	$	28 800	48 700	(22)	na	28 010	32 900	(34)	na
Share of farms with FMDs at 30 June **b**	%	26	29	(16)	na	16	23	(32)	na
Rate of return e									
– excl. cap. appreciation	%	2.2	5.6	(9)	3.3	0.8	1.8	(18)	2.2
– incl. cap. appreciation	%	3.1	5.0	(11)	na	1.6	1.6	(50)	na
Off-farm income of owner manager and spouse **b**	$	31 370	26 900	(12)	na	37 380	40 200	(16)	na

continued...

Farm cash costs are also projected to rise by around 7 per cent, reflecting increased expenditure on herbicides and pesticides, fertiliser and repairs and maintenance as well as higher fuel and labour costs.

On average, farm cash income for broadacre farms in Victoria is projected to decline to $85 000 per farm in 2011–12 (Tables 2 and 3), but still be around 20 per cent above the average farm cash income recorded for the 10 years to 2010–11.

Queensland

Overall, receipts from both winter and summer grain and oilseed crops are projected to decline in 2011–12, but receipts from grain legumes are estimated to increase. Increases in production of wheat and barley are expected to be offset by lower prices. Receipts from grain sorghum and oilseeds are projected to decline compared with 2010–11, with slightly lower production and lower prices. High rainfall through summer across most of Queensland's cropping regions increased yield prospects for summer crops but also resulted in significant flooding, particularly in south-west Queensland, which according to ABARES February 2012, *Australian crop report*, is likely to have damaged some summer crops.

TABLE 3 Financial performance, all broadacre industries, by state average per farm continued

		Northern Territory				Australia			
		2009–10	2010–11p		2011–12y	2009–10	2010–11p		2011–12y
Total cash receipts	$	1 667 720	2 091 800	(18)	1 979 000	342 120	409 200	(4)	407 000
Total cash costs	$	1 805 990	1 631 100	(19)	1 528 000	282 650	291 900	(5)	291 000
Farm cash income	$	–138 280	460 700	(38)	451 000	59 470	117 300	(5)	116 000
Farms with negative farm cash income	%	50	25	(29)	21	30	24	(7)	25
Farm business profit	$	211 960	359 200	(41)	790 000	–16 460	57 500	(10)	48 000
Farms with negative farm business profit	%	59	34	(36)	31	69	54	(4)	53
Profit at full equity									
– excl. cap. appreciation	$	362 730	532 600	(25)	966 000	23 920	98 600	(6)	87 000
– incl. cap. appreciation	$	–883 700	–963 100	(39)	na	–3 550	58 300	(28)	na
Farm capital at 30 June **a**	$	18 839 180	18 713 300	(12)	na	4 015 550	3 923 500	(4)	na
Net capital additions	$	98 230	17 300	(794)	na	55 370	48 500	(47)	na
Farm debt at 30 June **b**	$	2 196 890	2 132 600	(16)	2 179 000	492 540	460 400	(8)	435 000
Change in debt – 1 July to 30 June **b**	%	5	5	(57)	2	8	4	(32)	–1
Equity at 30 June **bc**	$	8 939 320	7 399 800	(11)	na	3 336 910	3 297 000	(4)	na
Equity ratio **bd**	%	80	78	(4)	na	87	88	(1)	na
Farm liquid assets at 30 June **b**	$	72 200	95 100	(35)	na	145 380	157 000	(7)	na
Farm management deposits (FMDs) at 30 June **b**	$	12 900	5 800	(44)	na	28 620	34 100	(9)	na
Share of farms with FMDs at 30 June **b**	%	8	3	(43)	na	20	24	(8)	na
Rate of return e									
– excl. cap. appreciation	%	1.9	2.6	(25)	5.8	0.6	2.5	(6)	2.3
– incl. cap. appreciation	%	–4.5	–4.8	(36)	na	–0.1	1.5	(28)	na
Off–farm income of owner manager and spouse **b**	$	33 020	47 300	(34)	na	32 270	32 300	(6)	na

a Excludes leased plant and equipment. **b** Average per responding farm. **c** Farm capital minus farm debt. **d** Equity expressed as a percentage of farm capital. **e** Rate of return to farm capital at 1 July. **p** ABARES preliminary estimates. **y** ABARES provisional estimates. **na** Not available.

Receipts from beef cattle are projected to decrease by around 3 per cent owing to a decline in the number of cattle sold, despite a small increase in sale prices for cattle. Receipts from beef cattle typically account for around 70 per cent of average total cash receipts in Queensland.

Average total cash costs are projected to fall by around 10 per cent in 2011–12, mainly due to a large decline in livestock purchases expenditure, together with lower fodder expenditure.

Overall, with total cash costs declining by more than the reduction in total cash receipts, farm cash incomes for broadacre farms in Queensland are projected to rise to average $103 000 a farm in 2011–12, up from $89 100 a farm in 2010–11 (Tables 2 and 3) and around 23 per cent above the average farm cash income recorded for the 10 years to 2010–11 of $83 100.

Western Australia

Severe drought in Western Australia sharply reduced grain production in 2010–11. However, the reduction in farm cash incomes was partly cushioned by much higher grain prices in 2010–11, together with pool payments for grain delivered in 2009–10. Livestock numbers on broadacre farms in southern Western Australia were also markedly reduced as farms were destocked, increasing farm cash receipts but decreasing the value of farm inventories.

In 2011–12, a return to more average rainfall and seasonal conditions across most of southern Western Australia is estimated to have resulted in a marked increase in grain production and grain receipts in 2011–12, despite lower grain prices. However, average receipts for sheep, lambs, wool and beef cattle are projected to decline in 2011–12 as turn-off is reduced and farmers commence rebuilding flocks and herds.

Total cash costs are projected to increase by around 10 per cent on Western Australian broadacre farms in 2011–12, resulting mainly from an increase in the cost of harvesting and marketing increased grain production. Cash costs are expected to rise as a result of increased expenditure on repairs and maintenance, fuel, chemicals and fertiliser. Expenditure on interest payments and fodder is expected to decline.

Farm cash income for Western Australian broadacre farms is projected to rebound to average $180 000 per farm in 2011–12, around 29 per cent above the average for the 10 years to 2010–11.

South Australia

South Australian broadacre farm cash incomes are projected to decline to average $168 000 per farm in 2011–12 (Tables 2 and 3), around 45 per cent above the average farm cash income recorded for the 10 years to 2010–11. The decline in farm cash income is mainly driven by reduced wheat production from the record 2010–11 production, combined with lower grain prices in 2011–12. Reductions in crop receipts in 2011–12 would have been larger if substantial pool payments for grain delivered in 2010–11 had not been received. Receipts from sheep and lambs are projected to be higher this season because of an increase in the numbers sold.

Tasmania

After a substantial improvement in 2010–11, Tasmanian broadacre farm cash incomes are projected to further increase to an average of $105 000 per farm in 2011–12 (Tables 2 and 3). This is around 65 per cent above the average farm cash income recorded for the 10 years to 2010–11.

Favourable seasonal conditions in 2011–12 are projected to result in a small increase in beef cattle and lamb turn-off and a small increase in receipts.

Higher farm cash income in 2010–11 and 2011–12 have mainly been in response to increased receipts from livestock and wool, but average receipts from crops including potatoes and oil poppies also significantly increased, particularly in 2010–11.

Northern Territory

After several dry years in which pasture availability was poor and cattle numbers declined, seasonal conditions started to improve from 2008–09. Improved pasture availability allowing cattle numbers to increase through increased brandings, purchase and, in the case of corporately owned farm businesses, transfer from interstate in both 2008–09 and 2009–10.

In 2010–11, many businesses increased turn-off of beef cattle which, in combination with higher beef cattle prices, led to a rise in average farm cash income to $460 700 (Tables 2 and 3).

Many farm businesses in the upper portion of the Northern Territory derive more than 50 per cent of their total cash receipts from selling cattle for live export to Indonesia. Reliance is highest in the Top End–Gulf and Victoria River–Katherine regions and is also relatively high in the Barkly–Tennant Creek region. The number of cattle sold for live export to Indonesia was reduced in 2010–11, relative to the number sold in 2009–10 and is expected to be further reduced in 2011–12.

Around half of broadacre farm businesses in the Northern Territory are estimated to have derived more than 50 per cent of receipts from sale of cattle for live export in 2010–11. For these businesses highly reliant on export of live cattle, farm cash income is projected to decline by almost 50 per cent in 2010–12 from an average of $430 000 per farm in 2010–11 to $210 000 per farm in 2011–12.

In contrast, farm cash incomes are projected to increase by 26 per cent for farm businesses not heavily reliant on live cattle exports. Most of these farms are located in the southern and eastern portion of the Northern Territory closer to slaughter markets. For these farm businesses, farm cash income is projected to increase from $870 000 per farm in 2010–11 to just over $1 million per farm in 2011–12.

Overall in 2011–12, the number of cattle sold is projected to decline by around 6 per cent. Higher prices for cattle sold, partly reflecting higher sale weights, are expected to partially offset the reduction in number of beef cattle sold and beef cattle receipts are projected to decline by around 2 per cent. Overall, total cash costs are also expected to fall for Northern Territory farm businesses mainly because of a reduction in the number and value of cattle transferred to corporately owned properties.

Farm cash income is expected to decline in 2011–12 to average $451 000 per farm. Beef cattle numbers are expected to increase on Northern Territory properties in 2011–12, resulting in a substantial increase in the value of cattle inventories and a rise in farm business profit.

Performance, by industry

Summary information on financial performance in Australian broadacre and dairy industries is provided in Table 4 and Figures 5 and 6.

Wheat and other crops industry

Average farm cash income for the wheat and other crops industry improved significantly in 2010–11 compared with 2009–10 because of large increases in grain and oilseed production in New South Wales, Victoria, Queensland and South Australia, combined with higher grain and oilseed prices (Figure 5.1). At the same time, there was only a relatively small rise in total cash costs resulting mainly from higher expenditure on fertiliser, fuel, crop chemicals, interest payments and costs associated with harvesting a larger crop than in 2009–10.

TABLE 4 Financial performance of broadacre farms, by industry average per farm

	Farm cash income			Farm business profit p		
	2009–10	2010–11p	2011–12y	2009–10	2010–11p	2011–12y
	$	$	$	$	$	$
Wheat and other crops	107 910	241 300	213 000	–14 040	167 000	85 000
Mixed livestock crops	47 340	127 900	107 000	–32 340	56 900	25 000
Beef industry	35 120	59 100	67 000	–16 440	9 500	33 000
Sheep	60 560	95 000	113 000	2 560	44 100	60 000
Sheep beef	79 350	105 400	137 000	–6 710	52 000	80 000
All broadacre industries	59 470	117 300	116 000	–16 460	57 500	48 000
Dairy	75 110	141 000	136 000	–3 660	69 200	44 000

	Rate of return - excluding capital appreciation a			Rate of return - including capital appreciation a	
	2009–10	2010–11p	2011–12y	2009–10	2010–11p
	%	%	%	%	%
Wheat and other crops	1.3	5.4	3.5	-0.8	4.3
Mixed livestock crops	0.2	2.6	1.8	0.4	3.0
Beef industry	0.3	0.9	1.5	0.0	-1.6
Sheep	0.9	2.6	3.1	0.4	2.6
Sheep beef	0.6	2.0	2.6	1.6	1.7
All broadacre industries	0.6	2.5	2.3	–0.1	1.5
Dairy	1.6	3.9	3.1	0.2	0.9

a Defined as profit at full equity, excluding capital appreciation, as a percentage of total opening capital. Profit at full equity is defined as farm business profit plus rent, interest and lease payments less depreciation on leased items. **p** ABARES preliminary estimates. **y** ABARES provisional estimates.

Despite record Australian grain and oilseed production in 2011–12, lower prices for most grains and oilseeds together with increases in farm costs are projected to result in a fall in overall average farm cash income for wheat and other crops industry farms.

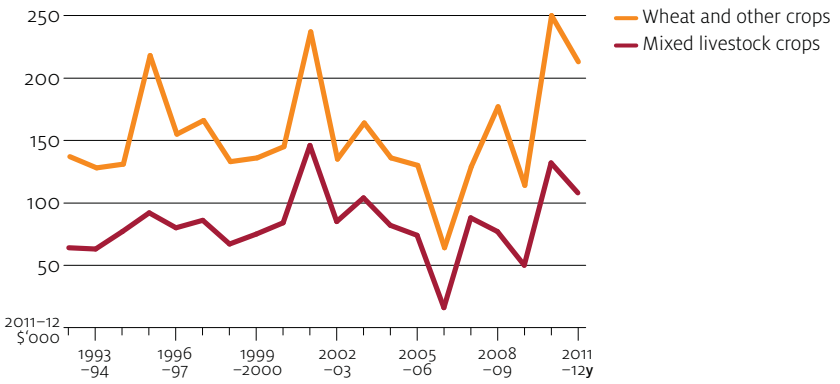
Farm cash income is projected to average $213 000 a farm in 2011–12, significantly below the average farm cash income for 2010–11, but still around 35 per cent above the industry average for the previous 10 years (Tables 4 and 5, Figure 5.1).

However, in Western Australia, average farm cash income for wheat and other crops industry farms is projected to rise significantly as a result of the marked turnaround in winter crop production in 2011–12 compared with the drought-reduced 2010–11 crop. In contrast, average farm cash income for wheat and other crops industry farms is projected to decline in New South Wales, Victoria and South Australia due to lower winter crop production in 2011–12 and lower grain and oilseed prices. However, production of summer crops, including rice, is expected to increase in New South Wales in 2011–12. In both New South Wales and Queensland, income from cotton is projected to contribute to higher incomes for some farms in 2011–12.

Overall, total cash costs for wheat and other crops industry farms are projected to increase by around 2 per cent in 2011–12, mainly due to the higher costs of harvesting and marketing the larger crop in Western Australia and Queensland together with a general increase in expenditure on fertiliser, fuel, crop chemicals and repairs compared with 2010–11. In contrast to these increased costs, it is projected that expenditure on interest payments will be reduced mainly from a small reduction in average debt.

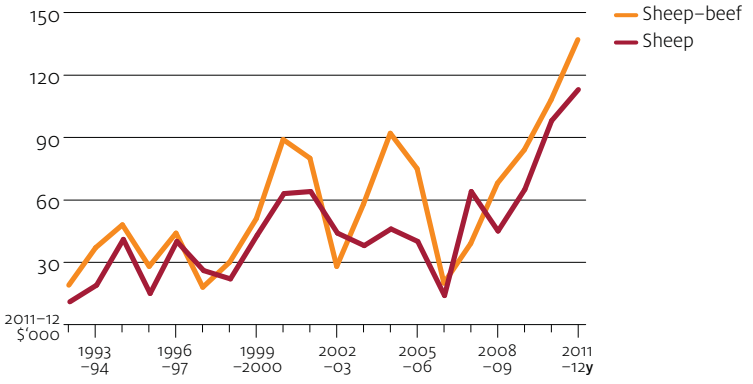
Wheat and other crops industry farms are projected to record the highest rate of return among the surveyed industries in 2011–12 (Table 4), although there is substantial variation across the states. Wheat and other crops industry farms have recorded the highest average rate of return among broadacre industries in 19 of the past 20 years.

FIGURE 5.1 Farm cash income, grains industry



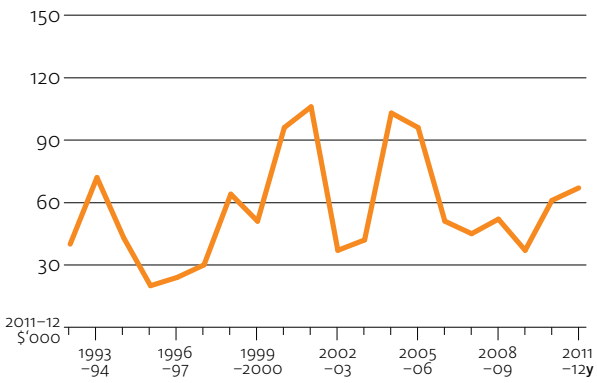
y ABARES provisional estimate.

FIGURE 5.2 Farm cash income, sheep industries



y ABARES provisional estimate.

FIGURE 5.3 Farm cash income beef industry



y ABARES provisional estimate.

Mixed livestock–crops industry

Average farm cash income for mixed livestock–crops industry farms improved in 2010–11 compared with 2009–10. Crop receipts increased significantly in the eastern states because of increased production and higher prices while receipts from beef cattle, sheep, lamb and wool also increased. Total cash costs also rose due to increased expenditure on harvesting and marketing the larger grain crop. Expenditure on livestock purchases, fertiliser, herbicides and farm chemicals, and interest payments increased.

In 2011–12, overall crop receipts are projected to fall slightly for farms in this industry but nevertheless remain relatively high as higher crop production in Western Australia is expected to mostly offset lower grain prices, and lower crop production in other states. Receipts from beef cattle, sheep and lambs are projected to decline slightly as a result of a small reduction in the number of sheep and lambs sold, particularly in Western Australia following particularly high turn-off in 2010–11.

Total cash costs are projected to rise by around 3 per cent due to increased costs of harvesting and marketing the much larger Western Australian crop, together with increased expenditure on fertiliser, fuel, crop chemicals and hired labour. Partially offsetting the increase in these costs is a projected reduction in expenditure on livestock purchases, due to a reduction in the number of sheep purchased together with a small reduction in expenditure on fodder and interest payments.

Average farm cash income for mixed livestock–crops industry farms is projected to be reduced to an average of $107 000 per farm in 2010–11, which is around 25 per cent above the industry average for the previous 10 years (Figure 5.1).

Sheep industry

In 2010–11, improved seasonal conditions in the eastern states led to an increase in average farm cash income for sheep industry farms. The increase in lamb and sheep receipts resulting from higher saleyard prices, together with an increase in wool receipts, more than offset a rise in farm expenditure as a result of increased sheep purchases and higher repair expenditure (Tables 4 and 5, Figure 5.2).

In 2011–12, farm cash income for sheep industry farms is projected to increase to average $113 000 per farm (Table 4, Figure 5.2). If achieved, this would be the highest real farm cash income for the sheep industry since 1988–89.

This income is mainly driven by an expected increase in lamb receipts from a greater number of lambs sold, together with increased wool receipts from a greater amount of wool sold and higher wool prices achieved. Higher total cash receipts are projected to be partly offset by an increase in total cash costs of around 6 per cent, with expenditure on hired labour, shearing and crutching, fertiliser, repairs and fuel all expected to increase. In addition, expenditure on sheep purchases is expected to remain high in real terms and similar to that recorded in 2010–11, when turn-off of both sheep and lambs declined as flock rebuilding commenced.

Sheep–beef industry

In 2010–11, beef cattle and sheep turn-off reduced on sheep–beef farms in the eastern states in response to improved seasonal conditions. Despite reduced sales, higher beef, sheep and wool prices resulted in a small increase in total cash receipts. Higher cash receipts combined with a slight reduction in total cash costs resulted in farm cash income rising to average $105 400 per farm in the sheep–beef industry in 2010–11 (Table 4).

In contrast, turn-off of both beef cattle and sheep is expected to increase in 2011–12 and lead to a further rise in receipts from sale of beef cattle, sheep and lambs. Wool receipts are also projected to rise as a result of both higher prices and a small increase in quantity of wool sold. At the same time, total cash costs are projected to decline by around 3 per cent, with expenditure on purchase of sheep and beef cattle expected to decline from the high recorded in 2010–11.

Overall, farm cash income for the sheep–beef industry is projected to average $137 000 per farm in 2011–12 (Table 4), which in real terms is among the highest recorded for this industry in the past 30 years.

Beef industry

In 2010–11, beef cattle turn-off slowed in eastern states and beef cattle numbers increased. In the Northern Territory herd numbers remained relatively stable despite an increase in turn-off and in Western Australia cattle numbers decreased as dry seasonal conditions resulted in higher turn-off. Overall, the average number of cattle that beef industry farms sold remained similar to 2009–10, but increases in prices received for cattle resulted in total cash receipts for beef industry farms rising by around 8 per cent. Although expenditure on beef cattle purchases increased, total cash costs were reduced, on average, due mainly to improved seasonal conditions leading to a reduction in expenditure on fodder. Overall, with total cash receipts increasing and total cash costs decreasing, farm cash income increased to average $59 100 per farm for beef industry farms.

In 2011–12, the average number of cattle that beef industry farms sold is projected to be reduced and, despite an increase in average sale prices partly resulting from sale of heavier cattle, on average beef cattle receipts are projected to fall by around 2 per cent. An increase in cattle numbers in the past two years, particularly in northern Australia, together with the high cattle prices is projected to result in a marked reduction in the number of cattle that beef industry farms purchase and a sharp reduction in cattle purchase expenditure. With a small reduction in the number of animals sold and a relatively large reduction in the number of cattle purchased net turn-off of cattle for slaughter is expected to be only slightly reduced overall.

Lower expenditure on beef cattle purchases, together with reduced expenditure on fodder and interest payments is projected to result in average total cash costs for beef industry farms declining by around 10 per cent. With only a small reduction in cash receipts and much larger reduction in cash costs, average farm cash income is projected to increase to average $67 000 per farm in 2011–12. If achieved, this would be around 6 per cent above the average for the previous 10 years.

In southern Australia, New South Wales, Victoria, South Australia, Tasmania and southern Western Australia where small herd size farms predominate, farm cash income for beef industry farms is projected to increase from an average of $35 400 per farm in 2010–11 to an average of $45 300 per farm in 2011–12.

In Queensland, the Northern Territory and northern Western Australia, where average herd size is much larger than the rest of Australia, farm cash income for beef industry farms is projected to increase from an average of $91 700 per farm in 2010–11 to an average of $107 000 in 2011–12.

Many farms in the far north of Australia are highly reliant on sale of cattle for live export, particularly to Indonesia. According to AAGIS, around 300 beef industry farms derived more than 50 per cent of receipts from sale of cattle for live export in 2010–11. As a result of further reductions in the number of cattle expected to be sold for live export to Indonesia in 2011–12, farm cash income for these businesses is projected to decline by around 40 per cent from an average of $519 000 per farm in 2010–11 to around $310 000 per farm in 2011–12.

However, overall farm cash income is projected to increase for northern Australian farms from an average of $127 000 per farm business in 2010–11 to an average of $165 000 in 2011–12. Although turn-off of cattle for live export was reduced in 2010–11 and is expected to be further reduced in 2011–12, farms received higher average prices for cattle for slaughter, partly due to higher sale weights for cattle resulting from excellent seasonal conditions in 2011–12, together with a substantial reduction in expenditure on cattle purchased and transferred onto northern properties.

Further, the increase in average farm cash income in the northern live cattle export regions is mainly being driven by improved performance of the largest corporately owned farm businesses. Farm cash income for family operated farm businesses in the northern live cattle export region is expected to average $120 000 per business in 2011–12, similar to the level in 2010–11.

In 2011–12, beef cattle numbers are expected to increase in almost all regions of both northern and southern Australia, resulting in a further boost to the value of inventories of cattle on farms. As a result, farm business profit in most regions is expected to increase in percentage terms by a relatively larger amount than farm cash income.

