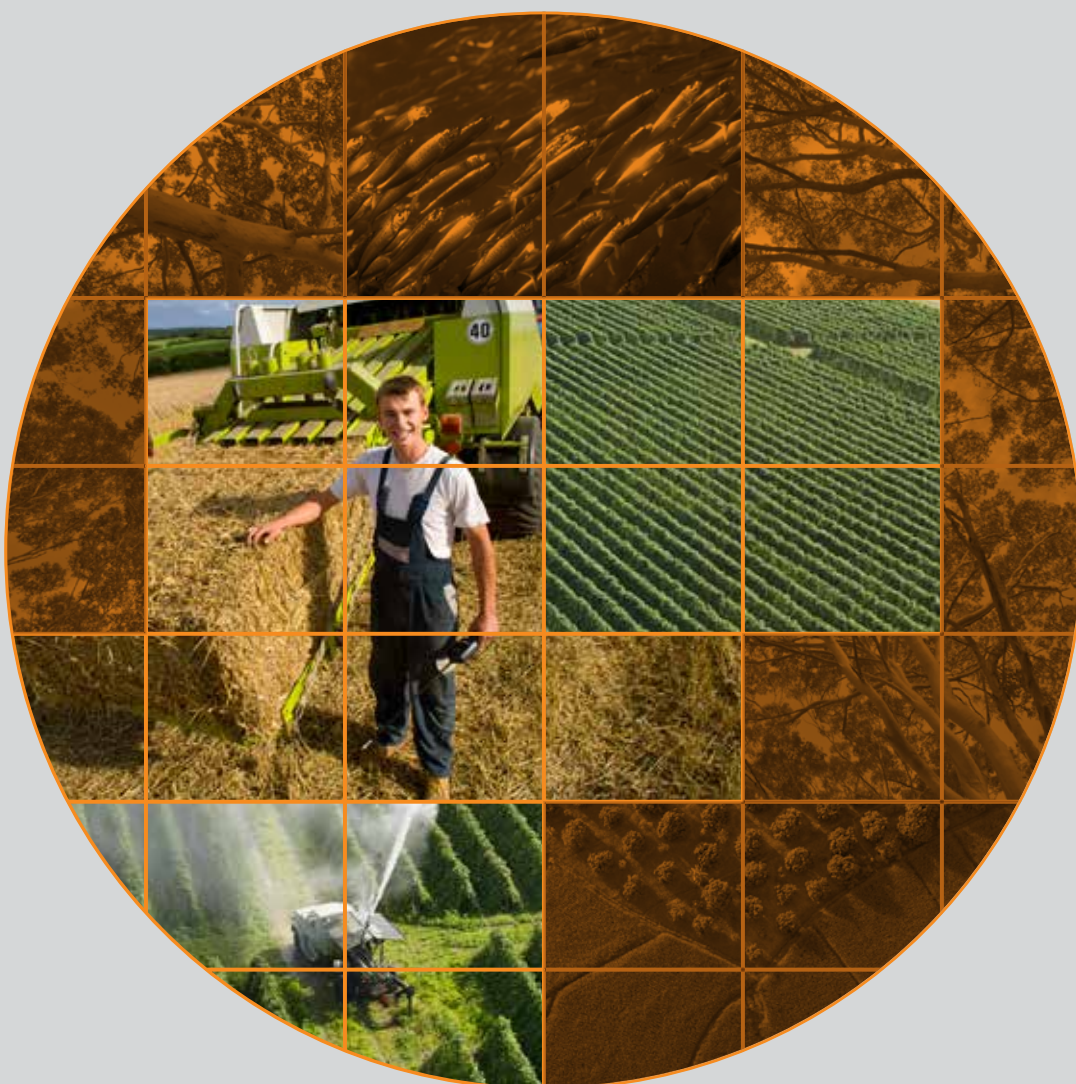**Australian Government**

Department of Agriculture, Fisheries and Forestry

ABARES

Agricultural commodities

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

DECEMBER QUARTER 2012

Contents

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Economic overview

Economic overview

Patrick Hamshere, Neil Thompson and Brian Moir

- World economic growth is assumed to be 3.5 per cent in 2013, marginally higher than the estimated growth rate of 3.2 per cent in 2012.
- Economic growth in OECD economies, particularly those in Western Europe, is expected to remain subdued in 2013.
- Emerging economies are expected to remain the main drivers of world economic growth.
- Uncertainty over the US Government's fiscal policy and financing of European sovereign debt are key downside risks to the global economic outlook.
- The Australian dollar is assumed to remain around US$1.03 in 2012–13.

Global economy

Global economic growth moderated over the course of 2012. Emerging economies, particularly in Asia, continue to underpin world economic growth, while subdued domestic demand has weakened activity in major OECD economies.

World economic growth
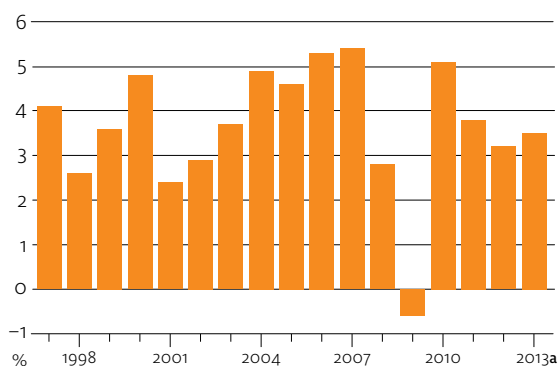
a ABARES assumption.

In the short term, growth in OECD economies is assumed to remain subdued. While improvements in private sector demand are expected, they are unlikely to be significant given high unemployment and weak housing markets. In addition, fiscal consolidation by many governments is expected to hold back growth. Significant uncertainty remains over the US Government's fiscal policy and the financing of European sovereign debt, which pose downside risks to the global outlook. In preparing this set of agricultural commodity forecasts, economic growth in the OECD is assumed to average 1.5 per cent in 2013, following estimated growth of 1.3 per cent in 2012.

Regional economic growth
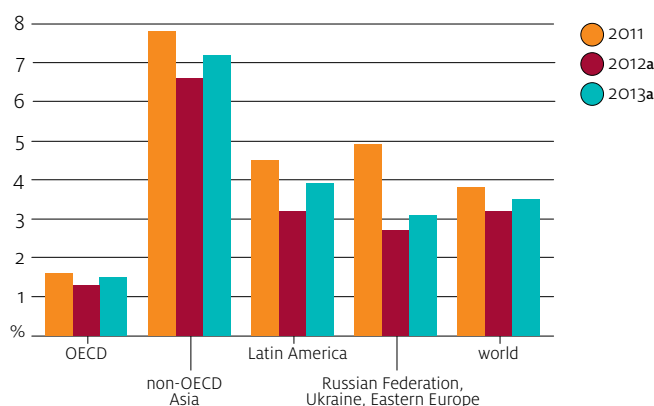
a ABARES assumption.

For emerging economies the short-term outlook remains positive. Strong domestic demand, especially in Asian countries, is assumed to support economic growth, while their export performance is expected to be supported by some strengthening in demand by OECD countries. For developing economies as a whole, economic growth is assumed to average 6 per cent in 2013, following an estimated growth rate of 5.7 per cent in 2012.

Against this backdrop, world economic growth is assumed to be 3.5 per cent in 2013, marginally higher than the estimated growth rate of 3.2 per cent in 2012.

Key macroeconomic assumptions

World		2010	2011	2012 a	2013 a
Economic growth					
OECD	%	3.0	1.6	1.3	1.5
United States	%	2.4	1.8	2.3	2.3
Japan	%	4.5	− 0.7	1.6	0.9
Western Europe	%	2.0	1.4	− 0.4	0.4
– Germany	%	4.2	3.0	1.0	1.0
– France	%	1.7	1.7	0.2	0.5
– United Kingdom	%	1.8	0.9	− 0.1	0.9
– Italy	%	1.8	0.4	− 2.1	− 0.5
Korea, Rep. of	%	6.3	3.6	2.6	3.3
New Zealand	%	1.8	1.3	2.2	2.7
Developing countries	%	8.0	6.4	5.7	6.0
– non-OECD Asia	%	9.5	7.8	6.6	7.2
South-East Asia **b**	%	7.0	4.5	5.3	5.5
China **c**	%	10.4	9.3	7.7	8.0
Taiwan	%	10.7	4.0	1.3	3.4
Singapore	%	14.8	4.9	2.0	2.9
India	%	10.3	7.0	5.5	6.4
– Latin America	%	6.2	4.5	3.2	3.9
Russian Federation	%	4.3	4.3	3.4	3.5
Ukraine	%	4.1	5.2	3.0	3.3
Eastern Europe	%	4.6	5.3	1.8	2.6
World **d**	%	5.1	3.8	3.2	3.5
Inflation					
United States	%	1.6	3.2	2.1	2.0
Interest rates					
US prime rate **e**	%	3.3	3.3	3.3	3.3

Australia		2009 −10	2010 −11	2011 −12	2012 −13 a
Economic growth	%	2.1	2.4	3.5	3.0
Inflation	%	2.3	3.1	2.3	2.4
Interest rates **g**	%	6.0	6.6	6.1	5.3
Australian exchange rates					
US$/A$		0.88	0.99	1.03	1.03
TWI for A$ **h**		69	74	76	77

a ABARES assumption. **b** Indonesia, Malaysia, Philippines, Thailand and Vietnam. **c** Excludes Hong Kong. **d** Weighted using 2011 purchasing-power-parity (PPP) valuation of country gross domestic product by the International Monetary Fund. **e** Commercial bank prime lending rates in the United States. **g** Large business weighted average variable rate on credit outstanding. **h** Base: May 1970 = 100.

Sources: ABARES; Australian Bureau of Statistics; International Monetary Fund; Organisation for Economic Co-operation and Development; Reserve Bank of Australia

Economic prospects in Australia's major export markets

United States

In the United States, economic activity expanded at a modest pace in the first three quarters of 2012. Real gross domestic product increased at a year-on-year rate of 2.5 per cent in the September quarter 2012, following growth of 2.1 per cent in the June quarter and 2.4 per cent in the March quarter.

Partial indicators released recently suggest private sector demand is likely to continue to grow modestly in the short term. Consumer spending, which accounts for around two-thirds of real gross domestic product, expanded at a year-on-year rate of 1.8 per cent in the September quarter 2012. This compares with growth of 1.9 per cent in the June quarter and 1.8 per cent in the March quarter 2012. Weak labour and housing markets are holding back a significant increase in consumer demand.

The unemployment rate declined in recent months, though it remains high. It was 7.9 per cent in October, compared with a recent high of 8.3 per cent in July 2012. The US housing market showed signs of improvement in recent quarters, with housing starts reaching 786 000 units in the September quarter 2012. While this is the highest number of new starts since the global financial crisis in 2008, it is still around 1.3 million units lower than during the housing boom in 2006.

The manufacturing sector continued to grow, albeit at a slower rate than at the beginning of the year. Industrial production grew by 3.3 per cent in the September quarter 2012, down from 4.7 per cent in the June quarter and 4.4 per cent in the March quarter. With a slowing growth rate, manufacturing activity is unlikely to provide significant support to the economy in the near term.

In light of subdued economic growth in the first three quarters of 2012, the US Federal Reserve announced additional monetary stimulus in September 2012.

OECD economic growth
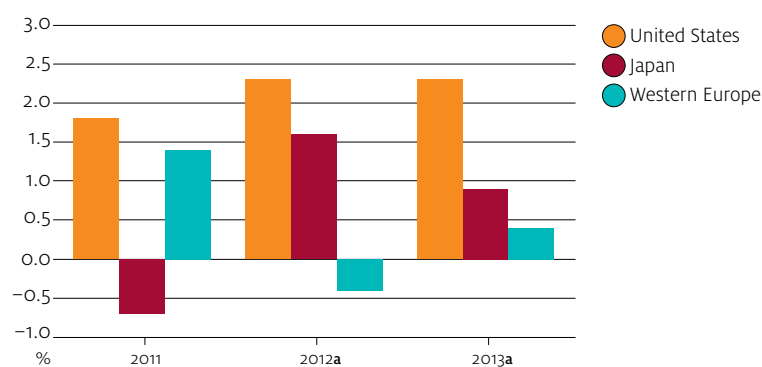
a ABARES assumption.

In the short term, economic growth in the United States is assumed to remain modest. The impact of hurricane Sandy is expected to slow economic activity in the December quarter 2012, although rebuilding activity should support growth in early 2013. In preparing this set of agricultural commodity forecasts, economic growth is assumed to average 2.3 per cent in 2013, similar to the estimated growth rate in 2012.

US fiscal cliff

A major risk to US economic growth in 2013 is the so-called 'fiscal cliff'. In January 2013, substantial changes to US fiscal policy are scheduled to come into effect. Known as the fiscal cliff, current legislation will implement around US$500 billion of public spending cuts and tax increases in 2013, with significant implications for the US economy.

The largest component of the fiscal cliff is increased personal income taxes, totalling around US$300 billion in 2013. If implemented, higher personal tax rates are likely to weaken consumer demand, which accounts for a significant share of gross domestic product. Another large component of the fiscal cliff is higher payroll tax for businesses. Under this scenario, higher business costs and reduced consumer spending are expected to weaken employment growth during 2013.

There are implications for the world economy from the US fiscal cliff. Given the United States contributes around 20 per cent of world output, a significant weakening of its economy would slow global growth and affect other economies through trade linkages.

In light of the possible economic impact, negotiations are underway in Congress to avoid the fiscal cliff. A likely outcome is modification or delay of scheduled policies, with reductions in the budget deficit rescheduled to occur over an extended period.

China

Economic growth in China continued to moderate in recent quarters, largely reflecting weaker external demand. Real gross domestic product expanded at a year-on-year rate of 7.4 per cent in the September quarter 2012, down from 7.6 per cent in the June quarter and 8.1 per cent in the March quarter.

China's exports have been adversely affected by a slowdown in OECD economies, although export performance has improved in recent months. Exports increased at a year-on-year rate of 11 per cent in October 2012, up from a recent low of 1 per cent in July. This compares with growth of around 20 per cent for 2011 as a whole.

Growth in domestic demand moderated during 2012, although it remains relatively strong. Investment in fixed assets expanded at a year-on-year rate of around 20 per cent in the three months to October 2012, down from growth of 25 per cent for 2011 as a whole. Retail sales grew at a year-on-year rate of 14.5 per cent in October 2012, improving from a recent low of 13.1 per cent in July, but remaining below the 17 per cent recorded for 2011 as a whole.

China's recent trade indicators
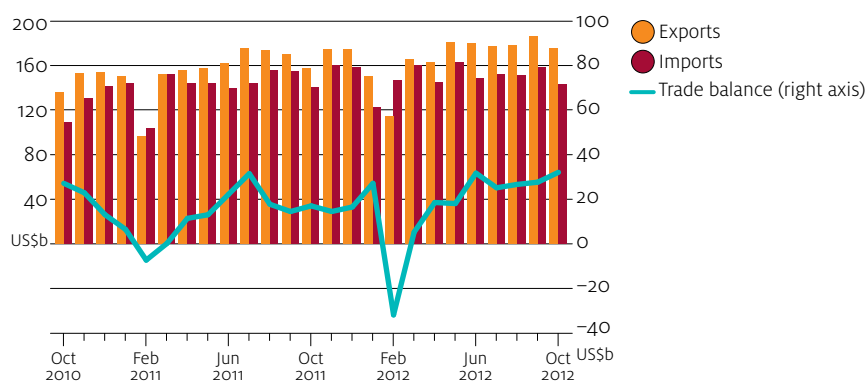
Reflecting weaker economic growth, inflationary pressures in China eased in recent months. Consumer prices rose year-on-year by 1.7 per cent in October 2012, compared with 1.9 per cent in September and 2 per cent in August. The lower inflation rate will provide room for interest rate reductions to support domestic demand if economic growth weakens further.

In preparing this set of agricultural commodity forecasts, economic growth in China is estimated to average 7.7 per cent in 2012. In 2013, growth is assumed to strengthen to 8 per cent, in line with an expected improvement in world economic growth.

Inflation rate in China
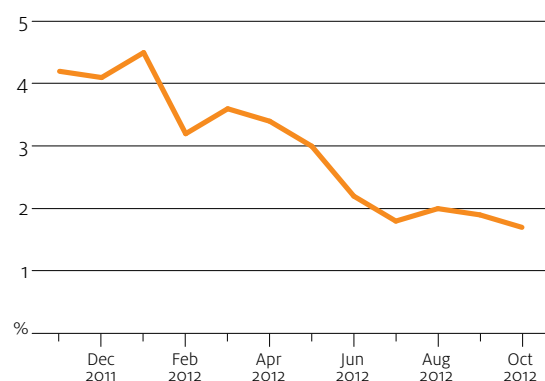
Japan

After rebounding in the first half of 2012, economic activity in Japan weakened in the September quarter. Real gross domestic product expanded at a year-on-year rate of 0.1 per cent in the September quarter 2012, following growth of 3.3 per cent in the June quarter and 2.9 per cent in the March quarter. The slowdown largely reflects reduced reconstruction activity, which has been the main driver of economic growth since the earthquakes and tsunami in 2011.

Reflecting the slowdown in reconstruction, growth in fixed asset investment moderated to 2.8 per cent year-on-year in the September quarter 2012. This follows growth of 5 per cent in the June quarter and 3.9 per cent in the March quarter. Similarly, growth in private consumption moderated to 1.2 per cent year-on-year in the September quarter 2012, following growth of 3.2 per cent in the June quarter and 3.7 per cent in the March quarter.

Japan's exports and factory production remained relatively weak in recent months. Exports declined at a year-on-year rate of 10 per cent in September 2012, following a decline of 6 per cent in August. Factory production declined at a year-on-year rate of 8 per cent in September 2012, following a decline of 5 per cent in August. Given the relatively weak outlook for external demand and the high value of the yen against other major world currencies, Japan's export performance is unlikely to improve significantly in the short term.

In an attempt to support economic activity, the Japanese Government recently implemented fiscal and monetary stimulus. Although these measures should provide some support to domestic demand in coming quarters, they are unlikely to offset the effects of declining reconstruction spending. In preparing this set of agricultural commodity forecasts, economic growth in Japan is assumed to be 0.9 per cent in 2013, following an estimated growth rate of 1.6 per cent in 2012.

Japan industrial production and exports
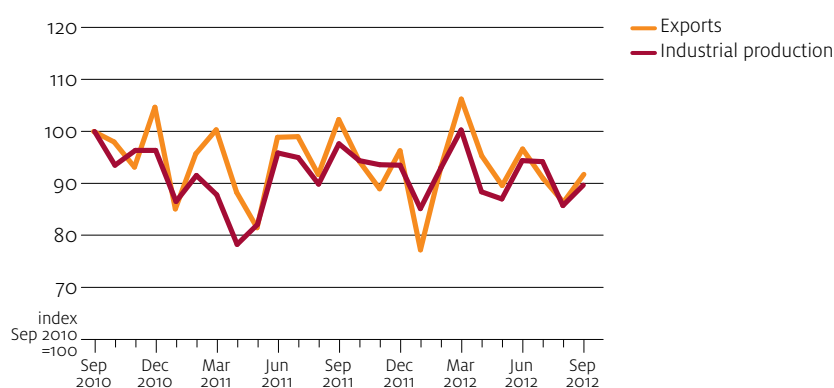
Western Europe

Economic conditions in much of Western Europe deteriorated since the beginning of 2012. In Italy, the economy contracted at a year-on-year rate of 2.4 per cent in the September quarter 2012, following a year-on-year decline of 1.9 per cent in the first six months of 2012. In Germany and France economic growth remained positive through 2012, but the pace of growth slowed.

The recent slowdown of economic growth mainly reflects falls in private sector demand. In Italy, consumer spending declined at a year-on-year rate of 3.7 per cent in the June quarter 2012, following a 2.8 per cent decline in the March quarter. In Germany, consumer spending declined at a year-on-year rate of 0.1 per cent in the September quarter 2012, following growth of 1.1 per cent in the June quarter.

Given weak consumer confidence and high unemployment, it is unlikely that private sector demand will improve significantly in the short term. The European Commission's Economic Sentiment Index declined by 8 per cent year-on-year in October 2012, to its lowest level since August 2009. The labour market also continued to weaken. In October 2012, the unemployment rate for the Euro area was 11.7 per cent, up from 11.5 per cent in August.

Euro area Economic Sentiment Index
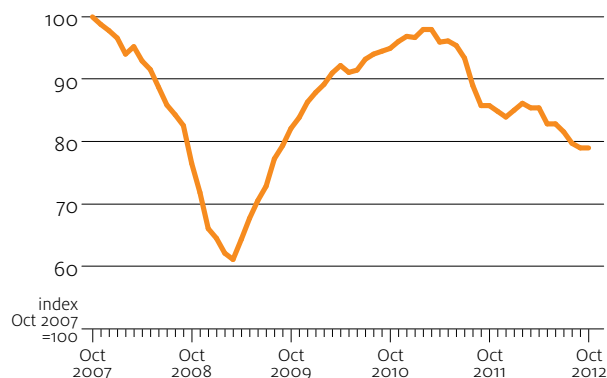
Despite easing recently, yields on government bonds remain high in a number of countries, indicating financial markets continue to be concerned over the ability of some governments to finance debt obligations. While yields on 10-year government bonds for Spain fell to 5.3 per cent in November 2012, compared with a recent high of 7.6 per cent in July, they are still around 1.5 percentage points higher than pre–global financial crisis levels. Similarly, long-term bond yields for Italy fell to 4.5 per cent in November, compared with 6.6 per cent in July 2012 and around 4 per cent in January 2008.

10-year government bond yields in selected Euro area economies
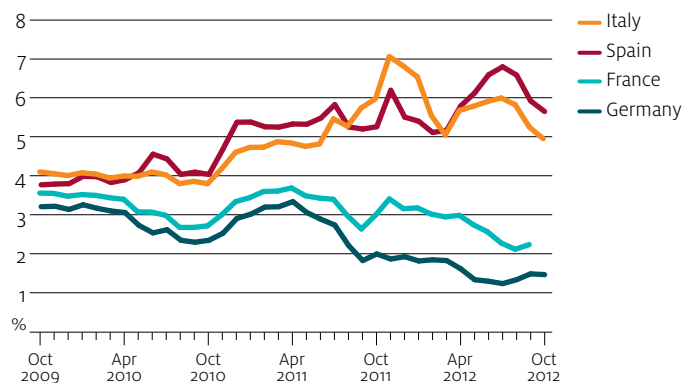
In preparing this set of agricultural commodity forecasts, economic activity in Western Europe is estimated to decline by 0.4 per cent in 2012. A slower pace of fiscal consolidation and some improvements in private demand are expected in 2013, with growth assumed to average 0.4 per cent for the year as a whole.

Non-OECD Asia

Economic activity in non-OECD Asia moderated in recent quarters. In export oriented economies, growth was adversely affected by weakening demand from major OECD countries. For example, in Thailand, real gross domestic product expanded at a year-on-year rate of 3 per cent in the September quarter 2012, following growth of 4.4 per cent in the June quarter. In contrast, growth remained strong in economies where domestic demand is the main driver of economic activity. In Indonesia, real gross domestic product expanded at a year-on-year rate of 6.2 per cent in the September quarter 2012, following growth of 6.4 per cent in the June quarter.

Economic growth in Asia
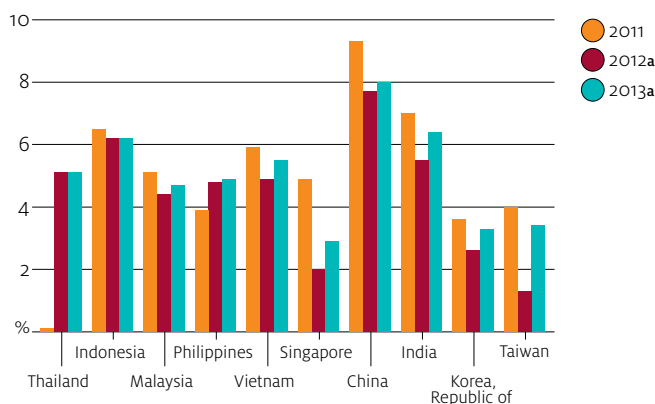
a ABARES assumption.

Reflecting moderating growth rates, a number of economies implemented monetary stimulus measures to support activity. In Thailand, the benchmark interest rate was reduced by 25 basis points to 2.75 per cent on 17 October 2012. In the Philippines, interest rates were reduced by 25 basis points to 3.5 per cent also in October; the fourth rate cut this year. Recent policy easing is expected to support domestic demand in coming quarters.

For non-OECD Asia as a whole, economic growth is assumed to average 6.6 per cent in 2012. In 2013 marginally higher growth in China and a partial recovery in OECD economies are expected to support export activity, with economic growth assumed to average 7.2 per cent.

Economic prospects in Australia

In Australia, real gross domestic product rose at a year-on-year rate of 3.1 per cent in the September quarter 2012, following growth of 3.8 per cent in the June quarter.

For 2012–13 as a whole, economic growth in Australia is assumed to average 3 per cent. While continued growth in household consumption and investment is expected, recent falls in exports of Australia's key non-rural commodities, particularly iron ore and coal, could adversely affect business investment sentiment.

Australian economic indicators
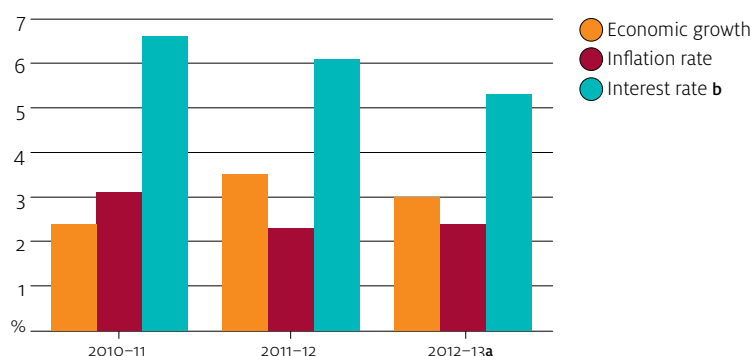
a ABARES assumption. b Large business weighted average variable rate on credit outstanding.

Inflation

In Australia, inflation remained relatively subdued since the beginning of 2012 although it increased slightly in the September quarter. The consumer price index rose at a year-on-year rate of 2 per cent in the September quarter 2012, up from 1.2 per cent in the June quarter and 1.6 per cent in the March quarter.

The most significant price rises in the September quarter were for electricity (up 15 per cent), international holiday travel and accommodation (7 per cent) and medical and hospital services (5 per cent). Partially offsetting these rises were price falls for automotive fuel (down 4 per cent) and motor vehicles (1 per cent).

For 2012–13 as a whole, inflationary pressures are expected to remain modest, with inflation assumed to average 2.4 per cent. This compares with inflation of 2.3 per cent in 2011–12.

Australian exchange rate

The value of the Australian dollar remained strong over the past several months, especially against the US dollar. In the first half of 2012–13, the Australian dollar is estimated to average around US103 cents, largely unchanged from the average of 2011–12. On a trade-weighted basis, the Australian dollar is estimated to average around TWI 77 in the first half of 2012–13, compared with an average of TWI 76 in 2011–12.

In the short term, the Australian exchange rate is expected to remain relatively strong. A number of factors underpin this assessment. First, Australia's economic performance is expected to remain relatively robust compared with other OECD economies. As a result, financial market sentiment should remain favourable toward the Australian dollar, supporting the Australian exchange rate against other international currencies, including the US dollar.

Second, sizable differences remain in interest rates between Australia and major world economies, which favours international investors holding Australian dollar denominated assets. Prime lending rates in Australia were around 5.4 per cent in November 2012, compared with rates of 3.3 per cent in the United States, 1.5 per cent in Japan and 2 per cent in Germany. Given the subdued outlook for economic growth in these economies, it is likely that their interest rates will remain low for a sustained period. For 2012–13 as a whole, prime lending rates in Australia are assumed to average around 5.3 per cent. This compares with an average of 3.3 per cent assumed for the United States in 2012–13.

In preparing this set of agricultural commodity forecasts, the Australian dollar is assumed to average US103 cents and TWI 77 for 2012–13 as a whole. While the value of the Australian dollar is assumed to remain strong, continued financial market concern about European sovereign debt and uncertainty over US fiscal policy is likely to lead to continued volatility in exchange rates between those currencies and the Australian dollar. It is therefore important for primary producers and exporters to manage the risks associated with fluctuations in the Australian exchange rate, especially against the US dollar. Most of Australia's export contracts on agricultural products are denominated in US dollars.

Australian exchange rate
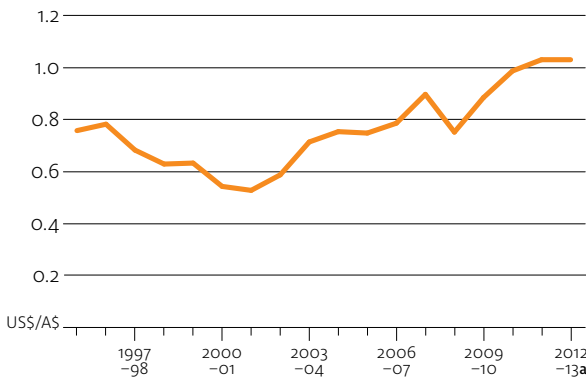
a ABARES assumption.

Outlook for Australian agricultural, fisheries and forestry exports

The total volume of farm production is forecast to decline by around 6.3 per cent in 2012–13, following an increase of 5.8 per cent in 2011–12. This decline largely reflects a forecast fall in crop production, which is expected to be partially offset by higher livestock production.

The index of crop production is forecast to fall by 12.6 per cent in 2012–13, mainly reflecting a forecast decline in winter crop production from a record high in 2011–12.

The volume of livestock production is forecast to increase by 2.3 per cent in 2012–13, as a result of increased lamb and sheep turn-offs and higher milk production.

The index of unit export returns for Australian farm commodities is forecast to decline by 1.2 per cent in 2012–13. Lower world prices for rice, cotton, sugar, wool and dairy products are expected to more than offset forecast price rises for grains and oilseeds.

Export earnings from farm commodities are forecast to be around $36 billion in 2012–13, marginally lower than the $36.4 billion achieved in 2011–12. Farm commodities for which export earnings are forecast to be lower in 2012–13 include barley (down 18 per cent), canola (9 per cent), raw cotton (10 per cent), sugar (9 per cent) and wool (21 per cent). Largely offsetting these declines are forecast increases in export earnings for wheat (11 per cent), rice (6 per cent), grain sorghum (30 per cent), wine (1 per cent), beef and veal (2 per cent) and sheep meat (6 per cent).

Export earnings for crops are forecast to remain largely unchanged at around $21.7 billion in 2012–13. Reflecting expected lower prices on world markets, the export value of livestock and livestock products is forecast to decline by 2.9 per cent to $14.3 billion in 2012–13.

Export earnings for fisheries products are forecast to be around $1.2 billion in 2012–13, largely unchanged from 2011–12. Export earnings for forest products are forecast to increase by 2.3 per cent to around $2.3 billion in 2012–13.

In total, the value of Australian agricultural, fisheries and forestry exports is forecast to be around $39.5 billion in 2012–13, compared with $39.9 billion in 2011–12.

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

		2007 –08	2008 –09	2009 –10	2010 –11	2011 –12 s	2012 –13 f	change from previous year 2011–12 %	2012–13 %
Exchange rate	US$/A$	0.90	0.75	0.88	0.99	1.03	1.03	4.0	0.0
Unit returns a									
Farm	index	100.0	100.7	88.8	98.2	98.5	97.3	0.3	− 1.2
Value of exports	A$m	30 755	34 952	31 312	35 532	39 887	39 483	12.3	− 1.0
Farm b	A$m	26 942	31 080	27 796	31 809	36 430	35 970	14.5	− 1.3
– crops	A$m	12 813	16 367	14 894	17 315	21 695	21 657	25.3	− 0.2
– livestock	A$m	14 129	14 713	12 902	14 494	14 735	14 313	1.7	− 2.9
Forest and fisheries products	A$m	3 813	3 872	3 516	3 723	3 457	3 513	− 7.2	1.6
– forestry	A$m	2 471	2 343	2 270	2 474	2 229	2 280	− 9.9	2.3
– fisheries	A$m	1 342	1 529	1 247	1 249	1 228	1 233	− 1.7	0.4
Gross value of production c									
Farm	A$m	43 738	41 929	39 665	47 748	48 885	46 948	2.4	− 4.0
– crops	A$m	24 222	22 769	21 136	26 743	27 715	27 041	3.6	− 2.4
– livestock	A$m	19 516	19 160	18 529	21 005	21 169	19 907	0.8	− 6.0
Forestry and fisheries	A$m	4 044	3 973	3 967	4 062	3 998	4 125	− 1.6	3.2
– forestry	A$m	1 837	1 759	1 777	1 832	1 707	1 807	− 6.8	5.9
– fisheries	A$m	2 207	2 214	2 191	2 231	2 291	2 318	2.7	1.2
Volume of production d									
Farm	index	103.9	108.0	107.5	114.6	121.3	113.7	5.8	− 6.3
– crops	index	103.9	113.2	114.4	127.2	140.2	122.6	10.2	− 12.6
– livestock	index	102.3	100.7	98.8	100.5	101.2	103.5	0.7	2.3
Forestry	index	133.3	119.5	118.5	122.7	112.3	118.3	− 8.5	5.3
Production area and livestock numbers									
Crop area (grains and oilseeds)	'000 ha	23 207	24 095	23 787	23 946	23 824	23 622	− 0.5	− 0.9
Forestry plantation area	'000 ha	1 973	2 020	2 009	2 017	na	na	na	na
Sheep	million	76.9	72.7	68.1	73.1	76.0	76.2	4.0	0.3
Cattle	million	27.3	27.9	26.6	28.5	29.1	29.4	2.1	1.0
Farm costs	A$m	37 137	36 631	34 456	36 591	37 432	37 348	2.3	− 0.2
Net cash income e	A$m	10 819	5 865	10 003	16 103	16 523	14 803	2.6	− 10.4
Net value of farm production g	A$m	6 601	5 298	5 209	11 157	11 452	9 600	2.6	− 16.2
Farmers' terms of trade	index	91.4	89.0	88.6	97.9	93.4	95.6	− 4.6	2.4
Employment									
Agriculture, forestry and fishing	'000	354	362	369	351	335	na	− 4.7	na
Australia	'000	10 684	10 892	11 027	11 355	11 432	na	0.7	na

a Base: 2007–08 = 100. **b** Series revised back to 1988–89. **c** For a definition of the gross value of farm production see Table 13.
d Chain weighted basis using Fishers' ideal index with a reference year of 1997–98 = 100. **e** Gross value of farm production less total cash costs. **g** Gross value of farm production less total farm costs.
f ABARES forecast. **s** ABARES estimate. **na** Not available.
Sources: ABARES; Australian Bureau of Statistics

Major Australian agricultural, fisheries and forestry commodity exports

Wheat, cotton, sugar, rice 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.

	value		2012–13 volume	world price	value
Wheat	$7.08b / $6.38b		−5%	+20%	+11%
Beef and veal	$4.55b / $4.47b		+2%	−6%	+2%
Wool	$2.48b / $3.12b		−2%	−17%	−21%
Cotton	$2.45b / $2.74b		+11%	−19%	−10%
Dairy	$2.28b / $2.29b		+4%	−4%	−1%
Wine	$1.88b / $1.86b		+1%	0%	+1%
Sugar	$1.56b / $1.72b		+12%	−21%	−9%
Barley	$1.53b / $1.88b		−28%	+13%	−18%
Oilseeds	$1.43b / $1.55b		−7%	+16%	−7%
Lamb	$1.09b / $1.06b		+15%	−11%	+3%
Woodchips	$0.75b / $0.73b		+1%	+2%	+2%
Rice	$0.44b / $0.42b		+7%	−4%	+6%
Rock lobster	$0.40b / $0.39b		+7%	−2%	+4%

Legend: 2012–13 f, 2011–12 s
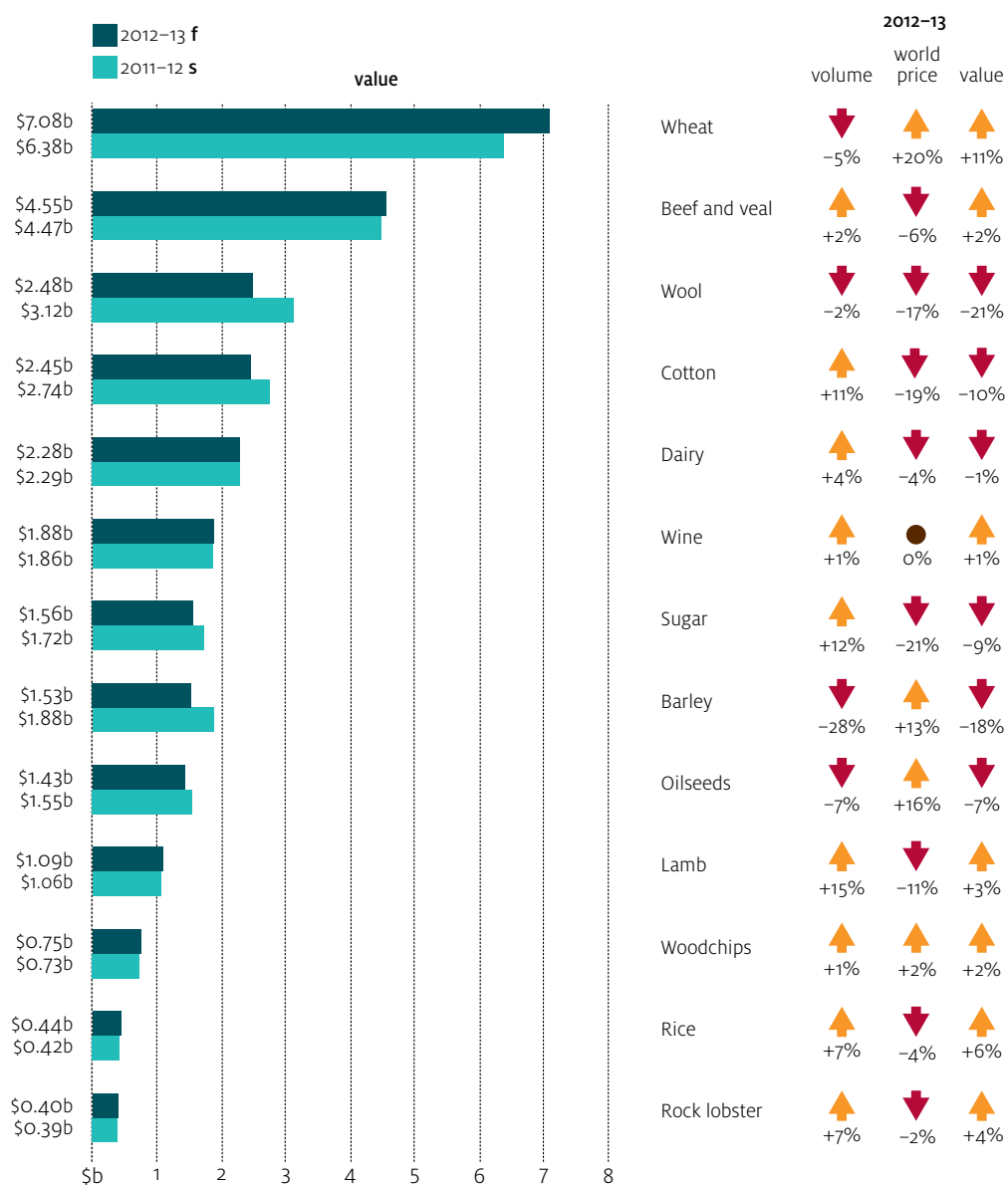
f ABARES forecast. s ABARES estimate.

Agriculture

Crops

Wheat

David Mobsby

The world wheat indicator price (US no. 2 hard red winter, fob Gulf) is forecast to rise by 20 per cent in 2012–13 to average around US$360 a tonne. This forecast price increase reflects an expected 4 per cent (around 36 million tonne) fall in world wheat supplies (production plus opening stocks) and the effect on world wheat prices of a forecast shortfall in world coarse grains supplies and a sharp rise in world coarse grains prices.

World wheat supply and price
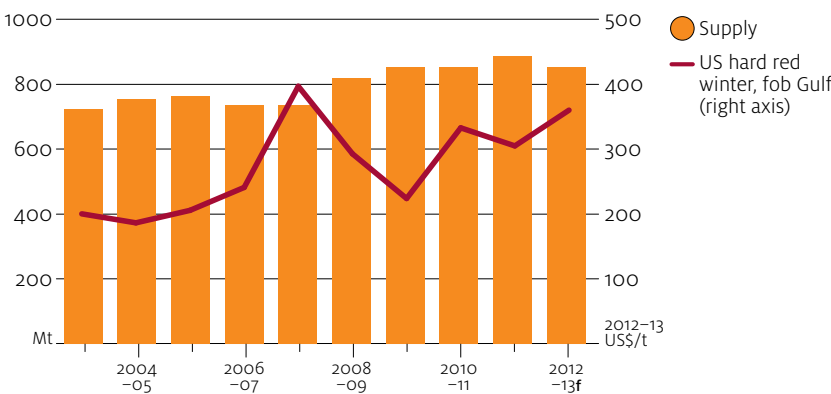
f ABARES forecast.

The world wheat indicator price rose by 29 per cent since June 2012 to an average of US$373 a tonne in November 2012. This significant price rise was mainly in response to production shortfalls of wheat in the Black Sea region and the European Union as a result of adverse seasonal conditions and markedly higher world coarse grains prices as a result of drought in the United States.

World wheat price movements in the second half of 2012–13 are expected to be closely linked to the harvest outcomes in major exporting countries in the southern hemisphere, such as Australia and Argentina, and seasonal conditions for plantings of the 2013–14 wheat crop in the northern hemisphere, especially in the United States and the Black Sea region.

In preparing this set of wheat market forecasts, seasonal conditions are assumed to be favourable in major producing countries for the 2013–14 season, especially in the northern hemisphere. If this assumption proves optimistic and current dry conditions persist in some major producing countries, including the United States, world wheat prices are likely to average significantly higher in the second half of 2012–13 than currently forecast. This scenario would lead to a markedly higher average price for 2012–13 as a whole.

US grains prices
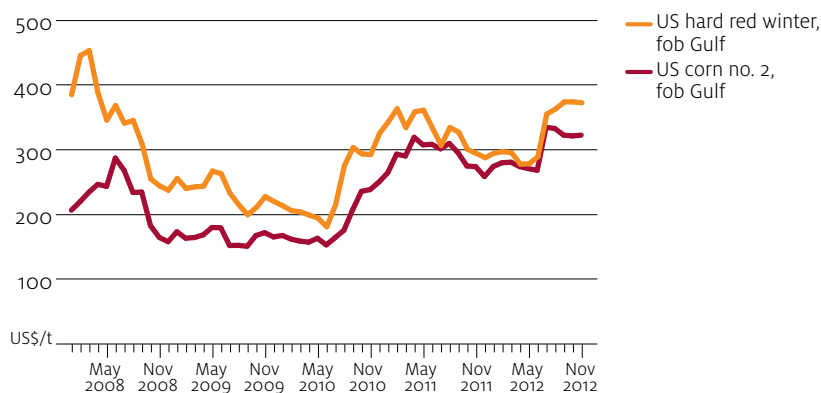
Drought conditions in the United States

Major cropping regions in the United States have experienced hot and dry conditions since mid 2012, affecting production of key crops, such as corn and soybeans. While it has been assumed that favourable seasonal conditions would return for the planting and production of 2013–14 crops, it is possible that dry conditions will persist well into 2013. Should this eventuate, it would have significant implications for the US crop outlook in 2013–14, leading to higher than currently forecast world prices for wheat, coarse grains and oilseeds in the second half of 2012–13, and possibly beyond.

While unfavourable seasonal conditions in major cropping regions in the United States have mostly been confined to around one season over the past 100 years, several episodes of persistent drought occurred during the 1930s, 1950s and the late 1980s. In each period some major cropping regions were classified as being severely to extremely dry for an extended time.

US drought history: percentage of total United States land area rated as severely to extremely dry
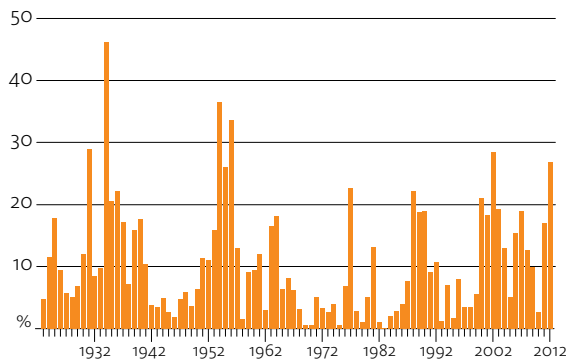
At the end of October 2012, 49 per cent of the United States (excluding Alaska and Hawaii) was classified as being in moderate to extreme drought. In particular, drought conditions intensified in the major wheat producing regions of the High Plains (which includes Colorado, Nebraska, Kansas and North and South Dakota) and the South (which includes Texas and Oklahoma). In November 2012 the National Oceanic and Atmospheric Administration declared them core drought regions. These regions account for around 55 per cent of US wheat production.

The Midwest (which includes Iowa, Illinois, Minnesota, Indiana and Ohio) is the major corn and soybean growing region of the United States, accounting for around 62 per cent and 66 per cent of national corn and soybean production, respectively. Drought conditions in this region reached a high in late July 2012, but improved gradually over late summer and autumn with the percentage of land area in moderate to extreme drought decreasing from around 70 per cent at the end of July 2012 to just above 50 per cent near the end of November 2012.

Drought conditions in the United States continued

According to the National Oceanic and Atmospheric Administration's three month drought outlook (issued on 15 November 2012), some improvement of drought conditions is forecast in the Midwest, while drought conditions are expected to persist in major wheat growing regions through to February 2013.

US High Plains drought condition, as a percentage of land area
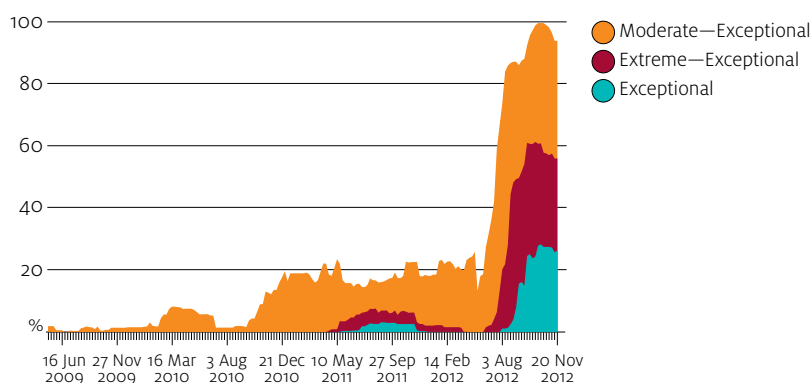
Planting of the 2013–14 winter wheat crop was largely complete by early November 2012. Early indications suggest that the crop is in a poorer than average condition, with only 33 per cent rated as being in a good or excellent condition in late November, compared with an average of 54 per cent in the same period over the five years to 2011–12. While the condition of crops at this early stage is less important in determining yields, production of the 2013–14 winter wheat crop will critically depend on improved seasonal conditions in the first half of 2013. The 2013–14 US corn and soybean crop is expected to be planted during April and May 2013.

US Midwest drought condition, as a percentage of land area
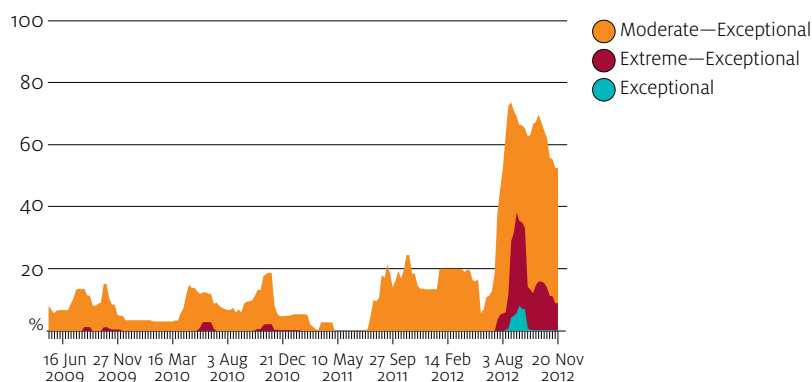
World production to fall

World wheat production is forecast to fall by 5 per cent in 2012–13 to 656 million tonnes, driven mainly by estimated falls in the European Union, the Black Sea region and expected lower production in Argentina and Australia.

Wheat production in the Black Sea region is estimated to have fallen by 37 per cent in 2012–13 due to persistent hot and dry conditions. The Russian Federation is the largest wheat producer in the region and its production is estimated to have declined by 31 per cent in 2012–13 to 39 million tonnes. Similarly, production in Ukraine is estimated to have fallen by around 35 per cent to 14.5 million tonnes, while in Kazakhstan wheat production is estimated to have halved from the previous year's record production to only around 11 million tonnes.

Planting of the 2013–14 winter wheat crops in the Black Sea region has occurred under generally favourable conditions. However, parts of south-eastern Ukraine and the Southern Federal District of the Russian Federation remain dry, presenting a downside risk to the regional production in 2013–14.

In the European Union, hot and dry seasonal conditions in some growing areas adversely affected spring wheat production. Combined with earlier losses to the winter wheat crop from winterkill, total wheat production in the European Union is estimated to have decreased by 5 per cent to 131 million tonnes in 2012–13.

Wheat production in the United States is estimated to have increased by 13 per cent in 2012–13 to around 62 million tonnes. Production of hard red winter wheat is estimated to have increased by 29 per cent reflecting recovery from below average yields of 2011–12. The present drought in the United States did not affect 2012–13 wheat production because the dry conditions emerged after harvesting of the winter wheat crop, which comprises most US wheat production. The main US spring wheat production areas are mostly unaffected by the present drought.

Wheat production changes, major producers 2012–13
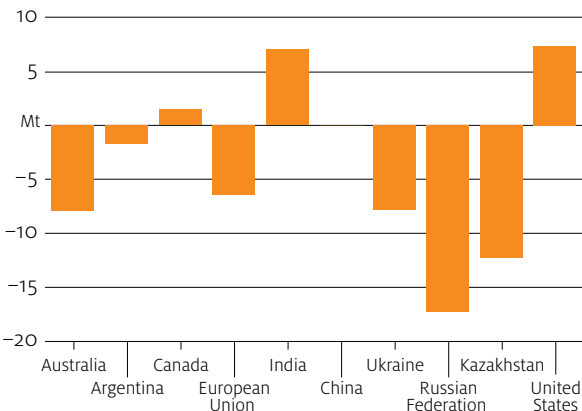
Wheat production in Canada is estimated to have risen by 6 per cent to 27 million tonnes due to a 10 per cent increase in harvested area. The increase in harvested area is expected to more than offset a return to average yields from the above average yields achieved in 2011–12.

In China, wheat production is estimated at around 118 million tonnes, largely unchanged from 2011–12. In India, production is estimated to have increased by 8 per cent to a record 94 million tonnes due to an increase in harvested area and favourable seasonal conditions.

Wheat production in major southern hemisphere exporters (including Argentina and Australia) is forecast to fall in 2012–13. In Argentina, wheat production is forecast to decrease by 13 per cent to 11.5 million tonnes, mainly driven by a reduction of harvested area and the effect on yields of persistent wet conditions over the growing season.

World consumption to decline

World consumption of wheat is forecast to fall by 2 per cent in 2012–13 to 679 million tonnes. Food use of wheat is expected to increase by 1 per cent to 464 million tonnes offsetting declines in industrial use of wheat.

In 2011–12, an increase in world wheat supplies and a fall in the feed wheat-to-corn price ratio caused wheat to become an attractive substitute for other feed grains and as a consequence feed wheat consumption rose by around 22 per cent to 146 million tonnes.

Wheat-to-corn price ratio, US SRW fob Gulf to US no. 2 corn fob Gulf
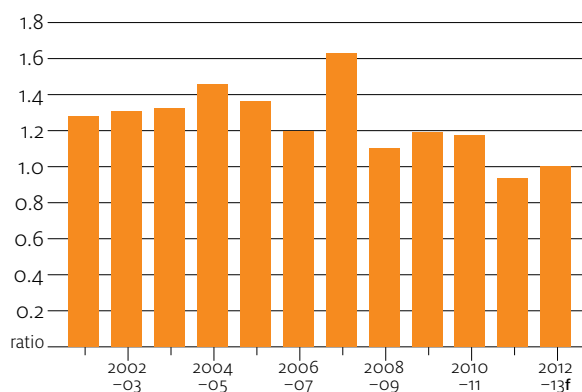
f ABARES forecast.

A forecast fall in world wheat supplies and the markedly higher wheat prices are expected to lead to a 10 per cent fall in world feed wheat consumption in 2012–13 to 131 million tonnes. Nevertheless, this forecast, if realised, represents the third highest year on record of world feed wheat consumption.

Feed wheat consumption is forecast to fall in the European Union and the Russian Federation by 7 per cent and 18 per cent, respectively. Together, these areas typically account for around 60 per cent of world feed wheat consumption. Feed wheat consumption is also forecast to fall in many grain importing countries in response to higher world prices.

Partially offsetting these forecast falls, feed wheat consumption in the United States is forecast to almost double to around 9 million tonnes. This mainly reflects a sharp fall in US domestic corn production and availability of large domestic supplies of wheat.

In China, feed wheat consumption is forecast to remain unchanged from the record of 2011–12 at around 22 million tonnes, with domestic wheat availability forecast to be high following a second year of high production.

Year-on-year change in feed wheat consumption, major consumers
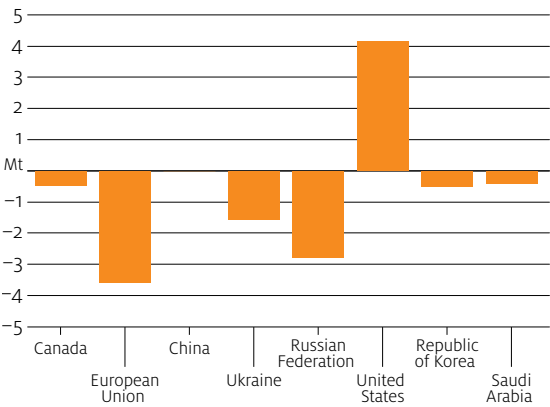
Trade to fall due to reduced world supply

World trade in wheat is forecast to fall by 10 per cent in 2012–13 to 131 million tonnes. This forecast reduction is the result of production decreases in some major exporting countries, particularly in the Black Sea region. A large reduction in exports from the Black Sea region is expected to more than offset the effect on world wheat trade of increased exports from Canada, the European Union, the United States and India.

In 2012–13 exports from the Russian Federation and Kazakhstan are forecast to fall by 54 per cent and 39 per cent to 10 million tonnes and 6.5 million tonnes, respectively. In contrast, wheat exports from Ukraine are forecast to rise by 2 per cent to 5.5 million tonnes.

Despite an estimated 5 per cent fall in production, wheat exports from the European Union are forecast to increase by 7 per cent in 2012–13 to 19 million tonnes, with higher world prices expected to lead to a run down in wheat stocks.

In the United States, wheat exports are forecast to increase by only 3 per cent in 2012–13 to around 30 million tonnes, despite a 13 per cent rise in production. Exports are expected to be constrained by increased domestic consumption, especially from the livestock sector.

In Canada, exports are forecast to increase by 4.4 per cent in 2012–13 to 19 million tonnes, roughly in line with increased production. Relatively low opening stocks in 2012–13 will limit the increase in Canadian exports to go beyond the forecast increase in production.

Wheat exports from Argentina are forecast to fall by 52 per cent in 2012–13 to 5.5 million tonnes, which reflects a fall in production and low opening stocks.

A large expected surplus of government stocks in India is forecast to result in that country becoming a significant exporter of wheat in 2012–13 with exports forecast to rise by 5 million tonnes to 6 million tonnes.

World wheat exports
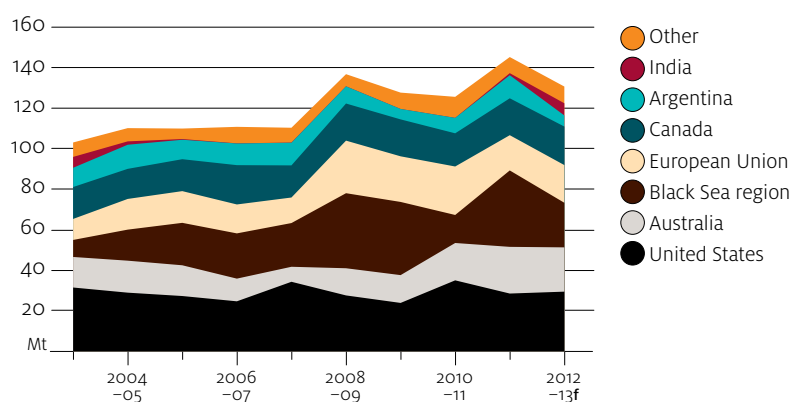
f ABARES forecast.

Stocks to fall in major exporting countries

A decrease in world wheat production is forecast to result in a 12 per cent decrease in world closing stocks in 2012–13 to 174 million tonnes. Because of a fall in wheat production, wheat stocks in major exporting countries are expected to be run down. As a result, total closing stocks for the major exporters—the United States, Canada, the European Union, Australia, Argentina and the Black Sea region—are forecast to decline by 29 per cent to around 49 million tonnes, the lowest since 2007–08.

In contrast, closing stocks of wheat in 2012–13 are expected to remain high in India and China at around 20 million tonnes and 53 million tonnes, respectively.

The forecast fall in wheat stocks is expected to result in the world stocks-to-use ratio declining by around 2 percentage points in 2012–13 to 26 per cent. However, this will still be 4 percentage points higher than the recent low of 22 per cent recorded in 2007–08.

Wheat stocks, major exporters
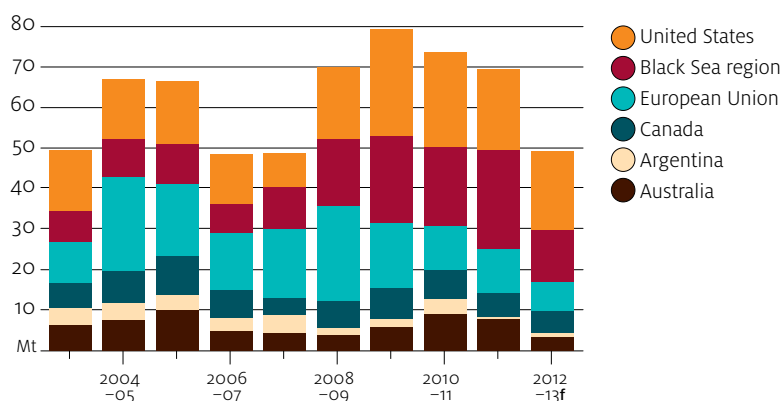
f ABARES forecast.

Production to fall in 2012–13

Australian wheat production is forecast to fall by 26 per cent in 2012–13, from the record production in 2011–12, to around 22 million tonnes. This forecast fall in production reflects the adverse effect of generally dry seasonal conditions on average yields and a decline in the area planted to wheat due to higher expected returns from other crops at the time of planting. However, in many cropping regions in eastern Australia, crop yields benefited from favourable levels of lower layer soil moisture.

Wheat production is forecast to decrease in all major producing states in 2012–13, from the highs achieved in 2011–12. The largest fall in production (in percentage terms) is expected in Western Australia, where wheat production is forecast to fall by 38 per cent to around 6.9 million tonnes, which reflects the combined effects of an expected 33 per cent fall in yields and an 8 per cent decrease in planted area.

In New South Wales, wheat production is forecast to fall by 17 per cent in 2012–13 to around 7.1 million tonnes. Below to very much below average rainfall throughout both winter and spring adversely affected yield potential, but an abundance of lower layer soil moisture supported crops able to grow roots down into this moisture.

In Queensland wheat production is estimated to have fallen by 7 per cent to around 1.7 million tonnes, which largely reflects a fall in average yields. In other states, production is forecast to fall by 32 per cent in Victoria and 19 per cent in South Australia to 2.7 million tonnes and 3.7 million tonnes, respectively.

Australian wheat production
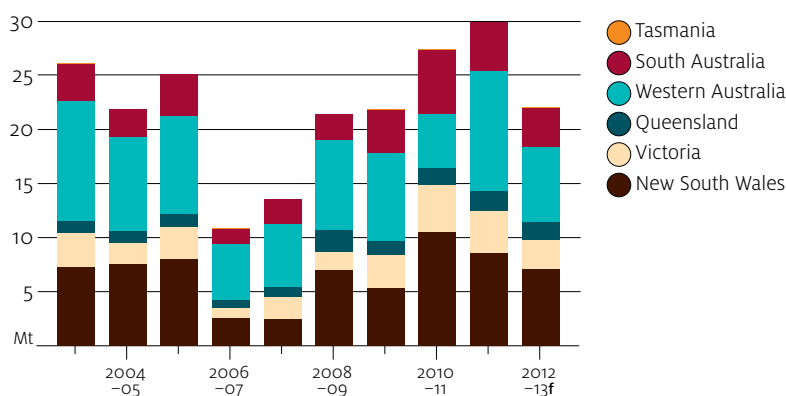
f ABARES forecast.

Exports to remain high in 2012–13

Despite the forecast 26 per cent fall in wheat production in 2012–13, Australian wheat exports are forecast to fall by just 5 per cent in 2012–13 to 21.9 million tonnes. With favourable world prices, this forecast reflects an expectation of exporters drawing down stocks to fill export demand. The total value of Australian wheat exports is forecast to rise by 11 per cent in 2012–13 to $7.1 billion.

In 2011–12, Australian wheat exports increased by 25 per cent to reach a record 23 million tonnes, reflecting two consecutive years of higher than average production in 2010–11 and 2011–12. A decline in world wheat prices in 2011–12 resulted in the total value of wheat exports increasing by only 16 per cent to $6.4 billion.