Dairy industry

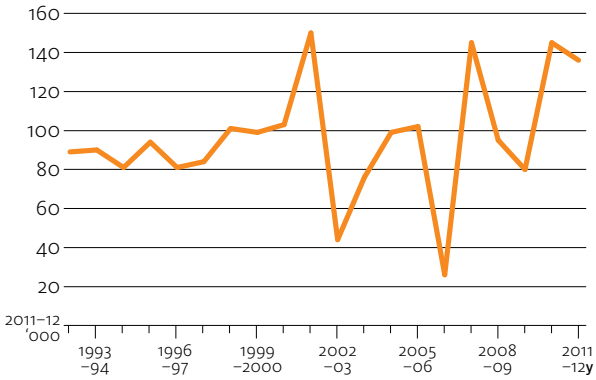
Farm cash income for dairy farms in Victoria, Tasmania, South Australia and the southern dairying regions of New South Wales increased in 2010–11 as a result of higher prices paid for milk in regions producing mainly manufacturing milk, together with a small increase in milk production. Average farm cash income in Victoria rose to $140 200 per farm in 2010–11 and in Tasmania farm cash income increased to average $159 900 per farm. In Queensland average milk prices remained steady and farm cash income remained unchanged compared with 2009–10. In contrast, average farm cash income declined in New South Wales and Western Australia where average milk prices received declined.

In 2011–12, lower milk prices are projected to result in reduced financial performance of dairy farms in all states except Tasmania, despite an overall increase in milk production. In Tasmania, a relatively large increase in milk production is expected to boost average milk receipts and, despite increases in cash costs, result in farm cash income in that state rising to average $211 000 per farm.

In Victoria, an increase of just over 4 per cent in milk production is expected to offset the impact of lower milk prices on farm receipts. Overall, total cash costs are expected to remain unchanged despite reductions in fodder costs. Farm cash income in Victoria for dairy farms is projected to reduce slightly to average $134 000 per farm, but still around 40 per cent above the average for the previous 10 years.

In Queensland, Western Australia and South Australia, lower milk prices, combined with reduced milk production is projected to result in lower farm cash incomes, despite some reduction in total cash costs as a consequence of reduced expenditure on fodder. Farm cash income is projected to average $89 000 per farm in Queensland and around $126 000 per farm in Western Australia.

FIGURE 6 Farm cash income, dairy industry



y ABARES provisional estimate.

In New South Wales, increased milk production and lower fodder expenditure is projected to offset reductions in milk prices and result in a farm cash income declining marginally to average $137 000 per farm. Average farm cash income for dairy farms in New South Wales is projected to remain about 30 per cent above the average for the previous 10 years.

When the variations to projected farm cash incomes for dairy farms across Australia are taken into account, the overall average farm cash income for Australian dairy farms is projected to decline slightly to average $136 000 per farm in 2011–12, around 30 per cent above the average for the 10 years to 2010–11 (Table 5, Figure 6).

Farm equity

On average, farm business equity remained strong for broadacre and dairy farms. The average equity ratio for broadacre farms, at 30 June 2011, was estimated to be 88 per cent, and the average equity ratio for dairy farms 81 per cent (Tables 1 and 5).

TABLE 5 Financial performance, dairy industry average per farm

		2009–10	2010–11p		2011–12y
Total cash receipts	$	508 490	575 700	(4)	563 000
Total cash costs	$	433 380	434 700	(4)	427 000
Farm cash income	$	75 110	141 000	(9)	136 000
Farms with negative farm cash income	%	24	11	(42)	12
Farm business profit	$	–3 660	69 200	(17)	38 000
Farms with negative farm business profit	%	59	34	(17)	38
Profit at full equity					
– excl. cap. appreciation	$	57 450	134 100	(9)	107 000
– incl. cap. appreciation	$	7 760	30 500	(108)	na
Farm capital at 30 June **a**	$	3 614 800	3 428 700	(4)	na
Net capital additions	$	73 770	54 100	(43)	na
Farm debt at 30 June **b**	$	666 390	663 800	(7)	660 000
Change in debt – 1 July to 30 June **b**	%	8	1	(402)	7
Equity at 30 June **bc**	$	2 967 960	2 752 400	(5)	na
Equity ratio **bd**	%	82	81	(2)	na
Farm liquid assets at 30 June **b**	$	118 370	123 300	(12)	na
Farm management deposits (FMDs) at 30 June **b**	$	21 210	20 000	(24)	na
Share of farms with FMDs at 30 June **b**	%	18	17	(23)	na
Rate of return e					
– excl. cap. appreciation	%	1.6	3.9	(8)	3.1
– incl. cap. appreciation	%	0.2	0.9	(106)	na
Off-farm income of owner manager and spouse **b**	$	20 330	19 500	(20)	na

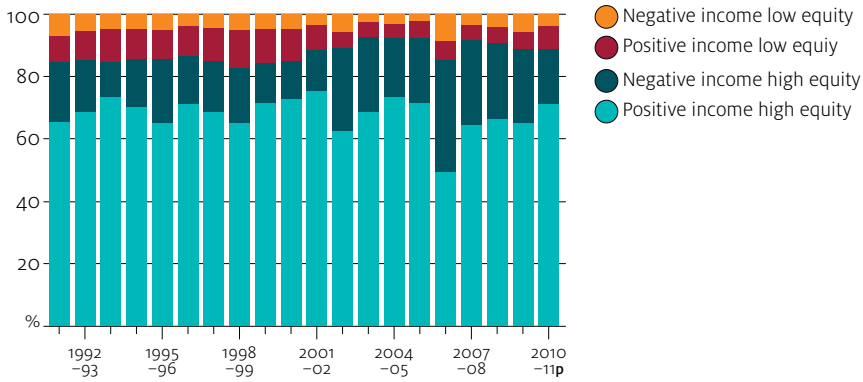
a Excludes leased plant and equipment. **b** Average per responding farm. **c** Farm capital minus farm debt. **d** Equity expressed as a percentage of farm capital. **e** Rate of return to farm capital at 1 July. **p** ABARES preliminary estimates. **y** ABARES provisional estimates. **na** Not available.

In some regions, farm equity is estimated to have fallen slightly in both 2009–10 and 2010–11 mainly as a consequence of reductions in reported land values. However, in other regions, reductions in farm debt and capital purchases have resulted in increased farm equity.

The proportion of broadacre and dairy farms estimated to have a farm business equity ratio of greater than 70 per cent declined from 91 per cent in 2008–09 to 89 per cent in both 2009–10 and 2010–11. Meanwhile, the proportion of farms recording negative farm cash incomes declined slightly from 30 per cent in 2009–10 to 22 per cent in 2010–11 (Figure 7). The proportion of farms recording both an equity ratio of less than 70 per cent and negative farm cash income declined from 6 per cent in 2009–10 to 4 per cent in 2010–11.

The proportion of broadacre farms recording negative farm cash income and therefore potentially needing to borrow working capital is projected to increase slightly from 24 per cent in 2010–11 to 25 per cent in 2011–12. The proportion of broadacre farms in New South Wales, Victoria and Tasmania recording negative farm cash incomes is projected to rise, but a reduction is expected in Queensland, Western

FIGURE 7 Distribution of farms by equity and farm cash income, broadacre and dairy industry



p ABARES preliminary estimate.

Australia, South Australia and the Northern Territory (Table 2). The proportion of dairy industry farms recording negative farm cash income is projected to increase slightly from 11 per cent in 2009–10 to 12 per cent in 2010–11 (Table 5), with most of the increase occurring in Queensland.

Farm debt

Growth in average debt per farm business in the broadacre and dairy sectors has slowed in the period since 2006–07 (Figure 8).

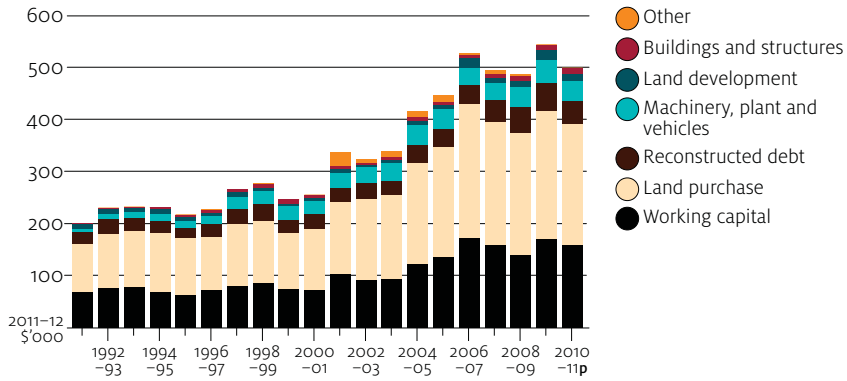
Average debt per farm business more than doubled between 2000–01 and 2006–07, from an average of $255 000 per farm in 2000–01 to $526 000 per farm in 2006–07 for broadacre and dairy farms. A number of factors contributed to the growth in debt over this period, including the effects of lower interest rates, increases in farm size, changes in commodities produced and reduced farm incomes in the 2000s as a consequence of widespread and extended drought.

Throughout much of the 2000s, interest rates were historically low, reducing the cost of servicing debt and encouraging borrowing for farm investment. Provision of interest rate subsidies as part of drought assistance programs to many farms also supported borrowing.

Structural adjustment has resulted in producers changing the mix of commodities produced and increasing farm size. The largest contribution to increases in farm debt on broadacre and dairy farms has been borrowing to fund new investment, particularly borrowing to fund purchase of land, machinery and vehicles and to develop land and farm improvements. Debt to fund purchase of land accounts for the largest share of debt on broadacre and dairy farms, around 47 per cent in 2010–11 (Figure 8).

Debt to fund land purchases increased by 250 per cent in real terms between 1990–91 and 2010–11. However, borrowing to finance purchase of machinery, plant and vehicles increased most over the past 20 years, rising 500 per cent since 1990–91, in real terms. Over the same period, borrowing to finance farm buildings and structures increased by 450 per cent and borrowing to fund land development by 200 per cent.

FIGURE 8 Composition of farm debt, broadacre and dairy industry

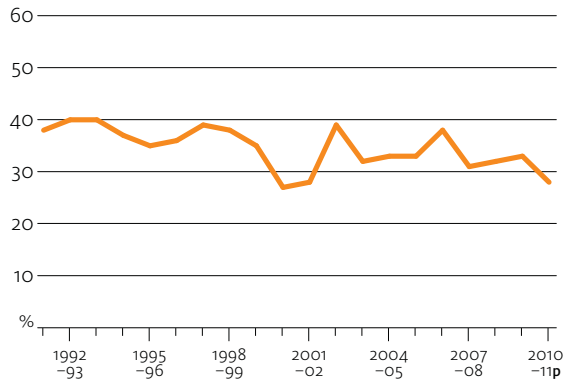


p ABARES preliminary estimate.

During most of this period there was also a significant movement of resources away from less input-intensive wool production to more intensive cropping and prime lamb activities, requiring substantial new investment in machinery and borrowing to purchase inputs. Expansion of cropping activities and increased use of inputs such as herbicides and fertiliser contributed to the increase in farm debt as producers borrowed to purchase annual inputs. In addition, deregulation of grain markets led to increased investment in on-farm grain storage.

During the 2000s, adverse seasonal conditions depressed farm cash incomes in many regions and led to increased borrowing to meet working capital requirements. Working capital debt increased by 230 per cent between 1990–91 and 2010–11, accelerating rapidly after widespread drought began in 2002–03. In 2010–11, working capital debt accounted for 32 per cent of average farm debt, second only to land purchase debt.

FIGURE 9 Farms increasing debt, broadacre and dairy industry



p ABARES preliminary estimate.

Around 18 per cent of farms increased borrowing to fund on-farm investment each year for the 10 years ending 2010–11. This included borrowing to purchase land, vehicles and machinery, plant and farm improvements. Increases in land purchase debt were confined to a relatively small proportion of farms each year, less than 6 per cent, but on average these farms borrowed large amounts.

A much higher proportion of farms, around 27 per cent, increased borrowing to fund working capital in each of the 10 years ending 2010–11 and the average amount borrowed was smaller than that borrowed for investment.

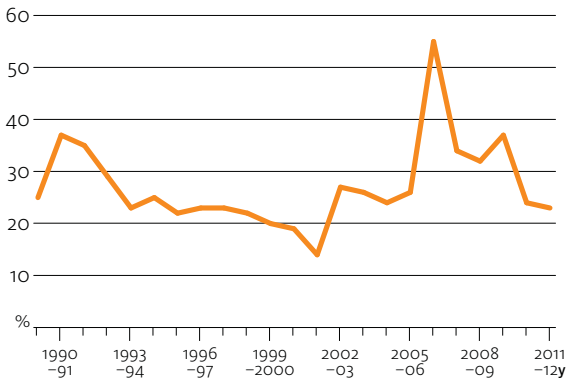
The proportion of restructured debt increased substantially since 2007–08 as relatively low interest rates for some categories of loans and concern about expected future interest rate increases encouraged restructuring and consolidation of farm debt.

In the period since 2006–07 there appears to have been more restricted access to credit from lending institutions and a diminished appetite for further increases in farm debt by farm business. The proportion of farms increasing debt declined significantly in 2010–11 to be closer to the historical lows recorded in 2000–01 and 2001–02 (Figure 9). In addition, average debt for broadacre farms is projected to decline by a further 1 per cent in 2011–12 (Table 1).

Debt servicing

The proportion of farm cash income (before interest payment) needed to meet interest payments on farm debt (debt servicing ratio) declined in 2010–11 and is projected to further decline in 2011–12.

FIGURE 10 Debt servicing ratio, broadacre and dairy industry



y ABARES provisional estimate.

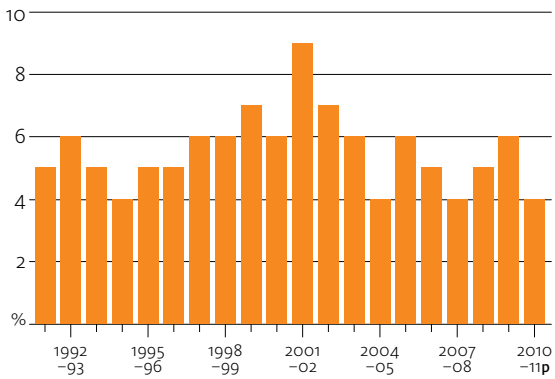
Debt servicing ratio trended upward from 2001–02 to 2009–10 (Figure 10). Interest rates rose throughout the period 2001–02 to 2007–08, and farm cash incomes were highly variable. They were particularly low in 2002–03 and 2006–07, when the debt servicing ratio rose sharply. Increases in interest rate subsidies paid to farm businesses through drought assistance partially offset the increase in interest paid between 2001–02 and 2007–08. However, most of the increase in the debt servicing ratio between 2001–02 and 2009–10 was due to increases in farm debt, rather than increases in interest rates.

Despite increases in interest rates, in 2010–11 higher farm cash incomes resulted in the debt servicing ratio falling to 24 per cent. In 2011–12, relatively high farm cash incomes and slightly lower interest rates are projected to result in the debt servicing ratio falling to 23 per cent, which is closer to the average debt servicing ratios of the late 1990s.

Land values

The proportion of broadacre and dairy farms acquiring land decreased slightly to 4 per cent in 2010–11, which is below the average for the previous 10 years of 6 per cent (Figure 11).

FIGURE 11 Proportion of farms acquiring land



p ABARES preliminary estimate.

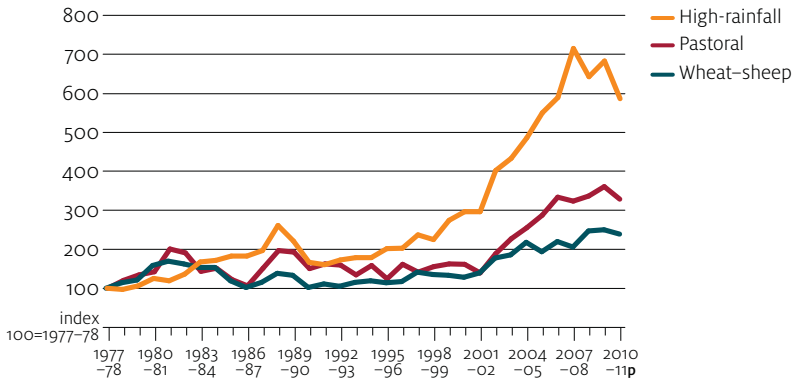
One explanation for this trend in recent years is that established farmers considering land purchase appear to be paying much greater attention to farm profitability and risks than to expectations of long-term capital gain. A significant proportion of land purchases in the past two years have been by larger corporate and institutional entities.

Reported land values declined in the pastoral zone in 2009–10, and in all three zones—pastoral, high-rainfall and wheat–sheep—in 2010–11. Reported land values in 2010–11 were up to 20 per cent below those reported in 2008–09 in some pastoral regions of northern Australia where very large increases were recorded over the previous decade. Much smaller reductions in reported land values occurred in many regions in the high-rainfall and wheat–sheep zone (Figure 12).

In part, reductions in reported land values reflect the very low number of land transactions in many regions generating little new information on which to base valuations (Herron Todd White 2012).

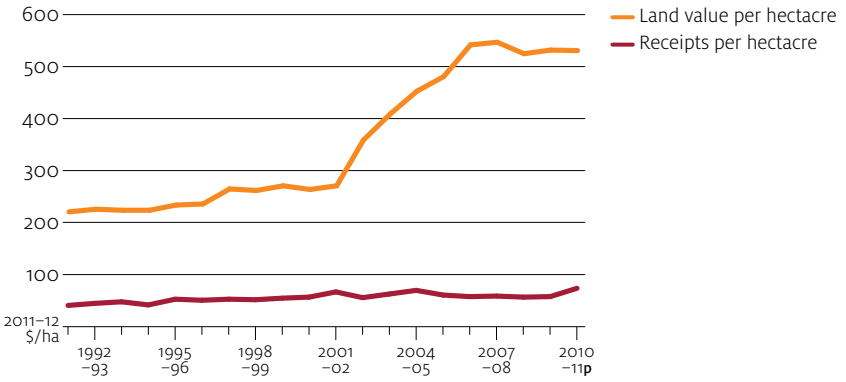
Average land prices for broadacre farms increased sharply relative to the cash receipts per hectare generated by farming activity between 2001–02 and 2006–07, then remained relatively flat to 2009–10 (Figure 13).

FIGURE 12 Land prices for broadacre farms, by zone



p ABARES preliminary estimate.

FIGURE 13 Land prices and receipts per hectare, broadacre farms



p ABARES preliminary estimate.

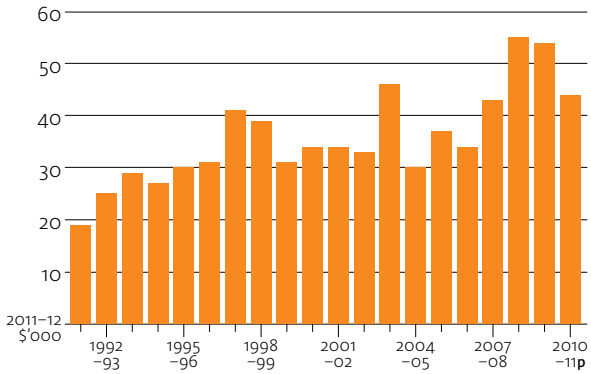
The ratio of average land price per hectare to total cash receipts per hectare doubled from around 5:1 before 2001–02 to around 9:1 in 2009–10 on broadacre farms (Figure 13). This ratio more than doubled across all agricultural zones and industries. The ratio increased from 7:1 to 15:1 in the high-rainfall zone, and from 4:1 to 8:1 in the wheat–sheep zone. The largest increase was reported in the pastoral zone where the ratio increased from 4:1 to 10:1.

In 2010–11, average receipts per hectare rose by around 20 per cent in the wheat–sheep zone and the pastoral zone. Receipts per hectare are projected to remain high in 2011–12 slightly reducing the gap between land values and returns per hectare.

Farm investment

Investment in non-land capital, including vehicles, plant, machinery and farm improvements, was historically high in 2008–09 and 2009–10 and although declining slightly in 2010–11 is still relatively high in historical terms (Figure 14).

FIGURE 14 Additions of non-land capital, broadacre and dairy industries



p ABARES preliminary estimate.

The investment allowance offered to businesses between December 2008 and December 2009 as part of the Australian Government's support for economic activity in the face of the global financial crisis is likely to have contributed to an increase in investment in plant, machinery and farm improvements in 2008–09 and 2009–10.

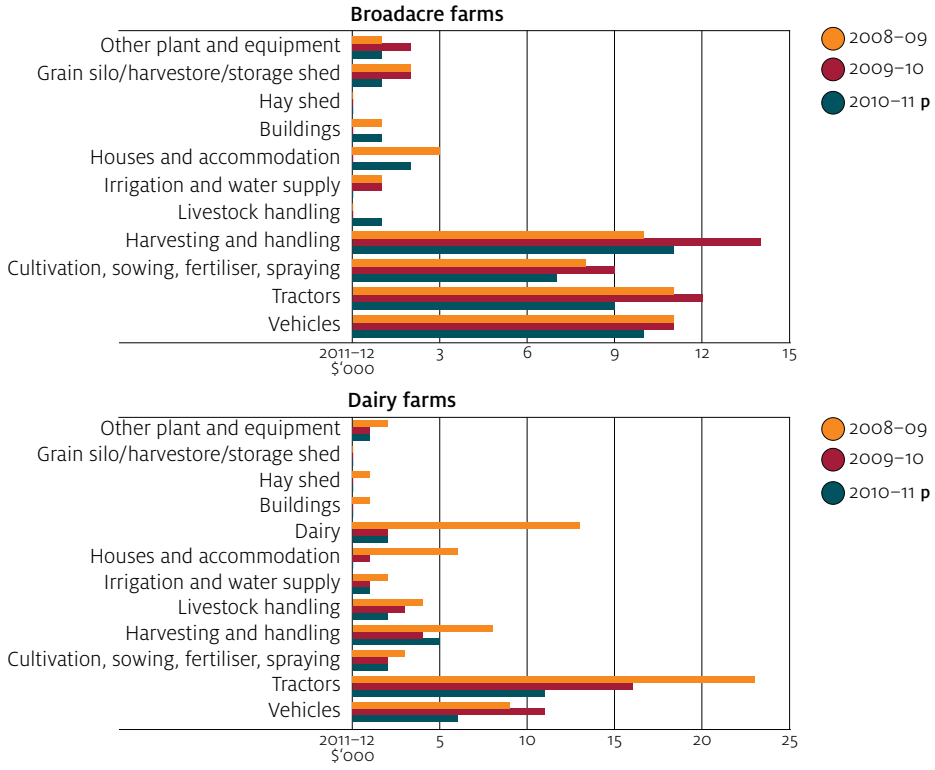
Continued relatively high levels of new non-land investment in 2010–11 can be attributed to factors such as improved cash flow for many farms, continued expansion in crop enterprises and lower interest rates, combined with much lower prices for imported machinery, vehicles and plant as a result of a high Australian dollar.

ABARES surveys indicate that the largest category of new capital expenditure on broadacre farms in 2008–09 and 2009–10 was crop harvesting and handling machinery, reflecting record grain crops in many regions in the past two years (Figure 15). Tractors and motor vehicles were other major items of expenditure for both broadacre and dairy farms. Expenditure on farm buildings was high in recent years, but generally declined since cessation of the investment allowance in December 2009.