Australian wheat exports
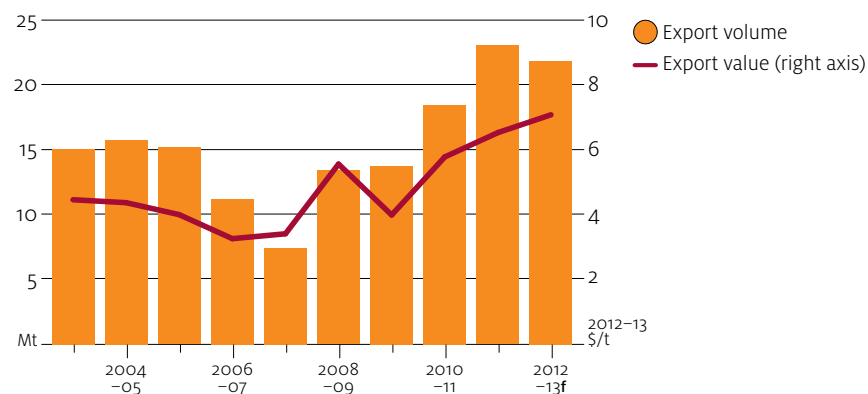
Outlook for wheat

		2010 −11	2011 −12 s	2012 −13 f	% change
World					
Production	Mt	653	694	656	− 5.5
− China	Mt	115	118	118	0.1
− European Union 27	Mt	137	137	131	− 4.9
− India	Mt	81	87	94	8.1
− Russian Federation	Mt	42	56	39	− 30.6
− United States	Mt	60	54	62	13.5
Consumption	Mt	659	692	679	− 1.9
− human	Mt	457	461	464	0.6
− feed	Mt	120	146	131	− 10.1
Closing stocks	Mt	194	196	174	− 11.5
Stocks-to-use ratio	%	29	28	26	− 9.8
Trade	Mt	126	145	131	− 10.0
Exports					
− Argentina	Mt	8	11	6	− 51.8
− Australia **a**	Mt	18	23	22	− 5.2
− Canada	Mt	16	18	19	4.4
− European Union 27	Mt	24	17	19	6.9
− Kazakhstan	Mt	6	11	7	− 39.3
− Russian Federation	Mt	4	22	10	− 53.7
− Ukraine	Mt	4	5	6	1.9
− United States	Mt	35	29	30	3.3
Price **b**	US$/t	317	299	360	20.3
Australia					
Area	'000 ha	13 502	13 963	13 323	− 4.6
Production	kt	27 410	29 923	22 035	− 26.4
Exports **a**	kt	18 431	23 038	21 850	− 5.2
− value	A$m	5 516	6 381	7 083	11.0
APW 10 net pool return	A$/t	346	260	345	32.6

a July–June years. **b** US no. 2 hard red winter wheat fob Gulf, July–June. **f** ABARES forecast.
Sources: ABARES; Australian Bureau of Statistics; International Grains Council

Coarse grains

James Fell

The world coarse grains indicator price (US no. 2 yellow corn, fob Gulf) is forecast to rise by 16 per cent in 2012–13 to average around US$325 a tonne. This forecast rise in price reflects an expected fall in the supply of coarse grains, particularly corn, in major exporting countries.

Over recent months, very dry conditions in some major northern hemisphere coarse grains growing regions adversely affected 2012–13 northern hemisphere crops. A repeat of these dry conditions during the planting window for the 2013–14 crops is an upside risk to the current price forecasts for coarse grains. Additionally, corn planting for the 2012–13 season is yet to be completed in Latin America and any significant deviation from average seasonal conditions during the planting and growth period has the potential to markedly affect world price movements in the short term.

The world barley indicator price (France feed barley, fob Rouen) is forecast to rise by 15 per cent in 2012–13 to around US$310 a tonne, largely reflecting lower barley production in the Black Sea exporting countries and a rise in price of substitute coarse grains, such as corn.

Lower world production in 2012–13

World coarse grains production is forecast to fall by around 4 per cent in 2012–13 to around 1.1 billion tonnes, mainly because of an expected fall in corn production in the United States. Corn accounts for around three-quarters of global coarse grains production, of which the US corn crop accounts for nearly 30 per cent. World barley production is also forecast to fall modestly.

Coarse grains production in major exporting countries
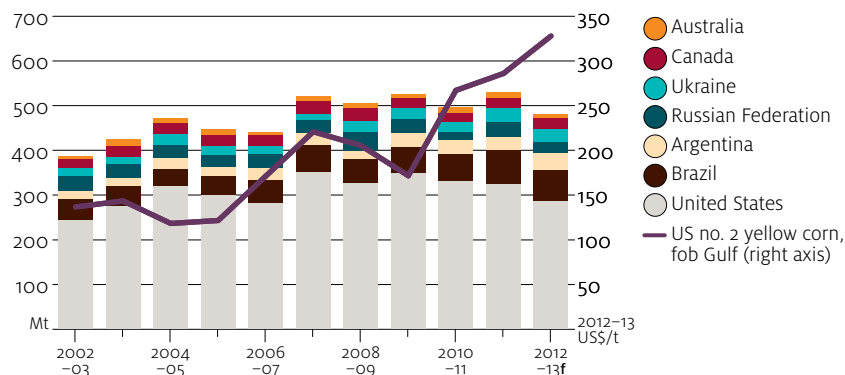
f ABARES forecast.

Barley

World barley production is forecast to fall by 2 per cent in 2012–13 to around 131 million tonnes, reflecting a fall in yields in the Black Sea exporting countries (the Russian Federation and Ukraine) and Australia.

In the Russian Federation and Ukraine, production is estimated to have fallen by 27 per cent to around 19 million tonnes following poor growing conditions for the winter and spring crops this year.

In most other exporting countries barley production is forecast to rise. In Argentina, which recently emerged as a major exporter, production is forecast to rise by 11 per cent in 2012–13 to around 5 million tonnes, reflecting favourable growing conditions and an increase in area planted. The increase in the area planted reflects lower domestic wheat prices compared with barley prices during the autumn planting window and is expected to lead to a 29 per cent increase in the area harvested to around 1.5 million hectares.

Production of barley in Canada is estimated to have increased by 11 per cent in 2012–13 to around 9 million tonnes, which was driven mainly by an increase in the area harvested. However, yields are estimated to have fallen as a result of dry periods in southern parts of the Prairie provinces.

Production in the European Union is estimated to have risen by 6 per cent in 2012–13 to around 54 million tonnes, mainly as a result of higher average yields. Winter barley suffered frost damage, but much of the spring crop had favourable yields and the effects of favourable conditions in northern Europe more than offset the effects of dry conditions in southern Europe.

Corn

World production of corn is forecast to fall by 6 per cent in 2012–13 to around 831 million tonnes, reflecting lower US production. In major exporting countries, production is forecast to fall by 11 per cent to around 385 million tonnes.

Production of corn in the United States is estimated to have fallen by 13 per cent in 2012–13 to around 272 million tonnes. This reflects the drought in the United States that adversely affected production in the major corn producing states in the Midwest.

In Brazil, production of corn is forecast to fall by 8 per cent in 2012–13 to around 67 million tonnes, largely reflecting a fall in average yields from the high achieved in the previous season. Partially offsetting the effects of lower yields, the area planted is forecast to rise by around 5 per cent. However, the increase in area is expected to be constrained by expected favourable returns from soybeans and inclement planting conditions in some areas.

In Argentina, corn production is forecast to rise by 19 per cent in 2012–13 to around 25 million tonnes, largely reflecting an assumed recovery from the poor yields achieved last season. The rise in yields is forecast to more than offset a forecast fall in harvested area. The fall in harvested area is expected to result from producers planting more soybeans at the expense of corn in response to an expected increase in returns to soybeans relative to corn.

In Ukraine, corn production is estimated to have fallen by 8 per cent in 2012–13 to around 21 million tonnes, reflecting an estimated 31 per cent fall in yields as a result of poor seasonal conditions.

China is not a major exporter of corn but it can become a significant importer and increase world import demand if its domestic production falls significantly short of domestic consumption. In 2012–13, domestic Chinese production is expected to rise by around 3 per cent to around 198 million tonnes, which is similar to the forecast domestic consumption.

Consumption to fall in response to higher prices

World consumption of coarse grains is forecast to fall by 2 per cent in 2012–13 to around 1.1 billion tonnes, mainly in response to a forecast rise in coarse grains prices. Lower consumption of corn for livestock feed is expected to be the main factor leading to the forecast fall in coarse grains consumption.

World corn consumption is forecast to fall by 1 per cent to around 853 million tonnes, driven by a forecast fall in consumption in the United States.

In the United States, domestic consumption of corn is forecast to fall by 7 per cent in 2012–13 to around 254 million tonnes. This reflects the response of livestock producers to higher feed grain prices and an assumed fall in total livestock numbers. Additionally, US consumption of corn for ethanol production is forecast to fall in 2012–13, reflecting removal of the ethanol blending tax credit from the beginning of 2012 and an expected decline in returns to ethanol producers. The decline in returns is expected because of forecast high corn prices. Between July and mid November 2012, fuel ethanol production averaged around 810 000 barrels a day, compared with around 890 000 barrels a day for the same period in 2011.

In China, consumption of corn is forecast to increase by 6 per cent in 2012–13 to around 200 million tonnes, reflecting expected growth in demand for livestock products. In recent years, corn consumption in China has grown by around 12 million tonnes a year.

World barley consumption is forecast to fall by 3 per cent in 2012–13 to around 132 million tonnes, mainly reflecting higher prices that are expected to result from lower global supplies available for export, particularly from the Black Sea region.

In the Russian Federation, barley consumption is forecast to fall by around 30 per cent in 2012–13 to around 7 million tonnes, mainly as a result of higher prices expected to result from lower supplies. In 2010–11—the last time a drought hit the region—consumption fell to around 6 million tonnes.

Barley consumption in the European Union is forecast to be largely unchanged in 2012–13. In recent years, EU consumption has shown little variation in response to changes in world prices. The European Union accounts for around one-third of world barley consumption.

Coarse grains trade to fall

World exports of coarse grains are forecast to fall by 17 per cent in 2012–13 to around 115 million tonnes, which reflects diminished supplies available for export from major exporting countries, particularly for corn.

World exports of corn are forecast to fall by 21 per cent in 2012–13 to around 88 million tonnes. US exports are forecast to fall by 26 per cent to around 29 million tonnes; Ukrainian exports are forecast to fall by 20 per cent to around 12 million tonnes but remain more than triple the average over the five years to 2010–11; Brazilian corn exports are forecast to fall by 19 per cent to around 17 million tonnes. Argentinean exports are forecast to be largely unchanged at around 16 million tonnes with a forecast increase in that country's export quota.

Corn imports from China are forecast to be less significant in 2012–13 than in previous years, reflecting a forecast narrowing in the gap between production and consumption.

World exports of barley are forecast to fall by 9 per cent to around 19 million tonnes, mainly reflecting a fall in Black Sea and Australian production. In the Black Sea region, exports are forecast to fall by 33 per cent to around 4 million tonnes in 2012–13. Partially offsetting the fall in the region's exports, Canadian and EU exports are forecast to rise by 54 per cent and 30 per cent to around 2 million tonnes and 4 million tonnes, respectively. In Argentina, exports are forecast to be largely unchanged at around 3.5 million tonnes.

Barley imports from Saudi Arabia, which account for around 40 per cent of world barley trade, are forecast to fall by 13 per cent to around 7 million tonnes in 2012–13 reflecting lower global supplies available for export, higher world prices and relatively high domestic opening stocks.

Closing stocks

World closing stocks of coarse grains are forecast to fall by 11 per cent in 2012–13 to around 148 million tonnes, which reflects world production falling significantly below world consumption. Corn closing stocks are forecast to fall by 12 per cent to around 117 million tonnes and barley closing stocks are forecast to fall by 5 per cent to around 22 million tonnes. In major exporting countries, coarse grains closing stocks are forecast to fall by 29 per cent to around 35 million tonnes, with most of the fall occurring in US corn stocks.

World coarse grains closing stocks

- Other
- Canada
- Australia
- Ukraine
- Russian Federation
- Argentina
- Brazil
- United States
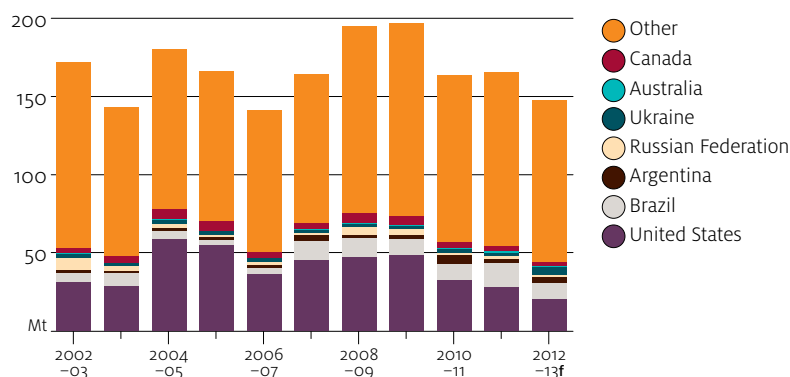
f ABARES forecast.

Australian oats production and exports

Australia produces just over 1 million tonnes of oats for grain a year, with an average gross value of production of around $250 million a year. The largest producing state is Western Australia, followed by New South Wales and Victoria, with production being concentrated in southern Western Australia, western Victoria, and western New South Wales (see map). Over the past few decades, the area planted to oats trended down as the areas planted to wheat and canola increased. The area sown to oats reached a peak in 1983–84, at 1.8 million hectares, leading to record production of 2.3 million tonnes.

Share of Australian oats production, 2006–07 to 2010–11

- <1%
- 1–5%
- 5–10%
- 10–20%
- >20%
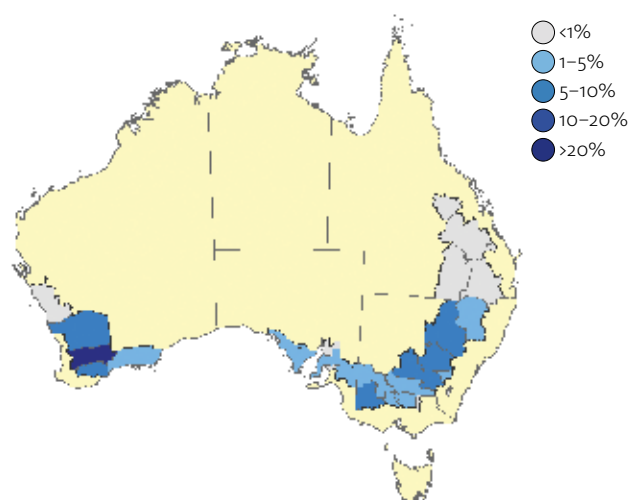
Note: Shown for major cropping areas only.

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Australian oats production and exports continued

The European Union, the Russian Federation, Canada, Australia and the United States are the major world producers of oats, with Australia growing around 6 per cent of world production.

Australian oats production, by state
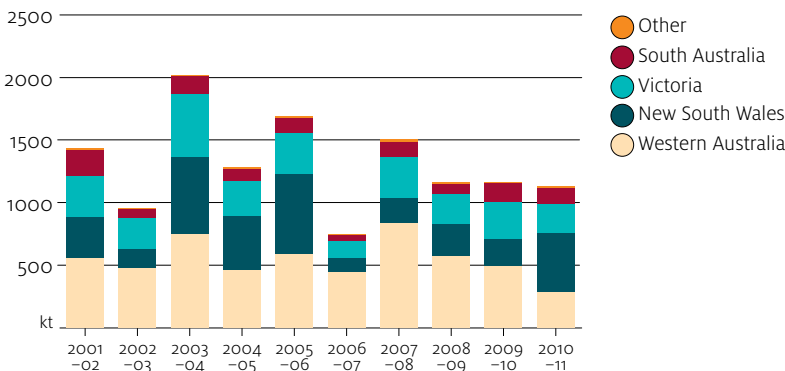
The global export trade in oats is dominated by Canada, which comprises around 80 per cent of world exports. Australia is the second biggest exporter of oats, exporting on average around 150 000 tonnes, or around 12 per cent of production annually. However, this accounts for only around 7 per cent of total world exports.

The volume of oats exports from Australia is small relative to other grains. On average, annual Australian exports of wheat, barley and grain sorghum are around 16 million tonnes, 5 million tonnes and 1 million tonnes, respectively.

China replaced South Africa as the largest export destination for Australian oats and in 2011 imported around half of Australia's exports of oats.

Export destinations for Australian oats
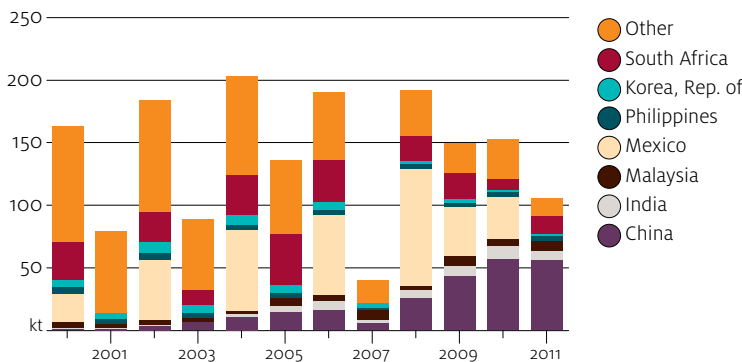
Australian production to fall

In Australia, total coarse grains production is forecast to fall by 13 per cent in 2012–13 to around 11.1 million tonnes, which would be similar to the average over the five years to 2010–11. This forecast decline in production largely reflects an estimated fall in average yields due to dry seasonal conditions in south-eastern Australia and Western Australia.

Barley production is forecast to fall by 18 per cent in 2012–13 to around 6.9 million tonnes. In Western Australia, Australia's largest barley producing state, production is forecast to fall by nearly 36 per cent because of relatively low rainfall in the state's major producing regions during the growing season.

Grain sorghum production is forecast to rise by 6 per cent in 2012–13 to around 2.4 million tonnes, reflecting a forecast 16 per cent increase in planted area to around 762 000 hectares. The forecast increase in the area planted to grain sorghum reflects the expected response of producers to favourable grain sorghum prices and falling cotton prices at the time of planting. The start to the season was relatively dry and further rainfall will be needed for producers to largely realise planting intentions.

Coarse grains production in Australia
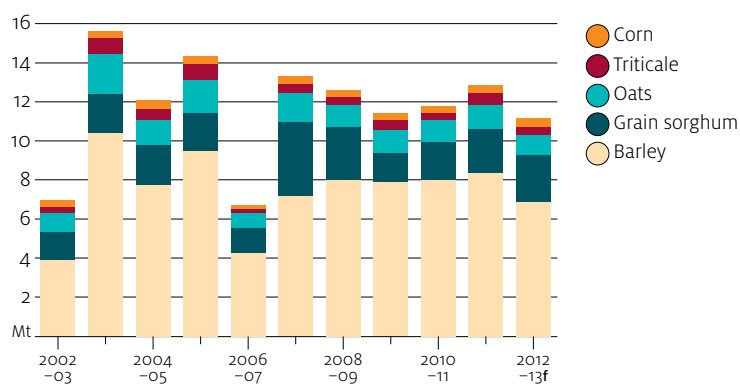
f ABARES forecast.

Australian exports to fall

Following the record achieved in 2011–12, the volume of Australian exports of coarse grains is forecast to fall by 21 per cent in 2012–13 to around 6.3 million tonnes, which largely reflects a fall in barley exports. The value of coarse grains exports is forecast to fall by 11 per cent in 2012–13 to around $2.0 billion. The forecast lower volume of exports is expected to more than offset the effect of a forecast increase in export prices.

Barley shipments are forecast to fall by 28 per cent in 2012–13 to around 4.7 million tonnes. Reflecting the effect of lower export volumes, the value of barley exports is forecast to fall by 18 per cent to around $1.5 billion.

In contrast, grain sorghum exports are forecast to rise by 17 per cent in 2012–13 to around 1.3 million tonnes, reflecting high opening stocks of the season and the forecast increase in production. The forecast rise in export shipments and higher export prices are expected to increase the value of grain sorghum exports by 30 per cent in 2012–13 to around $388 million.

Outlook for coarse grains

		2010 −11	2011 −12 s	2012 −13 f	% change
World					
Production	Mt	1 098	1 151	1 106	− 3.9
– barley	Mt	123	134	131	− 2.2
– corn	Mt	831	880	831	− 5.6
Consumption	Mt	1 130	1 150	1 125	− 2.2
Trade	Mt	116	139	115	− 17.3
Closing stocks	Mt	164	166	148	− 10.8
Stocks-to-use ratio	%	15	14	13	− 7.1
Corn price (fob Gulf, Jul–Jun)	US$/t	255	281	325	15.7
Barley price (fob Rouen, Jul–Jun)	US$/t	265	270	310	14.8
Australia					
Area	’000 ha	5 389	5 564	5 681	2.1
– barley	’000 ha	3 681	3 774	3 875	2.7
– grain sorghum	’000 ha	633	657	762	16.0
Production	kt	11 769	12 848	11 146	− 13.2
– barley	kt	7 995	8 349	6 866	− 17.8
– grain sorghum	kt	1 935	2 223	2 364	6.3
Exports a	kt	5 317	7 911	6 272	− 20.7
– value	A$m	1 483	2 245	2 004	− 10.7
Feed barley price b	A$/t	218	197	236	19.8
Malting barley price c	A$/t	256	203	242	19.2

a July–June years. **b** Feed 1, delivered Geelong. **c** Gairdner Malt 1, delivered Geelong.
f ABARES forecast. **s** ABARES estimate.
Sources: ABARES; Australian Bureau of Statistics; United States Department of Agriculture

Oilseeds

Beth Deards

Oilseed prices to remain high in 2012–13

The world oilseeds indicator price (soybeans, cif, Rotterdam) is forecast to increase by 16 per cent in 2012–13 (financial year) to average US$618 a tonne. This forecast increase for 2012–13 is primarily driven by a sharp rise in prices in the early part of the year. Between mid June and end August 2012, the world indicator price rose by 27 per cent in response to an expected significant fall in US production due to adverse seasonal conditions. Additionally, this occurred at a time when world stocks were low compared with previous years.

Later into the season, the actual US yields outcome proved higher than previously expected, leading to an easing of world prices. Between end August and mid November, the indicator price fell by 19 per cent to $573, before rising to $605 in early December. In the first six months of 2012–13, the indicator price is estimated to average around $640 a tonne. Toward mid 2013, forecast higher production in Latin America is expected to again place downward pressure on world prices.

In contrast, the world canola indicator price (cif, Hamburg) is forecast to increase by only 2 per cent in 2012–13 to average US$630 a tonne. This forecast increase primarily reflects the combined effects of lower production in Canada that is forecast to reduce supplies for available export in 2012–13, and strong world demand for canola. The canola price rose by 11 per cent from late July to mid September 2012, in response to the increasing soybean price. However, by mid November the canola indictor price fell by 8 per cent to $611, just 2 per cent higher than in late July. Given the forecast relatively small reduction in world canola supplies, the canola indicator price is not expected to rise significantly in the remainder of 2012–13, leading to a relatively small increase on year-average terms, compared with world soybean prices.

World oilseeds indicator prices
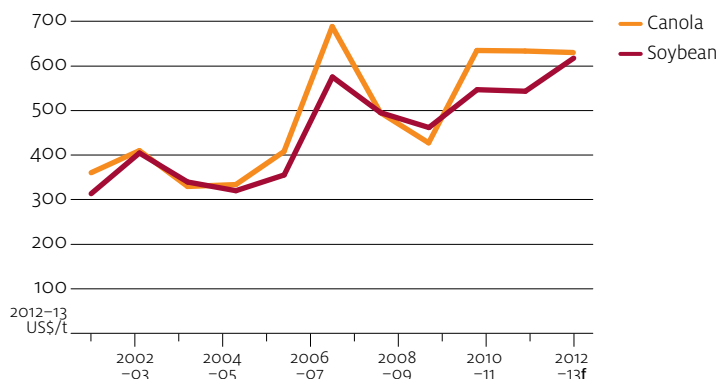
f ABARES forecast.

The size of the soybean harvest in Latin America later in 2012–13 is a risk factor to the current price outlook. If soybean production in Latin America proves markedly lower than currently forecast, world prices of soybeans (and possibly other oilseeds) could rise significantly later in the year, leading to a higher average price for 2012–13 than currently forecast. On the other hand, higher than expected production in Latin America could place significant downward pressure on oilseed prices, resulting in lower average prices for 2012–13 than currently forecast.

Latin America to drive increase in world oilseeds production

World oilseeds production is forecast to increase by 5 per cent in 2012–13 to around 459 million tonnes, driven by the prospect of a record soybean crop in Latin America (harvested during March to May). Production of canola and sunflower seed is forecast to decline as a result of adverse seasonal conditions in the major producing areas of Canada, the European Union and the Black Sea region.

Canola

World production of canola is forecast to decline by 2 per cent in 2012–13 to 59 million tonnes, reflecting an expected fall in Canadian production.

In Canada, canola production is estimated to have declined by 8 per cent in 2012–13 to 13.4 million tonnes, mainly driven by below average yields, despite an estimated rise of 14 per cent in the area sown. Yields were adversely affected by hot conditions during summer and high levels of disease. Although yields were below average, canola quality was generally good.

Rapeseed production in the European Union is estimated to have declined slightly in 2012–13 to around 19 million tonnes, reflecting unfavourable seasonal conditions. This follows an 8 per cent fall in production last season, which resulted in record rapeseed imports.

The canola industry in Canada

In the 1970s, Canadian plant breeders created canola by breeding anti-nutritional elements, particularly erucic acid and glucostinates, out of common rapeseed varieties. Canola is suitable for human and non-human uses, whereas rapeseed is suitable for non-human uses only.

Canadian canola is primarily grown on the Prairies and in 2011–12 Saskatchewan was the largest producing region accounting for 51 per cent of production, followed by Alberta (37 per cent) and Manitoba (11 per cent).

Canola production in Canada grew by almost 250 per cent over the past two decades and in 2011–12 accounted for 24 per cent of global production.

Canola production in Canada
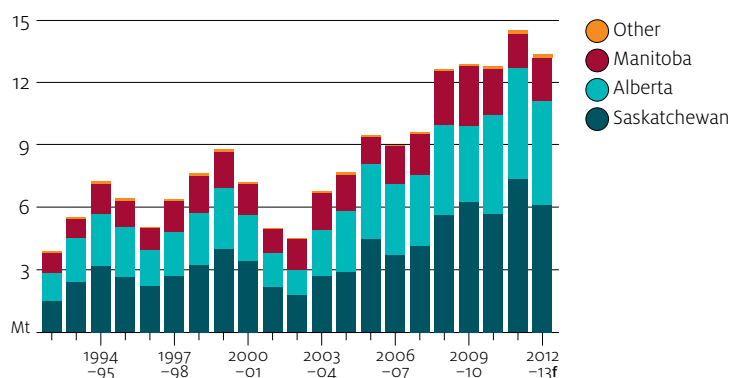
f ABARES forecast.

A large proportion of the canola seeds produced in Canada are crushed to produce oil and meal. In the past decade, canola crush in Canada increased by more than 200 per cent, reaching 7 million tonnes in 2011–12. Similarly, canola oil and meal production increased by almost 240 per cent and 190 per cent, to 3.1 million tonnes and 4 million tonnes, respectively, over the same period.

Strategies for marketing canola oil as a healthy oil option, based on its low saturated fat content, increased consumer demand. Popular fast food chains, such as KFC in Canada and McDonalds and Taco Bell in North America, began using canola oil in an attempt to decrease the amount of trans fats in their products. Canola oil can also be used as a feedstock, for biodiesel and for other industrial purposes. Canola meal is most commonly used as a high protein livestock feed.

Canada has the largest share of world canola exports, accounting for 70 per cent of global exports in 2011–12. Canada's major export markets are China (accounting for 31 per cent in 2011–12), Japan (26 per cent) and Mexico (17 per cent).

continued...

The canola industry in Canada continued

Canola crush, canola meal production and canola oil production
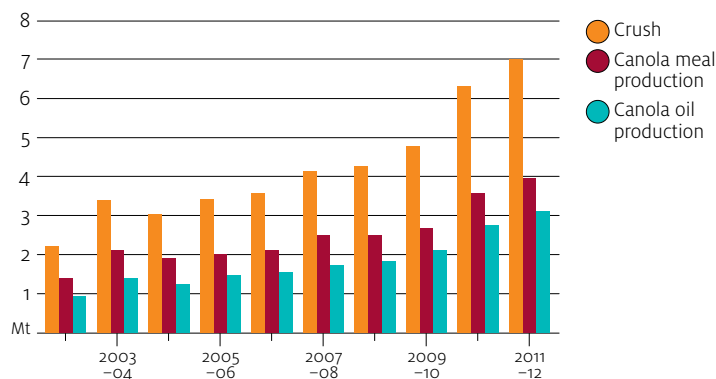
China has been an important but variable export market for Canadian canola for the past five years. In 2008–09, Chinese consumption began to outpace domestic production; the shortfall was met by increased imports, primarily from Canada. However, in November 2009, China placed import restrictions on Canadian canola imports because some shipments tested positive for the disease blackleg and raised concerns that Chinese rapeseed crops could be infected. This resulted in lower canola exports to China in 2009–10 and 2010–11. In 2010 the Canola Council of Canada worked with Chinese authorities to establish transitional measures that allowed Canadian canola to be delivered to processing plants in areas where Chinese rapeseed is not grown.

Canada is also the largest exporter of canola meal and canola oil and in 2011–12, accounted for 61 per cent and 68 per cent of world exports, respectively. The United States and China are major export destinations for these commodities exported from Canada.

Canadian canola exports
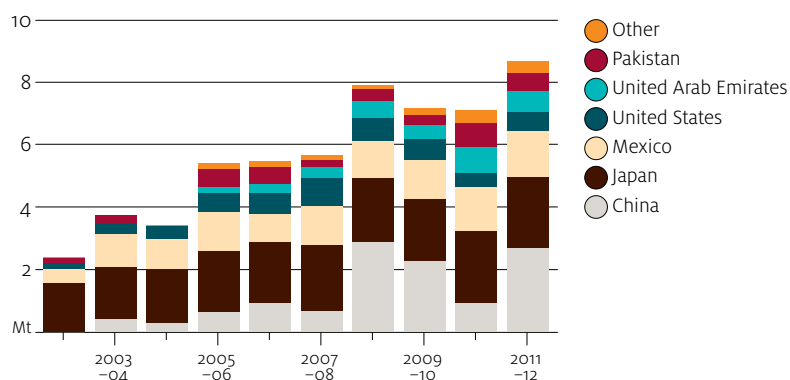
Soybeans

World production of soybeans is forecast to rise by 11 per cent in 2012–13 to 265 million tonnes. This increase is mainly due to a forecast rise in soybean production in Latin America, which is expected to more than offset the decline in production in the United States.

Soybean production in Latin America is forecast to increase markedly this season from the drought affected crop of 2011–12. In Brazil, soybean production is forecast to increase by 20 per cent in 2012–13 to 79 million tonnes, assuming a return to average yields. With higher world prices, producers in Brazil are forecast to increase the area planted to soybeans by 9 per cent to a record 27 million hectares.

Soybean production in Argentina is forecast to increase by 39 per cent in 2012–13 to 55 million tonnes, reflecting an assumed return to average yields and an increase in the area planted. The area planted to soybeans is forecast to increase by 6 per cent to a record 19.7 million hectares.

Soybean production in the United States is estimated to have declined by 4 per cent in 2012–13 to 81 million tonnes. Despite drought conditions experienced throughout the season, soybean crops benefited from rainfall in late August and September leading to better than previously expected yields in most producing states. However, yields in the two major producing states of Iowa and Illinois are estimated to have fallen by 15 per cent and 9 per cent, respectively.

Sunflower seed

World production of sunflower seed is forecast to decline by 11 per cent in 2012–13 to 35 million tonnes. An expected increase in sunflower seed production in Argentina is forecast to be more than offset by expected lower production in the Black Sea region and the European Union.

In Argentina, production of sunflower seed is forecast to increase by 6 per cent in 2012–13 to 3.5 million tonnes. Despite producer intentions to increase the area sown to sunflowers, wet conditions in the main growing regions are expected to result in the total area planted remaining similar to last season at around 1.8 million hectares. Yields are assumed to recover from 2011–12 when the sunflower crop was adversely affected by extended hot and dry conditions.

World oilseeds production
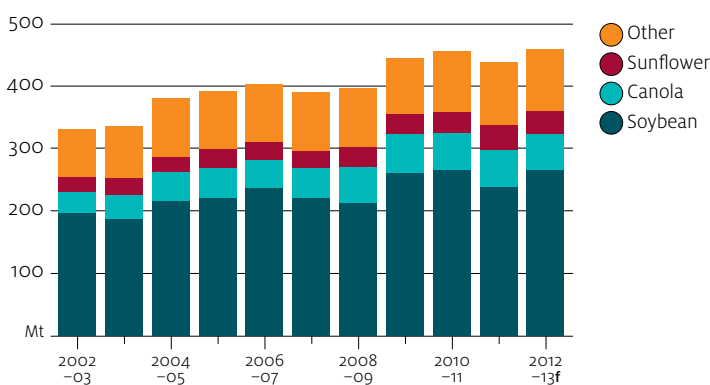
f ABARES forecast.

Sunflower seed production in the Black Sea region is estimated to have declined by 14 per cent in 2012–13 to 16.1 million tonnes. Despite an increase in the area planted to sunflowers, sunflower seed production in Ukraine is estimated to have declined by 9 per cent to 8.4 million tonnes, reflecting a fall in the average yield. In the Russian Federation, sunflower seed production is estimated to have declined by 18 per cent to 7.7 million tonnes as a result of the combined effects of a smaller planted area and an estimated fall in the average yield. Sunflower seed yields in Ukraine and the Russian Federation were adversely affected by hot conditions during the season.

In the European Union, production of sunflower seed is estimated to have fallen by 20 per cent in 2012–13 to 6.8 million tonnes. This is mainly driven by an estimated 23 per cent fall in the average yield following above average temperatures and below average rainfall during the growing season. The largest falls in production are estimated to have occurred in Spain, Italy, Romania, Hungary, Bulgaria and France.

China drives world soybean crush

World oilseeds crush is forecast to increase by 1 per cent in 2012–13 to around 390 million tonnes. Soybean, palm kernel, peanut and copra crush are all forecast to increase but are expected to be largely offset by a fall in canola, cottonseed and sunflower seed crush.

Soybean crush is forecast to increase by 3 per cent in 2012–13 to 230 million tonnes, driven by a larger crush in China and Latin America. Over the decade to 2011–12, soybean crush in China grew by almost 200 per cent, overtaking the United States crush as the world's largest in 2009–10. In 2012–13, Chinese soybean crush is forecast to rise by 9 per cent to over 65 million tonnes, accounting for 28 per cent of the global soybean crush.

World soybean crush
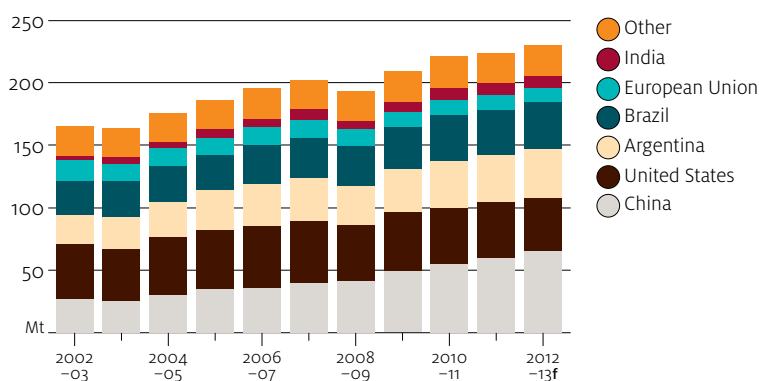
f ABARES forecast.

Canola crush is forecast to decline by 3 per cent in 2012–13 to 58 million tonnes, reflecting low opening stocks and a forecast fall in world production. In Canada, canola crush is forecast to decline by 5 per cent to 6.4 million tonnes, which will reduce production of canola meal and oil and decrease supplies available for export. As Canada is the largest exporter of canola meal and oil, this is likely to place upward pressure on world canola meal and oil prices.

Sunflower seed crush is forecast to decline by 7 per cent in 2012–13 to 33 million tonnes. The decline is driven by lower crush in the Black Sea region and the European Union as a result of significantly lower domestic production.

Consumption to remain at record highs in 2012–13

World oilseeds consumption is forecast to rise by 1 per cent in 2012–13 to around 458 million tonnes, largely driven by the increase in world oilseeds crush. Other uses of oilseeds (such as stockfeed) are expected to remain largely unchanged.

World consumption of vegetable oil is forecast to increase by 4 per cent in 2012–13 to 155 million tonnes. This reflects growth in consumption in developing countries and strong industrial demand. World industrial use is forecast to increase by 3 per cent to around 36.5 million tonnes, driven by increased use in Malaysia and Indonesia. In contrast, the Argentinean Government recently reduced the biodiesel blending mandate to 7 per cent from early October, which is likely to result in a smaller increase than previously expected in domestic use of vegetable oil for industrial purposes. Previously, the Argentinean Government had intended to reach 10 per cent biodiesel blending by October 2012.

World consumption of protein meal is forecast to rise by 1 per cent in 2012–13 to 261 million tonnes. This will be the lowest growth rate since 2008–09, reflecting the effect of relatively high oil meal prices.

World soybean trade to rise

World trade in oilseeds is forecast to rise by 5 per cent in 2012–13 to 113 million tonnes, driven by a forecast 8 per cent increase in soybean trade to 97 million tonnes. The forecast increase in soybean trade reflects continued strong demand from China and higher exports from Latin America. However, declines in canola and sunflower seed trade are expected to partially offset the expected growth in soybean trade. World trade in canola is forecast to decline by 14 per cent in 2012–13 to 10.8 million tonnes, mainly reflecting lower canola supplies available for export from Canada. Despite this, the European Union is likely to maintain a high level of imports, primarily sourced from Australia, as a result of forecast lower production. World trade in sunflower seed is forecast to decline by 20 per cent in 2012–13 to just below 1.6 million tonnes, largely as a result of lower production in the European Union and the Black Sea region reducing supplies available for export.

Stocks-to-use ratio to recover moderately in 2012–13

World closing stocks of oilseeds are forecast to increase by 3 per cent in 2012–13 to around 67 million tonnes. This follows a sharp decline in world oilseed closing stocks in 2011–12, which caused the stocks-to-use ratio to fall to a three-year low of 14.4 per cent.

The forecast increase in world closing stocks in 2012–13 is primarily driven by an expected 7 per cent increase in soybean closing stocks to 59 million tonnes. Although soybean closing stocks in the United States are forecast to decline as a result of lower domestic production, this is expected to be more than offset by a recovery of stocks in Brazil and Argentina. Partially offsetting the forecast increase in soybeans stocks, canola and sunflower seed closing stocks are forecast to decline by 39 per cent and 37 per cent to 2.9 million tonnes and 1.5 million tonnes, respectively. These forecast declines reflect the impacts of adverse seasonal conditions leading to lower production in major producing countries.

World oilseeds closing stocks
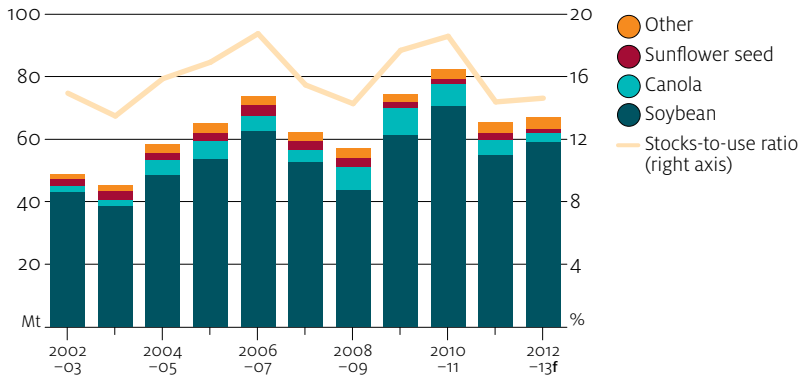
f ABARES forecast.

Australian canola production

Australian canola production is forecast to decline by 16 per cent in 2012–13 to 2.64 million tonnes, driven by an estimated fall in production in all states, except New South Wales, from last season's highs. This largely reflects relatively dry seasonal conditions that have adversely affected yields. Partially offsetting the fall in yields, the area planted to canola is estimated to have increased significantly this season in response to the favourable outlook for canola prices at the time of planting. If realised, this forecast production would be the second largest on record.

Canola production in Western Australia is forecast to decline by 24 per cent in 2012–13 to 908 000 tonnes, reflecting below average winter and spring rainfall, which is expected to lead to a 37 per cent fall in the average yield. Canola production in Victoria and South Australia is forecast to decline by 36 per cent and 10 per cent, to 480 000 tonnes and 406 000 tonnes, respectively. In contrast, canola production in New South Wales is forecast to increase by 17 per cent to 842 000 tonnes, driven by an estimated 52 per cent rise in the area planted to canola.

Australian canola production

f ABARES forecast.

Australian canola exports in 2012–13

Following record shipments in 2011–12, Australian exports of canola seed are forecast to decline by 10 per cent in 2012–13 to 2.1 million tonnes. This forecast decline primarily reflects lower domestic production, which is expected to reduce supplies available for export. Reflecting the forecast fall in the volume of exports, the value of Australian canola seed exports is forecast to decline by 9 per cent in 2012–13 to just over $1.2 billion.

Australian exports of canola meal have grown from just over 2000 tonnes in 2007–08 to around 22 000 tonnes in 2011–12. New Zealand is the primary importer of Australian canola meal, accounting for 52 per cent of total shipments from Australia in 2011–12. In 2012–13 Australian exports of canola meal are forecast to decline by 18 per cent to 18 000 tonnes.

Australian canola meal exports, by destination, July to June ('000 tonnes)

	2009–10	2010–11	2011–12
New Zealand	6.5	14.0	11.2
China	0.0	0.0	9.5
Vietnam	0.0	16.0	0.8
Taiwan	3.0	1.4	0.1
Other	9.5	0.1	0.0
Total	19.0	31.5	21.6

Outlook for oilseeds

		2010–11	2011–12 s	2012–13 f	% change
World					
Production	Mt	457	438	459	4.8
Consumption	Mt	443	455	458	0.7
– oilseed meal	Mt	246	258	261	1.2
– vegetable oil	Mt	144	149	155	4.0
Exports	Mt	109	108	113	4.6
Closing stocks	Mt	82	65	67	3.1
Stocks-to-use ratio	%	19	14	15	7.1
Soybeans indicator price a	US$/t	524	533	618	15.9
Canola indicator price b	US$/t	606	619	630	1.8
Australia					
Total production	kt	3 734	4 988	4 183	– 16.1
– winter	kt	2 374	3 137	2 649	– 15.6
– summer	kt	1 360	1 851	1 534	– 17.1
Canola					
Production	kt	2 359	3 124	2 636	– 15.6
Exports c	kt	1 471	2 323	2 093	– 9.9
– value	$m	866	1 344	1 227	– 8.7
Price c (delivered Melbourne)	A$/t	539	521	541	3.8

a Soybeans, U.S. cif Rotterdam, July–June. b Rapeseed, Europe, 00, cif Hamburg, July–June. c July–June years. f ABARES forecast. s ABARES estimate.
Sources: ABARES; Australian Bureau of Statistics; ISTA Mielke GmbH, *Oil World,* Hamburg; United States Department of Agriculture

Sugar

Benjamin K Agbenyegah

World sugar prices lower in 2012–13

The world indicator price for raw sugar (Intercontinental Exchange, nearby futures, no. 11 contract) is forecast to average US18 cents a pound in 2012–13 (October to September), around 21 per cent lower than in 2011–12. This forecast reflects a further substantial build-up in sugar stocks in response to expected record world sugar production in 2012–13. At this forecast level the world indicator price for sugar is still higher than the average of US15.5 cents a pound (in 2012–13 dollars) over the 10 years to 2011–12.

The world sugar price was around US19.6 cents a pound on 5 December 2012, down from a year-to-date high of nearly US26 cents a pound in March 2012. Further downward pressure on world sugar prices is likely over the remainder of 2012–13. This is expected to come from harvest time selling pressure associated with an estimated large Indian sugar cane harvest that started in late 2012, and from an expected large increase in the 2013–14 Brazilian sugar cane harvest.

Indicator price, ICE (daily, ended 5 December 2012)

World sugar indicators
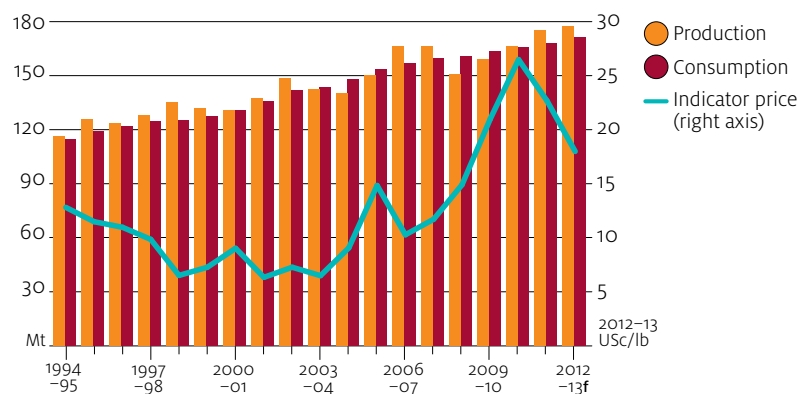
f ABARES forecast.

Record world sugar production in 2012–13

World sugar production is forecast to be a record 177.6 million tonnes in 2012–13, 2.5 million tonnes more than in 2011–12. Sugar production is forecast to be higher in Australia, Brazil, China, Mexico, Pakistan and the United States, more than offsetting lower production in Europe, India and Thailand.

Forecast change in world sugar production, 2012–13
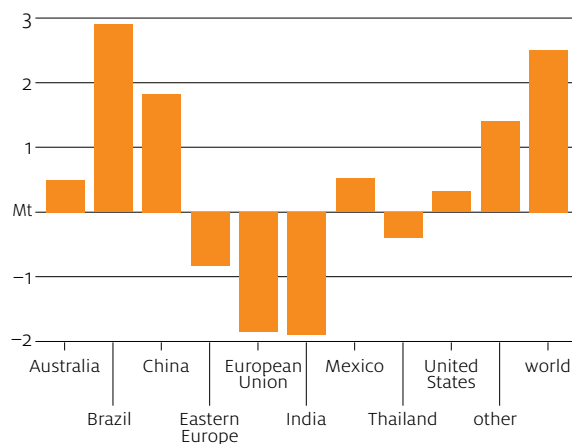
In Brazil, sugar production is forecast to increase to 38.1 million tonnes in 2012–13 (October to September), 2.9 million tonnes larger than last year's crop. The 2012–13 Brazilian sugar production season that ends in March 2013 is forecast to produce around 519 million tonnes of sugar cane, 40 million tonnes lower than in 2011–12. With expansion of plantings and renewal of old, lower-yielding crops, Brazilian sugar cane production is forecast to increase to 620 million tonnes in the 2013–14 season that starts in April 2013.

Brazil's sugar cane is allocated between sugar and ethanol production. Based on forecast returns, the share of total cane production used for producing sugar is forecast to rise by one percentage point in 2012–13 to 49 per cent. Higher cane production will also enable an increase in ethanol production for domestic use in flexible fuel vehicles and to meet export demand. Ethanol production is an important part of the Brazilian sugar cane industry and Brazil's ability to switch between sugar and ethanol production can influence movements in world sugar prices.

Allocation of sugar cane production and the sugar–ethanol price ratio, Brazil
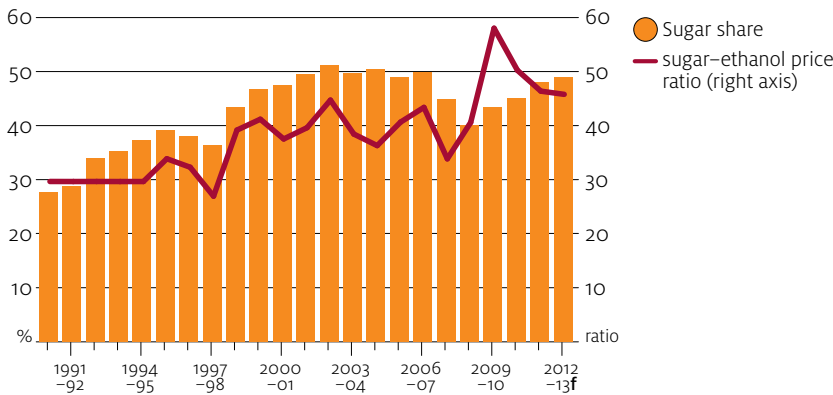
f ABARES forecast.

Ethanol indicators, Brazil
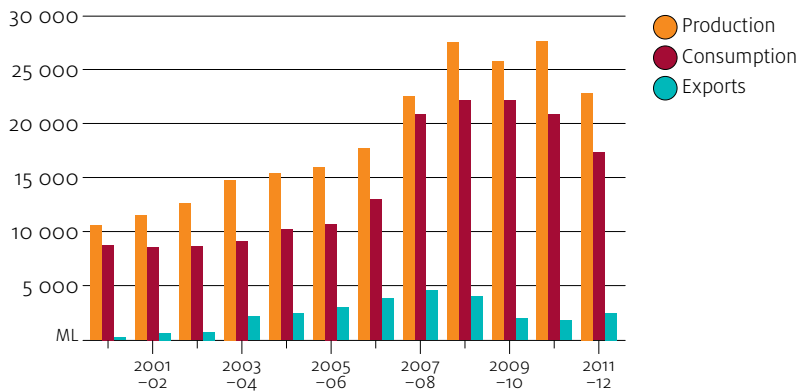
India's sugar production is forecast to decline by 7 per cent in 2012–13 to 26.6 million tonnes, despite a 2 per cent increase in planted area. The decrease is due to lower yields arising from a poor start to the 2012 monsoon.

In Europe, beet sugar production is forecast to decrease by 2.7 million tonnes in 2012–13 to 26.1 million tonnes based on the assumption that sugar beet yields will return to average after the bumper yields achieved in 2011–12. Sugar production in the European Union is forecast to decrease by 4 per cent to 17.5 million tonnes. In Eastern Europe, sugar production is forecast to decline by 9 per cent to 8.7 million tonnes, reflecting reductions in the area planted to sugar beet and a return to more normal yields.

Chinese sugar production is forecast to increase by 1.8 million tonnes in 2012–13 to 14.4 million tonnes. The forecast reflects favourable seasonal conditions to date and a 3 per cent increase in beet and cane plantings as farmers move out of less profitable crops such as cassava.

World sugar consumption higher

World sugar consumption is forecast to increase by 3.7 million tonnes in 2012–13 to 171.8 million tonnes. This forecast is driven by lower sugar prices and rising consumer incomes, particularly in developing countries like China and India. The forecast 2.2 per cent consumption increase is lower than the average of 2.4 per cent in the 10 years ending 2010–11.

World sugar consumption change and stocks-to-use ratio
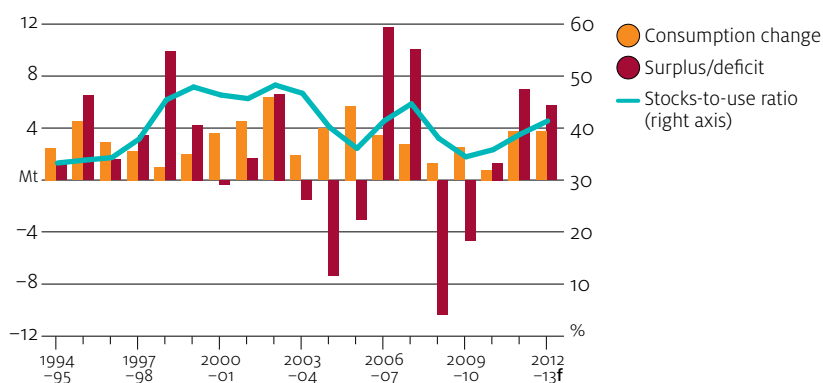
f ABARES forecast.

Further world sugar stocks building in 2012–13

World sugar closing stocks are forecast to increase to 71.1 million tonnes in 2012–13, 5.8 million tonnes higher than in 2011–12. Three years of surplus world sugar production have resulted in the world stocks-to-use ratio rising to 41 per cent, the same as the average of 41 per cent in the 10 years to 2011–12.

World sugar exports lower in 2012–13

World sugar exports are forecast to decline by 1.3 million tonnes in 2012–13 to 52 million tonnes. Higher sugar exports from Australia, Brazil and Mexico are forecast to be more than offset by lower exports from the European Union, India and Thailand. China and the Russian Federation are the main countries importing less sugar in 2012–13.

Brazil's sugar exports are forecast to increase by 1.7 million tonnes in 2012–13 to 24 million tonnes, reflecting higher sugar production.

Chinese sugar imports are forecast to fall by 2.3 million tonnes in 2012–13 to 2 million tonnes, due to larger domestic sugar production.

In the United States, sugar imports are forecast to decline slightly in 2012–13 to 2.9 million tonnes, despite a forecast increase in domestic production. This forecast includes imports under the tariff quota and imports from Mexico that are not subject to the quota. The US Government set its tariff-free sugar import quota in 2012–13 (October to September) at 1.1 million tonnes, the minimum specified under its World Trade Organization obligations. In 2011–12, the tariff-free sugar import quota was initially set at 1.2 million tonnes and later increased to 1.4 million tonnes.

India's sugar exports are forecast to more than halve in 2012–13 to 1.6 million tonnes. This forecast is based on India's sugar production exceeding consumption by 1.8 million tonnes. It is also under the assumption that Indian sugar stocks will be increased to meet domestic consumption requirements.

Changes in sugar trade, 2011–12 and 2012–13, by country
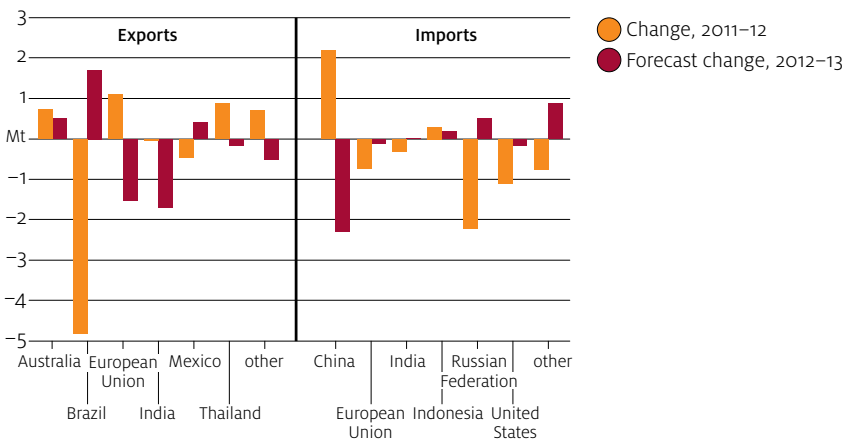
Lower Australian sugar cane returns in 2012–13

The average return to Australian sugar cane growers is forecast to decline by $5 a tonne in 2012–13 to $38 a tonne (of cane), in response to forecast lower world prices. At the forecast level, the average return for 2012–13 will be higher than the average of $36 a tonne (in 2012–13 dollars) over the 10 years to 2011–12.

The harvest pool return of Queensland Sugar Limited—the marketer of more than 90 per cent of Australia's raw sugar exports—is forecast to be $462 a tonne (International Polarity Scale) in 2012–13, compared with $518 a tonne in 2011–12. The seasonal pool return averaged $352 a tonne (in 2012–13 dollars) in the 10 years to 2011–12.

Australian sugar production rose in 2012–13

The 2012–13 cane harvest in Australia is now largely completed and sugar production is estimated to increase to 4.5 million tonnes; around 21 per cent higher than in 2011–12. This forecast reflects an increase in the area harvested and higher sugar yields driven by generally sunny and dry conditions in the harvest period. Sugar yields in 2011–12 were below the historical average because large areas of cane were carried over from 2010–11 due to excessive rainfall.

Australian sugar exports are forecast to increase by around 12 per cent in 2012–13 to 3.4 million tonnes. However, the value of Australian sugar exports is forecast to decrease by 9 per cent in 2012–13 to around $1.6 billion, reflecting lower forecast world sugar prices.

Australian sugar production, export and returns to cane growers
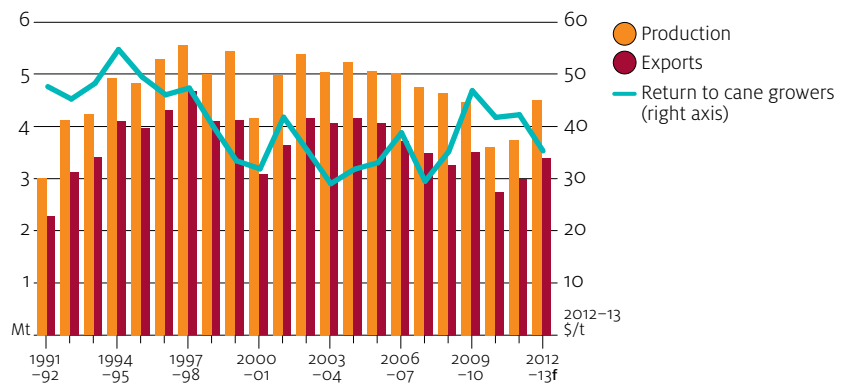
f ABARES forecast.

Outlook for sugar

		2010 −11	2011 −12 s	2012 −13 f	% change
World a					
Production	Mt	165.6	175.1	177.6	1.4
– Brazil	Mt	40.2	41.2	38.1	− 7.5
Consumption	Mt	164.3	168.1	171.8	2.2
Exports	Mt	55.2	53.3	52.0	− 2.4
Closing stocks	Mt	58.9	65.3	71.1	8.9
Change in stocks	Mt	2.5	6.4	5.8	− 9.4
Stocks-to-use ratio	%	36	39	41	6.4
Price	USc/lb	26.5	22.7	18.0	− 20.7
Australia b					
Area	'000 ha	334	370	385	4.1
Production c	kt	3 610	3 733	4 500	20.5
Exports	kt	2 735	3 001	3 350	11.6
– value	A$m	1 436	1 718	1 561	− 9.1

a October–September years. **b** July–June years. **c** Raw tonnes actual. **f** ABARES forecast.
s ABARES estimate.
Sources: ABARES; Australian Bureau of Statistics; International Sugar Organization

Cotton

Benjamin K Agbenyegah

Lower world cotton prices in 2012–13

The world indicator price for cotton (Cotlook 'A' index) is forecast to average US81 cents a pound in 2012–13 (August to July), down from US100 cents a pound in 2011–12. The forecast price fall reflects sluggish demand growth and large carryover stocks from 2011–12, despite forecast lower world cotton production in 2012–13.

According to the International Cotton Advisory Committee, China has undertaken significant purchases in both domestic and international markets for rebuilding its national reserve. China's policy on cotton can have a significant effect on its domestic cotton production and import demand (see box). How China will manage its cotton reserve, which has reached a record level, has the potential to significantly influence the outlook for world cotton prices.

World cotton indicators (annual)
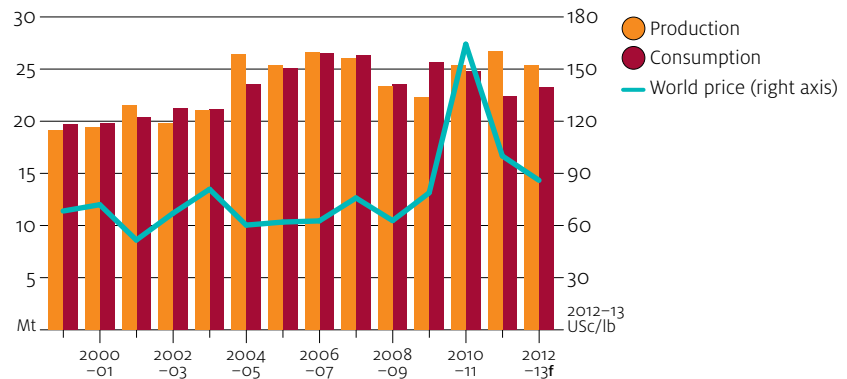
f ABARES forecast.

World cotton indicator price, daily, ended 5 December 2012

Chinese cotton industry

China is the world's largest producer and consumer of raw cotton, accounting for 30 per cent and 40 per cent, respectively, of world production and mill consumption over the past five years. Chinese cotton growers supply around 70 per cent of China's raw cotton requirements, with the rest coming from imports. China is the world's largest importer of raw cotton.

The Chinese Government operates a range of policies that seek to support grower incomes and ensure stable supplies to its textile industry. The main policies are the State Purchase of Domestic Cotton Program, with a floor price for state procurement of domestic cotton and a tariff rate quota regime for raw cotton imports.

Cotton indicators, China
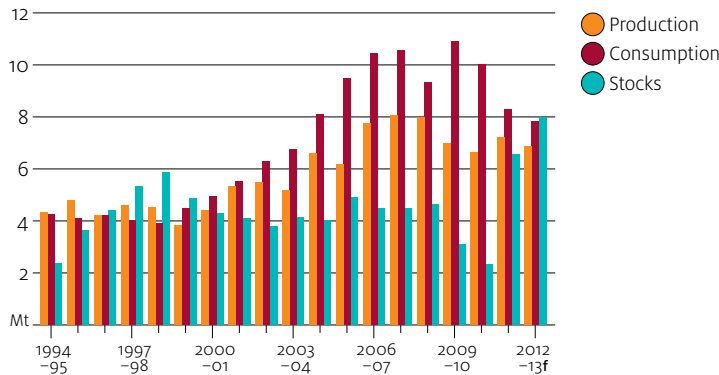
f ABARES forecast.

Chinese cotton industry continued

Under its Protocol of Accession to the World Trade Organization, China's minimum tariff rate quota for raw cotton imports has been set at 894 000 tonnes since 2004, with an in-quota tariff rate of 1 per cent. Each year, the Chinese Government allows an additional import quota to which a sliding tariff rate is applied. Currently the sliding tariff rate is 570 yuan a tonne if the import price is greater than 14 000 yuan a tonne, increasing by a set formula to a maximum of 1926 yuan a tonne if the import price is less than 4815 yuan a tonne.

China's raw cotton imports have been well above the World Trade Organization – agreed minimum tariff rate quota since 2003–04. In 2011–12 China imported a record 5.3 million tonnes of raw cotton.

China's minimum tariff rate quotas and raw cotton imports
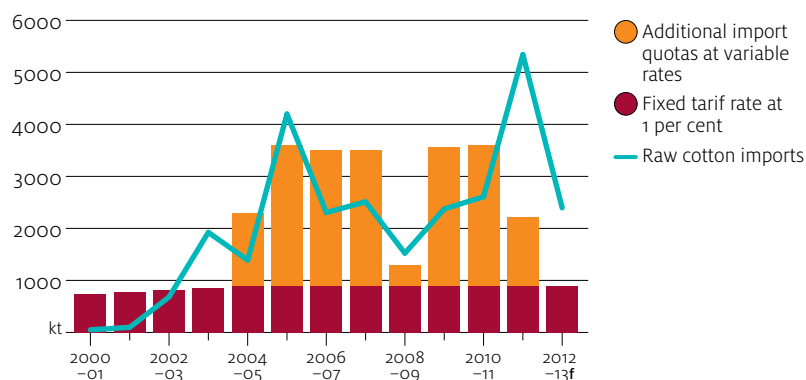
f ABARES forecast.

In 2011–12, the Chinese Government purchased around 3.1 million tonnes of cotton domestically at a procurement price equivalent to US144 cents a pound for grade 328 cotton and around 1 million tonnes of cotton from international markets. In contrast to the decline in world cotton prices, China increased the domestic floor price to the equivalent of US148 cents a pound for 2012–13. Cotton is released from the state reserve through a system of auctions, when domestic cotton prices are higher than the floor price.

China's policies on cotton have led to higher domestic raw cotton prices compared with world markets. The International Cotton Advisory Committee estimates that the operation of import quotas has resulted in an increase in prices Chinese growers received by around US17 cents a pound in 2011–12. While higher domestic cotton prices provide increased returns to growers, they act as a tax to the Chinese textile industry, leading to higher production cost.

continued...