Top performing farms

No single measure accounts for all factors likely to affect the financial performance of an individual farm. ABARES farm surveys collect a comprehensive set of physical and financial performance information enabling generation of a range of measures that capture differing elements of farm financial performance. Rate of return to capital (rate of return excluding capital appreciation) is a relatively complete measure of farm economic performance that values most farm inputs and is not as strongly correlated with farm size as most other measures. Therefore, rate of return is a good measure for comparing farm performance across a range of farm businesses sizes and industry types.

FIGURE 15 Capital additions



p ABARES preliminary estimate.

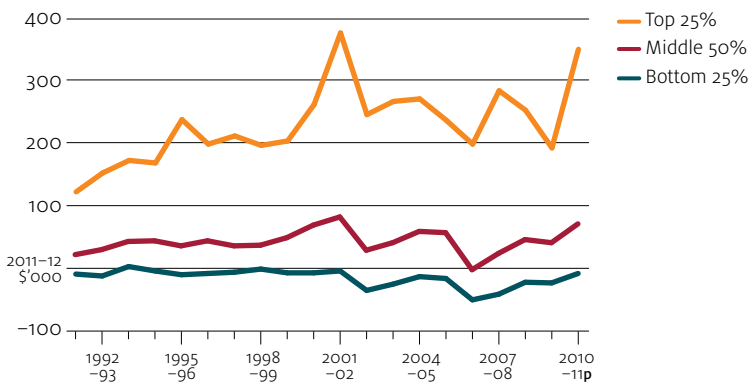
In this section, farm businesses have been allocated to top, middle and bottom performing categories on the basis of their rate of return to capital. Data are presented for the period 1991–92 to 2010–11. During this period commodity prices and seasonal conditions fluctuated significantly. To reduce these and other year-specific effects on farm performance, three-year moving average rates of return have been calculated for each sample farm in the AAGIS database. Farms have then been classified to performance groups on the basis of these averages.

Substantial differences exist for all key performance measures between the average financial performance of top performing farms and that of middle and bottom performing farms. The gap between top and bottom performing farms increased through the 1990s and was maintained through the 2000s (Figure 16). While the bottom 25 per cent of broadacre farms mostly struggled to generate positive farm cash incomes during the past two decades, the top 25 per cent of farms generated cash incomes exceeding $200 000 (in real terms) in 17 of the past 20 years.

Over the three years ending 2010–11, the top 25 per cent of farms recorded average rates of return excluding capital appreciation of 4.5 per cent a year, well above the average annual rate of return of just 1.4 per cent a year for all broadacre farms.

Over the 20 years ending 2010–11, the top 25 per cent of farms recorded average rates of return excluding capital appreciation of 5.5 per cent a year, much higher than the average annual rate of return of just 0.9 per cent a year for all broadacre farms.

FIGURE 16 Farm cash income, broadacre farms



p ABARES preliminary estimate.

In addition, top performing farms recorded slightly higher average annual rates of growth in land value. For the 20 years ending 2011, the top 25 per cent of farms recorded average annual growth in capital appreciation, mostly driven by increases in land value, of 3.8 per cent a year, compared with an average annual growth of 3.1 per cent for all broadacre farms.

Superior business performance, combined with faster growth in land value, resulted in the top 25 per cent of broadacre farms recording an average annual rate of return including capital appreciation of 9.3 per cent compared with an average of 4 per cent for all broadacre farms for the 20 years ending 2010–11.

Higher rates of return of top performing farms resulted in increased interest from agribusiness and institutional investors in recent years.

The superior financial performance of the top performing farms are the result of many factors, including differences in the scale of the farm, the natural resources of the farm land and the quality of management.

Top performing farms are found in most regions of Australia and, despite the impact of seasonal events and price changes, ABARES research indicates that most farms exhibiting high levels of financial performance relative to their peers continue to do so over the medium-term.

Top performing farms dominate new investment in the broadacre sector. Over the three years ending 2010–11, top performing farms accounted for 65 per cent of net capital additions; in contrast, the bottom 25 per cent of farms accounted for just 8 per cent. Productivity growth for Australian broadacre farms appears to be highly reliant on change in production technology (Sheng, Zhao & Nossal 2011) often requiring purchase of more efficient equipment or costly changes to production processes in response to changing external conditions.

Top performing farms account for a large share of the total value of agricultural production. They accounted for 53 per cent of the gross value of broadacre farm production over the three years ending 2010–11; in contrast, the bottom 25 per cent of farms accounted for just 9 per cent. Relatively high rates of new investment on top performing farms are likely to support generation of significant productivity gains to increase farm production and maintain or improve real farm cash incomes over the longer term.

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Agricultural productivity

Agricultural productivity: trends and policies for growth

Emily M Gray, Yu Sheng, Max Oss-Emer and Alistair Davidson

Summary

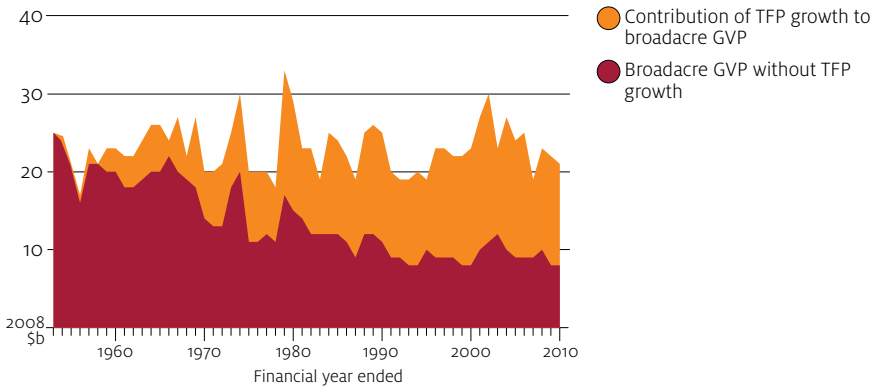
- In agriculture, total factor productivity (TFP) growth reflects improvements in the efficiency with which farmers combine market inputs to produce outputs. It is an important determinant of profitability in the farm sector.
- TFP growth for the broadacre farm sector (non-irrigated crops, beef and sheep) averaged 1.2 per cent a year between 1977–78 and 2009–10. Over this period, TFP growth rates differed between the main farm types: 1.6 per cent a year for cropping; 1.1 per cent a year for mixed crop–livestock; 1.4 per cent a year for beef and 0.5 per cent a year for sheep.
- In recent years, the gap between the TFP growth rates of the cropping and livestock industries has been narrowing. TFP among cropping specialists (and to a lesser extent, mixed cropping–livestock farms) has been growing more slowly whereas the growth rate in the livestock industries has been increasing.
- Dairy industry TFP growth has averaged 0.3 per cent a year since 1978–79. Growth in output has been driven largely by growth in inputs, reflecting a trend toward more intensive dairy production systems.
- There are a number of opportunities for governments and industry to consider in promoting productivity growth. These include investing in R&D and extension, building the knowledge and skills of farmers, facilitating structural adjustment and reducing regulatory burdens.

Importance of productivity growth

Productivity growth is an important determinant of agriculture output. It reflects improvements in the efficiency with which farmers combine market inputs to produce outputs. It is also a key mechanism by which farmers maintain profitability and the competitiveness of the agriculture sector. These motivators, among others, maintain interest in the determinants of agricultural productivity growth.

Over time, ongoing improvements in productivity have enabled Australian farmers to increase output using relatively fewer market inputs. Compared with its value if farmers only had access to 1950s production technologies, almost two-thirds of the gross value of broadacre production in recent years can be attributed to productivity improvements (Figure 1).

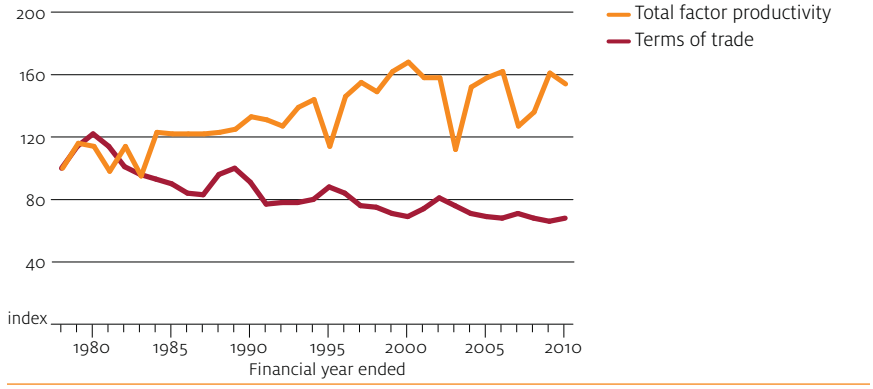
FIGURE 1 Contribution of total factor productivity growth to the gross value of broadacre production, 1952–53 to 2009–10



Note: Given total output growth ($\dot{O}$) equals total input ($\dot{I}$) growth plus TFP growth ($\dot{A}$), relative to a base year, and assuming farmers are price takers, broadacre GVP can be decomposed into two components: the input contribution to broadacre GVP in year t equals $GVP_t \times (\dot{I}_t / \dot{O}_t)$ while the contribution of TFP contribution equals $GVP_t \times (\dot{A}_t / \dot{O}_t)$.

For farmers, productivity growth helps maintain profitability in the face of a declining trend in the terms of trade (output prices relative to input prices). Although changes in the terms of trade may induce farmers in profit-maximising to choose combinations of inputs and outputs that reduce their overall productivity (O'Donnell 2010; Productivity Commission 2008), these are often short-run effects only. Consequently, ongoing productivity improvements are generally the predominant way for most farmers to offset ongoing cost pressures and maintain profits in the long run (Figure 2).

FIGURE 2 Broadacre total factor productivity and the farmer terms of trade, 1977–78 to 2009–10



Note: Total factor productivity shown here relates to broadacre (non-irrigated) agriculture only, although the farmer terms of trade covers all Australian agriculture.

For governments concerned with ensuring the ongoing competitiveness and sustainability of the agriculture sector, promoting efforts to increase productivity remains a priority. Productivity growth is important for maintaining farm incomes and is an element of the response to the challenges of climate change. Productivity growth can also contribute to broader societal objectives. For example, it can provide environmental benefits by reducing agriculture's reliance on inputs such as land, water and chemicals (Productivity Commission 2005).

Notwithstanding its obvious importance, productivity is best considered in policy terms as a means to an end, rather than an end in itself (Banks 2010). Factors beyond higher incomes, such as leisure time, environmental amenity and longevity and distributive issues, affect economic development and the wellbeing of Australians (Boarini et al. 2006). Nevertheless, raising material living standards through productivity growth is important insofar as it contributes to improving the wellbeing of farmers and society more broadly.

Trends in agricultural productivity

Measures of agricultural productivity at the national, industry and regional levels are useful for monitoring and evaluating changes in industry performance over time. In turn, they underpin strategic investment decisions and guide policies aimed at improving farm performance. A brief overview of ABARES productivity estimates is in Box 1.

Total factor productivity (TFP) is the key indicator ABARES uses to measure broadacre and dairy productivity. TFP compares the total market outputs produced (crops and livestock) relative to the total market inputs used (land, labour, capital, materials and services). Although common in practice, reliance on a single input or partial factor productivity (PFP) measure (such as crop yield per hectare) may result in a misleading assessment of productivity for policy making. This is because the combined effects of all changes in farm production systems, among other things, productivity, input substitution and quality effects are incorrectly attributed solely to one input. For this reason, TFP better reflects farmers' overall productivity.

Box 1 ABARES productivity estimates

ABARES estimates TFP as the ratio of a quantity index of total market outputs relative to a quantity index of market inputs. Multiple outputs and inputs are aggregated using a Fisher index. Annual TFP growth rates (percentage change over time) are derived by fitting an exponential trend line.

ABARES has published statistics and analysed the productivity of Australia's broadacre (non-irrigated cropping and grazing) and dairy industries since the early 1990s using data collected through its national farm survey program. Broadacre farms have been surveyed annually using a consistent methodology since 1977–78 and dairy farms since 1978–79.

The Australian and New Zealand Standard Industrial Classification (ANZSIC) (ABS 2006) defines broadacre and dairy industries as:

- Crops industry (ANZSIC06 Class 0146 and 0149) – farms engaged mainly in growing cereal grains, coarse grains, oilseeds, rice and/or pulses
- Mixed crop–livestock industry (ANZSIC06 Class 0145) – farms engaged mainly in running sheep or beef cattle, or both, and growing cereal grains, coarse grains, oilseeds and/or pulses

...continued

Box 1 **ABARES productivity estimates** ...continued

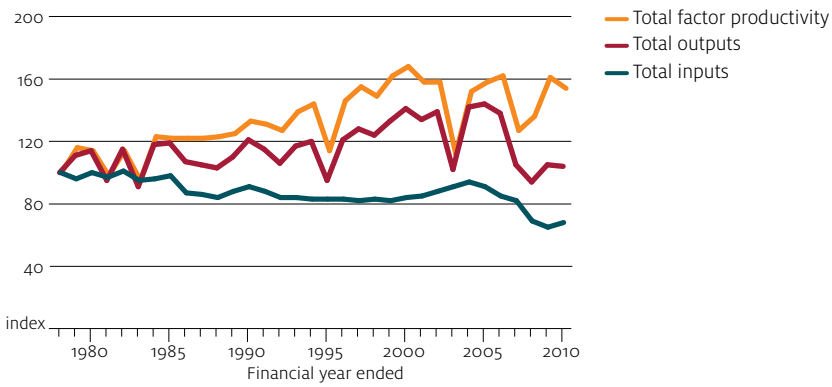
- Beef industry (ANZSIC06 Class 0142) – farms engaged mainly in running beef cattle
- Sheep industry (ANZSIC06 Class 0141) – farms engaged mainly in running sheep
- Sheep–beef industry (ANZSIC06 Class 0144) – farms engaged mainly in running both sheep and beef cattle. TFP estimates are not reported separately for these farms, although they are included within the aggregate broadacre estimates.
- Dairy industry (ANZSIC06 Class 0160) – farms engaged mainly in farming dairy cattle.

Together, the broadacre and dairy industries account for the bulk of Australian agriculture: almost 70 per cent of the number of commercial-scale farm businesses and more than 90 per cent of the total area of agricultural land. In addition, the broadacre and dairy industries accounted for nearly three-quarters (62 per cent and 9 per cent, respectively) of the gross value of agricultural production in 2009–10.

Broadacre productivity growth

From 1977–78 to 2009–10, TFP growth in broadacre agriculture averaged around 1.2 per cent a year. This is due to the combined effects of output growth (around 0.5 per cent a year) and reduced input use (around 0.8 per cent a year) (Figure 3). However, aggregate estimates mask considerable variation between individual farms. For example, recent research by ABARES indicates that, although productivity is increasing overall, the best performing farms have, on average, achieved a productivity growth rate that is around 25 per cent higher than that of average farms (Hughes et al. 2011).

FIGURE 3 Trends in broadacre total factor productivity, total inputs and total outputs 1977–78 to 2009–10



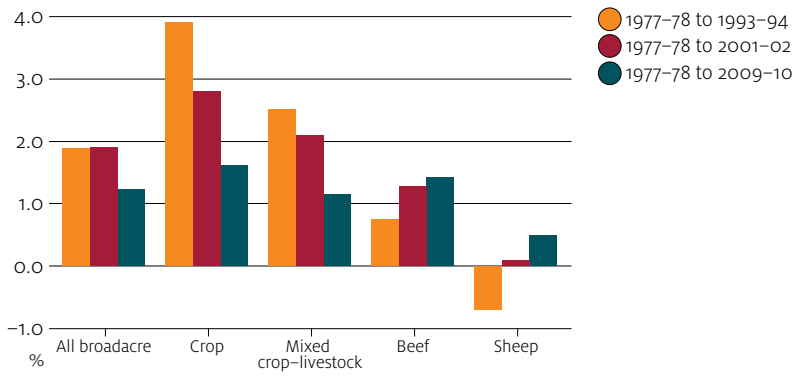
Average productivity growth in the cropping industry has exceeded that of the livestock industries (Table 1). TFP growth of cropping specialists averaged 1.6 per cent a year between 1977–78 and 2009–10, higher than beef (1.4 per cent), mixed crop–livestock (1.1 per cent) and sheep (0.5 per cent) farms. Although the precise reasons are not well understood, there may have been fewer opportunities to substitute capital for labour in the livestock industries, and the longer production cycles observed in the livestock industries may slow the rate of technological progress (Mullen 2007).

TABLE 1 Average annual broadacre productivity growth by industry, 1977–78 to 2009–10 (%)

	All broadacre	Cropping	Mixed crop–livestock	Beef	Sheep
Total factor productivity					
TFP	1.2	1.6	1.1	1.4	0.5
Inputs	–0.8	1.2	–1.7	0.1	–2.4
Outputs	0.4	2.8	–0.6	1.5	–1.9
Partial factor productivity					
Land	1.4	1.5	0.9	1.8	0.1
Labour	2.4	3.3	2.2	2.2	1.2
Capital	2.0	3.4	2.5	0.9	1.8
Materials	–1.8	–1.6	–1.5	–2.0	–1.7
Services	1.1	1.7	1.0	0.9	0.4
Input use					
Land	–1.0	1.3	–1.5	–0.3	–2.0
Labour	–2.0	–0.5	–2.8	–0.7	–3.1
Capital	–1.6	–0.6	–3.1	0.6	–3.7
Materials	2.2	4.4	0.9	3.5	–0.2
Services	–0.7	1.1	–1.6	0.6	–2.3

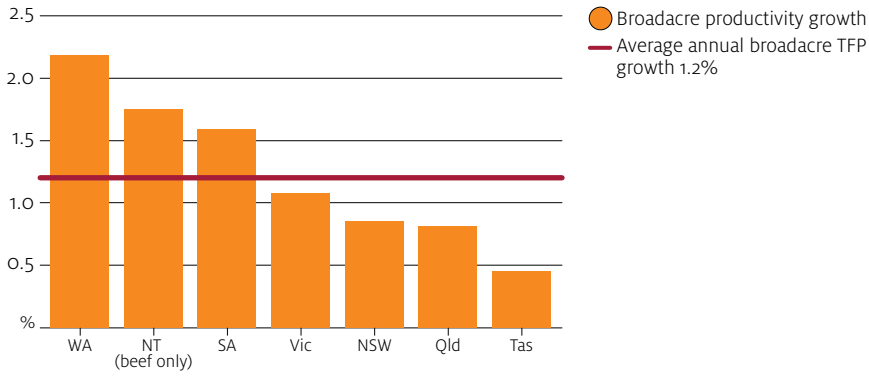
The gap between the productivity growth rates of the cropping and livestock industries is narrowing. More specifically, the rate of TFP growth of cropping specialists (and to a lesser extent, mixed crop–livestock farms) is slowing whereas the rate of TFP growth in the livestock industries has been increasing (Figure 4).

FIGURE 4 Broadacre total factor productivity growth, by industry, 1977–78 to 2009–10



Trends in broadacre productivity growth across the states and territories reflect differences in the structure of the broadacre industry in each jurisdiction, as well as differences in average farm size, natural resource endowments and climate. For example, Western Australia has achieved the highest broadacre TFP growth, reflecting the dominance of large, efficient, cropping enterprises (Figure 5).

FIGURE 5 Broadacre productivity growth, by state, 1977–78 to 2009–10



Cropping industry productivity

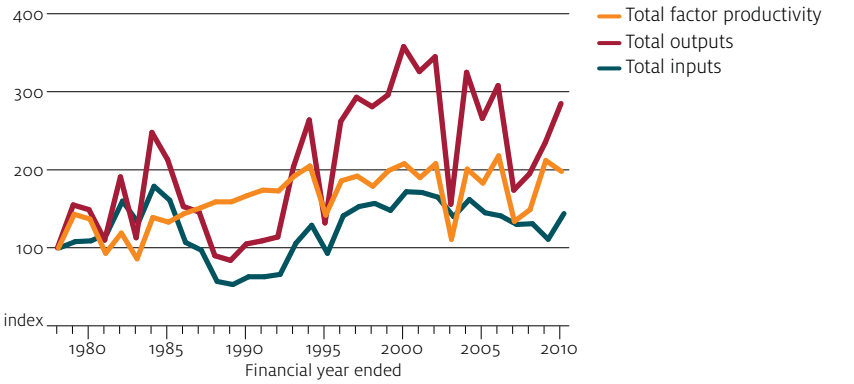
The cropping industry has grown strongly over the 33 years from 1977–78 to 2009–10 (Figure 6). Notwithstanding periods of extreme volatility, total output from specialist cropping farms has, on average, grown at around 2.8 per cent a year over this period (Table 1). Relatively strong input growth (1.2 per cent a year) and TFP growth (1.6 per cent a year) contributed to expanding production between 1977–78 and 2009–10.

The growth in aggregate input use in the cropping industry since the 1990s has largely stemmed from growth in material inputs, such as fertiliser, fuel, crop chemicals and seed (Table 1). Greater understanding of cropping systems, including plant physiology and the determinants of soil fertility, has resulted in increasing use of crop chemicals and fertilisers (especially nitrogen and soil ameliorants such as lime and gypsum).

Technical change, through growers' adoption of new technologies and management practices, has been the main driver of long-run productivity growth of cropping specialists (Hughes et al. 2011). However, the rate of technical change, and in turn productivity growth among cropping specialists, has slowed during the past decade (Figure 6). Recent ABARES research has found that poorer climate conditions post-2000 have had a significant effect on the cropping industry, reducing the output of cropping specialists by 13 per cent post-2000, relative to output for the period 1977–78 to 1999–2000 (Hughes et al. 2011).

Even after controlling for deteriorating climatic conditions, a slowdown in productivity growth remains evident among cropping specialists (Hughes et al. 2011; Sheng et al. 2011b). While diminished public R&D intensity is likely to have played a role, other factors are also likely to be involved. For example, Stephens et al. (2011) report that, in the four southern mainland states, the high-input high-yield cropping systems of the 1980s and 1990s were vulnerable to the drier and more variable climate in the 2000s.

FIGURE 6 Trends in cropping specialists total factor productivity, total inputs and total outputs 1977–78 to 2009–10



Productivity growth rates differ across the three agroecological regions defined by the Grains Research and Development Corporation (GRDC 2011). Cropping specialists in the western region have, on average, achieved the highest annual TFP growth rates (2 per cent), compared with cropping specialists in the northern (1.7 per cent) and southern (1.5 per cent) regions (Table 2). The agroecological regions reflect differences in average climate, soil fertility water holding properties, and geography which, among other factors, bear on farmers' capacities to improve their production systems. For example, the southern region is more sensitive to climate variability than the western and northern regions, such that climate conditions post-2000 explain most of the observed decline in productivity in that region in recent years (Hughes et al. 2011).

TABLE 2 Average annual cropping total factor productivity growth, by region, 1977–78 to 2009–10 (%)

	Productivity growth	Output growth	Input growth
All cropping specialists	1.6	2.8	1.2
Western region	2.0	4.3	2.3
Northern region	1.7	1.3	–0.4
Southern region	1.5	3.1	1.6

Note: All cropping specialists also include cropping specialists from outside the Grains Research and Development Corporation agroecological regions

Livestock industry productivity

Livestock industries have continued to lift their productivity, although productivity growth remains at a lower rate than the cropping industry (Table 3 and Table 4).