Chinese cotton industry continued

The Chinese Government also provides subsidies to growers for high quality cotton seeds for planting and—for Xinjiang province only—transportation of cotton to mills. The International Cotton Advisory Committee estimates that these subsidies totalled around US330 million in 2011–12. This is equivalent to US2.1 cents a pound on all cotton produced in China in 2011–12.

Daily cotton prices in China
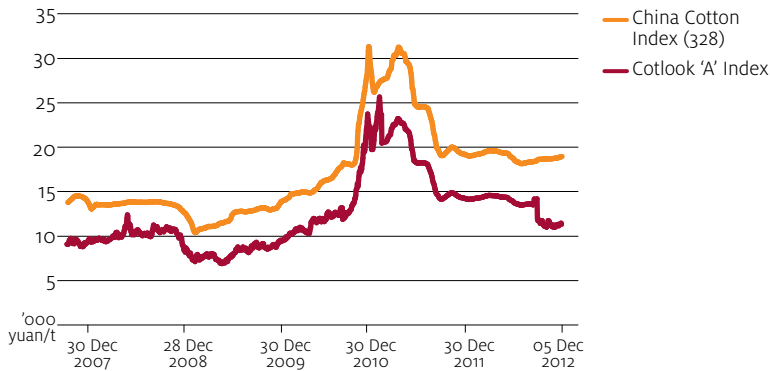
World cotton production to decline in 2012–13

World cotton production is forecast to decline by 6.3 per cent in 2012–13 to 25.3 million tonnes. This reflects a 7 per cent fall in the area planted to cotton in response to falling world cotton prices and more favourable returns to alternative crops, particularly corn, soybeans and grain sorghum. This forecast production, while lower than last year's record crop of 27 million tonnes, is still larger than the average of 23.8 million tonnes over the 10 years to 2010–11. Cotton production is forecast to be lower in all major producing countries except the United States.

Changes in world cotton production, by country, 2011–12 and 2012–13
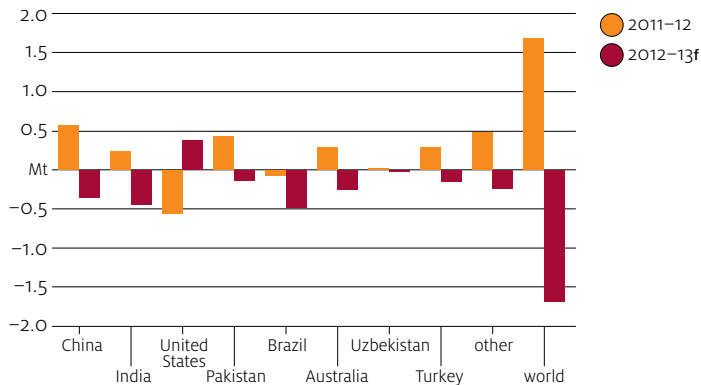
f ABARES forecast.

Cotton production in the United States is forecast to increase to 3.8 million tonnes in 2012–13, 13 per cent higher than in 2011–12. While the area planted to cotton is estimated to have declined by 16 per cent, the proportion of total plantings not harvested (the abandonment rate) is expected to decline from 36 per cent to 16 per cent in 2012–13, following improved seasonal conditions in key cotton growing regions, particularly in Texas.

Cotton area and yield in the United States
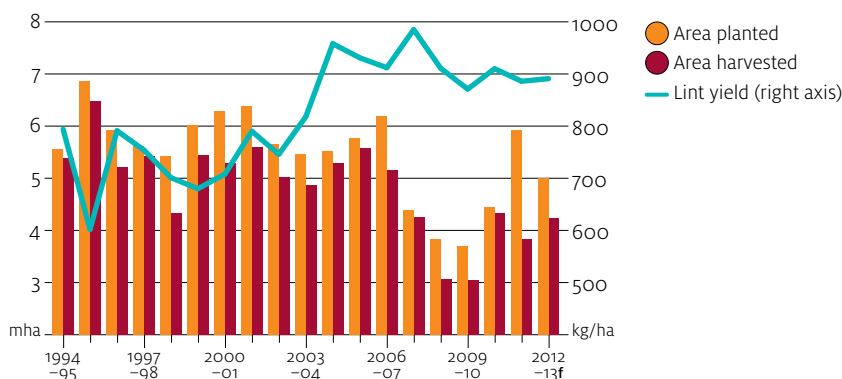
f United States Department of Agriculture forecast.

In China, production is forecast to decrease by 5 per cent in 2012–13 to 6.9 million tonnes. The forecast is based on an estimated 9 per cent decline in planted area in response to more favourable prices of production alternatives at the time of planting. Strong government support for grain production also influenced farmers' planting decisions.

Cotton production in India is forecast to decline by 7.3 per cent in 2012–13 to 5.5 million tonnes, reflecting an estimated 6 per cent decline in cotton plantings. Cotton yield potential was adversely affected by a poor start to the 2012 monsoon season, despite increased rainfall in the latter part of the season.

Cotton production in Brazil is forecast to decline by 25 per cent in 2012–13 to 1.4 million tonnes. This forecast reflects an estimated 29 per cent decline in cotton plantings in response to lower cotton prices and higher returns to corn and soybeans production. However, a 15 percentage point increase in use of genetically modified cotton seed is expected to boost the average yield by around 5 per cent in 2012–13.

Modest recovery of world cotton consumption in 2012–13

Forecast lower cotton prices and an assumed recovery in the world economy in 2013 are expected to lead to a 4 per cent increase in world mill consumption of cotton in 2012–13, the first growth in three years. If this consumption forecast is realised, cotton will regain slightly the market share lost to manmade fibres over past years.

Mill consumption of cotton in India is forecast to increase by 10.3 per cent in 2012–13 to a record 4.8 million tonnes.

Apparel fibre prices, weekly

Legend:
— Cotlook 'A' indicator
— Polyester staple, Taiwan (cotton equivalent)
— Polyester staple, China (cotton equivalent)
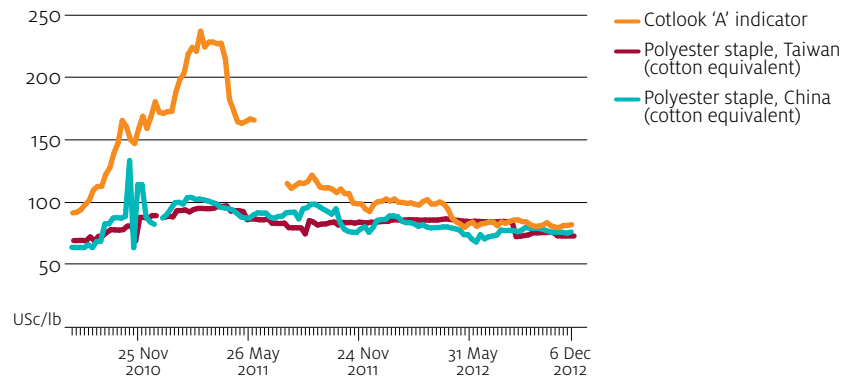
Mill consumption of cotton in China is forecast to decrease by 2.5 per cent in 2012–13, to 8.5 million tonnes. Government policies are maintaining the domestic cotton price above the world price, which is increasing the production costs of China's textile industry. Under this forecast, China's share of global cotton consumption will fall by 3 percentage points in 2012–13 to around 34 per cent, the lowest since 2003–04.

Forecast change in cotton consumption, 2012–13, by country
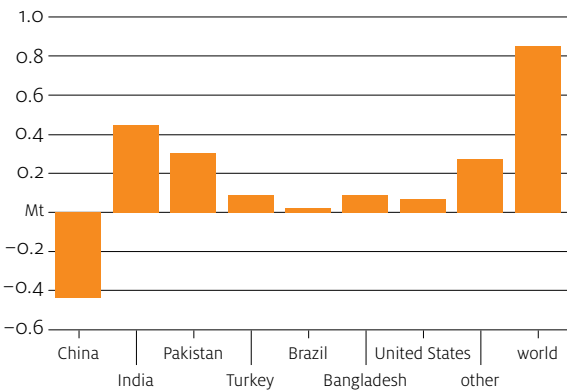
World cotton trade lower in 2012–13

World cotton exports are forecast to decrease by 16.2 per cent in 2012–13 to 8.3 million tonnes. This forecast is driven by lower import demand from China and lower export supplies. More than 50 per cent of the forecast decline in world cotton exports is expected to occur in India, Brazil and Pakistan. In Australia and Uzbekistan, cotton exports are forecast to rise.

In the United States, the world's largest cotton exporter, exports are forecast to be 2.5 million tonnes in 2012–13, largely unchanged from 2011–12. The US share of world exports is forecast to increase by 5 percentage points to nearly 32 per cent in 2012–13.

With Chinese cotton reserve stocks at record levels in 2012–13, Chinese imports of raw cotton are forecast to decline by 55 per cent in 2012–13 to 2.4 million tonnes. At this forecast level, Chinese cotton imports in 2012–13 will still be higher than an average of 2 million tonnes over the 10 years to 2010–11.

Indian raw cotton exports are forecast to decline by 67 per cent in 2012–13 to 800 000 tonnes, reflecting lower domestic cotton production and increased domestic mill consumption.

Record world cotton stocks in 2012–13

World cotton stocks are forecast to increase by around 14 per cent in 2012–13 to a record 17.2 million tonnes. With world cotton production expected to exceed consumption for the third year in a row, the world cotton stocks-to-use ratio is forecast to reach a record 74 per cent in 2012–13, 6.5 percentage points higher than in 2011–12. Closing cotton stocks are forecast to be higher in all major cotton producing countries, except Brazil, with China and the United States accounting for the bulk of the increase.

In China, cotton stocks are forecast to increase by 21 per cent to 8 million tonnes in 2012–13. Under this forecast, China's share of world cotton stocks will rise by 3 percentage points in 2012–13 to 46 per cent, the highest level since 1998–99.

Forecast change in world cotton ending stocks, 2012–13, by country
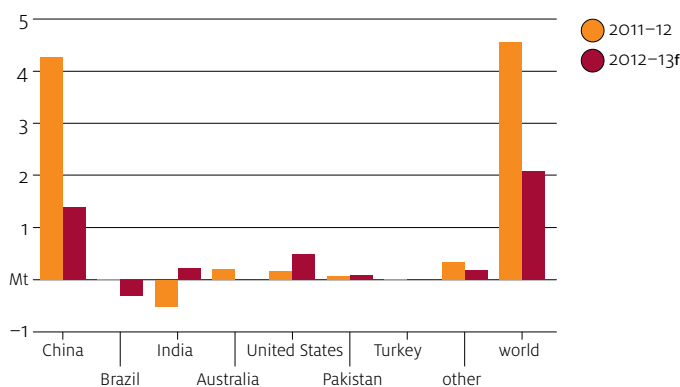
f ABARES forecast.

Lower Australian cotton production in 2012–13

Cotton lint production in Australia is forecast to decline by 21 per cent in 2012–13 to 945 000 tonnes. Irrigated cotton production is expected to remain profitable compared with production alternatives, but dryland cotton production is forecast to be down sharply. In 2011–12, Australia produced a record 1.2 million tonnes of lint cotton in response to high cotton prices, favourable seasonal conditions and abundant irrigation water.

In 2012–13, cotton plantings are estimated to be 442 000 hectares, made up of irrigated plantings of 419 000 hectares (down 7 per cent from last season) and dryland plantings of 23 000 hectares (down 85 per cent).

Average yields are assumed to be around 7 per cent higher in 2012–13, due to an increase in the proportion of higher yielding irrigated cotton in total plantings.

Lower Australian cotton prices in 2012–13

The return to Australian cotton growers at the gin-gate is forecast to decrease by 15 per cent in 2012–13 to $460 a bale (227 kilograms) of lint (including the value of cottonseed and net of ginning costs), reflecting the forecast decline in world cotton prices. If realised, this will be the second lowest return per bale Australian cotton growers received in the past decade, compared with an average of around $544 a bale (in 2012–13 dollars) over the 10 years to 2010–11.

Storage levels of main cotton irrigation dams, at 6 December 2012
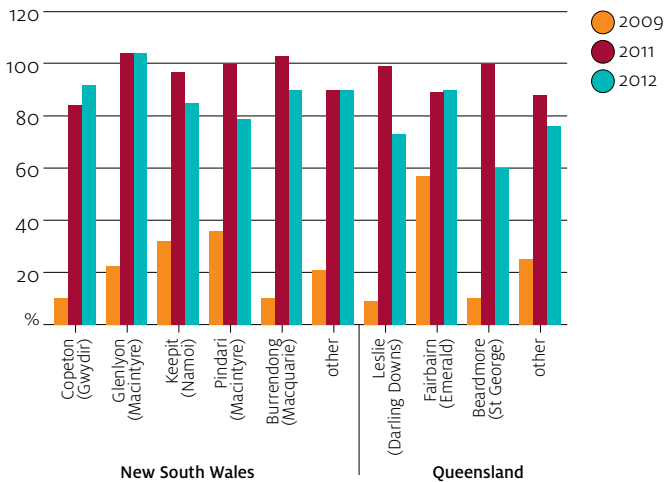
Record Australian cotton exports in 2012–13

Cotton exports in Australia are forecast to increase by 11 per cent in 2012–13 to a record 1.1 million tonnes. This forecast reflects record cotton production in 2011–12 and the forecast of another large cotton harvest in 2012–13. Under this export forecast, Australia would become the world's second largest exporter of raw cotton in 2012–13, next only to the United States.

Australian cotton production, exports and gin-gate returns
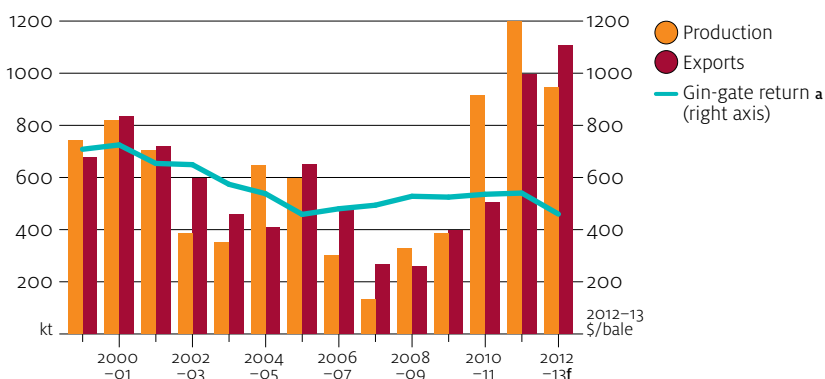
a Value of lint and cottonseed, less ginning costs. f ABARES forecast.

Outlook for cotton

		2010 –11	2011 –12 s	2012 –13 f	% change
World a					
Production	Mt	25.3	27.0	25.3	− 6.3
Consumption	Mt	24.8	22.4	23.3	4.0
Exports	Mt	8.0	9.9	8.3	− 16.2
Closing stocks	Mt	10.6	15.1	17.2	13.9
Stocks-to-use ratio	%	42.7	67.6	74.1	9.6
Cotlook 'A' index	USc/lb	164.3	100.1	81.0	− 19.1
Australia b					
Area harvested	'000 ha	590	600	442	− 26.3
Lint production	kt	898	1 198	945	− 21.1
Exports	kt	505	994	1 106	11.3
– value	A$m	1 367	2 736	2 451	− 10.4

a August–July years. c July–June years. f ABARES forecast. s ABARES estimate.
Sources: ABARES; Australian Bureau of Statistics; United States Department of Agriculture

Fruit and tree nuts

Fiona Crawford and Brian Moir

Production

Fruit

The Australian fruit industry is characterised by a number of well-established industries, particularly bananas, citrus, pome and stone fruit.

Fruit is grown in all states of Australia with the fruit industry having a gross value of production of around $3 billion in 2010–11 (the latest year available from the Australian Bureau of Statistics), around 12 per cent higher in real terms than in 2001–02. Victoria had the highest gross value of production in 2010–11, accounting for 37 per cent of the total value of Australian production, followed by Queensland (28 per cent) and New South Wales (15 per cent).

The composition of the fruit industry has changed over the past decade with the value of apple production increasing by 32 per cent in real terms to $595 million in 2010–11, accounting for around 20 per cent of the industry total. Over the same period, the value of banana production decreased by 24 per cent in real terms to $316 million in 2010–11 and its share of fruit industry value of production fell from 20 per cent to 10 per cent. Additionally, the value of orange production fell by 45 per cent in real terms to $198 million in 2010–11, 14 per cent to 7 per cent of fruit industry total.

Pome

Pome fruit is the group with the highest value of production in the Australian fruit industry. In 2010–11 the group was valued at around $776 million. Several varieties of apples and pears are grown in all states of Australia, with Victoria historically having the highest volume of production. Production of pome in Victoria has increased from 49 per cent (226 000 tonnes) of total pome production in the mid 1990s to 56 per cent (238 000 tonnes) in 2010–11, reflecting an increase in high density tree plantings. In contrast, the New South Wales pome industry decreased from 17 per cent of total Australian pome production in 1997–98 to around 13 per cent in 2010–11, driven by a reduction in apple production from around 77 000 tonnes to just under 53 000 tonnes.

Percentage of gross value of fruit production, 2001–02 and 2010–11
(in 2010–11 dollars)

Fruit GVP 2001–02: $2.6 billion

🟠	Bananas	20%
🔴	Apples	17%
🔵	Oranges	14%
⬤	Mandarins	4%
⬤	Avocados	3%
⬤	Berries	6%
🟣	Other	36%

Fruit GVP 2010–11: $3.01 billion

🔴	Apples	20%
🟠	Bananas	10%
🔵	Oranges	7%
⚪	Olives	6%
⬤	Mandarins	5%
⬤	Avocados	3%
🟣	Other	49%
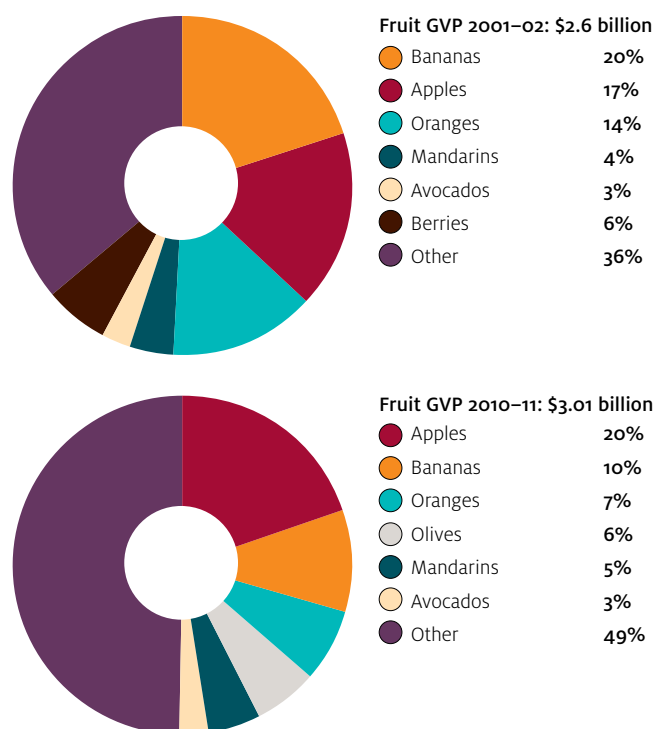
Citrus

The value of the Australian citrus industry trended downward over the past decade and was valued at $409 million in 2010–11, mainly as a result of reductions in orange, lemon and lime production. In contrast, mandarin production increased at an annual average rate of around 3.5 per cent over the past 30 years, to be just under 98 000 tonnes in 2010–11. While Australian citrus production historically concentrated in South Australia, New South Wales and Queensland, New South Wales became more dominant over the past decade, driven by an increase in the number of orange trees.

The Australian orange industry produces two main varieties—naval and Valencia—and had a gross value of production of just over $198 million in 2010–11. Navel oranges accounted for $130 million and Valencia around $61 million. Navel oranges are mainly sold to consumers in both Australia and export markets, while Valencia are used more for juicing. Total orange production increased over the two decades to 2007–08, but decreased in recent years; it was at a 20-year low in 2010–11 mainly due to adverse seasonal conditions.

Tree nuts

The Australian tree nut industry is an emerging industry and consists primarily of almonds, chestnuts, macadamias and hazelnuts. Victoria accounted for 42 per cent of the total gross value of tree nut production in 2010–11, followed by New South Wales (26 per cent) and South Australia (18 per cent).

The largest tree nut industry (in terms of value of production) is almond production followed by macadamias. Macadamia production is concentrated in New South Wales and Queensland, where the climatic conditions suit its growing requirements, while almond production is mainly along the Murray River corridor in Victoria. In 1995–96 production of tree nuts was around 27 000 tonnes, but has since grown at an average of 6 per cent a year to around 64 000 tonnes in 2010–11. Almond production increased markedly over this period, with its share of total tree nut production in volume terms rising from 25 per cent in the late 1990s to around 55 per cent today.

Percentage of gross value of tree nut production, 2001–02 and 2010–11 (in 2010–11 dollars)

Tree nut GVP 2001–02: $167 million

Almonds	34%
Macadamias	53%
Chestnuts	4%
Other	9%

Tree nut GVP 2010–11: $281.5 million

Almonds	61%
Macadamias	28%
Walnuts	5%
Pecans	2%
Pistachios	2%
Other	2%
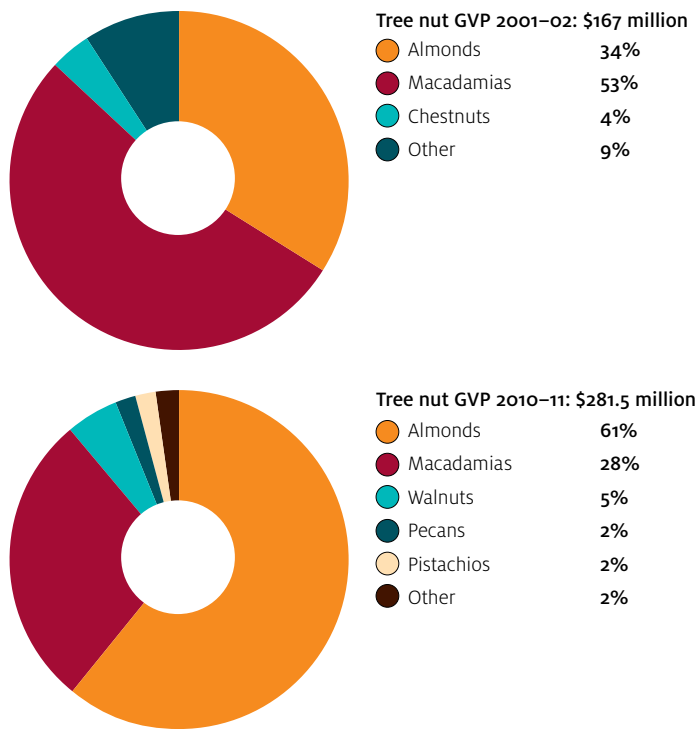
In gross value terms, the almond industry is estimated to have reached around $200 million in 2011–12. Australia is the world's third largest almond producer accounting for 3.5 per cent of world production in 2011–12 (the United States accounted for 82 per cent and Spain 8 per cent). The increase in Australian production reflects the mass planting of trees in the early 2000s.

Presently, around 55 per cent of Australia's almond trees are not cropping at full yields and hence almond production in Australia is forecast to increase in the next several years, if seasonal conditions permit. Australia is expected to overtake Spain to become the world's second largest producer of almonds within the next five years.

Australian almond production
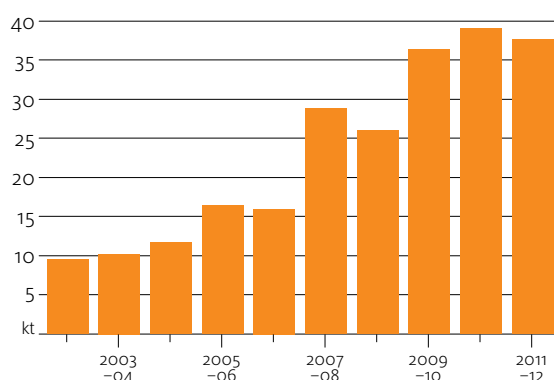
Trade

Fresh fruit

Before 2009–10, Australia was a net exporter of fresh fruit. However, in the past two years it became a net importer of fresh fruit, with the value of imports exceeding exports by around $75 million in 2011–12.

The pattern of export destinations for Australian fresh fruit has shifted over the past decades. In the beginning of the 1990s, Germany, the United Kingdom, Canada and Singapore were the primary destinations for fresh fruit exports. Rapid income growth and increased trade openness in Asia supported growth in Australia's fresh fruit exports to the Asian region. Hong Kong is now the largest export destination for Australian fresh fruit exports, accounting for 25 per cent ($94 million) of the total value of Australia's fresh fruit exports in 2011–12. Other major export destinations for Australian fresh fruit in 2011–12 included Singapore ($35 million), Japan ($33 million), Indonesia ($29 million) and New Zealand ($25 million). These five markets collectively accounted for around 55 per cent of the total value of Australian fresh fruit exported in 2011–12.

Despite the changed geographic pattern of trade, the types of fresh fruit exported have remained relatively stable, with the noticeable exception of sultanas. Sultanas were the second largest fresh fruit export in the early 1990s with around 32 000 tonnes exported, but this trade declined and in 2011–12 fresh sultana exports amounted to only 390 tonnes.

The value of Australian fresh fruit imports was around $454 million in 2011–12, comprising mainly avocados, frozen fresh fruit, kiwifruit, table grapes and sultana grapes. The main source countries were the United States ($146 million), New Zealand ($123 million), Turkey ($48 million), China ($37 million) and Chile ($27 million). The United States, New Zealand and Turkey were the major sources of fresh fruit imports over the past decade and since the mid 2000s China has became an important source for fresh fruit imports.

Fresh fruit exports, 2001–02 and 2011–12 (in 2011–12 dollars)

Fresh fruit exports 2001–02: $731 million

● Oranges		32%
● Grapes		16%
● Apples		10%
● Mandarins		8%
○ Plums and sloes		5%
● Nectarines		3%
● Other		26%

Fresh fruit exports 2011–12: $378 million

● Oranges		30%
● Grapes		27%
● Mandarins		12%
● Cherries		4%
○ Mangoes		3%
● Other		24%
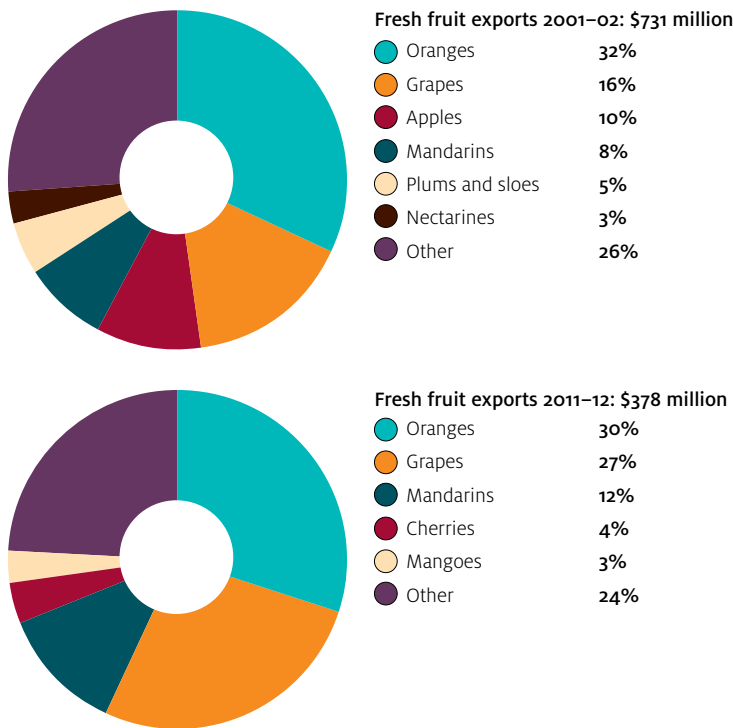
Oranges

Between 1990 and 2001, fresh orange exports from Australia increased from 35 000 tonnes to 150 000 tonnes. During this time, the Australian dollar was depreciating and seasonal conditions were relatively favourable. Orange exports declined markedly in 2002 and 2003, and have subsequently fluctuated between 91 000 tonnes and 120 000 tonnes a year. Australian exports of fresh oranges increased by 41 per cent in 2011–12 to around 121 000 tonnes, reflecting higher domestic production supported by favourable seasonal conditions.

The main export destinations for fresh oranges in 2011–12 were Japan, the United States, Hong Kong, Malaysia and Singapore. In the 1990s Australia dominated the market for imported out-of-season oranges in the United States, but competition from South Africa since 2000 and Chile since 2009 reduced Australia's share of this market, particularly in the past two years. US imports of Australian navel oranges peaked at around 30 000 tonnes in 2007 before declining to around 8000 tonnes in 2011. While the appreciating Australian dollar, weak economic conditions in the United States and lower Australian production contributed to the decline, competition from Chile over the past three years has significantly affected Australian exports to the United States. In contrast to Australian exports to the United States, Chilean orange exports to the United States have more than doubled over the past three years, from 20 000 tonnes in 2009 to nearly 45 000 tonnes in 2011.

Over the short term, returns to Australian orange growers and volumes sold into the United States will continue to be influenced by increased competition in the US import market, especially from Chile, and by the high value of the Australian dollar. Given Australia's higher cost of production, average prices for Chilean oranges sold into the United States are expected to remain at lower levels than Australian fruit, while volumes of Chilean orange imports into the US market are likely to increase as their production expands. This combined with an assumed relatively high Australian exchange rate, is expected to result in only a small volume of Australian fruit being exported to the United States.

Production and exports of mandarins expanded strongly in the past decade, while grapefruit production declined, reflecting changing patterns of consumer demand.

Australian exports of horticultural products, particularly of citrus to the United States, have been subject to export control measures—the so-called Export Enhancement Powers—which are under review (see box).

Over the past decade, imports of fresh oranges trended upward at an annual growth rate of 3 per cent, driven mainly by counter-seasonal demand. The United States supplies 97 per cent of Australia's orange imports primarily during the warmer non-producing months. The Australian harvesting season for navel oranges is May through October.

Review of Export Efficiency Powers for horticultural products

The *Horticulture Marketing and Research and Development Services Act 2000* and associated Regulations and Orders provide for Horticulture Australia Limited (HAL) to enforce conditions on the export of horticultural produce. These arrangements are known as the Export Efficiency Powers.

Orders currently in place provide that:

- All exports of citrus to the United States must be sold through a single importer—currently DNE World Fruit Sales Inc.
- Exporters of oranges to any market are required to obtain a licence from HAL.
- Exports of oranges to China must comply with the Citrus to China Marketing Program, under which an advisory committee sets minimum prices to be paid by exporters to packers.
- Exporters of apples and pears are required to obtain a licence from HAL for shipments to all markets, but no conditions are set as to the quality, size, price or destination of the exported produce.
- Exporters of dried grapes are required to hold an export licence. Conditions are specified relating to processing standards, trade descriptions, and requiring that dried grape exports be processed only in registered establishments, but they are no longer applied.

The Deed of Agreement between the Commonwealth of Australia and HAL requires that the export efficiency regulations be reviewed against National Competition Policy principles after 10 years of operation. The review, which was overseen by a committee comprising representatives of a number of government departments, began in the second half of 2011.

In October 2011 stakeholders were invited to make submissions to the review; 13 submissions were received.

ABARES analysed the arrangements and reviewed them against the National Competition Policy principles, which provide that legislation or regulations that restrict competition should be retained only if:

- the benefits to the community as a whole outweigh the costs
- the objectives of the legislation/regulation can be achieved only by restricting competition.