Several factors contributed to improvements in beef industry productivity over the past 30 years. Genetic improvement of the beef herd, and improved pasture, herd and disease management have reduced mortalities and increased branding rates (calves marked as a percentage of cows mated) (ABARE 2006).

TABLE 3 Average annual beef total factor productivity growth, by region, 1977–78 to 2009–10 (%)

	Productivity growth	Output growth	Input growth
All beef	1.4	1.5	0.1
Northern region	1.3	1.2	–0.1
Southern region	1.0	1.5	0.5

TABLE 4 Average annual sheep total factor productivity growth, by region, 1977–78 to 2009–10 (%)

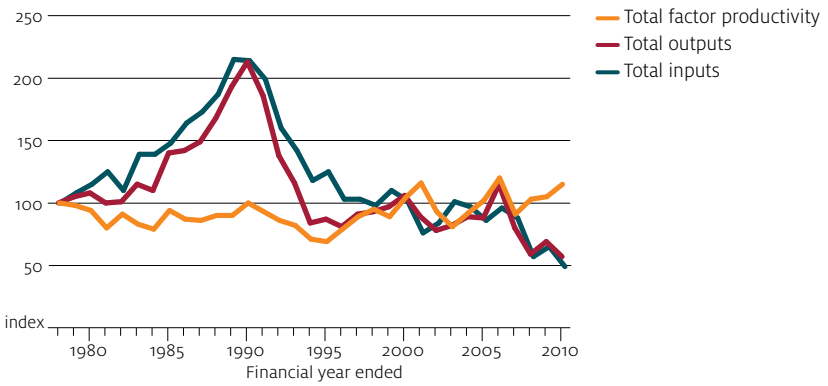
	Productivity growth	Output growth	Input growth
All sheep	0.5	–1.9	–2.4
Pastoral zone	0.5	–1.5	–2.0
Wheat–sheep zone	1.0	–0.8	–1.8
High-rainfall zone	0.4	–2.9	–3.3

Long-run TFP growth in the northern region (1.3 per cent a year) has exceeded that in the southern region (1 per cent a year) (Table 3) (See Map 1 in Thompson & Martin 2011). In the northern region, the brucellosis and tuberculosis eradication campaigns of the 1980s led to improvements in cattle management systems, including improved grazing and land management practices and better mustering techniques. In addition, expansion of the feedlot sector and the live export trade led to a shift in herd structure, to a higher proportion of Bos indicus breeds and more breeder operations, to increase turn-off of smaller and younger cattle for the live export market (Gleeson et al. 2003; Martin et al. 2007). Between 1977–78 and 2009–10, these management changes improved productivity, with increased branding rates (from 61 per cent to over 70 per cent) and reduced death rates (from around 8 per cent to around 2 per cent).

Although better pasture and herd management practices have resulted in improved productivity in the southern beef industry, the generally smaller scale of operations may have constrained productivity growth. In addition, drought greatly affected properties in the southern region in recent years.

In the sheep industry the low average annual rate of TFP growth between 1977–78 and 2009–10 (0.5 percent) obscures consolidation and subsequent gains achieved by the industry since the partial recovery following the collapse of the Wool Reserve Price Scheme in 1991 (Figure 7). Changes in the composition of the sheep flock and land management practices delivered significant productivity growth. In particular, the strong shift to prime lamb production, characterised by a higher proportion of ewes in flocks and use of non-merino rams (leading to a higher incidence of twinning) have been important developments. In addition, increased use of improved pasture species and fodder crops has improved ewe fertility and reduced lamb mortality, leading to higher lamb turn-off rates and to higher average slaughter weights (ABARE 2007).

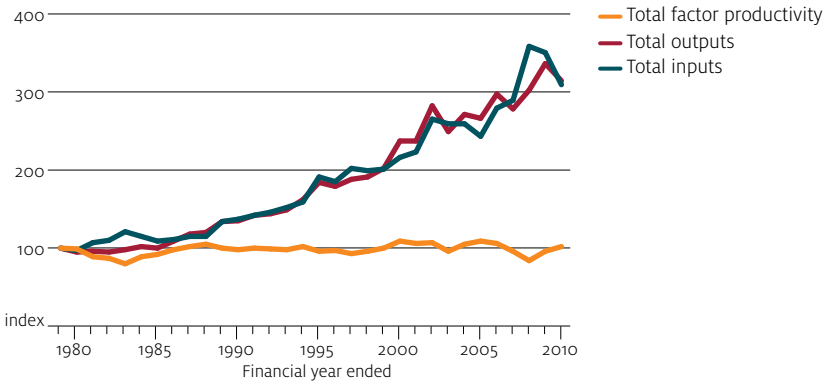
FIGURE 7 Trends in sheep specialists total factor productivity, total inputs and total outputs, 1977–78 to 2009–10



Dairy productivity growth

Between 1978–79 and 2009–10, TFP growth in the dairy industry averaged 0.3 per cent a year. In contrast to broadacre industries, growth in total input use (4.2 per cent a year) and total outputs (4.5 per cent a year) was substantially higher (Figure 8).

FIGURE 8 Trends in dairy total factor productivity, total inputs and total outputs 1978–79 to 2009–10



In recent decades, dairy farmers have responded to adjustment pressures by increasing the size and intensity of their production systems. Since 1990, milk production per farm increased by around 5.5 per cent a year, due to larger herds and higher stocking rates (ABARES 2011). Improved milking shed design and equipment, genetics, soil and feed testing, artificial insemination and mastitis control programs have also played a role (Mackinnon et al. 2010).

However, it is clear that output growth has largely been driven by growth in inputs, particularly fodder and fertiliser (Table 5). Dairy farmers have made significant changes to maintain and improve their production capacity through greater use of supplementary feeding and improved pastures and fodder crops (Harris 2005; Mackinnon et al. 2010). This has especially been the case in drier years, where low or zero water allocations have necessitated dairy farmers substituting purchased fodder for on-farm feed supplies. For example, the quantity of grains and concentrates used per cow doubled between 1991–92 and 2006–07, from 0.9 tonnes to 1.8 tonnes (Ashton & Mackinnon 2008).

TABLE 5 Growth in average annual dairy industry partial factor productivity and input use, 1978–79 to 2009–10 (%)

	PFP	Input use
Land	2.6	1.9
Labour	3.6	0.9
Capital	3.5	1.0
Materials	–4.0	8.5
Services	0.4	4.1

Potential policy responses

Governments have a strong interest in promoting productivity growth in all industry sectors because it is the dominant mechanism by which material living standards in an economy are improved in the long term. Growth in labour force participation, capital investment and improvements in the terms of trade will also contribute to growth in per person income. However, in an economy facing resource constraints, clearly evident in agriculture, productivity growth is the only way to grow aggregate income (Productivity Commission 2008).

Beyond the farm sector per se, agricultural productivity growth has implications for the performance of the economy as a whole, including:

- higher wages, capital returns and profits
- larger tax revenue
- resources that can be released for use elsewhere
- lower prices for consumers
- greater environmental benefits to the extent that farmers use resources such as land, water and chemicals more efficiently (Productivity Commission 2005, 2008).

Evidence of a slowdown in productivity growth in some agricultural industries is cause for concern, not least because productivity growth is also an important element of the solution to the challenges currently facing the agricultural sector, including climate change, declining terms of trade and increasing pressure on the natural resource base. Given limitations to the availability of land, water and other resources, the extent to which the sector responds to these challenges, as well as to the opportunities presented by rising global incomes and population growth, will depend largely on increases in productivity.

Through the Council of Australian Governments' Primary Industries Ministerial Council, governments have maintained their commitment to enhancing agricultural productivity. The Primary Industries Ministerial Council seeks to develop and

promote sustainable, innovative and profitable agriculture that would not otherwise be possible because of the limitations imposed by the division of constitutional powers within the Federation of Australia.

This paper concludes by considering opportunities for governments (and industry) to promote productivity through:

- investing in R&D and extension
- building the knowledge and skills of farmers
- facilitating structural adjustment
- reducing regulatory burdens.

Investing in R&D and extension

Public investment in R&D and extension is an effective lever for governments to promote agricultural productivity growth. Many of the technologies and management practices that have driven agricultural productivity growth are the outputs of public investments in R&D, their adoption being accelerated through extension programs. Past investment in R&D and extension by Australian governments has accounted for nearly one-third of annual productivity growth in broadacre agriculture over the past 50 years or so—equivalent to average TFP growth of 0.6 per cent a year (Sheng et al. 2011a).

Notwithstanding a wide spectrum of potential opportunities, the extent to which governments should increase expenditure on R&D and extension has been subject to considerable discussion over many decades (Industries Assistance Commission 1976; Productivity Commission 2011b). Key considerations have included the nature, magnitude and distribution of benefits likely to accrue to society as a whole, and the likelihood of them being realised without government involvement. Although a satisfactory method of determining the optimal level of public R&D and extension has thus far proved elusive, improving the efficiency of the R&D and extension system remains an important goal.

In essence, an efficient system attempts to maximise the payoffs to public investments while minimising the transaction costs across multiple R&D and extension providers and jurisdictions. At an aggregate level, this also requires finding the optimal balance in allocating scarce funds between R&D that generates maximum payoffs over the longer run and extension that brings forward farmers' adoption of currently available innovations. Governments and industry stakeholders are continuing to explore avenues for improving the R&D and extension system's efficiency—a first step being to improve the quality of data necessary to measure its performance.

Building farmers' knowledge and skills

Farmer educational attainment recurs as a factor that has a positive and significant impact on productivity growth (Kokic et al. 2006; Nossal & Lim 2011; Zhao et al. 2009). As well as being directly related to productivity growth, broadly speaking, education positively contributes to farmers' innovativeness, in terms of the number of new practices or technologies implemented by farm businesses that they are likely to continue using. Nossal and Lim (2011) found that grain growers with tertiary qualifications were more likely to be high innovators compared with those with secondary school education.

To the extent these findings apply to established farmers, there may be scope for them to improve their productivity by continuing formal education and training. As agricultural systems become more complex, farmers need more advanced skills to better manage risks and to locate and apply new technologies and management practices. Given constraints on farmers' time and travel, advanced communication technologies may increase their access to more flexible learning opportunities.

Facilitating structural adjustment

Over time, structural adjustment can contribute to industry productivity growth. Exits by less efficient farm businesses releases resources for use by more efficient farms, which are able to expand and increase productivity, by realising economies of size and implementing new technologies and management practices. For example, between 1989–90 and 2009–10, milk production increased by around 50 per cent, even though the number of farms halved.

Although structural adjustment has long been a typical feature of agricultural industries, its pace may vary in response to policy settings. While rising productivity served to counter the persistent downward pressures on farm incomes, governments have, over many decades, provided assistance to mitigate these pressures. However, much of this has not been of great help to the low income marginal farmer, but has tended to inhibit desirable productivity growth within agriculture (Musgrave 1977; Productivity Commission 2009).

Some policy settings can impede structural adjustment insofar as they diminish incentives to pursue efficiency gains, improve risk management or exit farming. Assistance provided to farm businesses during drought can lead to less efficient farmers delaying decisions to leave farming, by creating an expectation that governments will financially support their businesses during drought. Farm support can also constrain more efficient farmers' wanting to expand their scale of operations if it becomes capitalised into, and thus raises, land values.

Reducing regulatory burdens

Governments use a range of regulatory arrangements to achieve various efficiency or equity objectives on behalf of the broader community. Although some regulations benefit farmers, other regulations, which are unnecessarily burdensome, complex or redundant, can constrain productivity growth and impose heavy costs on farm businesses. This might occur where regulations:

- limit opportunities for farmers to employ innovative or lower cost approaches to meet the intended outcomes of the regulation
- discourage innovation if compliance burdens associated with some regulations create a disincentive for farmers to implement innovations
- reduce the value of farmers' property rights or constrain land-use options (Productivity Commission 2007, 2011a).

Where an existing regulatory approach is appropriate, more flexible settings can, in some cases, enable farmers to improve productivity and to meet broader community objectives in ways that minimise costs to society as a whole. This is especially relevant where society expects farmers to perform dual roles; as providers of food and fibre, as well as ecosystem services. For example, more flexible approaches to managing native vegetation on farmland may provide a given level of ecosystem services at lower cost (Davidson et al. 2006).

In 2007, the Productivity Commission reviewed regulatory burdens on businesses in the primary industries, finding that governments impose a heavy burden of regulation on farm businesses (Productivity Commission 2007). While the review identified a range of reforms that would reduce regulatory burdens on farm businesses, the extent to which these gains have been realised is not clear. Consequently, the need to review regulations affecting farm businesses, to ensure previously identified reforms have occurred and to determine whether there may be better, less costly approaches to achieve policy objectives is ongoing.

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Statistical tables

Figures

Tables

FIGURE 1 Contribution to GDP Australia, chain volume measures, reference year 2009–10

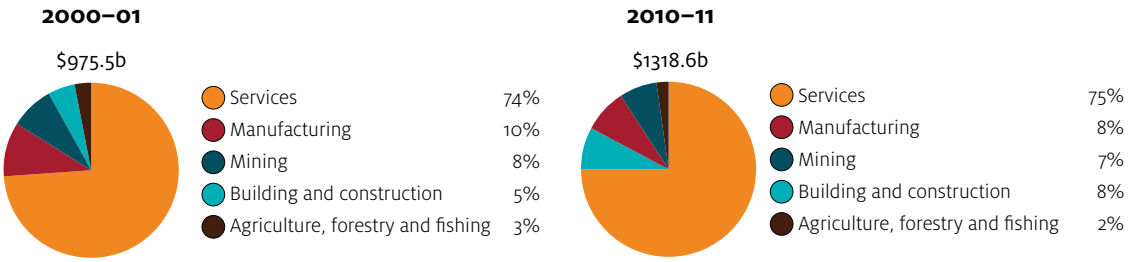

FIGURE 2 Markets for Australian merchandise exports in 2010–11 dollars

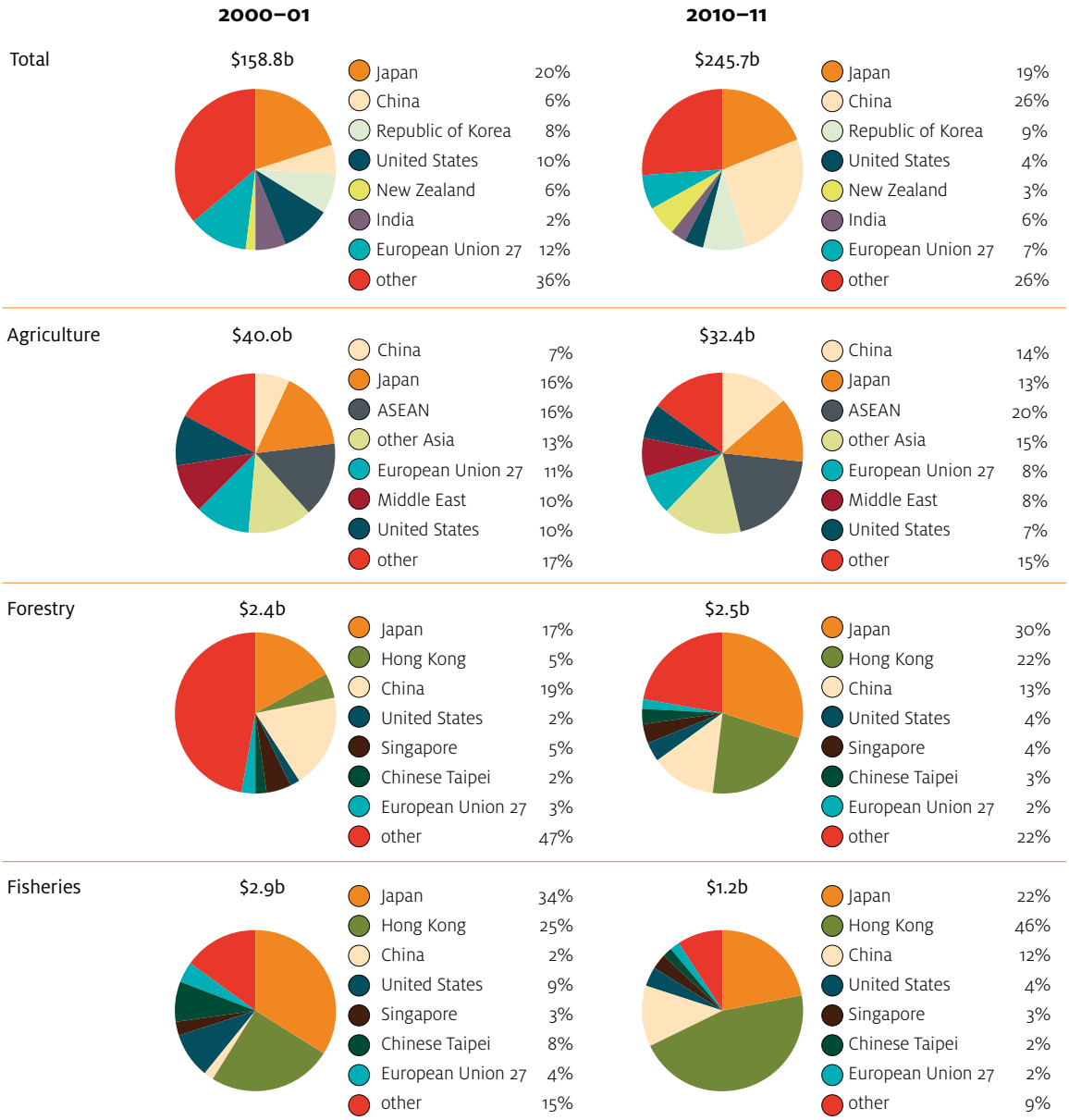

FIGURE 3 Sources of Australian merchandise imports in 2010–11 dollars

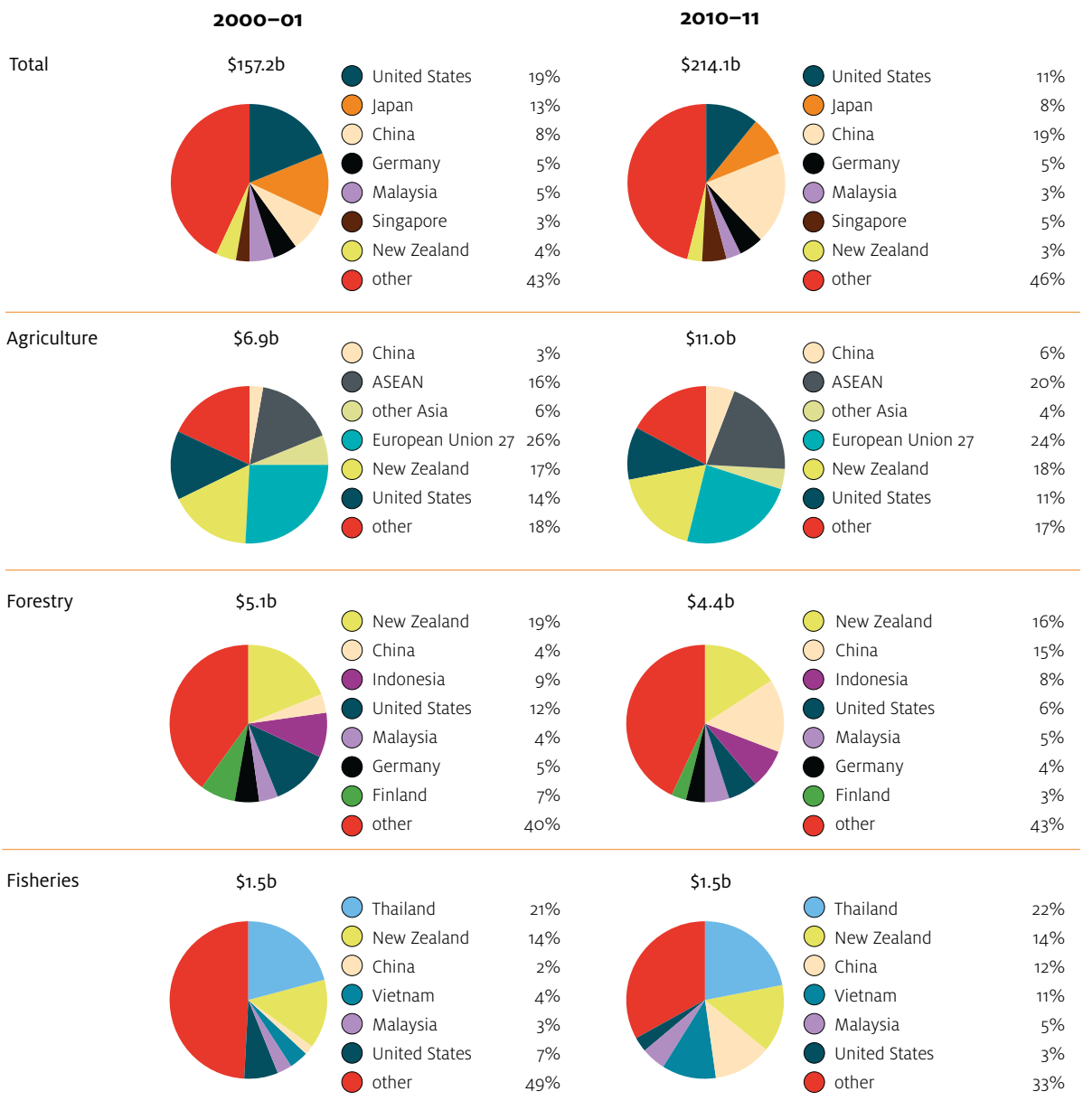

FIGURE 4 Principal markets for Australian agricultural, forestry and fisheries exports (nominal)