The review took account of submissions received and of face-to-face consultations with a number of industry participants. It identified some benefits that may be attributable to the Export Efficiency Powers. However, it concluded that the Export Efficiency Powers do not meet the criteria set under the National Competition Policy because the identified benefits could be achieved for each product and market covered without legislation. The report was released in June 2012; it recommended that the arrangements be discontinued.

Stakeholders were invited to make further submissions in response to the ABARES report; 14 were received in July and August 2012.

The committee considered the ABARES report in forming its advice which was subsequently provided to the government for consideration.

Information about the review, including the ABARES report and the submissions, can be found at daff.gov.au/agriculture-food/hort-policy/review-of-horticulture-australia-limited-export-regulation-powers.

Australia also imports increasing quantities of processed orange products, predominately frozen concentrated orange juice, as Australian producers are generally unable to compete with imports, mainly sourced from Brazil and the United States. Imports of orange juice were valued at $67.8 million in 2011–12, 16 per cent higher than the previous year and 36 per cent more than in 2001–02.

Australia–US monthly trade in oranges
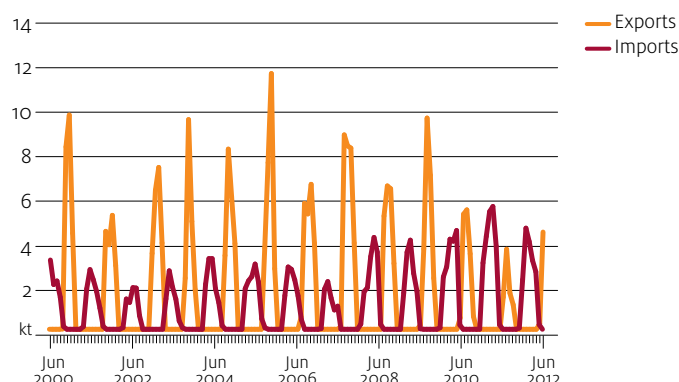
Apples

The volume of fresh apple exports decreased at an average of 20 per cent annually in the 10 years to 2010–11, but increased by 14 per cent in 2011–12 to 2900 tonnes. The family of fresh delicious apples (red, ordinary, golden and earlidel) were the main varieties exported in 2011–12. Over the same period, exports of processed apple products also decreased at an annual average rate of around 9 per cent. The main export destinations for apple and apple products remained relatively stable and in 2011–12 the top five fresh apple destinations were Indonesia (34 per cent), Papua New Guinea (25 per cent), Thailand (13 per cent), the United Kingdom (8 per cent) and Malaysia (5 per cent).

While some of Australia's apple producers are able to compete in export markets, many will need to improve their efficiency before a significant and sustained recovery of exports can be achieved. As a result of the expectation of a relatively high Australian dollar over the next few years, apple and pear producers need to markedly improve their competitiveness on international markets to achieve a sizable increase in exports.

Under current arrangements to import fresh apples from China and New Zealand— the first countries to meet Australian quarantine requirements for fresh apples since the 1920s—Australia imported around 1300 tonnes in 2011–12. The value of imports of processed apple products was around $67.8 million in 2011–12. Imports of processed apple products increased at an average growth rate of 5.7 per cent over the 10 years to 2011–12. They are sourced primarily from China, which accounted for 74 per cent in 2011–12 and New Zealand (20 per cent).

Processed fruit

Australia is a net importer of processed fruit products. Over the 10 years to 2011–12, the value of Australia's net imports of processed fruit products increased by 68 per cent to around $443 million.

Exports of processed fruit products were valued at just over $130 million in 2011–12. Exports of processed fruit products declined since 2007–08, reflecting relatively high production costs in Australia compared with its main competitors and a strong Australian dollar. The processed fruit products with the highest value of exports in 2011–12 were fruit mixes, virgin olive oil, fruit juice, grape juice and orange juice. The top export destinations included New Zealand ($40 million), Japan ($23 million), the United States ($9.9 million), China ($8.5 million) and Malaysia ($4.9 million).

Imports of processed fruit products increased by 60 per cent between 2000–01 and 2006–07 and have remained fairly stable. The import value increased slightly to $573 million in 2011–12. Processed fruit products were historically sourced from Spain, Italy, Brazil and New Zealand, but over the past five years have increasingly come from China (up by 28 per cent in 2011–12 to be worth around $88 million).

Tree nuts

In 2011–12, the value of Australian exports of fresh tree nuts was around $76 million of which almonds accounted for three-quarters. India, Hong Kong, Vietnam and Italy are the main destinations for exports of fresh Australian tree nuts and collectively accounted for around 76 per cent of the value of total tree nut exports in 2011–12.

Fresh tree nut exports, 2001–02 and 2011–12 (in 2011–12 dollars)

Fresh tree nut exports 2001–02: $35 million

Macadamias	82%
Almonds	12%
Walnuts	3%
Pecans	2%
Pistachios	1%
Other	1%

Fresh tree nut exports 2011–12: $76 million

Almonds	76%
Walnuts	16%
Pecans	5%
Pistachios	2%
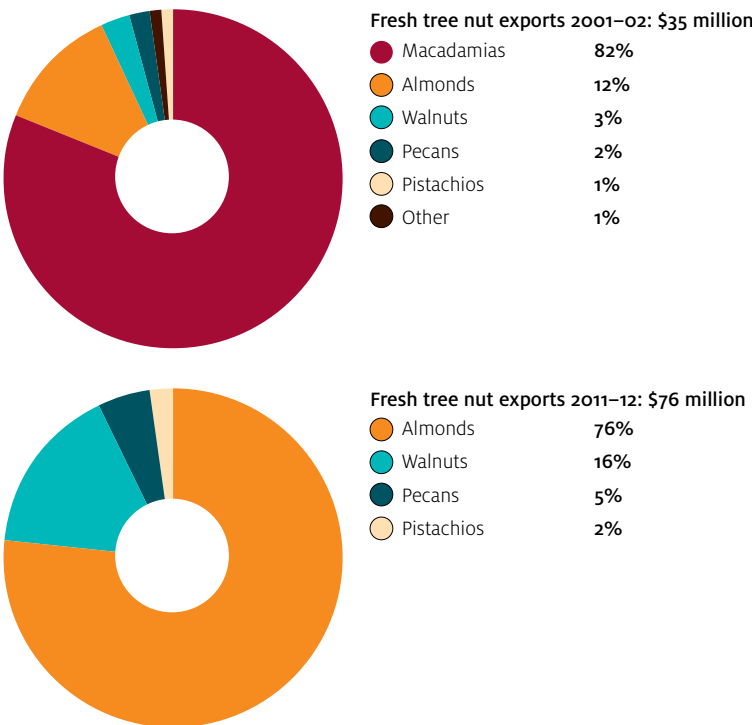
The export destinations of fresh tree nuts have changed markedly over the past two decades. In the early 1990s Australia primarily exported to the United States, the Netherlands, the United Kingdom and New Zealand. The composition of tree nut exports has changed significantly; in the 1990s tree nut exports were dominated by fresh pecans, in the early 2000s by macadamias and over the past five years by almonds. Over this period the volume of Australian tree nut exports grew at an average rate of 13 per cent annually, increasing from around 1800 tonnes at the beginning of the 1990s to 19 000 tonnes in 2011–12.

Exports of processed tree nuts were around $165 million in 2011–12. The top export destinations for processed tree nuts included Japan ($20.6 million), New Zealand ($17.5 million), Germany ($14.6 million) and the United States ($14.0 million).

Almonds

The value of Australian exports of almonds increased by 25 per cent in 2011–12 to $144.3 million, despite the slight decrease in domestic production. Opening stocks were high at the beginning of the 2011–12 season, leading to higher export supplies in 2011–12. The value of fresh almond exports in 2010–11 increased by 76 per cent to $57.8 million, reflecting an 85 per cent increase in the volume of fresh almond exports to 14 700 tonnes. Exports of processed almond products in 2010–11 were around $86.5 million.

In 2011–12, around 11 300 tonnes (75 per cent) of Australia's exports of fresh almonds went to its largest export market, India. Much smaller volumes were exported to the United Arab Emirates (820 tonnes), Hong Kong (360 tonnes) and Turkey (323 tonnes). The United States, Spain, the United Arab Emirates and India are the main destinations for Australian exports of processed almond products, collectively accounting for around 50 per cent of the volume in 2011–12.

The value of Australian imports of processed almond products doubled in 2011–12 to $9.7 million after increasing at an average of 6 per cent a year over the five years to 2010–11. This growth reflects strong domestic demand for almond products. In 2011–12 Australia sourced nearly all its imports of processed almond products from the United States ($8.8 million), the largest producer of almonds in the world.

Agriculture

Livestock

Beef and veal

Clay Mifsud

The Australian weighted average saleyard price of beef cattle is forecast to fall by 6 per cent in 2012–13 to 310 cents a kilogram (dressed weight). Lower saleyard prices reflect falling demand for young restocker cattle, and an increase in supply of finished cattle for processing. Export demand from the United States and many smaller markets including Taiwan, the Middle East and China is forecast to increase in 2012–13. However shipments to Japan are forecast to decline, reflecting increased competition from US beef exports. Japan is a market that provides most favourable returns to US beef exporters and producers. As such, US beef exports to the Japanese market are forecast to rise, despite an expected decline in US beef production.

Slowing of herd expansion in 2012–13

Demand for young cattle in 2012–13 is expected to slow, following strong growth in the previous two years when excellent seasonal conditions facilitated herd rebuilding. Cattle slaughter is forecast to rise, slowing growth in the national cattle herd. The national beef cattle herd is forecast to increase by 1 per cent in 2012–13 to around 27 million head. This compares with growth of 2 per cent in 2011–12 and 8 per cent in 2010–11.

The likelihood of any further herd rebuilding depends on seasonal conditions. Most major cattle producing regions in eastern Australia received above average rainfall from January 2010 to June 2012, which encouraged producers to hold on to cows and heifers to rebuild herds. If this is followed by an extended period of dry seasonal conditions, turn-off of breeding animals is likely to rise, leading to a weakening in herd rebuilding.

Slaughter and production to rise

After more than two years of herd rebuilding, supplies of finished cattle for processing are expected to increase in 2012–13. Australian cattle and calf slaughter is forecast to increase by 3 per cent in 2012–13 to 8.1 million head, the first increase in six years.

Greater cattle and calf slaughter will underpin a forecast 3 per cent growth in Australian beef and veal production in 2012–13 to 2.2 million tonnes. Average adult carcass weights are expected to be slightly lower than the highs of 2011–12, because of an assumed increase in the proportion of lighter female cattle slaughtered. In the September quarter 2012, female cattle slaughter increased by 4 per cent to

801 000 head, and male cattle slaughter increased by 3 per cent to 1.1 million head, compared with the same period last year. This resulted in a 3 per cent increase in beef production to 542 000 tonnes in the quarter.

Australian cattle slaughter and weighted average saleyard price
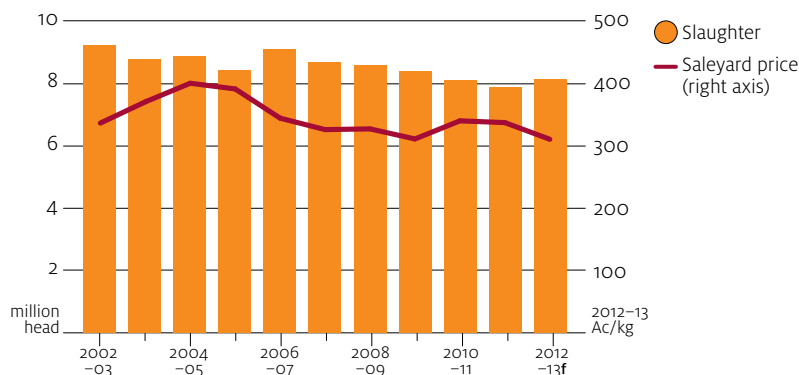
f ABARES forecast.

Domestic consumption in Australia

The domestic market takes around one-third of beef and veal production in Australia. Consumption of beef and veal in Australia is forecast to average 33 kilograms per person in 2012–13, around 4 per cent higher than in 2011–12. This compares with average per person consumption of around 37 kilograms in the United States, 7 kilograms in Japan and 10 kilograms in the Republic of Korea. The remaining two-thirds of Australian production is exported, with Japan, the United States and the Republic of Korea, the three largest markets, forecast to account for around 45 per cent of Australia's beef production in 2012–13.

Markets for Australian beef and veal 2012–13

Australia	35%
Japan	21%
United States	15%
Korea, Rep. of	8%
ASEAN	6%
Taiwan	3%
Middle East	2%
Other	10%
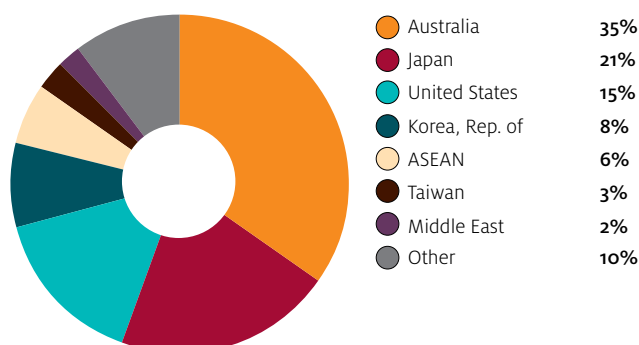
Note: Does not include live cattle exports.

Australian beef export shipments to rise

Australian beef and veal exports are forecast to rise by 2 per cent in 2012–13 to 970 000 tonnes (shipped weight). Higher export volumes reflect an increase in domestic beef and veal production and increased demand from the United States and many smaller export markets, including Taiwan, the Middle East, China and the Philippines. In contrast, exports to Japan are forecast to decline, reflecting increased competition from US beef.

Australia's share of world beef exports is expected to remain relatively stable over the coming year. According to the United States Department of Agriculture, India's beef exports are forecast to increase by around 30 per cent in 2013 to a record 2.15 million tonnes, mainly going to the Middle East and Africa. Increased Indian beef exports are unlikely to affect demand for Australian beef as India does not maintain a freedom from foot-and-mouth disease status with the World Organisation for Animal Health, a key requirement in many of Australia's beef export markets in the Asia-Pacific region. Growth in beef exports from India, Latin America and Australia in 2012 and 2013 will more than offset declining exports from the United States and Mexico.

Australian beef exports, by destination
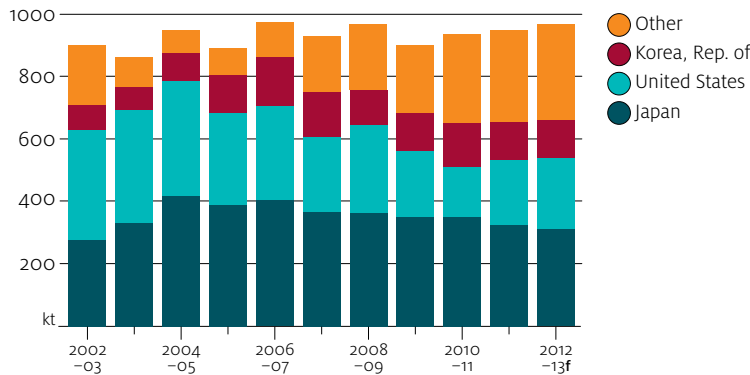
f ABARES forecast.

World's largest beef exporters
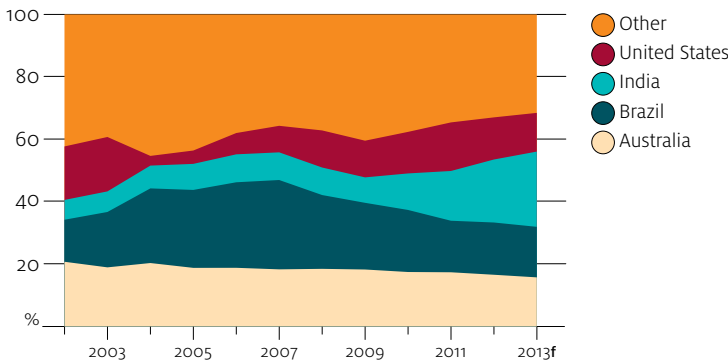
f United States Department of Agriculture forecast.

Increased exports to the United States

Australian beef and veal exports to the United States are forecast to increase by 12 per cent in 2012–13 to 230 000 tonnes (shipped weight). Increased exports to the United States reflect declining US domestic beef production, and favourable import prices for manufacturing beef.

The United States Department of Agriculture is forecasting US beef production to fall by 3 per cent in 2012–13 to 11.4 million tonnes, partly reflecting lower beef cow slaughter. Despite some of the worst pasture conditions on record, many US cow–calf producers have refrained from herd liquidation, given a significant reduction in herd size over the past several years. US beef cow slaughter during the first four months of 2012–13 fell by 17 per cent year-on-year to 1.2 million head.

US beef cow slaughter
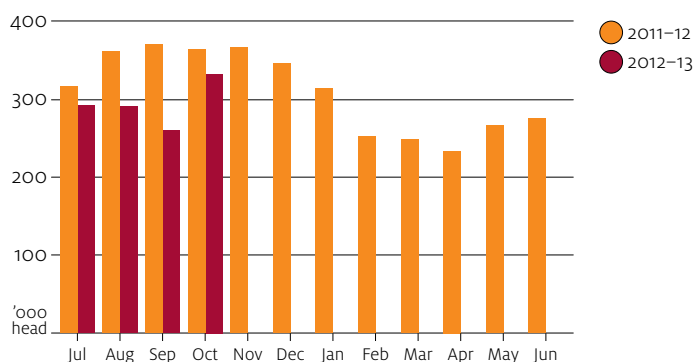
After successive years of beef cow herd liquidation which resulted in increased US supplies of cow beef and lower import demand, the US beef cow herd fell to 30.5 million head, the lowest in around 40 years. An increasing number of US cow–calf producers are retaining their remaining stock on expectations of continued favourable prices and an improvement in pasture conditions during the second half of 2012–13. In the short term, lower beef cow slaughter would result in a decline in US supplies of lean beef, increasing demand for imports of manufacturing beef, including Australian beef.

Lower supplies of cow beef in the United States is reflected in the price of imported 90CL cow beef, averaging a record equivalent to 397 Australian cents per kilogram over the first five months of 2012–13, 13 per cent higher than the same period two years ago. Higher import prices offer Australian exporters additional incentive to divert manufacturing beef to the United States from other export markets, such as the Russian Federation where demand has fallen.

Significantly higher feed grain prices are another factor putting downward pressure on US beef production in 2012–13, resulting in increased demand for imports. Higher corn prices increased the cost of rations provided to cattle in feedlots. In response to increased feed costs, cattle feeders accepted fewer cattle and calves. Over the first four months of 2012–13, the number of cattle placed on feed fell by 13 per cent year-on-year to 8.1 million head. This contributed to fed-cattle prices increasing by around 10 per cent since July 2012. In response, beef packers reduced their demand for fed cattle. The rapid decline in placements is expected to lead to a reduction in cattle slaughter and beef production in the short term.

Greater competition from US beef in Japan

Australian beef and veal exports to Japan are forecast to fall by 5 per cent in 2012–13 to 310 000 tonnes (shipped weight). Lower demand for Australian beef in Japan reflects increased competition from imported US beef.

Japanese demand for US grain-fed beef, typically preferred over Australian beef because of its higher marbling rates, is forecast to continue rising in the short term. This is expected to result in a further decline in Australian exports to Japan, particularly high value grain-fed beef. Despite a forecast slowdown in US beef production in 2012–13, the supply of beef available to be exported to Japan is expected to increase, reflecting higher export unit returns from the Japanese market compared with other outlets. In the September quarter 2012, US beef exports to Japan increased by 15 per cent year-on-year to 44 000 tonnes. This compares with a decline of 4 per cent in Australian beef exports to Japan to 107 000 tonnes over the same period.

Japan beef imports, by country
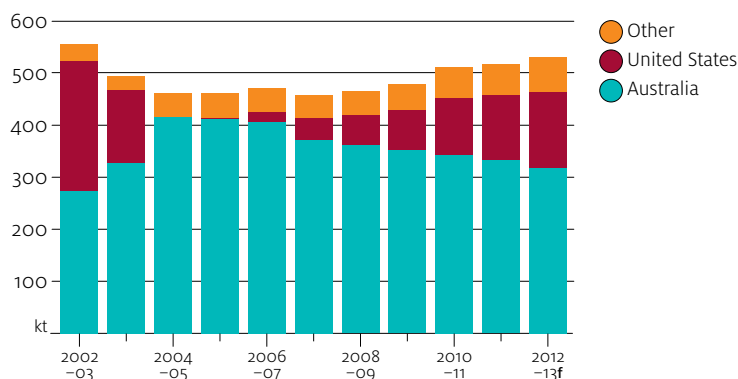
f ABARES forecast.

A factor that can affect the outlook for Australian beef exports to Japan is the possibility of a decision by the Japanese Government to further relax import restrictions on US beef imports. Presently US beef exports to Japan must be from cattle slaughtered at less than 21 months of age. This condition was imposed by the Japanese Government when it removed a ban on US beef imports imposed after an outbreak of bovine spongiform encephalopathy (BSE or mad cow disease) in the United States in 2003. In a risk assessment the Japanese Government's Food Safety Commission released in late October 2012, a recommendation was made to Japan's Ministry of Health, Labour and Welfare to increase the age limit to 30 months of age. If implemented, the supply of US beef eligible for export to Japan would increase significantly, leading to higher US beef exports to Japan and downward pressure on demand for Australian beef in Japan.

Lower exports to the Republic of Korea

During the first four months of 2012–13, Korean beef imports fell by 16 per cent year-on-year to around 95 000 tonnes (shipped weight), with declines in imports from all major suppliers—Australia (–10 per cent), the United States (–19 per cent) and New Zealand (–17 per cent). Korean beef production increased substantially in the quarter, and is expected to remain high in the short term. The Korean Government's $26 million program of payments to cattle farmers for slaughter of lower performing cows and heifers contributed to female cattle slaughter increasing by 47 per cent year-on-year in the first quarter of 2012–13. The program is expected to continue in the short term as its overall aim—a reduction in the breeding herd—has not been achieved. According to Statistics Korea the number of fertile cows in that country increased by 4 per cent in the September quarter 2012 despite the increased cow slaughter.

Australian beef and veal exports to the Republic of Korea in 2012–13 are forecast to fall by 2 per cent to around 120 000 tonnes (shipped weight). Frozen beef accounts for around three-quarters of Korean beef imports, and the share of US beef is expected to rise, as it becomes increasingly price competitive against Australian beef. The difference in the landed per kilogram price of US and Australian imported frozen beef in Korea has narrowed considerably, from US$2.93 in July 2008 (a 42 per cent premium for US beef) to only US$0.68 (a 10 per cent premium) in October 2012. Increased competition for Australian frozen beef is also expected to come from beef imports from Chile and Uruguay which have recently been granted access to the Korean beef market.

Price spread between US and Australian frozen beef in Republic of Korea
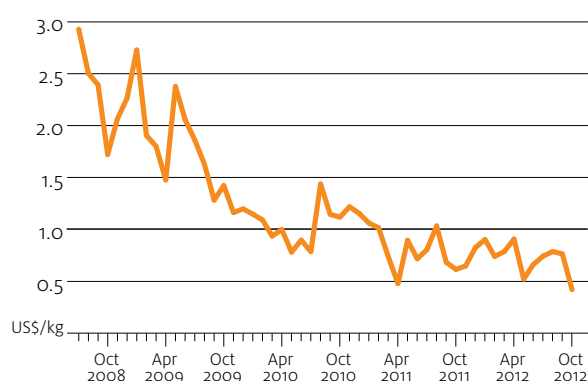
Growth in exports to emerging markets

Exports to markets other than the United States, Japan and the Republic of Korea are forecast to increase by 5 per cent in 2012–13 to 310 000 tonnes (shipped weight), one-third of total beef and veal exports.

Greater shipments to the Philippines, Malaysia and Singapore are expected to offset declining exports to Indonesia. The Indonesian Government imposed a quota of 41 000 tonnes for beef imports (from all countries) for 2012. This contributed to Australian beef exports to Indonesia over the first five months of 2012–13 falling year-on-year by more than 40 per cent to 12 000 tonnes.

Exports to China are forecast to increase substantially in 2012–13. In the first five months of 2012–13, beef exports to China totalled 22 000 tonnes, compared with 4000 tonnes in the same period a year earlier. The majority of shipments so far in 2012–13 consisted of frozen manufacuring beef.

After increasing by 20 per cent in 2011–12 to a record 38 000 tonnes (shipped weight), growth in exports to Taiwan is forecast to slow in 2012–13. In March 2012, the Taiwanese Government banned US beef imports after discovery of ractopamine in a shipment from the United States. This contributed to a significant increase in demand for Australian beef. In mid September 2012, the Taiwanese Government lifted the ban on imports of US beef, on the condition the ractopamine content not exceed 10 parts per billion, the same standard enforced by Japan and Korea. Re-entry of US beef in the Taiwanese market is expected to result in strong competition for Australian beef in that market. Over the first five months of 2012–13, Australian beef and veal exports to Taiwan increased by 9 per cent, year-on-year, to 18 000 tonnes (shipped weight).

Shipments to the Russian Federation, formerly the fourth largest market for Australian beef and veal, are likely to fall in 2012–13, reflecting increased supplies of Brazilian beef in that market. A depreciation of the Brazilian real against the Russian rouble and an increase in the number of Brazilian abattoirs certified to export beef to the Russian Federation resulted in Brazilian beef exports expanding rapidly. In the first five months of 2012–13, Australian beef exports to the Russian Federation fell year-on-year by 45 per cent to 12 000 tonnes (shipped weight).

Live cattle exports to decline

Australian exports of live cattle for feeder and slaughter purposes in 2012–13 are forecast to fall by 22 per cent to around 450 000 head, reflecting lower shipments to the largest market, Indonesia. The Indonesian Government permits for import of 283 000 head of feeder cattle for 2012 was filled by the beginning of November 2012. From July 2012 to November 2012, around 98 000 head were exported from Australia to Indonesia, compared with 145 000 head over the same time last year.

On 5 December 2012, the Indonesian Ministry of Agriculture announced at a meeting of the Working Group on Agriculture, Food and Forestry Cooperation that permits for import of 267 000 head of feeder cattle would be issued in 2013. Permits for import of 56 000 head are to be issued for the first quarter of 2013 and 120 000 head for the second quarter of 2013. Permits for import of the remaining 91 000 are to be issued during the second half of 2013.

Outlook for beef and veal

		2010 −11	2011 −12 s	2012 −13 f	% change
Cattle numbers **a**	million	28.5	29.1	29.4	1.0
– beef	million	25.9	26.4	26.7	1.1
Slaughterings	'000	8 097	7 873	8 130	3.3
Production	kt	2 133	2 115	2 180	3.1
Exports (shipped weight)					
– to United States	kt	160	205	230	12.2
– to Japan	kt	351	326	310	− 4.9
– to Korea, Rep. of	kt	139	123	120	− 2.4
– total	kt	937	948	970	2.3
– value	A$m	4 328	4 466	4 552	1.9
Live cattle	'000	728	579	450	− 22.3
Price					
– saleyard	Ac/kg	324	329	310	− 5.8
– US import	USc/kg	391	433	455	5.1
– Japan import	USc/kg	574	600	590	− 1.7

a At 30 June. **f** ABARES forecast. **s** ABARES estimate.
Sources: ABARES; Australian Bureau of Statistics; Department of Agriculture, Fisheries and Forestry

Sheep meat

Neil Thompson

Saleyard prices for lambs fell significantly over recent months, reflecting increased lamb availability and less favourable seasonal conditions. In response, producers have sought to lock in returns, resulting in a large rise in sales direct to processors. Despite the increase in sales direct to processors, lamb yardings are relatively unchanged from last year, reaching 3.4 million head in the five months to November 2012. Given the strong increase in lamb supply, reduced processor demand at saleyards has combined with generally lower quality lambs offered for sale to put downward pressure on saleyard prices.

For 2012–13 as a whole, the Australian weighted average saleyard price for lambs is forecast to decline by 18 per cent to 395 cents a kilogram, following a 12 per cent fall in 2011–12.

Australian saleyard prices
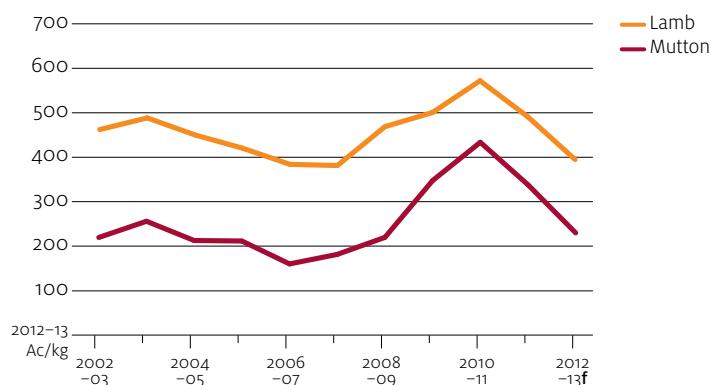
f ABARES forecast.

The weighted average price for sheep is forecast to decline by 30 per cent in 2012–13 to 230 cents a kilogram. Less favourable seasonal conditions and lower lamb and wool prices have reduced producer incentives to retain sheep for flock expansion, which has increased sheep yardings and in turn put downward pressure on prices.

Sheep and lamb slaughter to increase

Over the past two years, favourable seasonal conditions permitted strong flock rebuilding, with the ewe flock estimated to be around 44 million as at June 2012. As a result, the numbers of lambs marked in 2012–13 is forecast to be more than 1 million head higher than the five-year average. This increase in lamb availability and less favourable seasonal conditions in major producing regions, from the very favourable conditions of the past two years, have resulted in a significant turn-off of lambs. In the first three months of 2012–13, 5 million lambs were slaughtered, an increase of 9 per cent over the same period last year.

For 2012–13 as a whole, lamb slaughter is forecast to reach 21 million head, the highest since 1971–72. Reflecting this increase, lamb production is forecast to rise by 10 per cent to 460 000 tonnes in 2012–13.

Australian lamb and sheep slaughter
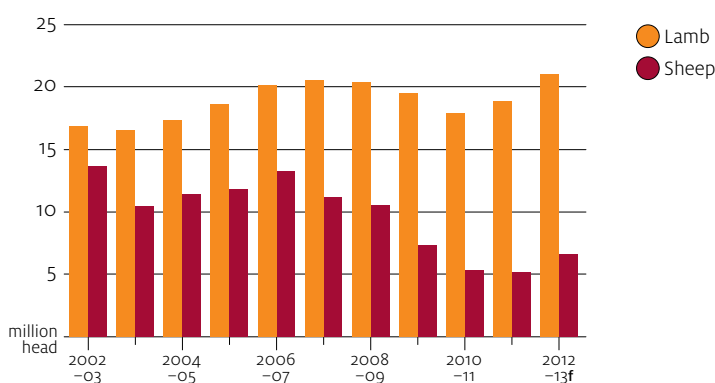
f ABARES forecast.

Sheep slaughter is also expected to increase in 2012–13, reflecting the effect of less favourable seasonal conditions and forecast lower returns to producers of prime lambs and wool. Sheep slaughter is forecast to rise by 28 per cent to 6.6 million head in 2012–13, producing around 152 000 tonnes of mutton.

The significant increase in slaughter is expected to slow the pace of growth in the national flock. In 2012–13, the flock is forecast to remain largely unchanged, from an estimated 76 million in 2011–12.

Australian lamb exports to rise to record highs

The expected increase in lamb production is forecast to result in a 15 per cent rise in export volumes in 2012–13, to a record 200 000 tonnes (shipped weight). The United States, China and the Middle East are expected to account for most of the increase as lower export prices and growing incomes combine to support greater consumer demand.