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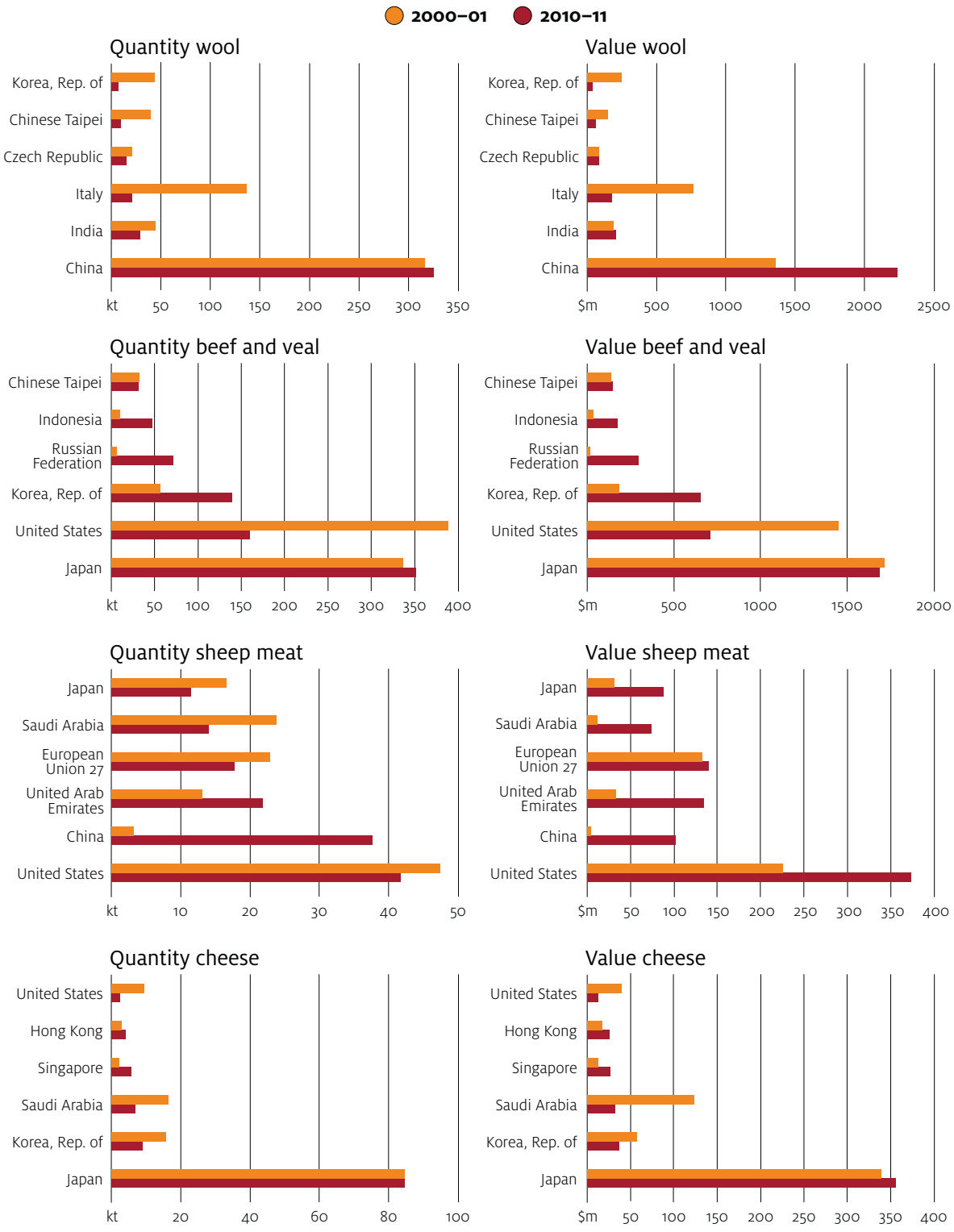


FIGURE 4 Principal markets for Australian agricultural, forestry and fisheries exports (nominal)

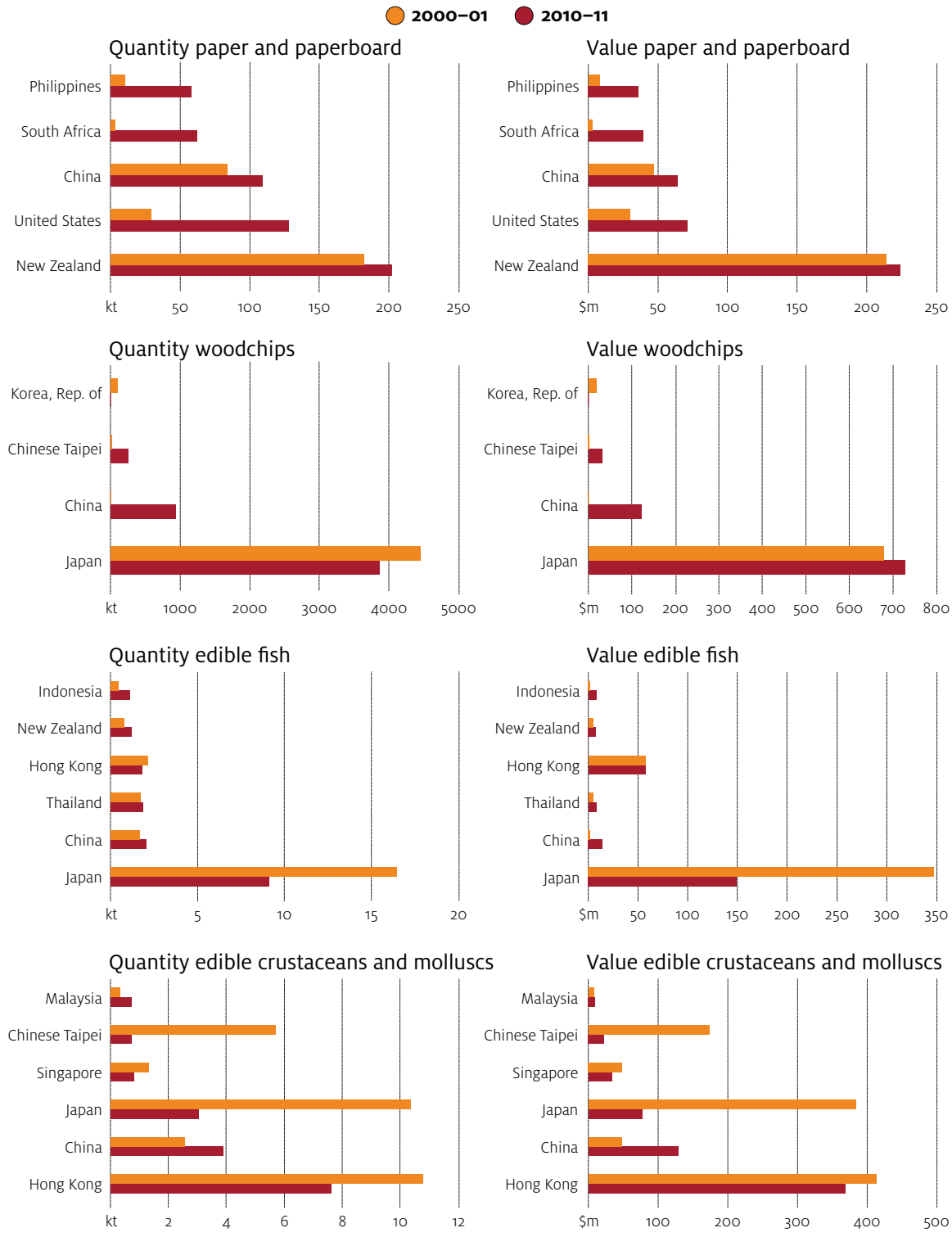


TABLE 1 Indexes of prices received by farmers Australia

	2007–08	2008–09	2009–10	2010–11 s	2011–12 f	2012–13 f
Crops sector						
Grains						
Winter crops						
barley	196.9	145.3	108.3	129.8	115.7	116.8
canola	140.7	142.2	113.4	141.0	120.3	110.4
lupins	171.0	142.9	127.0	137.1	95.8	101.0
oats	136.9	158.3	116.9	139.9	141.1	133.6
wheat	197.2	142.1	110.4	138.0	129.4	128.6
Summer crops						
grain sorghum	152.4	121.3	115.9	128.2	114.0	120.5
Total grains **a**	178.3	137.4	108.3	130.5	120.5	118.3
Cotton	87.7	96.7	98.4	144.2	111.5	109.1
Sugar	80.6	98.3	137.8	128.0	136.9	115.2
Hay	254.6	219.0	181.5	151.1	128.4	109.2
Fruit	148.4	148.2	146.6	181.8	186.4	191.0
Vegetables	153.7	152.9	150.4	167.3	171.5	175.8
Total crops sector	138.0	120.2	108.8	127.4	120.4	119.3
Livestock sector						
Livestock for slaughter						
cattle	164.6	171.3	160.0	174.5	178.3	175.5
lambs **b**	170.3	204.3	218.7	255.4	262.4	264.8
sheep	183.3	216.8	343.3	438.0	436.4	447.6
live sheep for export	180.7	214.2	249.3	305.7	348.1	358.8
pigs	120.7	140.1	147.1	130.3	135.4	133.0
poultry	109.4	120.0	114.1	109.9	112.3	109.7
total	152.7	165.5	163.7	175.9	180.4	178.7
Livestock products						
wool	127.9	109.2	116.0	158.4	165.9	152.1
milk	166.1	142.3	125.2	144.7	137.2	132.5
eggs	107.5	108.5	105.5	104.2	105.2	106.3
total	147.0	127.5	120.0	144.6	143.2	136.2
Store and breeding stock	153.8	161.2	168.4	195.5	206.4	205.0
Total livestock sector	148.2	149.2	145.7	163.2	165.7	162.0
Total prices received	141.7	132.5	124.6	142.8	139.7	137.5

a Total for the group includes commodities not separately listed. **b** Lamb saleyard indicator weight 18–22 kg. **f** ABARES forecast. **s** ABARES estimate.

Notes: ABARE revised the method for calculating these indexes in October 1999. The indexes for commodity groups are calculated on a chained weight basis using Fisher's ideal index with a reference year of 1997–98 = 100. Indexes for most individual commodities are based on annual gross unit value of production. Prices used in these calculations exclude GST.

Source: ABARES

TABLE 2 Indexes of prices paid by farmers, and terms of trade Australia

	2007–08	2008–09	2009–10	2010–11 s	2011–12 f	2012–13 f
Farmers' terms of trade a	91.4	88.9	88.6	98.5	94.7	92.4
Materials and services						
Seed, fodder and livestock						
fodder and feedstuffs	195.3	167.9	145.5	120.8	115.0	114.6
seed, seedlings and plants	135.0	120.6	109.2	122.1	119.2	119.8
store and breeding stock	153.8	161.2	168.4	195.5	206.4	205.0
total	178.0	161.7	146.7	138.2	136.7	136.2
Chemicals	149.7	136.7	116.2	110.4	113.1	115.5
Electricity	111.3	121.4	142.0	158.8	174.7	179.5
Fertiliser	220.4	239.6	156.0	157.3	161.3	164.6
Fuel and lubricants	243.7	211.0	191.7	211.3	226.5	207.9
Total	170.8	164.2	146.3	146.2	149.4	149.6
Labour	138.0	142.6	147.3	151.8	156.2	160.5
Marketing	143.2	137.1	133.9	144.7	154.2	151.8
Overheads						
Insurance	143.5	155.6	167.0	180.4	189.4	194.7
Interest paid	142.6	116.7	111.1	122.3	114.8	116.7
Rates and taxes	137.3	141.6	144.8	149.3	153.6	157.9
Other overheads	132.8	137.1	140.5	144.8	149.0	153.1
Total	141.8	126.6	124.3	133.9	130.2	132.8
Capital items	136.8	141.1	144.7	149.3	153.7	158.2
Total prices paid	155.1	149.0	140.7	144.9	147.4	148.8
Excluding capital items	157.3	150.0	140.3	144.5	146.8	147.8
Excluding capital and overheads	161.7	156.9	144.8	147.2	151.4	151.9
Excluding seed, fodder and store and breeding stock	150.3	146.4	139.4	146.3	149.6	151.4

a Ratio of index of prices received by farmers and index of prices paid by farmers. **f** ABARES forecast. **s** ABARES estimate.

Notes: ABARE revised the method for calculating these indexes in October 1999. The indexes for commodity groups are calculated on a chained weight basis using Fisher's ideal index with a reference year of 1997–98 = 100. Prices used in these calculations exclude GST.

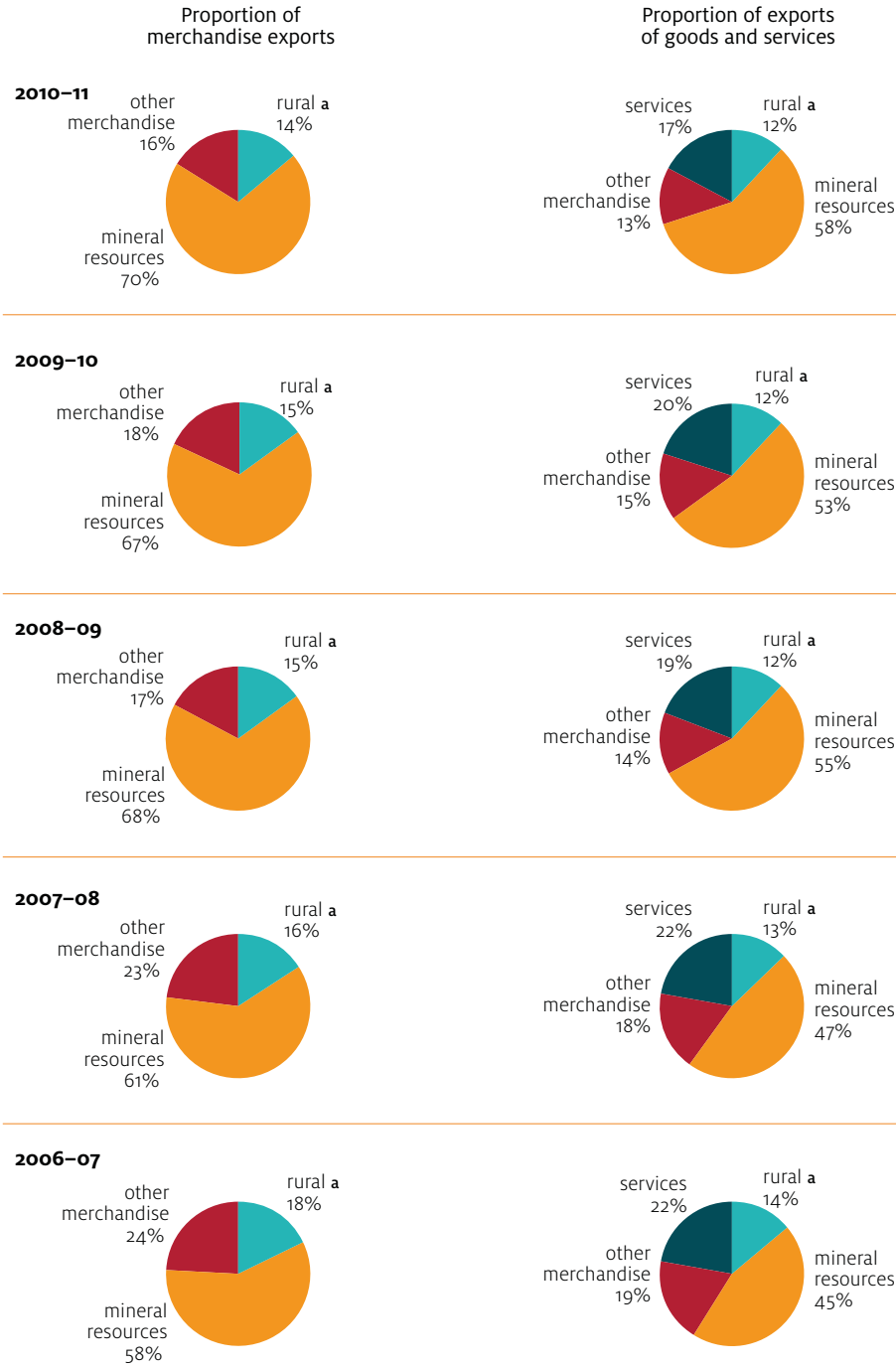
Sources: ABARES; Australian Bureau of Statistics

TABLE 3 Farm costs and returns Australia

	unit	2007–08	2008–09	2009–10	2010–11 s	2011–12 f	2012–13 f
Costs							
Materials and services							
chemicals	$m	1 901	1 792	1 505	1 454	1 481	1 510
fertiliser	$m	3 034	3 381	2 153	2 245	2 319	2 388
fuel and lubricants	$m	2 551	2 243	1 972	2 258	2 445	2 266
marketing	$m	3 180	3 733	3 815	3 842	3 974	3 953
repairs and maintenance	$m	3 073	3 080	3 004	3 801	4 025	4 158
seed and fodder	$m	6 177	5 263	4 536	4 236	4 154	4 246
other	$m	3 659	3 829	3 968	4 307	4 479	4 637
total	$m	23 575	23 320	20 953	22 142	22 877	23 158
Labour	$m	3 667	3 827	3 789	4 170	4 289	4 538
Overheads							
interest paid	$m	4 901	4 331	4 455	5 023	4 836	5 160
rent and third party insurance	$m	462	477	493	513	528	542
Total	$m	9 030	8 634	8 736	9 705	9 653	10 240
Total cash costs	$m	32 605	31 955	29 689	31 847	32 530	33 399
Depreciation **a**	$m	4 532	4 676	4 794	4 945	5 093	5 241
Total farm costs	$m	37 137	36 631	34 483	36 793	37 623	38 639
Returns							
Gross value of farm production	$m	43 752	41 918	39 656	48 162	49 040	48 741
Net returns and production							
Net value of farm production **b**	$m	6 615	5 287	5 173	11 370	11 417	10 102
Real net value of farm production **c**	$m	7 404	5 738	5 486	11 695	11 417	9 828
Net farm cash income **d**	$m	10 834	5 854	9 967	16 315	16 510	15 342
Real net farm cash income **c**	$m	12 125	6 353	10 570	16 782	16 510	14 926

a Based on estimated movements in capital expenditure and prices of capital inputs. **b** Gross value of farm production less total farm costs. **c** In 2011–12 Australian dollars. **d** Gross farm cash income less total cash costs. **f** ABARES forecast. **s** ABARES estimate.
Note: Prices used in these calculations exclude GST.
Sources: ABARES; Australian Bureau of Statistics

FIGURE 5 Contribution to exports by sector, balance of payments basis Australia



a ABARES rural balance of payments: adjusted to include farm, fisheries and forestry products classified as other merchandise by ABS.
Sources: ABARES; Australian Bureau of Statistics

TABLE 4 Volume of production indexes Australia

	2007–08	2008–09	2009–10	2010–11 s	2011–12 f	2012–13 f
Farm						
Grains and oilseeds	88.0	116.2	116.7	143.1	155.0	142.8
Total crops	103.9	113.4	114.3	126.3	136.0	134.0
Livestock slaughterings	113.4	112.1	109.5	110.6	109.9	114.4
Total livestock	102.3	100.8	98.8	100.6	100.9	104.5
Total farm sector	103.9	108.2	107.6	114.3	119.2	120.1
Forestry a						
Broadleaved	130.1	120.8	108.2	107.2	113.7	121.5
Coniferous	136.3	117.5	127.4	129.1	130.1	132.4
Total forestry	133.3	119.5	118.7	119.1	122.7	127.7

a Volume of logs harvested excluding firewood. **f** ABARES forecast. **s** ABARES estimate.
Note: ABARE revised the method for calculating production indexes in October 1999. The indexes for the different groups of commodities are calculated on a chained weight basis using Fisher's ideal index with a reference year of 1997–98 = 100.
Sources: ABARES; Australian Bureau of Statistics

TABLE 5 Industry gross value added a, b Australia

	unit	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
Agriculture, forestry and fishing							
agriculture	$m	23 203	18 993	20 572	24 634	24 265	26 567
forestry and fishing	$m	4 194	4 131	4 175	4 478	4 499	4 875
total	$m	27 302	23 139	24 743	29 109	28 764	31 443
Mining	$m	79 688	86 446	88 193	90 507	96 104	95 548
Manufacturing							
food, beverage and alcohol	$m	22 928	23 160	23 127	22 404	23 953	23 576
textile, clothing, footwear and leather	$m	9 348	9 262	9 695	8 688	7 150	6 647
wood and paper products	$m	8 645	8 400	8 071	7 457	7 736	7 567
printing, publishing and recorded media	$m	5 002	5 048	5 174	4 268	4 088	4 101
petroleum, coal, chemical products	$m	18 994	18 652	19 114	17 200	17 807	17 907
non-metallic mineral products	$m	5 547	5 673	5 926	5 890	5 783	5 608
metal products	$m	18 562	20 408	22 719	21 993	21 310	22 673
machinery and equipment	$m	19 279	19 257	19 884	18 760	19 881	19 552
total	$m	106 646	108 703	113 062	106 363	107 707	107 633
Building and construction	$m	82 078	86 469	92 517	95 291	95 804	101 480
Electricity, gas and water supply	$m	26 546	26 798	26 866	27 894	28 623	28 893
Taxes less subsidies on products	$m	87 446	89 888	91 668	90 826	90 334	90 986
Statistical discrepancy	$m	0	– 1	0	0	0	–3 658
Gross domestic product	$m	1157 783	1 201 562	1 246 899	1 263 935	1 293 379	1 318 554

a Chain volume measures, reference year is 2009–10. **b** ANZSIC 2006. 0 is used to denote nil or less than $0.5 million.
Source: Australian Bureau of Statistics, *Australian National Accounts: National Income, Expenditure and Product*, cat. no. 5206.0, Canberra

TABLE 6 Employment [a, b] Australia

	2005–06 '000	2006–07 '000	2007–08 '000	2008–09 '000	2009–10 '000	2010–11 '000
Agriculture, forestry and fishing						
agriculture	300	306	302	322	325	307
forestry and logging	8	8	8	8	7	6
commercial fishing [c]	12	10	14	9	11	12
support services	27	26	30	24	26	27
total	348	350	354	362	369	351
Mining	129	135	146	170	173	205
Manufacturing						
food, beverages and tobacco	205	214	229	226	228	229
textiles, clothing, footwear and leather	56	50	50	48	46	45
wood and paper product	77	78	69	67	64	57
printing, publishing and recorded media	52	51	54	51	52	56
petroleum, coal and chemical product	88	92	98	90	88	85
non-metallic mineral product	38	36	42	40	37	37
metal product	161	161	159	157	147	147
other manufacturing	347	342	359	348	343	336
total	1 025	1 024	1 060	1 028	1 006	992
Other industries	8 587	8 864	9 124	9 332	9 479	9 806
Total	10 088	10 374	10 684	10 892	11 027	11 355

a Average employment over four quarters. **b** ANZSIC 2006. Caution should be used when utilising employment statistics at the ANZSIC subdivision and group levels due to estimates that may be subject to sampling variability and standard errors too high for most practical purposes. **c** Includes aquaculture, fishing, hunting and trapping.
Source: Australian Bureau of Statistics, *Labour Force, Australia,* cat. no. 6291.0, Canberra

TABLE 7 All banks lending to business [a] Australia

	2009–10			2010–11				2011–12
	Dec $b	Mar $b	Jun $b	Sep $b	Dec $b	Mar $b	Jun $b	Sep $b
Agriculture, fishing and forestry	58.4	57.8	59.1	58.7	58.8	58.6	60.4	60.5
Mining	13.9	14.1	12.1	11.3	11.2	11.0	12.1	13.2
Manufacturing	40.6	40.8	39.2	38.6	38.2	40.1	39.9	42.1
Construction	29.7	29.3	28.2	28.3	28.2	28.7	28.4	27.7
Wholesale and retail trade, transport and storage	91.9	91.9	90.5	89.3	92.0	92.6	92.5	95.2
Finance and insurance	131.9	126.2	133.0	132.0	125.0	121.2	114.8	120.1
Other	308.4	305.3	307.3	306.6	303.9	309.0	307.1	306.4
Total	674.8	665.4	669.3	664.7	657.2	661.2	655.2	665.2

a Includes variable and fixed interest rate loans outstanding plus bank bills outstanding.
Source: Reserve Bank of Australia, *Bank Lending to Business – Selected Statistics,* Bulletin Statistical Table D8

TABLE 8 Rural indebtedness to financial institutions a Australia

	2005–06 $m	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m
Rural debt						
All banks **a**	43 546	47 188	53 743	57 384	59 064	60 362
Other government agencies **b**	1 073	1 286	1 409	1 620	1 812	1 871
Pastoral and other finance companies	3 454	4 592	5 126	4 462	2 029	2 010
Large finance institutional debt **c**	48 073	53 066	60 278	63 467	62 905	64 243
Deposits						
Farm management deposits	2 797	2 782	2 879	2 843	2 784	3 216

a Derived from all banks lending to agriculture, fishing and forestry. **b** Includes the government agency business of state banks and advances made under War Service Land Settlement. Prior to 1996, includes loans from the Queensland Industry Development Corporation. From 1996 these loans are included in bank lending. **c** Sum of the above.
Sources: ABARES; Department of Agriculture, Fisheries and Forestry; Reserve Bank of Australia, *Estimated Rural Debt to Specified Lenders*, Bulletin Statistical Table D9

TABLE 9 Annual world indicator prices of selected commodities

	unit	2007–08	2008–09	2009–10	2010–11 s	2011–12 f	2012–13 f
World							
Crops							
Wheat **a**	US$/t	362	271	209	317	295	275
Corn **b**	US$/t	218	173	163	277	276	258
Rice **c**	US$/t	551	609	532	518	615	550
Soybeans **d**	US$/t	549	421	429	560	535	495
Cotton **e**	USc/lb	72.9	61.2	77.5	164.3	103.0	93.2
Sugar **g**	USc/lb	11.7	14.9	21.0	27.7	21.5	17.8
Livestock products							
Beef **h**	USc/kg	294	307	319	391	420	430
Wool **i**	Ac/kg	945	794	872	1 132	1 180	1 085
Butter **j**	US$/t	4 027	2 485	3 477	4 683	4 070	3 850
Cheese **j**	US$/t	5 073	3 281	3 748	4 221	4 340	4 200
Skim milk powder **j**	US$/t	4 204	2 333	2 948	3 392	3 350	3 300

a US hard red winter wheat, fob Gulf. **b** US no. 2 yellow corn, delivered US Gulf. **c** USDA nominal quote for Thai white rice, 100 per cent, Grade B, fob, Bangkok (August–July basis). **d** US cif Rotterdam (October–September basis). **e** Cotlook 'A' index. **f** ABARES forecast. **g** Nearby futures price (October–September basis), Intercontinental Exchange, NewYork No 11 contract. **h** US cif price. **i** Australian Wool Exchange eastern market indicator. **j** Average of traded prices (excluding subsidised sales). **s** ABARES estimate.
Sources: ABARES; Australian Bureau of Statistics; Australian Dairy Corporation; Meat & Livestock Australia; Australian Wool Exchange; Cotlook Ltd; Food and Agriculture Organization; General Agreement on Tariffs and Trade; International Grains Council; ISTA Mielke and Co.; New York Board of Trade; Reuters Ltd; United States Department of Agriculture; Intercontinental Exchange

TABLE 10 Gross unit values of farm products a

	unit	2007–08	2008–09	2009–10	2010–11	2011–12 f	2012–13 f
Crops b							
Grains and oilseeds							
Winter crops							
barley	$/t	313	231	172	207	184	186
canola	$/t	543	548	437	544	464	426
field peas	$/t	407	345	241	229	225	222
lupins	$/t	335	280	248	268	187	198
oats	$/t	281	216	160	191	193	183
triticale	$/t	252	257	220	219	177	165
wheat	$/t	390	281	218	273	256	254
Summer crops							
maize	$/t	258	283	268	295	258	250
rice	$/t	414	566	457	240	327	270
grain sorghum	$/t	258	205	196	217	193	204
soybeans c	$/t	554	551	551	706	666	630
sunflower seed c	$/t	814	696	696	765	712	605
Industrial crops							
Cotton lint d	c/kg	191	193	205	377	235	223
Sugar cane (cut for crushing)	$/t	26	32	44	38	41	36
Wine grapes	$/t	787	527	464	413	440	462
Livestock							
Beef cattle	c/kg	316	319	311	340	347	342
Lambs	c/kg	346	415	444	519	533	538
Pig	c/kg	239	299	291	258	268	263
Poultry	c/kg	196	215	204	197	201	197
Livestock products							
Wool	c/kg	503	430	456	623	653	598
Milk	c/L	49.6	42.5	37.4	43.2	41.0	39.6

a Average gross unit value across all grades in principal markets, unless otherwise indicated. Includes the cost of containers, commission and other expenses incurred in getting the commodities to their principal markets. These expenses are significant. **b** Average unit gross value relates to returns received from crops harvested in that year, regardless of when sales take place, unless otherwise indicated. **c** Price paid by crusher. **d** Australian base price for sales in the financial year indicated. **f** ABARES forecast **s** ABARES estimate.
Note: Prices used in these calculation exclude GST.
Sources: ABARES; Australian Bureau of Statistics

TABLE 11 World production, consumption, stocks and trade for selected commodities [a]

	unit	2007–08	2008–09	2009–10	2010–11 s	2011–12 f	2012–13 f
Farm							
Grains							
Wheat							
production	Mt	607	685	679	653	693	682
consumption	Mt	602	645	652	656	679	681
closing stocks	Mt	132	172	199	195	209	210
exports **b**	Mt	110	137	128	126	135	136
Coarse grains							
production	Mt	1 078	1 107	1 114	1 092	1 140	1 184
consumption	Mt	1 057	1 079	1 107	1 126	1 145	1 169
closing stocks	Mt	162	193	196	165	153	168
exports **b**	Mt	127	113	123	114	115	131
Rice							
production **c**	Mt	432	447	440	449	459	462
consumption **c**	Mt	429	436	437	448	458	459
closing stocks **c**	Mt	80	92	95	96	98	101
exports **bd**	Mt	29	29	31	33	33	34
Oilseeds and vegetable oils							
Oilseeds							
production	Mt	392	396	442	452	448	467
consumption	Mt	401	402	423	442	454	469
closing stocks	Mt	62	55	72	78	75	79
exports	Mt	93	94	111	106	109	115
Vegetable oils							
production	Mt	129	134	139	146	152	159
consumption	Mt	126	130	138	151	152	158
closing stocks	Mt	11	13	12	9	9	10
exports	Mt	54	56	57	59	63	63
Vegetable protein meals							
production	Mt	226	224	239	253	258	267
consumption	Mt	223	223	236	249	256	269
closing stocks	Mt	7	6	7	8	10	10
exports	Mt	72	69	69	76	75	77
Industrial crops							
Cotton							
production	Mt	26	23	22	25	27	26
consumption	Mt	27	24	26	25	24	25
closing stocks	Mt	13	13	10	9	13	13
exports	Mt	8	7	8	8	9	8
Sugar							
production	Mt	166	151	159	166	176	178
consumption	Mt	160	161	163	166	169	174
closing stocks	Mt	71	61	56	57	63	67
exports	Mt	48	48	53	52	50	53

Continued

TABLE 11 World production, consumption, stocks and trade for selected commodities a *continued*

	unit	2008–09	2009–10	2010–11 s	2011–12 f	2011–12 f	2012–13 f
Livestock products							
Meat **deg**							
production	Mt	265	267	268	274	276	280
consumption	Mt	245	247	253	271	274	278
closing stocks	Mt	2.6	2.3	2.5	3.0	2.7	3.0
exports **b**	Mt	28.0	23.3	24.2	25.0	23.6	24.9
Wool **h**							
production	kt	1 201	1 104	1 119	1 118	1 128	1 141
consumption **di**	kt	1 165	1 105	1 125	1 130	1 115	1 118
closing stocks **j**	kt	55	65	55	43	56	79
exports **k**	kt	553	484	501	507	477	490
Butter **dg**							
production	kt	7 872	8 039	8 155	8 535	8 724	8 900
consumption	kt	7 471	7 546	7 808	8 067	8 241	8 400
closing stocks	kt	250	281	180	186	187	205
exports	kt	707	807	745	758	787	800
Skim milk powder **gl**							
production **d**	kt	3 311	3 455	3 443	3 738	3 824	3 950
consumption **d**	kt	2 997	2 936	3 083	3 379	3 480	3 540
closing stocks **d**	kt	353	556	503	413	332	360
exports	kt	1 087	1 140	1 344	1 550	1 538	1 550

a Some figures are not based on precise or complete analyses. **b** Includes intra-EU trade. **c** Milled equivalent. **d** On a calendar year basis, e.g. 1991–92 = 1992. **e** Beef and veal, mutton, lamb, goat, pig and poultry meat. **f** ABARES forecast. **g** Selected countries. **h** Clean equivalent. **i** Virgin wool at the spinning stage in 65 countries. **j** Held by marketing bodies and on-farm in five major exporting countries. **k** Five major exporting countries. **l** Non-fat dry milk. **s** ABARES estimate.

Sources: ABARES; Argentine Wool Federation; Australian Bureau of Statistics; Capewools South Africa; Commodities Research Unit; Commonwealth Secretariat; Department of Agriculture, Fisheries and Forestry; Economic Commission for Europe; Fearnleys; Food and Agriculture Organization; International Grains Council; International Sugar Organization; ISTA Mielke and Co.; Meat & Livestock Australia; Ministry of Agriculture, Forestry and Fisheries (Japan); New Zealand Dairy Board; New Zealand Wool Board; Poimena Analysis, Beef + Lamb New Zealand; Uruguayan Association of Wool Exporters; United States Department of Agriculture

TABLE 12 Agricultural, fisheries and forestry commodity production Australia

	unit	2007–08	2008–09	2009–10	2010–11 s	2011–12 f	2012–13 f
Crops							
Grains and oilseeds							
Winter crops							
barley	kt	7 160	7 997	7 865	8 145	8 572	9 010
canola	kt	1 214	1 844	1 920	2 382	2 775	2 925
chickpeas	kt	313	443	487	379	485	307
field peas	kt	268	238	356	434	304	310
lupins	kt	662	708	823	841	901	702
oats	kt	1 502	1 160	1 162	1 142	1 734	1 717
triticale	kt	450	363	545	685	580	599
wheat	kt	13 569	21 420	21 834	27 891	29 515	25 675
Summer crops							
cottonseed s	kt	188	466	547	1 269	1 527	1 520
maize	kt	387	376	328	351	422	333
rice	kt	18	61	197	726	923	991
grain sorghum	kt	3 790	2 692	1 508	2 068	2 331	2 210
soybeans	kt	35	80	60	47	71	87
sunflower seed	kt	73	55	41	44	47	50
other oilseeds a	kt	56	34	41	40	38	38
Total grains and oilseeds	kt	29 683	37 935	37 713	46 444	50 225	46 474
Industrial crops							
Cotton lint	kt	133	329	387	898	1 080	1 075
Sugar cane (cut for crushing)	kt	32 621	31 457	31 235	27 443	27 658	30 887
Sugar (tonnes actual)	kt	4 763	4 634	4 472	3 610	3 733	4 251
Wine grapes	kt	1 837	1 684	1 533	1 563	1 562	1 613
Horticulture							
Fruit							
apples	kt	265	295	264	234	271	290
bananas	kt	207	270	302	241	280	310
oranges	kt	409	348	391	277	388	341
Vegetables							
carrots	kt	273	264	267	253	284	284
onions	kt	254	284	260	281	274	278
potatoes	kt	1 400	1 179	1 278	1 217	1 265	1 265
tomatoes	kt	382	440	472	407	432	434
Livestock							
Slaughterings							
Cattle and calves	'000	8 799	8 643	8 364	8 097	7 935	8 090
Sheep	'000	11 158	10 501	7 333	5 341	5 250	6 350
Lambs	'000	20 529	20 395	19 478	17 880	18 250	19 550
Pigs	'000	5 217	4 499	4 561	4 643	4 689	4 755
Live exports							
Cattle exported live b	'000	708	845	871	728	500	500
Sheep exported live b	'000	4 069	4 064	3 055	2 909	2 200	3 000
Meat produced							
Beef and veal c	kt	2 155	2 137	2 109	2 133	2 145	2 190
Lamb c	kt	428	416	413	391	400	425
Mutton c	kt	243	220	162	123	125	150
Pig meat	kt	377	322	331	342	347	352
Poultry meat c	kt	835	866	873	1 056	1 080	1 105
Total	kt	4 039	3 961	3 887	4 046	4 097	4 222

Continued

TABLE 12 Agricultural, fisheries and forestry commodity production Australia *continued*

	unit	2007–08	2008–09	2009–10	2010–11 s	2011–12 s	2012–13 f
Livestock products							
Wool **d**	kt	459	420	423	429	434	455
Milk **e**	ML	9 223	9 388	9 023	9 102	9 420	9 550
Butter **g**	kt	128	148	128	122	121	122
Cheese	kt	361	325	349	338	354	363
Casein	kt	10	10	8	5	5	6
Skim milk powder **h**	kt	164	212	190	222	221	220
Whole milk powder	kt	142	148	126	151	156	155
Buttermilk powder	kt	13	15	13	12	13	13
Forestry – logs harvested **i**							
Broadleaved	'000 m^3	13 548	12 485	11 144	11 076	11 750	12 559
Coniferous	'000 m^3	15 157	13 314	14 433	14 628	14 746	15 000
Total	'000 m^3	28 705	25 799	25 577	25 704	26 495	27 560
Fisheries **j**							
Tuna	kt	14.6	13.7	11.0	9.9	10.8	11.7
Salmonids **k**	kt	25.9	30.0	31.9	35.2	37.6	40.2
Other fish	kt	119.6	122.1	120.4	120.4	122.5	123.7
Prawns	kt	22.8	24.2	27.0	26.4	24.1	25.1
Rock lobster **l**	kt	14.3	12.2	10.1	9.8	9.9	10.1
Abalone	kt	5.3	5.6	5.2	5.5	5.4	5.8
Scallops	kt	10.3	7.6	7.5	6.2	2.7	5.2
Oysters	kt	13.5	14.2	14.9	14.5	15.5	16.1
Other molluscs	kt	6.8	6.6	6.3	6.6	6.5	6.5
Other crustaceans	kt	6.4	5.8	6.2	6.6	6.2	6.3

a Linseed, safflower seed and peanuts. **b** Excludes animals exported for breeding purposes. **c** In carcass weight and includes carcass equivalent of canned meats. **d** Greasy equivalent of shorn wool (includes crutching), dead and fellmongered wool and wool exported on skins. **e** Includes the whole milk equivalent of farm cream intake. **f** ABARES forecast. **g** Includes the butter equivalent of butteroil, butter concentrate, ghee and dry butterfat. **h** Includes mixed skim and buttermilk powder. **i** Excludes logs harvested for firewood. **j** Liveweight. **k** Includes salmon and trout production. **l** Includes Queensland bugs. **s** ABARES estimate.

Sources: ABARES; Australian Bureau of Statistics; Australian Dairy Corporation; Australian Fisheries Management Authority; Department of Fisheries, Western Australia; Department of Primary Industries, Parks, Water and Environment, Tasmania; Fisheries Queensland, Department of Employment, Economic Development and Innovation; Fisheries Victoria, Department of Primary Industries; Industry & Investment New South Wales; Northern Territory Department of Regional Development, Primary Industry, Fisheries and Resources; Primary Industries and Resources, South Australia; Raw Cotton Marketing Advisory Committee; South Australian Research and Development Institute; State and Territory Forest Services; various Australian forestry industries

TABLE 13 Gross value of farm and fisheries production Australia

	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 s $m	2011–12 f $m	2012–13 f $m
Crops						
Grains and oilseeds						
Winter crops						
barley	2 244	1 850	1 356	1 684	1 579	1 675
canola	659	1 011	840	1 295	1 288	1 245
chickpeas	195	199	194	182	222	136
field peas	109	82	86	99	68	69
lupins	222	198	205	226	169	139
oats	423	251	186	218	334	313
triticale	113	93	120	150	102	99
wheat	5 292	6 021	4 765	7 611	7 554	6 528
Summer crops						
maize	100	106	88	104	109	83
rice	7	34	90	174	302	267
grain sorghum	977	553	296	449	450	451
soybeans	19	44	33	33	47	55
sunflower seed	59	38	29	33	33	30
other oilseeds a	35	28	34	34	33	31
Total grains and oilseeds	10 803	10 778	8 645	12 756	12 682	11 451
Industrial crops						
Cotton lint and cottonseed b	254	693	828	2 818	2 621	2 553
Sugar cane (cut for crushing)	861	1 021	1 382	1 036	1 145	1 098
Wine grapes	1 446	887	709	646	687	745
Total industrial crops	2 560	2 601	2 919	4 499	4 454	4 396
Horticulture						
Table and dried grapes	202	286	273	284	269	275
Fruit and nuts (excl. grapes)	2 758	2 871	2 950	3 168	3 439	3 721
Vegetables	3 363	3 012	3 023	3 370	3 606	3 908
Other horticulture	1 693	1 556	1 649	1 882	1 952	2 089
Total horticulture	8 015	7 725	7 895	8 705	9 266	9 993
Other crops nei c	2 858	1 665	1 660	1 146	1 165	1 185
Total crops	24 237	22 769	21 119	27 106	27 568	27 026

Continued

TABLE 13 Gross value of farm and fisheries production Australia *continued*

	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 s $m	2011–12 f $m	2012–13 f $m
Livestock						
Slaughterings						
Cattle and calves **d**	6 813	6 806	6 567	7 246	7 443	7 481
Sheep **e**	400	428	499	484	490	603
Lambs **eg**	1 481	1 725	1 832	2 029	2 131	2 286
Pigs	902	966	965	883	930	926
Poultry	1 637	1 862	1 785	2 077	2 173	2 172
Live exports						
Cattle exported live **h**	541	646	701	660	575	595
Sheep exported live **i**	286	339	297	346	298	419
Total livestock **j**	12 104	12 823	12 721	13 805	14 124	14 572
Livestock products						
Wool **k**	2 309	1 806	1 928	2 673	2 836	2 721
Milk **l**	4 572	3 988	3 371	3 932	3 858	3 777
Eggs	468	447	428	555	560	550
Honey and beeswax	64	86	90	92	94	96
Total livestock products	7 412	6 327	5 816	7 252	7 348	7 144
Total farm	43 752	41 918	39 656	48 162	49 040	48 741
Forestry products **m**						
Broadleaved	947	936	847	851	926	1 016
Coniferous	890	823	931	928	949	979
Total	1 837	1 759	1 778	1 779	1 875	1 994
Fisheries products **n**						
Tuna	210	187	125	141	159	178
Salmonids **o**	302	326	369	407	383	406
Other fish **q**	413	390	403	392	398	409
Prawns	272	290	324	308	280	278
Rock lobster **r**	425	415	380	386	406	434
Abalone	189	189	180	185	180	198
Scallops	33	26	26	17	10	16
Oysters	89	93	100	103	114	124
Pearls **t**	114	90	104	117	111	112
Other molluscs **u**	52	53	57	59	56	58
Other crustaceans	63	66	76	86	76	79
Total fish	2 206	2 214	2 196	2 175	2 196	2 288

a Linseed, safflower seed and peanuts. **b** Value delivered to gin. **c** Mainly fodder crops. **d** Includes dairy cattle slaughtered. **e** Excludes skin values. **f** ABARES forecast. **g** Lamb saleyard indicator weight 18–22 kg. **h** Includes animals exported for breeding purposes. **i** Excludes animals exported for breeding purposes. **j** Total livestock slaughterings includes livestock disposals. **k** Shorn, dead and fellmongered wool and wool exported on skins. **l** Milk intake by factories and valued at the farm gate. **m** Excludes logs harvested for firewood. **n** Value to fishermen of product landed in Australia. **o** Includes salmon and trout production. **q** Includes an estimated value of aquaculture. **r** Includes Queensland bugs. **s** ABARES estimate. **t** Includes Northern Territory aquaculture production from 2009–10. **u** Also includes fish and aquaculture values not elsewhere included. **nei** Not elsewhere included.

Note: The gross value of production is the value placed on recorded production at the wholesale prices realised in the marketplace. The point of measurement can vary between commodities. Generally the marketplace is the metropolitan market in each state and territory. However, where commodities are consumed locally or where they become raw material for a secondary industry, these points are presumed to be the marketplace. Prices used in these calculations exclude GST.