Lamb exports to the United States, Australia's largest market, rose by 12 per cent year-on-year to around 15 200 tonnes in the first five months of 2012–13. In addition to lower export prices, increased shipments reflect historically low US domestic production and improvements in consumer spending. Strong demand for Australian lamb exports is expected over the remainder of 2012–13, supported by recovering consumer demand. Australian lamb exports to the United States are forecast to be around 38 000 tonnes in 2012–13, following shipments totalling 34 737 tonnes in 2011–12.

Middle East markets for Australian lamb by volume, five months to November
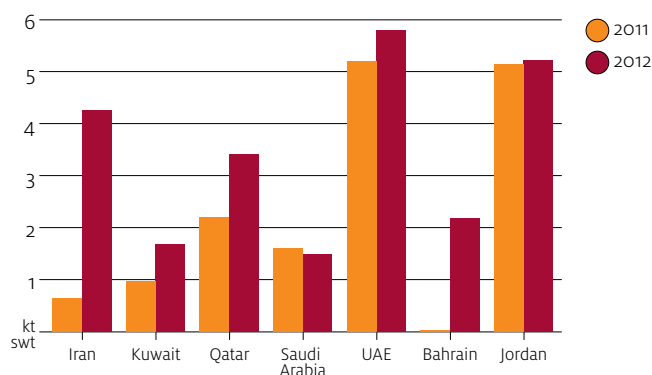
Exports to the Middle East are also expected to grow in 2012–13. In the five months to November 2012, exports to the region increased by 49 per cent year-on-year, with growth largely driven by shipments to historically small markets. For example, Australian exports to Iran reached 4261 tonnes in the first five months of 2012–13, compared with 3233 tonnes for 2011–12 as a whole. Given the strong start to the year, Australian exports to the Middle East are expected to exceed the record high of 42 713 tonnes reached in 2011–12.

The value of Australian lamb exports is forecast to increase in 2012–13 by 2.8 per cent to $1.1 billion. The effect on export earnings of lower export unit values is expected to be more than offset by the significant increase in shipments.

Australian export volumes of mutton grew by 37 per cent year-on-year in the first five months of 2012–13, to reach almost 49 000 tonnes. Most notably, shipments to two of Australia's largest markets, China and Saudi Arabia, expanded by 226 per cent and 76 per cent, respectively, over the same period. For 2012–13 as a whole, Australian exports are forecast to rise by 31 per cent to 117 000 tonnes, reflecting higher sheep turn-off. This forecast increase in export shipments is expected to more than offset the effect of falling unit values on export earnings, resulting in the value of mutton exports increasing by 16 per cent to $420 million in 2012–13.

Higher production and exports from New Zealand

In its most recent seasonal outlook, Beef + Lamb New Zealand forecast New Zealand lamb markings in spring 2012 to rise by 3.4 per cent, largely reflecting improved seasonal conditions, particularly on the North Island. As a result of this increase, Beef + Lamb New Zealand expects lamb production to rise by 4.1 per cent to around 372 000 tonnes (carcass weight) in 2012–13, which will lead to increased competition for Australian lamb on export markets.

Given the expectation of continued weak demand in Europe, New Zealand's largest export destination, the increase in New Zealand's production is likely to be diverted to other markets. However, this has not yet had a significant impact on Australian export volumes. In China, for example, New Zealand lamb exports rose by 55 per cent year-on-year to around 14 100 tonnes in the four months to October 2012. Despite this competition, Australian shipments to China also increased over the same period, rising by 36 per cent to 9948 tonnes.

Lamb exports to China
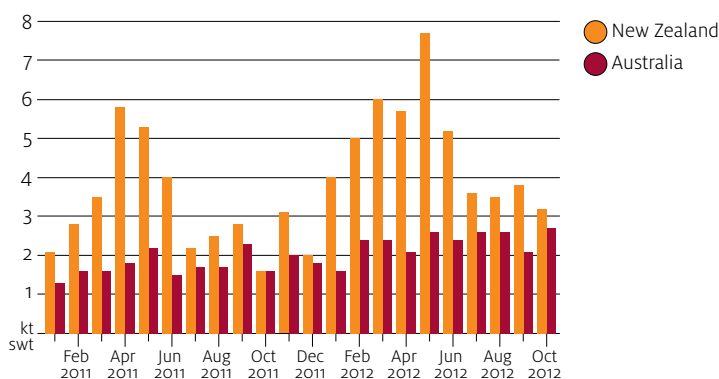
Increasing supply from Australia and New Zealand is likely to maintain downward pressure on export prices over the remainder of 2012–13. Combined with income growth, lower export prices are expected to support continued increases in developing market demand, particularly in China and the Middle East. With the addition of recovering US consumer spending, global demand is expected to be more than sufficient to absorb the increase in shipments diverted from New Zealand's traditional markets in Europe.

Live sheep

Live sheep exports from Australia are forecast to decline by 22 per cent in 2012–13 to around 2 million head, following shipments totalling 2.6 million head in 2011–12. The forecast decline reflects a combination of reduced demand from some major export markets, such as Kuwait and the United Arab Emirates, trade disruption to other markets, including Bahrain, and a decrease in the number of sheep available for live export, particularly from Western Australia which traditionally supplies 75 per cent of total live sheep exports. As a result, the value of live sheep exports is forecast to fall by 27 per cent to $250 million in 2012–13.

Outlook for sheep meat

		2010 −11	2011 −12	2012 −13 f	% change
Slaughterings					
Sheep	'000	5 341	5 175	6 600	27.5
Lamb	'000	17 880	18 879	21 000	11.2
Production a					
Mutton	kt	123	120	152	26.7
Lamb	kt	391	419	460	9.8
Exports (shipped weight)					
Mutton	kt	86	89	117	31.5
Lamb	kt	157	174	200	14.9
– to United States	kt	33	35	38	8.6
Total sheep meat	kt	243	263	317	20.5
– value	$m	1 429	1 423	1 510	6.1
Live sheep b	'000	2 916	2 562	2 000	− 21.9
– value	$m	348	345	250	− 27.5
Saleyard prices					
Mutton	Ac/kg	414	330	230	− 30.3
Lamb	Ac/kg	546	480	395	− 17.7

a Carcass weight. **b** Includes animals for breeding. **f** ABARES forecast.
Sources: ABARES; Australian Bureau of Statistics; Department of Agriculture, Fisheries and Forestry

Wool

Kelly Chow

The Australian Eastern Market Indicator (EMI) price for wool is forecast to decline by 17 per cent in 2012–13 to average 1000 cents a kilogram clean. This forecast price fall mainly reflects weak global economic activity dampening retail sales for wool clothing, particularly in Western Europe, the United States and Japan. For the remainder of 2012–13, it is assumed there will be a gradual improvement in demand as a result of expected higher world economic growth which will provide support for wool prices.

Australian Eastern Market Indicator wool price, weekly, ended 6 December 2012
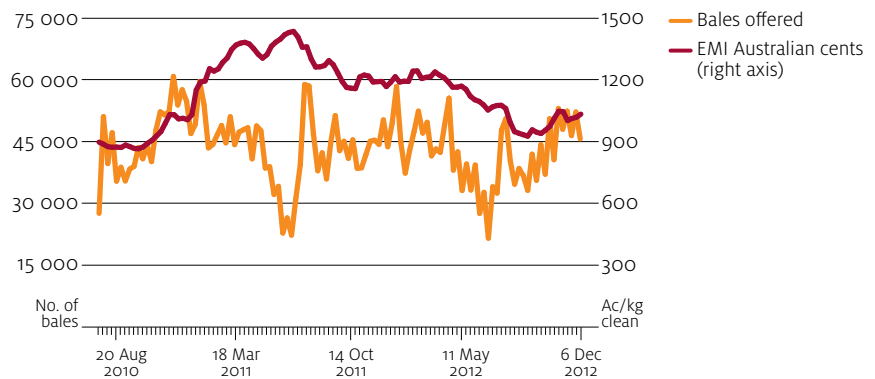
The EMI declined by 13 per cent over the first quarter of 2012–13, reaching around a two-year low of 927 cents a kilogram on 5 September. By the end of October the EMI wool price had recovered to around 1048 cents a kilogram; prices for 18 micron and 21 micron wool increased by 16 per cent and 6 per cent, respectively. The proportionately larger rise in price of superfine wool (less than 19.5 microns) relative to medium wool (19.6 to 22.9 micron) increased the price differential between 18 and 21 micron from 9 per cent in July to 19 per cent by the end of October 2012. The different movement in the prices of the two wool types over this period reflects strengthening processing demand for finer wool types, especially in China as robust income growth continues in that country.

The increase in the EMI by 10 per cent in October occurred with a concurrent increase in the volume of wool offerings at auction; this indicates wool stocks coming forward from producers and brokers.

Weaker consumer demand

United States

In the United States, retail sales in clothing and clothing accessories picked up with a year-on-year rise of 5 per cent in the September quarter 2012. Despite this improvement, consumer spending on wool textiles and apparel remains subdued, resulting in lower imports of finished wool garments. US imports of finished wool products declined by 12 per cent (in volume) in the September quarter 2012 compared with the same period in 2011.

China, India, Vietnam, Mexico and Italy account for around 70 per cent of US imports of finished wool clothing; China accounts for just under half of total US imports of wool clothing. In the September quarter 2012, US imports from China declined year-on-year by 14 per cent to 74.1 million square metres. Over the same period, imports from Vietnam and Mexico declined by 22 per cent and 17 per cent to 6.6 and 4.4 million square metres, respectively. This is in contrast to a 7 per cent increase in US imports from Italy to 5.8 million square metres. For the remainder of 2012–13, weak growth in consumer spending could continue to limit growth in import demand for finished wool clothing and limit growth in processing mill demand for raw wool.

European Union

In Europe, sovereign debt issues and high levels of unemployment in many countries are expected to constrain demand for wool textiles and apparel for the remainder of 2012–13. In the three months to September 2012, Australian exports of raw greasy wool to the European Union declined by 10 per cent year-on-year; exports to the United Kingdom, the Czech Republic and Italy fell by 18 per cent, 17 per cent and 7 per cent, respectively.

China

The Chinese wool textile industry continues to be affected by slower export demand for wool apparel. However, China's domestic market, which accounts for around half of China's textile and apparel production, has been strong. Recent data by the National Bureau of Statistics of China indicate retail sales of consumer goods rose year-on-year by 14.2 per cent and 14.5 per cent, respectively, in September and October 2012. Reflecting improving Chinese domestic demand for wool apparel, Australian exports of super fine wool (19 microns and less) to China rose by 19 per cent year-on-year in the September quarter 2012. Strengthening economic activity in China assumed over the course of 2012–13 is expected to support domestic demand for wool textiles and apparel.

Australian wool exports to China, three months to September
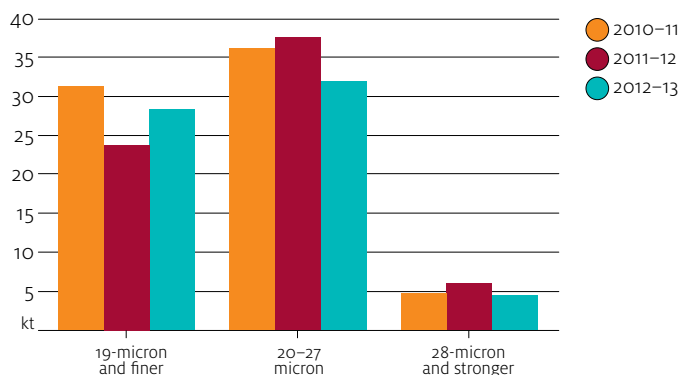
Competition from alternative fibres

The degree to which cotton and polyester can be substituted in the production of wool blended products is one factor influencing the demand for raw wool in Australia. The degree of substitution is influenced by the price movements of competing fibres relative to wool and against other wool textiles. The price competitiveness of wool, relative to its substitutes, cotton and polyester, improved between July and November 2012.

The wool (21 micron) to cotton (Cotlook 'A') price ratio declined by 3 per cent between July and November, reflecting a proportionately smaller decline in cotton prices relative to wool prices. Despite this, between July and November the average wool-to-cotton price ratio remained 18 per cent higher than for the same period in 2011 and 26 per cent higher than the five-year average (2007–08 to 2011–12).

Polyester prices have increased since July 2012, lowering the wool (21 micron) to polyester ratio by 8 per cent by the end of November. This ratio remains 14 per cent above the same period in 2011 and 15 per cent above the five-year average (2007–08 to 2011–12).

For the remainder of 2012–13, both price ratios are expected to remain above longer-term averages, placing downward pressure on demand for wool (especially 21 micron or stronger) from textile manufacturers.

Wool to alternative fibre ratios
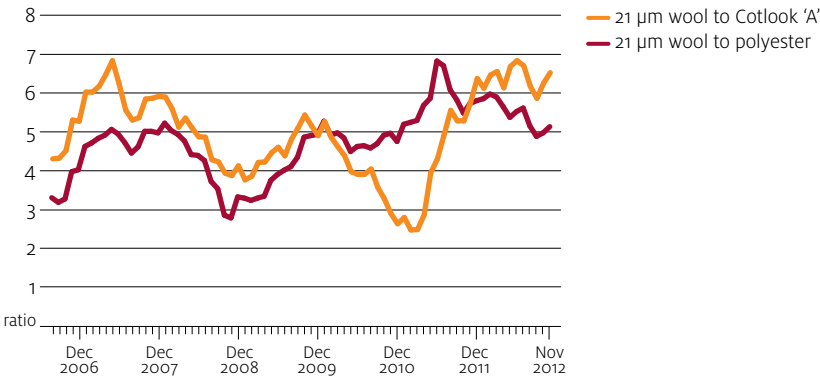
Lower shorn wool production

Following stronger flock rebuilding activity in 2011–12, the Australian sheep flock is forecast to stabilise at around 76 million head in 2012–13.

Australian shorn wool production is forecast to decrease by under 1 per cent in 2012–13 to 360 000 tonnes. Given the larger ewe proportion of the flock and assuming average seasonal conditions in primary wool growing areas, average wool cut per head is forecast to decline in 2012–13.

Australian wool exports to fall

Over the September quarter, the volume of Australian greasy wool exports declined year-on-year by 2 per cent, despite increasing fine wool exports to China. Australia's wool exports are forecast to decline by 2 per cent in 2012–13 to 398 000 tonnes. China and the European Union are expected to remain the main export destinations accounting for over 80 per cent of Australian wool exports. The value of Australian wool exports are forecast to fall by around 21 per cent to around $2.5 billion in 2012–13.

Australian wool exports, by destination, 2011–12

China	**75%**
European Union	**9%**
India	**6%**
Other	**10%**
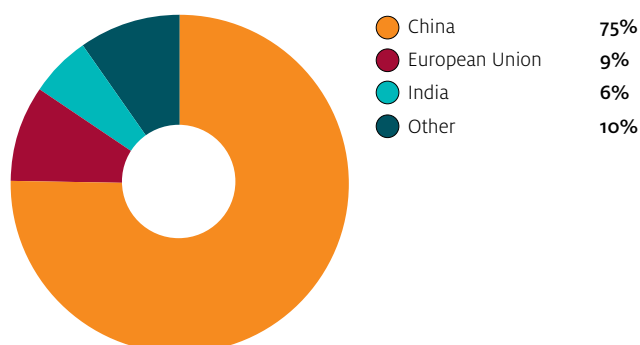
Outlook for wool

		2010 –11	2011 –12 s	2012 –13 f	% change
Sheep numbers **a**	million	73	76	76	*0.0*
Sheep shorn	million	86	85	86	*1.2*
Wool production (greasy)					
– shorn	kt	368	362	360	*– 0.6*
– other **b**	kt	61	62	66	*6.5*
– total	kt	429	424	425	*0.2*
Wool exports					
– volume (gr. equiv.)	kt	444	405	398	*– 1.7*
– to China	kt	325	306	298	*– 2.6*
– value **c**	$m	3 048	3 123	2 479	*– 20.6*
Market indicator (clean)					
– eastern	Ac/kg	1 132	1 203	1 000	*– 16.9*
– western	Ac/kg	1 092	1 210	985	*– 18.6*
Auction price (greasy)	Ac/kg	734	784	650	*– 17.1*

a At 30 June. **b** Includes wool on sheepskins, fellmongered and slipe wool. **c** Balance of payments basis. **f** ABARES forecast. **s** ABARES estimate.
Sources: ABARES; Australian Bureau of Statistics; Australian Wool Exchange

Dairy

David Barrett

World prices for most dairy products are forecast to average slightly lower in 2012–13, reflecting relatively weak consumer demand in the European Union and continuing, but slower, growth in global milk production.

The world price of butter is forecast to fall by 13 per cent to average US$3370 a tonne in 2012–13. For both cheese and whole milk powder, world prices are forecast to decline by around 2.5 per cent and average US$4150 a tonne and US$3350 a tonne, respectively. In contrast, the world price of skim milk powder in 2012–13 is forecast to increase by 1.1 per cent to average US$3270 a tonne, reflecting firm import demand from Asia.

World dairy prices
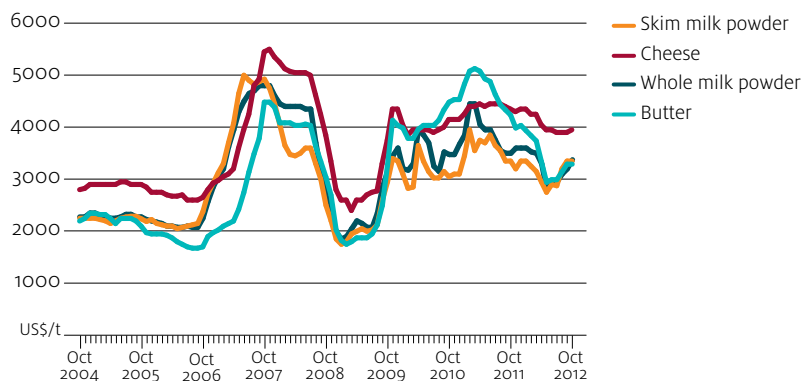
Slower growth in milk production

Relatively high feed grain prices are expected to continue to restrict expansion in milk production in many of the major dairy producing and exporting countries over the remainder of 2012–13.

European Union

EU milk production is forecast to increase by 1 per cent in the 2012–13 marketing year (April to March) following a 2.3 per cent rise in 2011–12. While milk deliveries in the European Union increased year-on-year by 1.4 per cent in the first three months of the 2012–13 marketing year, deliveries fell year-on-year in the following three months. This fall in production reflected the effects of higher feed grain costs and adverse seasonal conditions on pasture growth in some key dairying regions. Milk production in Germany, France, Ireland and the United Kingdom was well down on year-earlier output for the three months ended September 2012.

Continuing high feed grain costs are expected to limit growth in EU milk production in the remainder of 2012–13.

Assumed weak economic activity in the European Union is expected to dampen domestic demand for dairy products, particularly cheese. Despite this forecast lower demand, EU cheese production is forecast to increase slightly in 2012–13 supported by growth in export demand. In contrast, EU whole milk powder production is expected to contract in 2012–13 as EU exporters continue to face strong competition from other exporters, particularly New Zealand.

EU dairy
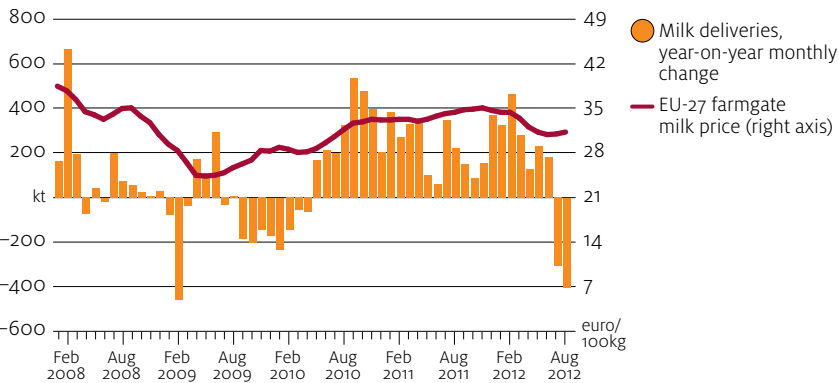
United States

US milk production is expected to decline in the first half of 2013 as farmers reduce dairy cow numbers in response to continuing high feed grain costs. Overall, US milk production is forecast to fall slightly in 2013 following an estimated rise of 2 per cent in 2012.

An assumed improvement in the US economy is expected to lead to higher domestic demand for dairy products, particularly cheese, in 2013. As a result, US cheese production is forecast to increase in 2013 following an estimated rise of 2.4 per cent in 2012. Given this, and the expected slowdown in US milk production, the volume of milk available for butter and skim milk powder production is forecast to decline in 2013.

US dairy
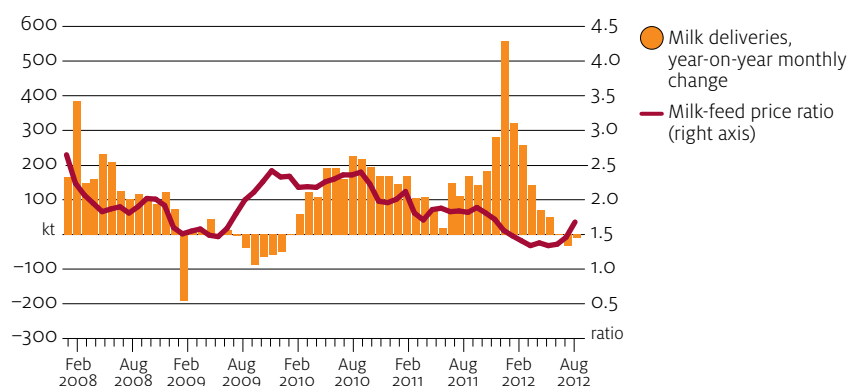
The United States is a significant global exporter of skim milk powder with exports estimated to have increased by 80 per cent in the last four years to around 450 000 tonnes in 2012. With an estimated marked decline in US stocks of skim milk powder during 2012, the volume of skim milk powder available for export is forecast to fall in 2013.

New Zealand

While milk production increased by around 6 per cent year-on-year in the five months to October 2012, growth in production over the remainder of 2012–13 (June to May marketing year) is expected to slow reflecting lower farmgate prices and assumed average seasonal conditions. Overall, New Zealand milk production is forecast to increase by around 3 per cent in 2012–13 following a 10 per cent rise in 2011–12. Most of this increase in production is expected to occur in the South Island where dairy cow numbers have risen in recent years.

This additional milk production is expected to be manufactured into whole milk powder for which processing capacity has expanded in the past few years. New Zealand exports of milk powders are forecast to increase in 2012–13 underpinned by continuing firm export demand, particularly from China.

Argentina

Milk production in Argentina is forecast to increase by around 3 per cent to 12.2 million tonnes in 2013. Capacity constraints are likely to limit whole milk powder output in 2013 with some of the additional milk production being diverted to cheese manufacturing.

Demand in developing countries to underpin trade

With economic activity in the developing countries of Asia assumed to remain relatively strong over the remainder of 2012–13, import demand for dairy products in China and South-East Asia is expected to remain firm. Demand in other key importing countries and regions, such as the Russian Federation, the Middle East and North Africa, are also expected to support global dairy trade in 2012–13.

In China, strong growth in domestic demand and consumer preference for safe and reliable dairy products are expected to continue to support dairy product imports in 2013. China's imports of skim milk powder are estimated to have increased by nearly 50 per cent in 2012 and are forecast to rise by a further 16 per cent to around 220 000 tonnes in 2013, equivalent to around 80 per cent of domestic consumption. Whole milk powder imports are estimated to have risen by 15 per cent in 2012 and are forecast to rise a further 10 per cent to 405 000 tonnes in 2013. This forecast import volume is equivalent to around one-quarter of Chinese domestic consumption of whole milk powder.

China's production and imports of skim milk powder
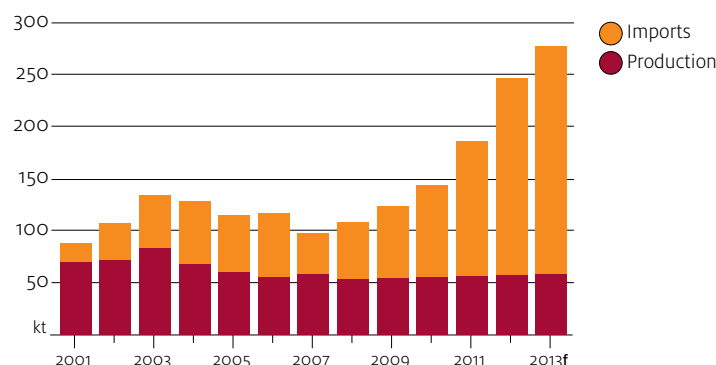
f ABARES forecast.

Elsewhere in Asia imports of milk powders are also forecast to rise in 2012–13. While Indonesia has been expanding its milk output in recent years, it has been unable to meet the growth in demand for dairy products. Indonesia's imports of skim milk powder are forecast to increase by 7 per cent to 220 000 tonnes in 2013 following a 5 per cent rise in 2012. Imports of whole milk powder in Indonesia are also expected to increase slightly to 58 000 tonnes in 2013.

With little growth in milk production forecast in the Middle East and North Africa, countries in these regions are expected to continue to meet growing domestic demand for dairy products through higher imports.

China's production and imports of whole milk powder
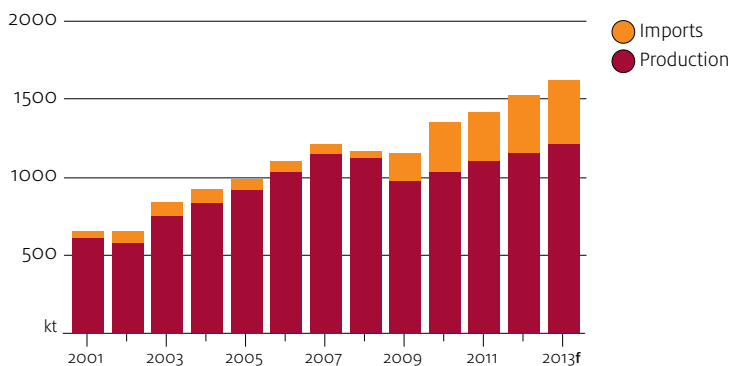
f ABARES forecast.

Imports of cheese by the Russian Federation are forecast to increase slightly in 2013 to around 355 000 tonnes, following a 2 per cent rise in 2012. Milk production in the Russian Federation is expected to be constrained by high feed grain costs, at least in the first half of 2013, limiting any increase in domestic cheese production. Continuing weak economic activity in Japan in 2013 is likely to dampen domestic demand for cheese. Japan's imports of cheese in 2013 are expected to remain close to the estimated import volume of 225 000 tonnes in 2012.

Australian milk production

The Australian farmgate price for milk is forecast to fall by 7 per cent in 2012–13 to average 39 cents a litre, reflecting the effect of forecast lower world dairy prices.

Australian milk production increased 2 per cent year-on-year in the first quarter of 2012–13. Most of the increase occurred in northern Victoria and southern New South Wales where production was 8 per cent and 6 per cent higher year-on-year, respectively. In these two regions, milk production in 2011–12 increased by 17 per cent and 6 per cent, respectively, reflecting the effects of improved seasonal conditions and increased availability of irrigation water. As at early December 2012, water storage levels in the Murray–Darling Basin were at about 90 per cent capacity.

In contrast, milk production in Queensland, South Australia, northern and central New South Wales fell by around 2 per cent year-on-year in the first three months of 2012–13 while production in Western Australia was marginally lower for the same period.

Overall, assuming average seasonal conditions for the remainder of 2012–13, Australian milk production is forecast to increase by 1.3 per cent in 2012–13 to 9.6 billion litres.

Australian exports

The total value of Australian dairy exports is forecast to decline by 0.6 per cent in 2012–13 to $2.3 billion, primarily reflecting the effect of forecast lower average dairy product prices on world markets.

The value of Australia's dairy exports to Japan, Australia's largest dairy export market, rose by 18 per cent in 2011–12. This increase reflected constraints in expanding milk production in Fukushima and Ibaraki prefectures after the earthquakes in early 2011 and a reduction in milk supply to cheese production due to higher demand for drinking milk. With assumed relatively weak economic growth in Japan in 2013, Australia's exports of dairy products to Japan are expected to remain relatively unchanged in 2012–13.

Australian dairy exports
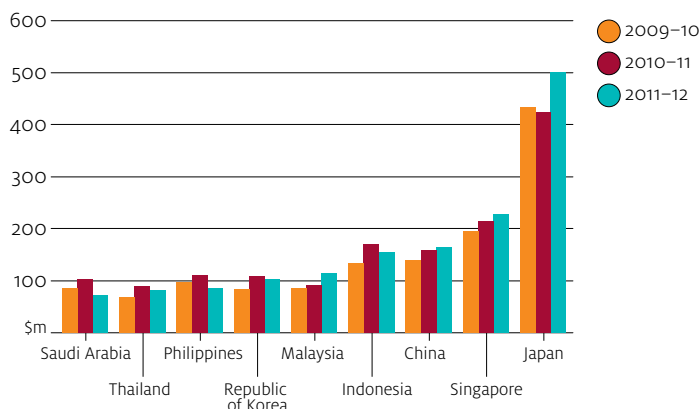
Outlook for dairy

		2010 −11	2011 −12 s	2012 −13 f	% change
Australia					
Cow numbers a	'000	1 589	1 630	1 655	1.5
Milk yields	L/cow	5 727	5 816	5 801	− 0.3
Production					
Total milk	ML	9 101	9 480	9 600	1.3
– market sales	ML	2 316	2 389	2 435	1.9
– manufacturing	ML	6 785	7 092	7 165	1.0
Butter b	kt	122	120	122	1.7
Cheese	kt	339	340	360	5.9
Whole milk powder	kt	151	140	138	− 1.4
Skim milk powder	kt	222	230	234	1.7
Farmgate milk price	Ac/L	43.2	42.1	39.0	− 7.4
Value of exports	A$m	2 345	2 293	2 279	− 0.6
World prices					
Butter	US$/t	4 683	3 883	3 370	− 13.2
Cheese	US$/t	4 221	4 258	4 150	− 2.5
Skim milk powder	US$/t	3 392	3 233	3 270	1.1
Whole milk powder	US$/t	3 771	3 431	3 350	− 2.4

a At 30 June. **b** Includes the butter equivalent of butteroil, butter concentrate, ghee and dry butterfat. **f** ABARES forecast. **s** ABARES estimate.
Sources: ABARES; Australian Bureau of Statistics; Dairy Australia

Farm debt—recent developments

Farm debt—recent developments

Peter Martin

Debt is an important source of funds for farmers. It is used for a range of purposes including purchasing land, plant, equipment, vehicles and farm improvements as well as ongoing working capital.

During the two decades to 1989–90, changes in rural sector debt generally kept pace with movements in the gross value of farm production. However, during the 1990s and 2000s, total debt increased at a faster rate in real terms than growth in gross value of farm production. Aggregate institutional lending to agriculture, forestry and fishing industries was $66.2 billion at 30 June 2012. The increase in aggregate bank lending has slowed since 2009 from an average annual increase of 6.9 per cent a year between 1989–90 and 2008–09 to an average of 2.9 per cent a year for the three years ending 2011–12.

The broadacre and dairy industries accounted for around 68 per cent of Australia's farms and for an estimated 55 per cent of the total gross value of Australian agricultural production in the five years ending 2011–12. These sectors also accounted for an estimated 50 per cent of the aggregate institutional lending to agriculture, forestry and fishing industries. The broadacre and dairy industries' share of rural sector debt declined over 30 years from around 80 per cent in the early 1980s.

Debt is a particularly important source of funding for broadacre and dairy farms with more than 95 per cent of farms in these industries family owned. For family farms, funding for farm expansion and improvement is limited to the funds available to the family, the profits the farm business can generate and the funds that can be borrowed.