Sources: ABARES; Australian Bureau of Statistics

TABLE 14 Crop and forestry areas and livestock numbers Australia

	unit	2007–08	2008–09	2009–10	2010–11 s	2011–12 f	2012–13 f
Crop areas							
Grains and oilseeds							
Winter crops							
barley	'000 ha	4 902	5 015	4 422	3 740	4 038	4 157
canola	'000 ha	1 277	1 693	1 712	2 093	1 705	1 786
chickpeas	'000 ha	306	338	429	546	283	278
field peas	'000 ha	293	300	285	292	244	245
lupins	'000 ha	752	577	692	783	490	576
oats	'000 ha	1 238	870	850	832	1 003	983
triticale	'000 ha	360	323	350	330	330	323
wheat	'000 ha	12 578	13 530	13 881	13 645	14 058	13 700
Summer crops							
maize	'000 ha	68	65	59	61	77	58
rice	'000 ha	2	7	19	75	109	110
grain sorghum	'000 ha	942	767	498	674	632	649
soybeans	'000 ha	15	42	31	19	38	40
sunflower seed	'000 ha	48	52	27	29	40	42
other oilseeds a	'000 ha	16	22	16	17	16	17
Total grains and oilseeds	'000 ha	23 204	24 084	23 793	24 112	24 077	23 878
Industrial crops							
Cotton	'000 ha	63	164	208	590	600	525
Sugar cane b	'000 ha	381	391	389	334	370	385
Winegrapes e	'000 ha	166	157	152	154	156	158
Livestock numbers c							
Cattle							
beef	million	24.78	25.29	24.01	26.21	27.56	28.75
dairy	million	2.54	2.61	2.54	2.60	2.64	2.66
milking herd d	million	1.64	1.68	1.60	1.60	1.62	1.65
total	million	27.32	27.91	26.55	28.81	30.20	31.41
Sheep	million	76.9	72.7	68.1	74.3	78.2	81.5
Pigs	million	2.41	2.30	2.29	2.34	2.34	2.38
Forestry plantation area							
Broadleaved	'000 ha	950	991	973	na	na	na
Coniferous	'000 ha	1 014	1 020	1 024	na	na	na
Total plantation area g	'000 ha	1 973	2 020	2 009	na	na	na

a Linseed and safflower seed. **b** Cut for crushing. **c** At 30 June. **d** Cows in milk and dry. **e** This figure is for grapes for wine only. Prior to 2008–09 this figure includes grapes used for winemaking and other purposes such as drying and table. **f** ABARES forecast. **g** Includes areas where plantation type is unknown. **s** ABARES estimate. **na** Not available.
Sources: ABARES; Australian Bureau of Statistics

TABLE 15 Average farm yields Australia

	unit	2007–08	2008–09	2009–10	2010–11 s	2011–12 f	2012–13 f
Crops							
Grains and oilseeds							
Winter crops							
barley	t/ha	1.46	1.59	1.78	2.18	2.12	2.17
canola	t/ha	0.95	1.09	1.12	1.14	1.63	1.64
chickpeas	t/ha	1.02	1.31	1.14	0.69	1.71	1.10
field peas	t/ha	0.91	0.79	1.25	1.49	1.25	1.26
lupins	t/ha	0.88	1.23	1.19	1.07	1.84	1.22
oats	t/ha	1.21	1.33	1.37	1.37	1.73	1.75
triticale	t/ha	1.25	1.12	1.56	2.08	1.76	1.85
wheat	t/ha	1.08	1.58	1.57	2.04	2.10	1.87
Summer crops							
maize	t/ha	5.69	5.82	5.56	5.75	5.48	5.73
rice	t/ha	8.15	8.46	10.39	9.68	8.49	9.01
grain sorghum	t/ha	4.02	3.51	3.03	3.07	3.69	3.40
soybeans	t/ha	2.34	1.89	1.90	2.47	1.87	2.19
sunflower seed	t/ha	1.51	1.07	1.54	1.51	1.17	1.18
Industrial crops							
Cotton (lint)	t/ha	2.12	2.01	1.86	1.52	1.80	2.05
Sugar cane (for crushing)	t/ha	86	80	80	82	75	80
Winegrapes	t/ha	11.1	10.7	10.1	10.1	10.0	10.2
Livestock							
Wool a	kg/sheep	4.30	4.29	4.25	4.34	4.28	4.31
Whole milk	L/cow	5 624	5 602	5 653	5 675	5 815	5 787

a Shorn (including lambs). **f** ABARES forecast. **s** ABARES estimate.
Sources: ABARES; Australian Bureau of Statistics

TABLE 16 Volume of agricultural, fisheries and forestry exports Australia

	unit	2007–08	2008–09	2009–10	2010–11 s	2011–12 f	2012–13 f
Farm							
Grains and oilseeds							
Winter crops							
barley **a**	kt	4 051	3 898	4 234	4 625	6 305	5 897
canola	kt	519	973	1 238	1 453	1 888	1 916
chickpeas	kt	218	467	459	409	490	244
lupins	kt	76	157	377	289	392	311
oats (unprepared)	kt	115	196	216	127	145	182
peas **b**	kt	142	118	163	254	251	178
wheat **c**	kt	7 408	13 410	13 725	18 431	21 200	21 000
Summer crops							
cottonseed	kt	18	37	106	268	803	927
rice	kt	104	106	54	211	611	500
grain sorghum	kt	251	1 368	487	553	711	769
other oilseeds **d**	kt	11	10	13	7	11	11
Total grains and oilseeds	kt	12 913	20 740	21 073	26 629	32 808	31 934
Industrial crops							
Raw cotton **e**	kt	266	260	395	505	955	1 075
Sugar	kt	3 493	3 268	3 506	2 735	2 732	2 955
Wine	ML	709	750	777	727	698	712
Meat and live animals for slaughter							
Beef and veal **gh**	kt	930	968	899	937	955	970
Live cattle **i**	'000	708	845	871	728	500	500
Lamb **g**	kt	163	156	157	158	154	170
Live sheep **i**	'000	4 069	4 064	3 055	2 909	2 200	3 000
Mutton **g**	kt	158	146	111	86	88	106
Pig meat **g**	kt	39	32	30	31	32	33
Poultry meat **g**	kt	30	37	28	31	37	37
Wool							
Greasy **js**	kt	343	314	308	335	303	317
Semi-processed	kt (gr. eq.)	67	62	49	44	41	41
Skins	kt (gr. eq.)	73	69	70	65	65	68
Total **js**	kt (gr. eq.)	483	445	428	444	410	426
Dairy products							
Butter **k**	kt	57	70	74	56	53	53
Cheese	kt	203	146	168	163	170	173
Casein	kt	9	8	10	5	5	5
Skim milk powder	kt	123	162	126	156	152	149
Whole milk powder	kt	82	116	91	108	116	112

Continued

TABLE 16 Volume of agricultural, fisheries and forestry exports Australia *continued*

	unit	2007–08	2008–09	2009–10	2010–11 s	2011–12 f	2012–13 f
Forest products							
Sawnwood	'000 m^3	338	355	387	348	276	252
Wood-based panels	'000 m^3	274	345	244	216	256	197
Paper and paperboard	kt	790	769	890	1 029	1 147	1 113
Woodchips	kt	6 166	5 255	4 818	5 064	4 305	4 661
Fisheries products							
Tuna	kt	12.6	11.5	9.5	7.8	9.6	9.1
Other fish	kt	9.8	14.2	11.2	14.1	12.5	12.7
Prawns l							
headless	kt	0.4	0.5	0.5	0.5	0.2	0.2
whole	kt	3.9	4.0	3.8	4.8	4.9	5.1
Rock lobster							
tails	kt	1.0	0.8	0.6	0.4	0.3	0.3
whole	kt	8.1	8.4	7.0	6.4	7.8	8.0
Abalone							
fresh, chilled or frozen	kt	2.1	2.1	2.2	2.1	2.0	2.3
prepared or preserved	kt	1.4	1.2	1.4	1.4	1.4	1.4
Scallops m	kt	1.1	1.1	1.1	0.6	0.7	0.6

a Includes the grain equivalent of malt. **b** Includes field peas and cowpeas. **c** Includes the wheat equivalent of flour. **d** Includes soybeans, linseed, sunflower seed, safflower seed and peanuts. Excludes meals and oils. **e** Excludes cotton waste and linters. **f** ABARES forecast. **g** In shipped weight. Fresh, chilled or frozen. **h** Includes meat loaf. **i** Excludes breeding stock. **j** ABS recorded trade data adjusted for changes in stock levels held overseas by Wool International. **k** Includes ghee, dry butterfat, butter concentrate and butteroil, and dairy spreads, all expressed as butter. **l** Excludes volume of other prawn products. **m** Includes crumbed scallops. **s** ABARES estimate. **na** Not available.
Sources: ABARES; Australian Bureau of Statistics, *International Trade, Australia,* cat. no. 5465.0, Canberra; Department of Agriculture, Fisheries and Forestry; Department of Foreign Affairs and Trade

TABLE 17 Value of agricultural, fisheries and forestry exports (fob) Australia

	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 s $m	2011–12 f $m	2012–13 f $m
Farm						
Grains and oilseeds						
Winter crops						
barley a	1 496	1 321	1 093	1 295	1 889	1 716
canola	303	595	583	855	1 140	1 159
chickpeas	139	275	255	213	277	154
lupins	31	61	115	89	83	68
oats	37	64	53	37	38	43
peas b	61	62	60	85	82	54
wheat c	2 990	5 028	3 692	5 516	6 095	5 570
Summer crops						
cottonseed	8	19	46	85	286	279
rice	110	143	59	183	549	355
grain sorghum	76	405	116	146	212	238
other oilseeds d	27	27	24	14	32	29
Total grains and oilseeds	5 278	8 001	6 094	8 517	10 685	9 664
Industrial crops						
Raw cotton e	466	500	755	1 367	2 204	2 412
Sugar	1 006	1 338	1 887	1 436	1 531	1 334
Wine	2 683	2 428	2 164	1 957	1 860	1 953
Total industrial crops	4 155	4 266	4 805	4 760	5 594	5 699
Horticulture						
Fruit	606	692	593	463	474	420
Tree nuts	177	229	198	207	219	269
Vegetables	375	437	497	561	519	420
Nursery	28	26	20	17	15	19
Total horticulture	1 186	1 384	1 309	1 248	1 227	1 127
Other crops	2 451	3 349	3 023	3 096	3 205	3 302
Total crops	13 070	17 001	15 231	17 621	20 711	19 792
Meat and live animals for slaughter						
Beef and veal	4 190	4 857	3 953	4 328	4 468	4 530
Live cattle g	446	538	550	499	350	350
Lamb	803	925	916	1 033	979	1 186
Live sheep g	286	339	297	346	298	419
Mutton	443	482	433	403	391	487
Pig meat	128	124	109	106	110	112
Poultry meat	32	43	36	38	43	45
Total	6 329	7 308	6 293	6 753	6 639	7 129
Wool						
Greasy h	2 115	1 729	1 776	2 371	2 238	2 175
Semi-processed	362	281	238	251	244	223
Skins	319	312	291	426	454	379
Total h	2 796	2 322	2 306	3 048	2 936	2 777

Continued

TABLE 17 Value of agricultural, fisheries and forestry exports (fob) Australia *continued*

	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 s $m	2011–12 f $m	2012–13 f $m
Dairy products						
Butter	195	232	211	252	215	204
Cheese	968	796	715	731	775	770
Casein	125	107	88	53	52	53
Skim milk powder	533	553	358	505	499	495
Whole milk powder	392	475	296	402	419	401
Other dairy products	551	518	419	402	384	387
Total	2 764	2 682	2 088	2 344	2 344	2 310
Other livestock exports	2 611	2 836	2 632	2 678	2 848	3 088
Total livestock exports	14 500	15 147	13 318	14 823	14 767	15 304
Total farm exports	27 570	32 148	28 550	32 444	35 478	35 096
Forest products						
Sawnwood	120	125	125	115	92	74
Wood-based panels	109	101	88	98	92	82
Paper and paperboard	635	606	649	747	799	800
Woodchips	1 072	997	856	884	765	826
Other	535	514	543	629	655	648
Total forest products	2 471	2 343	2 261	2 474	2 403	2 431
Fisheries products						
Tuna	206	177	118	131	169	167
Other fish	119	157	140	156	134	138
Prawns i						
headless	6	8	5	4	2	2
whole	56	71	53	64	63	66
Rock lobster						
tails	63	53	35	24	19	19
whole	333	405	363	341	400	412
Abalone						
fresh, chilled or frozen	124	119	133	120	109	131
prepared or preserved	93	89	83	92	98	84
Scallops j	28	33	30	15	21	21
Pearls	264	366	244	241	229	231
Other fisheries products	49	52	43	60	99	64
Total fisheries products	1 342	1 529	1 247	1 249	1 344	1 334
Total rural exports k	31 384	36 020	32 057	36 166	39 225	38 861

a Includes the grain equivalent of malt. **b** Field peas and cowpeas. **c** Includes the wheat equivalent of flour. **d** Includes soybeans, linseed, sunflower seed, safflower seed and peanuts. Excludes meals and oils. **e** Excludes cotton waste and linters. **f** ABARES forecast. **g** Excludes breeding stock. **h** On a balance of payments basis. ABS recorded trade data adjusted for changes in stock levels held overseas by Wool International. **i** Other prawn products included in other fisheries products. **j** Includes crumbed scallops. **k** Derived from farm, forest and fisheries products. **s** ABARES estimate.

Sources: ABARES; Australian Bureau of Statistics, *International Trade, Australia,* cat. no. 5465.0, Canberra

TABLE 18 Volume of forest products exports Australia

	unit	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
Quantity							
Roundwood	'000 m^3	864	1 171	1 045	986	1 377	1 638
Sawnwood **a**							
Coniferous roughsawn	'000 m^3	226	317	258	283	322	265
Coniferous dressed	'000 m^3	23	49	23	18	13	13
Broadleaved roughsawn	'000 m^3	31	36	40	40	37	40
Broadleaved dressed	'000 m^3	12	13	16	13	16	29
Total	'000 m^3	293	416	338	355	387	348
Railway sleepers	'000 m^3	9	11	11	9	9	8
Wood-based panels							
Veneers	'000 m^3	3	4	35	86	90	119
Plywood	'000 m^3	4	13	15	53	24	7
Particleboard	'000 m^3	14	18	6	17	9	6
Hardboard **b**	'000 m^3	7	4	0	2	1	2
Medium density fibreboard	'000 m^3	352	260	204	181	118	78
Softboard and other fibreboards	'000 m^3	11	10	14	8	2	5
Total	'000 m^3	391	309	274	345	244	216
Paper and paperboard							
Newsprint	kt	0	0	5	2	6	19
Printing and writing	kt	147	132	119	112	146	84
Household and sanitary	kt	32	32	37	38	31	39
Packaging and industrial	kt	632	640	630	617	708	887
Total	kt	811	805	790	769	890	1 029
Recovered paper	kt	907	1 060	1 286	1 216	1 444	1 323
Pulp	kt	6	16	21	22	18	31
Woodchips **cd**	kt	5 363	5 952	6 166	5 255	4 818	5 064

a Excludes railway sleepers. **b** Uncoated hardboard confidential from January 2007. **c** Includes particles. **d** Bone dry tonnes.
Sources: ABARES; Australian Bureau of Statistics; Engineered Wood Products Association of Australasia

TABLE 19 Value of forest products exports (fob) Australia

	2005–06 $m	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m
Value						
Roundwood	82	117	105	101	138	198
Sawnwood						
Coniferous roughsawn	63	81	63	70	76	67
Coniferous dressed	15	18	11	9	7	5
Broadleaved roughsawn	31	35	38	38	33	35
Broadleaved dressed	12	11	8	8	9	8
Total	121	145	120	125	125	115
Railway sleepers	4	5	3	4	2	3
Miscellaneous forest products	69	63	56	51	59	65
Wood-based panels						
Veneers	7	6	19	36	44	52
Plywood	5	8	9	4	3	2
Particleboard	6	6	4	7	3	2
Hardboard **a**	5	3	0	1	1	2
Medium density fibreboard **b**	121	97	76	52	36	39
Softboard and other fibreboards	10	6	2	1	1	1
Total	153	126	109	101	88	98
Paper and paperboard						
Newsprint	0	0	3	2	6	13
Printing and writing	147	149	133	128	143	88
Household and sanitary	98	102	106	111	97	94
Packaging and industrial	356	400	395	364	404	552
Total	601	650	635	606	649	747
Paper manufactures	125	112	103	106	102	112
Recovered paper	140	175	252	235	228	240
Pulp	5	12	15	18	13	11
Woodchips	839	950	1 072	997	856	884
Total	2 140	2 355	2 471	2 343	2 261	2 474

a Uncoated hardboard confidential from January 2007. **b** Some categories of medium density fibreboard are confidential.
Sources: ABARES; Australian Bureau of Statistics; Engineered Wood Products Association of Australasia

TABLE 20 Volume of forest products imports Australia

	unit	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
Quantity							
Roundwood	'000 m^3	0.6	5.0	0.7	1.4	0.9	0.6
Sawnwood **a**							
Coniferous roughsawn	'000 m^3	301.4	289.2	340.2	255.6	292.6	290.1
Coniferous dressed	'000 m^3	239.3	193.9	321.2	278.8	367.3	468.2
Broadleaved roughsawn	'000 m^3	70.5	67.4	61.5	52.2	44.1	43.8
Broadleaved dressed	'000 m^3	60.4	60.1	60.9	41.7	44.1	44.2
Total	'000 m^3	671.5	610.7	783.9	628.4	748.1	846.3
Wood-based panels							
Veneers	'000 m^3	23.7	29.0	31.5	21.4	15.4	17.4
Plywood	'000 m^3	204.8	244.0	236.6	199.1	227.7	277.6
Particleboard	'000 m^3	36.8	77.5	99.6	68.7	64.2	71.6
Hardboard	'000 m^3	30.2	38.4	32.1	23.5	33.0	48.5
Medium density fibreboard	'000 m^3	51.9	26.5	68.8	88.3	69.9	58.0
Softboard and other fibreboards	'000 m^3	14.3	14.2	14.3	10.6	6.2	6.5
Total	'000 m^3	361.7	429.5	482.8	411.7	416.4	479.6
Paper and paperboard							
Newsprint	kt	324.5	262.5	227.6	197.6	190.6	221.5
Printing and writing	kt	1 140.1	1 173.5	1 235.3	1 122.1	1 167.4	1 237.0
Household and sanitary	kt	87.9	101.8	81.1	82.0	101.1	113.8
Packaging and industrial	kt	190.8	258.4	303.1	254.0	285.3	313.8
Total	kt	1 743.4	1 796.3	1 847.1	1 655.7	1 744.4	1 886.1
Recovered paper	kt	7.4	9.6	10.2	3.0	3.4	2.0
Pulp	kt	348.0	359.0	388.7	344.7	265.0	233.2
Woodchips	kt	0.9	0.8	0.7	0.7	0.7	1.2

a Excludes railway sleepers.
Sources: ABARES; Australian Bureau of Statistics; Engineered Wood Products Association of Australasia

TABLE 21 Value of forest products imports Australia

	2005–06 $m	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m
Value						
Roundwood	0	1	1	1	0	1
Sawnwood						
Coniferous roughsawn	150	148	186	134	140	135
Coniferous dressed	150	143	191	168	200	248
Broadleaved roughsawn	65	67	59	51	41	41
Broadleaved dressed	53	60	56	53	48	49
Total	419	418	492	405	429	473
Miscellaneous forest products	528	567	583	651	603	682
Wood-based panels						
Veneers	25	32	33	28	22	21
Plywood	134	168	153	145	138	170
Particleboard	14	26	34	27	20	21
Hardboard	27	30	28	26	30	40
Medium density fibreboard	22	14	33	41	37	34
Softboard and other fibreboards	7	7	3	4	3	3
Total	228	276	284	271	250	289
Paper and paperboard						
Newsprint	267	224	185	173	158	176
Printing and writing	1 438	1 453	1 456	1 468	1 355	1 347
Household and sanitary	152	177	137	154	164	185
Packaging and industrial	330	416	470	481	499	515
Total	2 187	2 270	2 248	2 276	2 175	2 223
Paper manufactures **a**	426	470	513	590	563	557
Recovered paper	1	2	2	1	1	0
Pulp	225	265	285	263	178	180
Woodchips	2	1	2	2	1	2
Total	4 017	4 271	4 412	4 459	4 200	4 407

a Includes other paper articles that have had some further processing. 0 used to denote nil or less than $0.5 million.
Sources: ABARES; Australian Bureau of Statistics; Engineered Wood Products Association of Australasia

TABLE 22 Volume of fisheries products exports Australia

	2005–06 kt	2006–07 kt	2007–08 kt	2008–09 kt	2009–10 kt	2010–11 kt
Edible						
Fish						
Live	na	na	na	na	na	na
Fresh, chilled or frozen						
Whole						
Tuna **a**	11	11	12	11	9	8
Other	7	7	6	11	8	11
Fillets	2	2	1	0	1	1
Prepared and preserved	1	1	2	2	1	1
Dried, salted and smoked	0	0	0	0	0	0
Other fish products	1	1	1	1	1	1
Total fish **b**	23	23	22	26	21	22
Crustaceans and molluscs						
Rock lobster	12	10	9	10	8	7
Prawns	9	6	5	5	5	6
Abalone	4	4	4	3	4	3
Scallops	1	1	1	1	1	1
Oysters	0	0	0	0	0	0
Crabs	2	1	1	1	1	1
Other	1	1	1	1	1	1
Total	29	25	22	21	19	20
Total edible **b**	52	48	44	47	40	42

a Exports of tuna landed in Australia. **b** Excludes live tonnage. **na** Not available. 0 is used to denote nil or less than 500 tonnes.
Source: Australian Bureau of Statistics

TABLE 23 Value of fisheries products exports (fob) Australia

	2005–06 $m	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m
Edible						
Fish						
Live	40	41	43	46	40	33
Fresh, chilled or frozen						
Whole						
Tuna **a**	177	160	202	175	117	130
Other	31	34	37	71	57	82
Fillets	15	13	6	5	10	10
Prepared and preserved	7	6	13	10	6	5
Dried, salted and smoked	14	15	17	17	13	19
Other fish products	12	10	8	9	15	8
Total fish b	295	280	325	334	258	287
Crustaceans and molluscs						
Rock lobster	489	463	401	462	400	369
Prawns	134	94	69	82	61	77
Abalone	246	246	217	208	216	212
Scallops	39	35	28	33	30	15
Oysters	2	2	2	3	3	4
Crabs	18	17	16	16	14	13
Other	15	19	8	6	5	12
Total	943	878	741	811	729	704
Total edible b	1 237	1 158	1 065	1 145	988	991
Non-edible						
Marine fats and oils	4	12	5	5	5	5
Fish meal	9	5	1	1	2	2
Pearls **c**	290	314	264	366	244	241
Ornamental fish	1	2	2	3	3	2
Other non-edible	6	5	4	8	5	7
Total non-edible	310	336	276	384	259	258
Total fisheries products b	1 547	1 494	1 342	1 529	1 247	1 249

a Exports of tuna landed in Australia. **b** Includes live value. **c** Includes items temporarily exported and re-imported.
Source: Australian Bureau of Statistics

TABLE 24 Volume of fisheries products imports Australia

	2005–06 kt	2006–07 kt	2007–08 kt	2008–09 kt	2009–10 kt	2010–11 kt
Edible						
Fish						
Live fish	na	na	na	na	na	na
Fresh, chilled or frozen						
Fresh or chilled whole	6	6	7	7	8	8
Frozen whole	7	6	6	6	6	6
Fresh or chilled fillets	1	1	1	1	1	1
Frozen fillets	41	42	43	41	43	45
Other	5	4	5	3	4	2
Canned fish	53	52	54	54	54	60
Smoked, dried or salted fish	3	4	4	4	4	4
Other fish preparations	14	17	18	18	21	21
Total **a**	129	134	137	134	140	147
Crustaceans and molluscs						
Fresh, chilled or frozen **b**						
Prawns	23	26	19	13	18	16
Lobster	1	1	1	0	1	1
Scallops	2	3	2	2	3	3
Oysters	1	1	1	1	1	1
Mussels	2	2	2	3	2	3
Other	17	17	17	19	18	18
Prepared and preserved	13	15	19	21	24	24
Extracts and pastes	0	0	0	0	0	0
Other	322	420	197	212	297	286
Total	59	65	61	60	67	65
Total edible a	188	199	198	193	208	212

a Excludes live tonnage. **b** Includes dried and salted. **na** Not available. 0 is used to denote nil or less than 500 tonnes.
Source: Australian Bureau of Statistics

TABLE 25 Value of fisheries products imports Australia

	2005–06 $m	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m
Edible						
Fish						
Live fish	0	0	0	0	0	0
Fresh, chilled or frozen						
Fresh or chilled whole	36	46	52	55	60	63
Frozen whole	19	18	22	22	22	22
Fresh or chilled fillets	5	7	7	7	9	9
Frozen fillets	197	228	228	239	232	230
Other	16	17	15	13	19	13
Prepared and preserved fish	229	244	257	331	257	287
Smoked, dried or salted fish	36	53	45	50	46	43
Other fish preparations	64	88	87	107	106	102
Total **a**	602	701	715	825	751	769
Crustaceans and molluscs						
Fresh, chilled or frozen **b**						
Prawns	201	246	167	135	159	149
Lobster	10	13	14	9	11	14
Scallops	31	30	28	30	34	34
Oysters	6	7	7	9	9	6
Mussels	9	9	9	12	9	10
Other	80	74	63	75	82	98
Prepared and preserved	88	101	128	185	188	190
Extracts and pastes	0	0	0	0	0	0
Other	2	2	1	3	2	2
Total	426	483	417	458	494	504
Total edible **a**	1 028	1 184	1 132	1 283	1 246	1 273
Non-edible						
Pearls **c**	159	182	166	321	171	167
Fish meal	22	40	41	42	52	47
Ornamental fish	5	5	5	6	5	4
Marine fats and oils	17	24	27	34	27	31
Other marine products	34	32	26	25	15	10
Total non-edible	237	283	266	427	269	258
Total fisheries products **a**	1 266	1 467	1 398	1 710	1 515	1 531

a Includes live value. **b** Includes dried and salted **c** Mostly re-imports. 0 is used to denote nil or less than $0.5 million.
Source: Australian Bureau of Statistics

TABLE 26 Agricultural exports to Japan (fob) Australia

	2005–06 $m	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 s $m
Grains and oilseeds						
Winter crops						
barley **a**	195	218	234	335	284	260
canola	140	86	70	65	109	41
chickpeas	0	0	0	0	0	0
lupins	12	7	4	9	9	9
oats	3	2	2	3	2	2
peas **b**	0	0	0	0	0	0
wheat **c**	239	276	355	291	299	408
Summer crops						
cottonseed	41	25	8	16	31	24
rice	0	0	0	0	0	0
sorghum	14	1	25	319	70	105
other oilseeds **d**	2	1	6	4	1	1
Total grains and oilseeds	646	617	703	1 042	805	852
Industrial crops						
Raw cotton **e**	57	59	47	39	31	48
Sugar **s**	179	238	129	192	190	194
Wine	44	49	49	54	43	44
Total	280	346	225	285	264	286
Horticulture						
Fruit and nuts	110	101	93	85	77	85
Vegetables	27	21	19	27	20	24
Other crops	379	351	329	392	352	368
Total crops	1 442	1 437	1 370	1 831	1 519	1 615
Meat and live animals for slaughter						
Beef and veal	2 195	2 138	1 856	2 101	1 698	1 689
Live cattle **g**	19	18	18	14	15	16
Lamb	93	64	54	70	56	61
Live sheep **g**	0	0	0	0	0	0
Mutton	33	32	28	39	25	26
Pig meat	12	9	5	6	2	2
Poultry meat	0	0	0	0	0	0
Total	2 352	2 262	1 962	2 230	1 796	1 794
Wool						
Greasy	6	6	0	2	4	9
Semi-processed	25	33	17	12	12	23
Skins	3	3	5	3	1	1
Total	34	42	22	17	17	33
Dairy products						
Butter	5	8	17	11	2	6
Cheese	298	338	427	399	358	356
Casein	30	32	38	44	26	22
Skim milk powder	13	11	10	22	3	2
Whole milk powder	1	1	0	0	0	0
Other dairy products	51	63	53	46	44	37
Total dairy product exports	398	453	545	521	433	423
Other livestock exports	549	504	447	472	352	378
Total livestock exports	3 332	3 261	2 976	3 240	2 598	2 629
Total agricultural exports	4 774	4 697	4 346	5 071	4 117	4 243

a Includes the grain equivalent of malt. **b** Field peas and cowpeas. **c** Includes the wheat equivalent of flour. **d** Includes soybeans, linseed, sunflowerseed, safflowerseed and peanuts. Excludes meals and oils. **e** Excludes cotton waste and linters. **g** Excludes breeding stock. **s** ABARES estimate. 0 is used to denote nil or less than $0.5 million.
Sources: ABARES; Australian Bureau of Statistics

TABLE 27 Agricultural exports to the United States (fob) Australia

	2005–06 $m	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 s $m
Grains and oilseeds						
Winter crops						
barley **a**	1	1	0	0	0	0
canola	0	0	0	0	0	0
chickpeas	0	0	1	2	1	2
lupins	0	0	0	0	0	0
oats	0	0	0	1	0	0
peas **b**	0	1	0	0	1	0
wheat **c**	0	0	0	0	0	0
Summer crops						
cottonseed	0	0	0	0	10	0
rice	0	0	0	0	0	0
sorghum	0	0	0	0	0	0
other oilseeds **d**	1	0	0	0	0	0
Total grains and oilseeds	2	2	2	3	12	2
Industrial crops						
Raw cotton **e**	0	0	0	0	0	0
Sugar **s**	96	97	47	78	68	65
Wine	901	956	745	741	608	478
Total	998	1 053	793	820	676	542
Horticulture						
Fruit and nuts	93	77	72	64	78	37
Vegetables	0	0	0	0	0	1
Other crops	115	128	149	242	228	228
Total crops	1 208	1 262	1 015	1 128	994	810
Meat and live animals for slaughter						
Beef and veal	1 161	1 239	949	1 231	813	709
Live cattle **g**	0	0	0	0	0	0
Lamb	314	309	307	357	296	333
Live sheep **g**	0	0	0	0	0	0
Mutton	45	47	44	36	33	41
Pig meat	0	0	0	0	0	0
Poultry meat	0	0	0	0	0	0
Total	1 520	1 595	1 300	1 623	1 142	1 082
Wool						
Greasy	17	16	9	7	9	11
Semi-processed	2	1	2	1	3	3
Skins	2	1	0	0	0	0
Total	21	19	11	8	12	14
Dairy products						
Butter	25	13	10	19	10	3
Cheese	54	53	37	60	20	12
Casein	27	32	42	29	23	13
Skim milk powder	4	5	7	0	0	0
Whole milk powder	15	13	9	8	9	4
Other dairy products	14	7	10	10	13	17
Total dairy product exports	139	123	115	126	74	50
Other livestock exports	126	129	133	136	129	139
Total livestock exports	1 806	1 866	1 559	1 893	1 358	1 286
Total agricultural exports	3 014	3 127	2 574	3 022	2 352	2 096

a Includes the grain equivalent of malt. **b** Field peas and cowpeas. **c** Includes the wheat equivalent of flour. **d** Includes soybeans, linseed, sunflowerseed, safflowerseed and peanuts. Excludes meals and oils. **e** Excludes cotton waste and linters. **g** Excludes breeding stock. **s** ABARES estimate. 0 is used to denote nil or less than $0.5 million.
Sources: ABARES; Australian Bureau of Statistics

TABLE 28 Agricultural exports to China (fob) Australia

	2005–06 $m	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 s $m
Grains and oilseeds						
Winter crops						
barley **a**	276	220	295	235	280	311
canola	0	1	0	21	0	0
chickpeas	0	0	0	0	0	0
lupins	0	0	0	0	0	0
oats	0	0	0	0	0	0
peas **b**	0	0	0	0	0	0
wheat **c**	67	45	1	71	189	144
Summer crops						
cottonseed	0	0	0	0	0	44
rice	0	0	0	0	0	0
sorghum	0	0	0	0	14	14
other oilseeds **d**	1	1	1	2	1	1
Total grains and oilseeds	344	267	296	329	485	514
Industrial crops						
Raw cotton **e**	505	281	164	165	274	551
Sugar **s**	69	29	15	3	4	31
Wine	21	49	62	94	140	181
Total	595	358	241	262	418	763
Horticulture						
Fruit and nuts	13	16	17	16	11	9
Vegetables	0	0	0	0	0	0
Other crops	16	31	38	28	46	45
Total crops	969	672	592	635	960	1 331
Meat and live animals for slaughter						
Beef and veal	13	12	17	23	28	52
Live cattle **g**	3	8	0	0	5	4
Lamb	22	22	43	42	37	76
Live sheep **g**	2	0	0	0	0	0
Mutton	3	3	9	15	21	26
Pig meat	0	0	0	0	0	0
Poultry meat	0	0	0	0	0	0
Total	44	46	70	81	90	157
Wool						
Greasy	1 258	1 689	1 455	1 328	1 460	1 864
Semi-processed	46	49	28	55	62	21
Skins	181	293	265	271	257	351
Total	1 485	2 031	1 748	1 654	1 779	2 235
Dairy products						
Butter	1	3	4	3	5	4
Cheese	10	12	18	14	23	30
Casein	1	3	4	5	7	1
Skim milk powder	14	23	34	39	22	37
Whole milk powder	7	2	21	48	38	52
Other dairy products	27	37	58	54	45	35
Total dairy product exports	59	81	139	164	139	159
Other livestock exports	297	238	357	413	493	548
Total livestock exports	1 885	2 396	2 315	2 311	2 502	3 100
Total agricultural exports	2 854	3 068	2 907	2 946	3 462	4 431

a Includes the grain equivalent of malt. **b** Field peas and cowpeas. **c** Includes the wheat equivalent of flour. **d** Includes soybeans, linseed, sunflowerseed, safflowerseed and peanuts. Excludes meals and oils. **e** Excludes cotton waste and linters. **g** Excludes breeding stock.
s ABARES estimate. 0 is used to denote nil or less than $0.5 million.
Sources: ABARES; Australian Bureau of Statistics

TABLE 29 Value of Australian forest products trade, by selected countries

	2005–06 $m	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m
Exports						
China	252	270	360	390	394	544
Chinese Taipei	84	83	88	77	88	79
Hong Kong	92	72	54	51	68	42
Japan	802	888	965	860	774	745
Malaysia	47	48	57	78	82	106
New Zealand	369	365	375	324	319	314
Korea, Rep. of	75	116	91	103	48	40
Imports						
China	409	509	547	611	624	676
Finland	238	248	272	274	171	143
Germany	200	190	178	167	178	182
Indonesia	332	404	336	374	351	331
Malaysia	181	199	209	215	217	228
New Zealand	752	741	790	744	703	715
United States	281	276	289	320	313	285

Source: Australian Bureau of Statistics

TABLE 30 Value of Australian fisheries products trade, by selected countries Australia

	2005–06 $m	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m
Exports						
Edible (excluding live)						
China	102	59	26	30	43	143
Chinese Taipei	55	50	45	54	33	30
Hong Kong, China	396	447	426	525	491	394
Japan	371	306	328	302	215	226
Malaysia	6	5	8	13	9	13
New Zealand	12	10	13	9	17	10
Singapore	36	41	40	44	38	41
Thailand	8	8	8	7	9	16
United States	113	115	72	64	49	35
Non-edible						
Hong Kong, China	150	156	128	201	138	145
Japan	63	69	53	64	50	43
New Zealand	10	9	2	2	3	3
United States	28	34	24	22	15	8
Imports a						
Edible (excluding live)						
Canada	25	22	16	13	13	15
China	101	156	133	152	173	186
Chinese Taipei	24	27	32	33	37	39
Denmark	19	26	19	24	24	19
Indonesia	26	28	23	31	39	28
Japan	14	9	15	17	16	14
Malaysia	26	39	55	65	63	71
New Zealand	160	192	199	209	213	211
Norway	16	20	21	20	27	25
South Africa	29	33	24	23	30	28
Thailand	270	279	295	368	322	340
United States	27	40	29	50	37	40
Vietnam	133	155	142	167	153	162

a Country details for non-edible imports are not available.
Source: Australian Bureau of Statistics

TABLE 31 Food exports by level of transformation Australia

	2005–06 $m	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m
Minimally transformed						
Live animals except fish	668	752	761	924	924	887
Fish or shellfish	657	632	647	747	650	667
Horticulture						
Vegetables	149	147	137	152	150	166
Fruit and nuts	482	451	433	563	472	368
Total	631	598	571	716	622	534
Grains a	4 305	3 329	4 221	6 383	4 632	6 765
Oilseeds	412	167	346	644	657	973
Food nec	49	54	41	49	43	50
Substantially and elaborately transformed						
Meat						
Meat processing	6 673	7 048	6 506	7 411	6 313	6 887
Poultry processing	21	26	32	43	36	38
Bacon, ham and smallgoods	91	43	33	47	54	57
Total	6 785	7 117	6 571	7 501	6 403	6 983
Seafood	606	548	440	417	357	350
Dairy						
Milk and cream processing	1 210	1 089	1 258	1 354	880	1 107
Ice cream	41	42	37	31	31	33
Cheese	837	824	968	796	715	731
Other dairy products	481	482	499	497	440	451
Total	2 569	2 438	2 763	2 679	2 066	2 322
Fruit and vegetables	555	574	568	575	523	572
Oil and fat	150	169	239	303	289	293
Flour mill and cereal food						
Flour mill products	230	269	315	419	365	344
Cereal food and baking mix	248	372	287	390	445	614
Total	478	642	602	809	811	958
Bakery products						
Bread, cake and pastry	26	27	26	25	26	22
Biscuit	107	111	118	127	135	134
Total	132	137	144	152	161	155
Other food						
Sugar a	1 503	1 551	1 035	1 374	1 924	1 479
Confectionery	208	215	237	269	260	252
Food nec	1 099	1 142	1 094	1 422	1 424	1 360
Total	2 809	2 907	2 366	3 065	3 607	3 091
Beverage and malt						
Soft drink, cordial and syrup	42	39	38	45	55	61
Beer and malt	218	273	335	447	406	318
Wine	2 768	2 894	2 700	2 493	2 188	2 009
Spirit	91	89	86	105	101	97
Total	3 120	3 294	3 159	3 091	2 750	2 485
Total food and beverage						
Minimally transformed	6 722	5 532	6 586	9 463	7 528	9 876
Substantially transformed	16 919	17 530	16 528	18 243	16 606	16 863
Elaborately transformed	286	297	324	350	362	346
Total	23 927	23 359	23 439	28 056	24 495	27 086

a Includes ABARES estimates where ABS confidentiality restrictions apply. **nec** Not elsewhere classified.
Sources: ABARES; Australian Bureau of Statistics

TABLE 32 Food imports by level of transformation Australia

	2005–06 $m	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m
Minimally transformed						
Live animals except fish	1	1	1	2	1	2
Fish or shellfish	47	57	65	67	72	73
Horticulture						
Vegetables	41	45	53	49	58	76
Fruit and nuts	191	194	216	225	262	245
Total	233	238	269	274	320	322
Grains	1	2	2	2	3	4
Oilseeds	20	78	49	49	36	36
Food nec	140	176	188	180	229	306
Substantially and elaborately transformed						
Meat						
Meat processing	290	446	381	525	497	478
Poultry processing	0	0	0	0	0	0
Bacon, ham and smallgoods	43	42	50	68	82	90
Total	333	489	431	593	579	567
Seafood	998	1 151	1 095	1 249	1 201	1 231
Dairy						
Milk and cream processing	45	40	67	69	66	72
Ice cream	30	40	37	39	40	44
Cheese	292	302	377	365	360	398
Other dairy products	66	98	176	157	150	180
Total	432	480	656	631	615	694
Fruit and vegetables	1 043	1 233	1 390	1 559	1 367	1 486
Oil and fat	417	481	489	578	485	517
Flour mill and cereal food						
Flour mill products	57	34	66	83	66	48
Cereal food and baking mix	305	325	462	576	577	523
Total	362	358	527	659	643	572
Bakery products						
Bread, cake and pastry	138	163	175	197	191	222
Biscuit	199	254	267	297	305	338
Total	337	417	442	493	496	560
Other food						
Sugar	19	20	22	44	71	125
Confectionery	333	371	438	518	525	547
Food nec	1 075	1 186	1 270	1 492	1 450	1 525
Total	1 427	1 577	1 731	2 054	2 046	2 196
Beverage and malt						
Soft drink, cordial and syrup	571	656	697	791	798	818
Beer and malt	112	126	161	226	212	196
Wine	248	334	454	502	477	490
Spirit	414	465	491	530	538	544
Total	1 345	1 582	1 802	2 050	2 026	2 048
Total food and beverage						
Minimally transformed	441	551	574	574	661	742
Substantially transformed	6 435	7 430	8 167	9 437	9 024	9 425
Elaborately transformed	259	338	396	429	434	445
Total	7 135	8 319	9 138	10 441	10 119	10 613

0 is used to denote nil or less than $0.5 million. **nec** Not elsewhere classified.
Sources: ABARES; Australian Bureau of Statistics

TABLE 33 Total food exports, by selected destination Australia

	2005–06 $m	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m
Canada	425	423	402	380	335	332
China	786	664	917	1 178	1 426	1 511
Chinese Taipei	704	595	574	671	613	569
Egypt	471	151	174	315	266	402
Germany	172	123	162	153	109	263
Hong Kong, China	789	827	857	1 082	997	886
Indonesia	1 442	1 566	1 702	2 652	2 129	2 288
Japan	4 916	4 752	4 553	5 517	4 278	4 207
Korea, Rep. of	1 634	1 850	1 655	1 873	1 925	1 994
Malaysia	750	801	799	1 231	853	849
New Zealand	1 092	1 203	1 303	1 406	1 323	1 281
Philippines	285	240	308	563	318	502
Saudi Arabia	777	568	1 144	1 020	566	499
Singapore	622	650	712	792	722	739
Thailand	385	305	393	626	424	539
United Arab Emirates	419	284	445	567	528	581
United Kingdom	1 175	1 209	1 136	1 005	784	692
United States	3 006	3 058	2 552	3 054	2 379	2 138
Other	4 078	4 092	3 652	3 971	4 522	6 815
Total	23 927	23 359	23 439	28 056	24 495	27 086

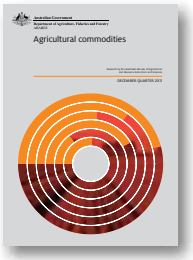
Sources: ABARES; Australian Bureau of Statistics

TABLE 34 Total food imports, by selected source country Australia

	2005–06 $m	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m
Brazil	78	120	129	150	110	148
Canada	176	254	222	271	237	223
China **a**	416	552	634	776	733	775
France	194	224	279	290	281	299
India	122	144	160	179	168	172
Indonesia	117	140	163	207	198	198
Ireland	468	510	536	559	586	252
Italy	364	427	438	498	467	439
Malaysia	250	279	361	468	402	466
Netherlands	137	169	184	227	201	201
New Zealand	1 359	1 472	1 734	1 746	1 877	1 981
Papua New Guinea	34	38	36	45	44	57
Singapore	164	127	160	207	196	541
Spain	144	194	174	154	187	173
Thailand	450	483	554	713	698	770
United Kingdom	272	298	299	318	334	328
United States	631	721	810	1 006	902	976
Vietnam	245	279	251	299	282	305
Other	1 512	1 891	2 013	2 329	2 216	2 310
Total	7 135	8 319	9 138	10 441	10 119	10 613

a Excludes imports from Hong Kong.
Sources: ABARES; Australian Bureau of Statistics

Report extracts



ABARES reports released since *Agricultural commodities* (vol. 1 no. 2 December quarter 2011)

Following is a selection of ABARES reports released since publication of the second issue of *Agricultural commodities* in December 2011. A brief description of the nature of each report is provided. While not comprehensive, the selection provides an overview of the range of interests ABARES covers.

All reports can be downloaded from www.daff.gov.au/abares/publications.

For more information contact info.abares@daff.gov.au

Research reports

Possible short-run effects of carbon pricing scheme on Australian agriculture

Research Report 11.10

Authors: Linden Whittle, Beau Hug and Edwina Heyhoe

Publication date: 20 December 2011

This paper contributes to the assessment of the effects of the carbon pricing scheme by estimating the likely short-run effects of the scheme on farm profitability. These should be read in the context of the long-run effects estimated by Treasury. The paper also presents sensitivity analysis around the cost-price pass-through between food processors and farmers.

The Australian seafood industry: Workforce information and stakeholder responses

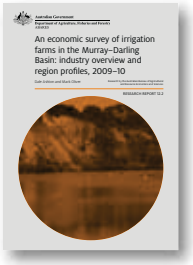
Research Report 12.1

Authors: Robert Curtotti, Mary Hormis and K McGill

Publication date: 18 January 2012

In 2011, the Fisheries Research and Development Corporation commissioned ABARES to undertake a scoping analysis of the employment, education and training data needed by the Australian seafood industry to aid decision making. This study reports the findings of that analysis and provides general guidance as to the datasets that need to be compiled to adequately inform the industry in its workforce decisions.

An economic survey of irrigation farms in the Murray–Darling Basin: industry overview and region profiles 2009–10



Research Report 12.2

Authors: Dale Ashton and Mark Oliver

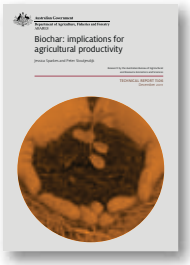
Publication date: 31 January 2012

Australia's Murray–Darling Basin supports a large and important irrigation sector. For much of the past decade, many regions within the Basin have experienced prolonged drought with consequent reductions in water availability for agriculture, the environment and other consumptive uses. The stresses on the Murray–Darling Basin's water resources have focused attention on the need to adapt to a future with less water. Recent water policy reforms aim to provide for long-term, sustainable and efficient use of water.

Measuring progress toward water policy and program objectives depends on appropriate and reliable data. In 2007, ABARES began a large-scale survey of irrigators throughout the Murray–Darling Basin to better understand and monitor the effects of poor seasonal conditions on irrigators and how the irrigation sector was adjusting to these effects. This report presents an overview of results from the latest irrigation survey, covering 2009–10, as well as some preliminary estimates for 2010–11.

The National Water Commission and the Australian Government Department of Sustainability, Environment, Water, Population and Communities co-funded the survey.

Technical reports



Biochar: implications for agricultural productivity

Technical Report 11.6

Authors: Jessica Sparkes and Peter Stoutjesdijk

Publication date: 15 December 2011

This report presents findings of a desktop review into biochar, covering potential applications, benefits, costs and risks, and future research required to realise the food security and sustainability potential of biochar. It focuses on production and application of biochar to soils to improve soil function and the ancillary benefits that may arise. Biochar is a stable, carbon-rich form of charcoal that can be applied to agricultural land as part of agronomic or environmental management.

Report to client

Foreign Investment and Australian Agriculture

ABARES Report to client prepared for Rural Industries Research & Development Corporation (RIRDC), November 2011, Canberra.

This report reviews the historical significance of foreign investment in Australian agriculture, and to the Australian economy. It incorporates survey results provided by the Australian Bureau of Statistics and presents case studies of foreign investment in farmland and agribusiness. It also examines the factors driving foreign investment in Australian agriculture and describes processes by which foreign investment in farmland is monitored and regulated in Australia and other selected countries.

Other reports

Agricultural commodity statistics 2011

Author: ABARES

Publication date: 1 December 2011

This annual report is a compendium of historical statistics covering the agriculture, fisheries, food and forestry sectors. It provides a set of comprehensive statistical tables on Australian and world prices, production, consumption, stocks and trade for nearly 20 commodities. The commodities covered include grains and oilseeds, livestock, livestock products, food, wool, horticulture, forestry and fisheries products, and also contains statistics on agricultural water use and macroeconomic indicators, such as economic growth, employment, balance of trade, and exchange and interest rates.

Australian crop report, no. 161 February 2012

Authors: ABARES

Publication date: 14 February 2012

This report, released four times a year, provides a consistent and regular assessment of crop prospects for major field crops, estimates of area, yield and production, and a summary of seasonal conditions on a state-by-state basis. The February edition provides an update on production of the 2011–12 winter crop and latest forecast of the 2011–12 summer crop.

Australian fisheries surveys report: Results for selected fisheries 2008–09 to 2010–12

Authors: ABARES

Publication date: 16 February 2012

This is another edition in a series of regular fisheries survey reports released each year since the early 1990s. This report provides estimates of financial and economic performance for the Northern Prawn Fishery and the Bass Strait Central Zone Scallop Fishery.

Survey-based estimates are provided for 2008–09 and 2009–10 for the Northern Prawn Fishery, and 2009–10 and 2010–11 for the Bass Strait Central Zone Scallop Fishery. Non-survey based estimates of economic performance in the Northern Prawn Fishery for 2010–11 are also included.

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