Through its farm surveys, ABARES regularly monitors broadacre and dairy farm income, debt and farm debt servicing capacity. ABARES Australian Agricultural and Grazing Industries Survey (AAGIS) covers farms in the broadacre sector that includes farms mainly reliant on grains, oilseeds and pulses or run sheep or beef cattle. The Australian Dairy Industry Survey (ADIS) includes farms mainly reliant on milk production. These annual ABARES surveys target farm businesses with an estimated value of agricultural operations exceeding $40 000, which excludes small lifestyle farms from the survey coverage.

Growth in broadacre and dairy sector debt

Average debt per farm business more than doubled between 2000–01 and 2006–07 in real terms, from an average of $255 000 per farm in 2000–01 to $526 000 per farm in 2006–07 (2011–12 dollars) 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, structural adjustment and reduced farm incomes in the 2000s as a consequence of widespread and extended drought conditions.

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 resulted in producers both changing the mix of commodities produced and increasing farm size. The proportion of farms buying land increased from the late 1990s and land values more than doubled in real terms in all regions between 2000–01 and 2007–08.

The largest contribution to increases in farm debt in the past two decades has been borrowing to fund new investment, particularly purchase of land, machinery and vehicles and to develop land and farm improvements.

Composition of farm debt, broadacre and dairy industries
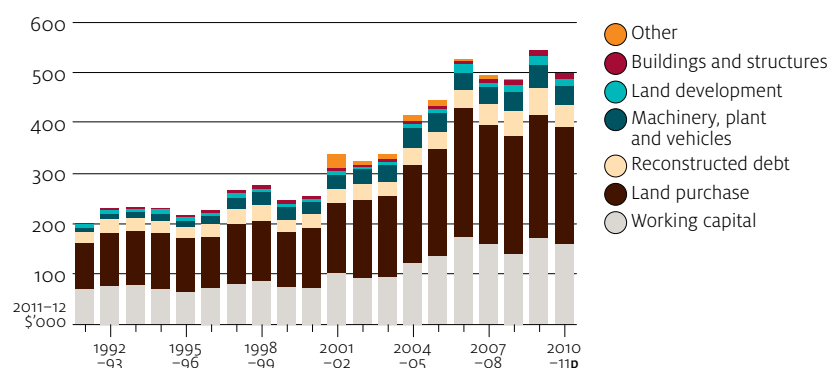
p ABARES preliminary estimate.

Increased size of farm enterprises also resulted in higher borrowing for ongoing working capital and as farmers moved away from less input-intensive wool production into more intensive cropping. Change in grain payment methods and production technologies involving greater use of purchased inputs such as herbicides on grain farms and feed grains on dairy farms also increased working capital debt.

In addition, borrowing to meet working capital requirements increased for producers during the 2000s, as widespread and extended drought depressed farm cash incomes in many regions.

Debt to fund land purchase increased by 250 per cent in real terms between 1990–91 and 2010–11 and borrowing to finance purchase of machinery plant and vehicles increased 500 per cent. Investment in vehicles, plant and machinery and farm improvements was historically high in recent years (ABARES 2012).

Working capital debt increased by 240 per cent between 1990–91 and 2010–11, accelerating rapidly after the widespread drought began in 2002–03. Working capital debt accounted for 32 per cent of average farm debt in 2010–11, second only to land purchase debt which accounted for 47 per cent.

Growth in average debt per farm business in the broadacre and dairy sectors slowed in the period since 2006–07 with more restricted access to credit from lending institutions and a diminished appetite for further increases in debt by farm business. The proportion of farms with increasing debt declined in 2010–11 to be closer to the historical lows recorded in 2000–01 and 2001–02.

Preliminary survey information suggests an increase in average debt for broadacre and dairy farms of around 4 per cent in 2011–12, similar to the increase recorded in 2010–11.

Financial institutions lend to farm businesses on the basis of both the capacity of farm businesses to service increased debt and the equity (or security) farmers have in their business. Between 2001 and 2008, there was a very large increase in the value of agricultural land. Since 2008 land value has not increased in most regions and is estimated to have declined in a few. The general increase in land values to 2008 boosted the equity most farmers have in their farm businesses. Therefore, despite increases in farm debt over the past two decades, average farm equity generally remains relatively high. For example, at 30 June 2011, the average equity ratio for Australian broadacre farms was estimated to be 88 per cent and for dairy farms 81 per cent.

Distribution of farms by debt and equity

At the national level, around 13 per cent of broadacre farms had debts exceeding $1 million as did 20 per cent of dairy industry farms.

The proportion of farms with relatively high debt or low equity ratios varies across states and industries. Around 24 per cent of broadacre farms in Western Australia carried in excess of $1 million in debt at 30 June 2011 and around 30 per cent of Northern Territory farms. The higher proportion of farms with debt exceeding $1 million in Western Australia and the Northern Territory largely reflects the relatively high proportion of large farm businesses in those jurisdictions.

In contrast, around 36 per cent of broadacre farms were recorded as having no debt at 30 June 2011 with a high proportion of these businesses being small beef cattle or sheep industry farms in the higher rainfall areas of all states.

Historically, the proportion of farm businesses with equity ratios below 70 per cent has been low, typically less than 10 per cent at the national level. In part, this has been a result of financial institutions seeking to maintain a strong margin of security on their lending in case of a decline in farm asset values or a rapid escalation in debt.

At 30 June 2011, around 10 per cent of broadacre farms and a much higher 25 per cent of dairy farms had equity ratios of less than 70 per cent at 30 June 2011. In contrast, an estimated 69 per cent of broadacre farms and 37 per cent of dairy farms had equity ratios exceeding 90 per cent.

Profile of broadacre farms by debt

Around 70 per cent of aggregate broadacre sector farm business debt is held by just 12 per cent of farms. On average, these are much larger farm businesses that, in aggregate, are estimated to have produced around 42 per cent of the total value of broadacre farm production in 2010–11.

Farms with high debt and lower equity ratios are, on average, carrying large land purchase debts and debts to fund investment in improvements, vehicles plant and machinery rather than high working capital debt. High working capital debt is often indicative of businesses that have been accumulating losses. On average, these businesses do not appear to have been making losses. Far from it, even with their existing high debt and high debt servicing commitments they continued to borrow to fund further investment with high net capital additions in 2010–11. These farms made relatively strong profits for their operators in 2010–11, albeit on much smaller operating margins than farms with lower debt levels due to their high interest costs.

However, around 13 per cent of farms with greater than $1 million in debt and 9 per cent of farms with between $500 000 and $1 million in debt did record negative farm cash incomes in 2010–11, potentially needing to increase working capital borrowings.

Farm equity is estimated to have fallen slightly since 2008–09, in some regions, as a consequence of increased debt combined with reductions in reported land values. However, in other regions, reductions in farm debt and capital purchases resulted in increased equity. Overall, 3 per cent of broadacre farms are estimated to have both negative farm cash incomes and an equity ratio of less than 70 per cent in 2010–11. This is below the average proportion for the previous 20 years of 5 per cent.

TABLE 1 Distribution of farms by business debt and equity ratio, at 30 June 2011p   per cent of farms

		Broadacre farms								Dairy farms
		NSW	Vic.	Qld	SA	WA	Tas.	NT	Australia	Australia
Total farm business debt at 30 June 2011										
Nil	%	36 (10)	43 (13)	37 (10)	28 (18)	27 (17)	55 (14)	13 (46)	36 (6)	11 (32)
<$100 000	%	18 (15)	24 (14)	17 (15)	16 (18)	17 (21)	14 (46)	26 (35)	19 (8)	16 (24)
$100 000 and <$250 000	%	12 (25)	10 (34)	11 (32)	17 (42)	8 (36)	8 (65)	11 (57)	11 (15)	14 (48)
$250 000 and <$500 000	%	13 (18)	11 (21)	10 (22)	15 (23)	15 (22)	5 (42)	10 (99)	12 (10)	17 (33)
$500 000 and <$1m	%	10 (19)	5 (17)	11 (17)	10 (28)	10 (28)	9 (37)	12 (65)	10 (10)	22 (21)
$1m and <$2m	%	8 (17)	4 (18)	7 (17)	11 (20)	12 (21)	7 (25)	3 (88)	7 (8)	12 (20)
≥$2m	%	4 (16)	2 (97)	7 (13)	4 (28)	12 (13)	2 (39)	27 (26)	5 (12)	8 (18)
Business equity ratio at 30 June 2011										
100 per cent	%	36 (10)	43 (13)	37 (10)	28 (18)	27 (17)	55 (14)	13 (46)	36 (6)	11 (32)
90 and <100 per cent	%	30 (12)	35 (14)	36 (11)	32 (16)	31 (15)	23 (31)	35 (50)	32 (6)	26 (22)
80 and <90 per cent	%	17 (15)	9 (21)	11 (17)	22 (21)	16 (22)	12 (37)	30 (55)	15 (8)	26 (19)
70 and <80 per cent	%	7 (24)	8 (33)	8 (19)	9 (26)	7 (22)	6 (42)	9 (38)	8 (12)	13 (22)
60 and <70 per cent	%	5 (26)	3 (27)	4 (23)	8 (39)	13 (24)	3 (49)	5 (50)	6 (13)	12 (39)
<60 per cent	%	5 (33)	2 (42)	4 (29)	1 (56)	6 (42)	1 (83)	8 (30)	4 (18)	13 (27)
Average farm debt at 30 June 2011	$'000	439 (12)	237 (54)	558 (9)	434 (10)	805 (10)	291 (17)	2 133 (16)	460 (8)	664 (7)
Average farm business equity ratio at 30 June	%	88 (1)	93 (4)	87 (1)	89 (1)	85 (2)	94 (1)	75 (4)	88 (1)	81 (2)
Number of farms	no.	18 010	12 110	9 710	6 170	6 680	1 010	180	53 860	7 500

p Preliminary survey estimate. Figures in parentheses are standard errors expressed as a percentage of the estimate provided.

TABLE 2 Profile of broadacre farms by farm business debt, at 30 June 2011ᴘ average per farm

		No debt		>$0 and <$500 000 debt		$500 000 and <$1m debt		>$1m debt	
Contribution of farms									
Number of farms	no.	19 200		22 400		4 900		6 500	
Share of farms	%	36	(12)	42	(5)	9	(6)	12	(5)
Share of total sector debt	%	0		16	(5)	14	(2)	70	(5)
Share of value of production	%	16	(12)	30	(5)	12	(6)	42	(5)
Physical									
Total area operated	ha	2 300	(16)	3 200	(22)	6 900	(31)	13 200	(10)
Area planted to crops	ha	100	(18)	300	(7)	500	(8)	1 600	(5)
Sheep	no.	200	(8)	200	(6)	300	(9)	900	(6)
Beef cattle	no.	700	(11)	1 100	(7)	1 700	(8)	2 200	(7)
Financial performance									
Total cash receipts	$	170 300	(12)	278 500	(5)	528 900	(6)	1 340 100	(5)
Interest payments	$	450	(99)	13 900	(5)	54 200	(3)	193 300	(5)
Total cash costs	$	98 500	(10)	181 600	(4)	377 500	(5)	1 058 400	(5)
Cash operating margin	%	42	(7)	35	(4)	29	(8)	21	(8)
Farm cash income	$	71 800	(17)	96 900	(8)	151 300	(13)	281 600	(9)
Farm business profit	$	22 100	(59)	34 100	(23)	89 500	(20)	182 400	(14)
Net additions to farm capital	$	2 400	(99)	−22 100	(99)	113 500	(28)	402 400	(32)
Debt									
Farm business debt at 30 June	$	0		173 100	(5)	718 000	(2)	2 682 400	(5)
Composition of debt at 30 June									
Debt to purchase land, land improvements, structures, vehicles, plant and machinery	%	0		53	(10)	60	(9)	62	(9)
Working capital debt	%	0		41	(8)	32	(11)	30	(8)
Reconstructed debt	%	0		7	(33)	8	(30)	8	(16)
Debt servicing									
Debt to receipts	%	0		62	(6)	136	(7)	200	(5)
Interest paid to receipts	%	0		5	(6)	10	(6)	14	(5)
Debt security									
Equity ratio	%	100		94	(1)	84	(1)	74	(1)
Net business worth at 30 June	$m	2.7	(8)	2.8	(5)	3.5	(6)	7.0	(4)
Farms with less than 70 per cent equity and negative farm cash income	%	0		2	(30)	9	(21)	13	(13)

ᴘ Preliminary survey estimate. Figures in parentheses are standard errors expressed as a percentage of the estimate provided.

References

ABARES 2012, *Australian farm survey results 2009–10 to 2011–12*, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra, available at daff.gov.au/abares/publications.

Farm financial performance 2012–13: projections for broadacre and dairy farms

Farm financial performance 2012–13: projections for broadacre and dairy farms

Peter Martin and Paul Phillips

Broadacre farm incomes remain strong in 2012–13

Overall, incomes for broadacre farms are expected to remain relatively high in 2012–13, according to preliminary estimates for broadacre farms in the ABARES Australian agricultural and grazing industries survey.

Average farm cash income for broadacre farms rose in 2010–11 and remained relatively high in 2011–12 as a result of increased crop and livestock production due to above average rainfall across much of Australia.

In 2012–13 seasonal conditions have been drier than in 2010–11 and 2011–12 resulting in reduced grain production. However, overall, higher prices for grains, oilseeds and pulses are expected to largely offset the effect of lower production on crop receipts.

Sheep and beef cattle numbers increased over the three years ending 2011–12 and with the onset of drier seasonal conditions less abundant grazing is expected to lead to an increase in turnoff of beef cattle, sheep and lambs in 2012–13. Overall, despite increased livestock turnoff, lower beef cattle, sheep, lamb and wool prices are expected to result in a reduction in receipts for livestock farms of around 10 per cent at the national level.

At the national level, average total cash costs per farm are projected to be reduced by around 2 per cent from that recorded in 2011–12. Expenditure on purchase of both beef cattle and sheep are expected to be reduced in all states. Lower interest rates combined with a small increase in farm debt is projected to reduce interest payments. In addition to reductions in these cost items, handling and marketing costs are projected to reduce due to the harvesting of the smaller grain crop and expenditure on farm repairs and maintenance is projected to decline slightly as farmers reduce the high expenditure of the previous two years.

Farm cash income for broadacre farms, Australia
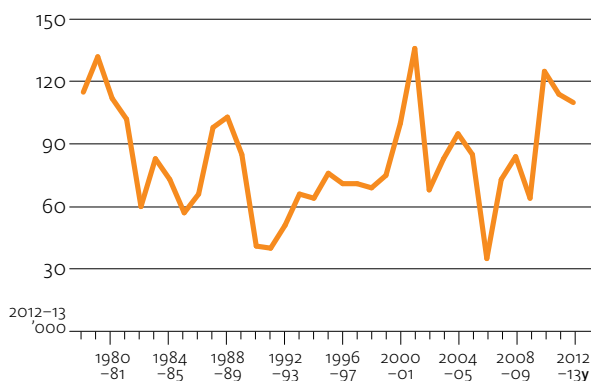
y Provisional survey estimate.

Nationally, farm cash income for broadacre farms is projected to remain high at an average $110 000 per farm in 2012–13, down slightly from an average of $111 400 per farm estimated for 2011–12. If achieved, this level of farm cash income for broadacre farms would be around 32 per cent above the 10-year average, to 2011–12, of $83 000 (in real terms).

In 2010–11 large increases occurred in on-farm inventories of grain in eastern states, resulting in average farm business profit increasing because of a build-up in the value of trading stocks. During 2011–12 much of this grain was sold and the effect on overall inventory value was largely offset by the increase in cattle and sheep numbers.

In 2012–13 a smaller increase in the value of farm inventories combined with a small reduction in farm cash incomes in several states is projected to result in average farm business profit for Australian broadacre farms declining slightly to around $17 000 a farm.

Financial performance of broadacre farms, by state

Overall, in New South Wales, higher farm cash incomes are projected in 2012–13 for cropping farms where higher grain and oilseed prices are generally expected to offset lower production compared with 2011–12. Increases in farm cash incomes are also expected for farms growing rice due to expected increases in rice production in 2012–13. However, farm cash incomes for livestock farms are projected to decline, due to lower sheep, wool and beef prices and despite an increase in the number of cattle expected to be sold. Overall, New South Wales broadacre farm cash income is projected to average $84 000 a farm in 2012–13, around 48 per cent above the real average farm cash income recorded for the 10 years to 2011–12.

On average, farm cash income for broadacre farms in Victoria is projected to decline to $78 000 a farm in 2012–13, but still around 12 per cent above the average farm cash income recorded for the 10 years to 2011–12.

Victorian cropping farm cash incomes are projected to decline slightly in 2012–13. Overall, reduced grain production is expected to be mostly offset by higher grain, oilseed and pulse prices.

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

Broadacre and dairy farms

Broadacre and dairy farms account for 68 per cent of commercial-scale Australian farm businesses. They manage more than 90 per cent of the total area of agricultural land in Australia, account for most family owned and operated farms, are located in all regions, and form a vital part of rural communities and economies across the country.

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. The ADIS is targeted at commercial-scale milk producing farms.

Methodology

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

Estimates for 2010–11 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 (ABS) has been included and no further change is expected in the estimates.

The 2011–12 estimates are preliminary and are based on full production and accounting information from farmers. However, editing and addition of sample farms may be undertaken and ABS production benchmarks may also change.

The 2012–13 projections are based on data collected through on-farm interviews and telephone interviews between October and December 2012. The 2012–13 projections 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 2012–13. Modifications have been made to expected receipts and expenditure for the remainder of 2012–13 where significant price changes have occurred post interview.

In contrast, receipts from beef cattle are projected to increase slightly, with higher beef cattle turnoff. Receipts from sheep, lambs and wool are projected to be lower this season because of lower wool, sheep and lamb prices, and despite an increase in the number of lambs sold. As a result, farm cash incomes for producers mainly reliant on sheep are projected to be lower in 2012–13.

Queensland broadacre farm cash incomes are projected to increase to average $108 000 a farm in 2012–13, up from $97 000 in 2011–12 and around 36 per cent above the average for the 10 years to 2011–12. Receipts from beef cattle are projected to decline due to lower saleyard prices and despite an increase in turnoff. However, crop receipts for Queensland broadacre farms are expected to increase with overall production of winter crops similar to 2011–12 and an expected increase in grain sorghum production, combined with higher grain prices.

South Australian broadacre farm cash incomes are projected to decline slightly to average $173 000 a farm in 2012–13, but still around 47 per cent above the average farm cash income recorded for the 10 years to 2011–12. Overall, crop receipts in 2012–13 are projected to increase as higher grain prices more than offset reductions in production of grains and oilseeds. Receipts from sheep, lambs and wool are projected to be reduced this season because of lower prices, but increased beef cattle turnoff is expected to result in a small increase in beef cattle receipts.

In 2012–13, drier conditions are expected to reduce Western Australian grain production by much more than the reduction expected in the eastern states. This reduction is expected to more than offset the effect of higher grain prices and result in lower receipts overall from the 2012 winter crop. However, the effect on farm cash incomes in Western Australia will be cushioned by substantial pool payments from the record 2011 Western Australian grain crop and overall little reduction in crop receipts is expected. However, receipts from sheep, lambs, beef cattle and wool are all expected to be lower in 2012–13 due to lower prices. On average, farm cash income for broadacre farms in Western Australia is projected to decline to $165 000 a farm in 2012–13, but still around 14 per cent above the average farm cash income recorded for the 10 years to 2011–12.

TABLE 1 Farm financial performance, by state   average per farm

	Farm cash income			Farm business profit a		
	2010–11	2011–12p	2012–13y	2010–11	2011–12p	2012–13y
	$	$	$	$	$	$
Broadacre industries						
New South Wales	106 190	74 500 (10)	84 000	68 550	1 000 (229)	5 000
Victoria	97 730	96 000 (7)	78 000	50 510	12 100 (58)	3 000
Queensland	88 040	97 000 (11)	108 000	32 630	20 800 (59)	25 000
South Australia	204 370	182 500 (12)	173 000	157 110	49 200 (47)	54 000
Western Australia	152 810	185 700 (13)	165 000	−8 520	37 500 (59)	1 000
Tasmania	99 230	104 500 (10)	110 000	52 630	62 300 (18)	60 000
Australia	119 080	111 400 (5)	110 000	59 270	18 200 (30)	17 000
Dairy industry						
Australia	139 230	149 200 (13)	92 000	67 250	69 900 (29)	−11 000

a Defined as farm cash income plus build up in trading stocks, less depreciation and the imputed value of operator partner and family labour. Estimates for 2010–11 are final. p Preliminary estimates. y Provisional estimates. Note: Figures in parentheses are standard errors expressed as a percentage of the estimate provided.

Tasmanian broadacre farm cash incomes are projected to increase slightly to average $110 000 a farm in 2012–13, mainly due to a projected increase in receipts from crops together with a small increase in sheep and cattle turnoff. This is around 60 per cent above the average farm cash income recorded for the 10 years to 2011–12.

Dairy farm income declines in 2012–13

Financial performance of dairy farms is projected to decline in 2012–13 with lower milk prices projected in all states and only small production increases expected. In addition, farm cash costs are projected to increase slightly due to higher fodder prices and despite reductions in expenditure on interest payments due to lower interest rates.

In Tasmania, an increase of around 3 per cent is expected in milk production.

In Queensland and South Australia, a reduction of around 2 per cent is expected in milk production.

In Victoria, milk production is expected to increase by around 2 per cent, but the effect of this increase on farm cash income is projected to be more than offset by lower milk prices and higher fodder expenditure. Farm cash income for Victorian dairy farms is projected to decline to an average of $84 000 per farm in 2012–13.

When the variations in projected farm cash incomes on farms across Australia are taken into account, the average farm cash income for Australian dairy farms is projected to decline to average $92 000 per farm in 2012–13, around 8 per cent below the average for the 10 years to 2011–12.

Farm cash income for dairy industry farms, Australia
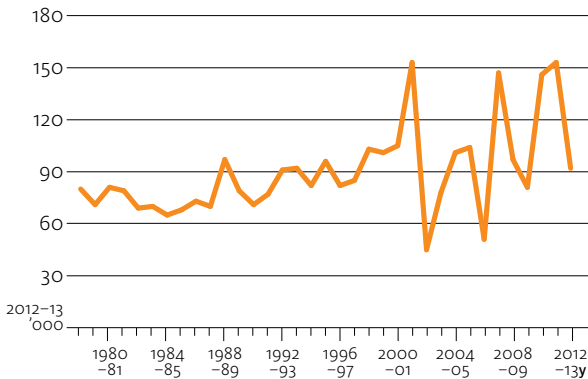
y Provisional survey estimate.

Statistical tables

Figures

Tables

FIGURE 1 Contribution to GDP Australia, chain volume measures, reference year 2010–11

2001–02

$1073.6b

🟠 Services	71%
🔴 Manufacturing	10%
🔵 Mining	10%
🔵 Building and construction	6%
⚪ Agriculture, forestry and fishing	3%

2011–12

$1452.9b

🟠 Services	74%
🔴 Manufacturing	7%
🔵 Building and construction	7%
🔵 Mining	10%
⚪ Agriculture, forestry and fishing	2%

FIGURE 2 Markets for Australian merchandise exports in 2011–12 dollars

2001–02   **2011–12**

Total

$159.9b

🟠 Japan	19%
⚪ China	6%
⚪ Republic of Korea	8%
🔵 United States	10%
🟡 New Zealand	6%
🟣 India	2%
🔵 European Union 27	12%
🔴 other	37%

$264.1b

🟠 Japan	19%
⚪ China	29%
⚪ Republic of Korea	8%
🔵 United States	4%
🟡 New Zealand	3%
🟣 India	5%
🔵 European Union 27	8%
🔴 other	24%

Agriculture

$41.4b

⚪ China	8%
🟠 Japan	15%
⚫ ASEAN	16%
⚪ other Asia	14%
🔵 European Union 27	10%
🔴 Middle East	9%
🔵 United States	11%
🔴 other	17%

$36.4b

⚪ China	18%
🟠 Japan	12%
⚫ ASEAN	19%
⚪ other Asia	14%
🔵 European Union 27	8%
🔴 Middle East	10%
🔵 United States	6%
🔴 other	13%

Forestry

$2.7b

🟠 Japan	35%
🟢 China	8%
⚪ New Zealand	18%
🔵 Malaysia	2%
⚫ United States	5%
🟢 Taiwan	2%
🔵 Indonesia	2%
🔴 other	28%

$2.2b

🟠 Japan	26%
🟢 China	24%
⚪ New Zealand	14%
🔵 Malaysia	5%
⚫ United States	5%
🟢 Taiwan	3%
🔵 Indonesia	3%
🔴 other	20%

Fisheries

$2.8b

🟠 Japan	33%
🟢 Hong Kong	24%
⚪ China	3%
🔵 United States	8%
⚫ Singapore	3%
🟢 Taiwan	7%
🔵 European Union 27	3%
🔴 other	19%

$1.2b

🟠 Japan	24%
🟢 Hong Kong	47%
⚪ China	5%
🔵 United States	4%
⚫ Singapore	4%
🟢 Taiwan	1%
🔵 European Union 27	1%
🔴 other	14%

FIGURE 3 Sources of Australian merchandise imports in 2011–12 dollars

	2001–02		**2011–12**	
Total	$158.0b		$239.7b	
	United States	18%	United States	11%
	Japan	13%	Japan	8%
	China	9%	China	18%
	Germany	6%	Germany	5%
	Malaysia	5%	Malaysia	4%
	Singapore	3%	Singapore	6%
	New Zealand	4%	New Zealand	3%
	other	42%	other	45%
Agriculture	$7.3b		$11.9b	
	China	4%	China	6%
	ASEAN	15%	ASEAN	21%
	other Asia	6%	other Asia	5%
	European Union 27	30%	European Union 27	23%
	New Zealand	17%	New Zealand	17%
	United States	13%	United States	11%
	other	15%	other	17%
Forestry	$5.0b		$4.2b	
	New Zealand	20%	New Zealand	15%
	China	5%	China	19%
	Indonesia	8%	Indonesia	8%
	United States	10%	United States	7%
	Malaysia	4%	Malaysia	6%
	Germany	4%	Germany	4%
	Finland	7%	Finland	3%
	other	42%	other	38%
Fisheries	$1.6b		$1.6b	
	Thailand	20%	Thailand	23%
	New Zealand	15%	New Zealand	13%
	China	3%	China	15%
	Vietnam	4%	Vietnam	11%
	Malaysia	3%	Malaysia	5%
	United States	5%	United States	3%
	other	50%	other	30%

FIGURE 4 Principal markets for Australian agricultural, forestry and fisheries exports (nominal)

● 2001–02   ● 2011–12

FIGURE 4 Principal markets for Australian agricultural, forestry and fisheries exports (nominal)

● 2001–02   ● 2011–12

Quantity wool

Value wool

Quantity beef and veal

Value beef and veal

Quantity sheep meat

Value sheep meat

Quantity cheese

Value cheese

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	2011–12	2012–13 f
Crops sector						
Grains						
Winter crops						
barley	196.9	145.3	108.3	135.8	123.1	156.7
canola	140.7	142.2	114.2	141.1	129.6	130.4
lupins	171.0	142.9	127.2	136.9	118.8	149.2
oats	136.9	158.3	116.9	143.2	147.0	149.6
wheat	197.2	142.1	110.4	130.1	127.4	173.2
Summer crops						
grain sorghum	152.4	121.3	115.9	125.8	118.6	120.1
Total grains **a**	178.3	137.4	108.7	126.2	121.9	152.4
Cotton	87.7	96.7	98.4	144.2	106.8	93.1
Sugar	80.6	98.3	137.8	137.8	129.0	104.3
Hay	254.6	219.0	181.5	151.1	128.4	109.2
Fruit	148.4	148.2	146.6	181.8	181.4	190.5
Vegetables	153.7	152.9	150.4	167.3	161.4	169.4
Total crops sector	138.0	120.2	108.8	125.7	118.7	131.7
Livestock sector						
Livestock for slaughter						
cattle	164.6	171.3	160.0	172.6	176.0	167.0
lambs **b**	170.3	204.3	218.7	255.4	229.1	194.7
sheep	183.3	216.8	343.3	438.0	356.4	256.6
live sheep for export	180.7	214.2	249.3	305.7	344.3	327.9
pigs	120.7	140.1	147.1	135.7	134.5	138.3
poultry	109.4	120.0	114.1	109.8	107.6	107.1
total	152.7	165.5	163.8	175.5	173.5	163.7
Livestock products						
wool	127.9	109.2	116.0	158.4	171.1	138.6
milk	166.1	142.3	125.2	144.8	140.9	130.7
eggs	107.5	108.5	105.5	104.2	104.1	104.7
total	147.0	127.5	120.0	144.7	146.8	130.8
Store and breeding stock	155.3	161.9	168.3	193.9	198.1	184.1
Total livestock sector	148.2	149.2	145.7	162.8	162.7	150.5
Total prices received	141.7	132.5	124.7	141.7	137.4	140.2

a Total for the group includes commodities not separately listed. **b** Lamb saleyard indicator weight 18–22 kg.
f ABARES forecast.
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	2011–12	2012–13 f
Farmers' terms of trade a	91.4	89.0	88.6	97.9	93.4	95.6
Materials and services						
Seed, fodder and livestock						
fodder and feedstuffs	195.3	167.9	145.6	121.0	117.8	129.6
seed, seedlings and plants	135.0	120.6	109.3	119.9	119.3	131.2
store and breeding stock	155.3	161.9	168.3	193.9	198.1	184.1
total	178.0	161.0	146.9	137.8	136.6	142.3
Chemicals	149.7	136.7	116.2	110.4	112.6	115.4
Electricity	111.3	121.4	142.0	158.8	176.7	180.9
Fertiliser	220.4	239.6	156.0	157.3	165.5	169.7
Fuel and lubricants	243.7	211.0	191.7	211.3	228.2	211.1
Total	170.8	164.0	146.4	146.1	149.8	152.5
Labour	138.0	142.6	147.3	151.8	155.3	159.1
Marketing	143.2	137.1	133.9	144.7	154.0	151.5
Overheads						
Insurance	143.5	155.6	167.0	173.7	185.8	190.2
Interest paid	142.6	116.7	111.1	122.3	113.0	98.2
Rates and taxes	137.3	141.6	144.8	149.3	152.8	156.4
Other overheads	132.8	137.1	140.5	144.8	148.2	151.7
Total	141.8	126.6	124.3	133.6	128.5	118.9
Capital items	136.8	141.1	144.7	149.3	153.0	157.0
Total prices paid	155.1	148.9	140.7	144.8	147.1	146.7
Excluding capital items	157.3	149.9	140.3	144.3	146.5	145.6
Excluding capital and overheads	161.7	156.7	144.9	147.1	151.6	153.7
Excluding seed, fodder and						
store and breeding stock	150.3	146.4	139.4	146.2	149.2	147.5

a Ratio of index of prices received by farmers and index of prices paid by farmers. **f** ABARES forecast.
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 (compiled from various market sources); Australian Bureau of Statistics

TABLE 3 Farm costs and returns Australia

	unit	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13 f
Costs							
Materials and services							
chemicals	$m	1 901	1 792	1 496	1 436	1 451	1 513
fertiliser	$m	3 034	3 381	2 144	2 217	2 330	2 426
fuel and lubricants	$m	2 551	2 243	1 965	2 230	2 405	2 246
marketing	$m	3 180	3 733	3 815	3 845	4 021	3 627
repairs and maintenance	$m	3 073	3 080	3 004	3 768	3 996	3 984
seed and fodder	$m	6 177	5 263	4 539	4 199	4 208	4 671
other	$m	3 659	3 829	3 968	4 297	4 453	4 438
total	$m	23 575	23 320	20 930	21 991	22 864	22 904
Labour	$m	3 667	3 827	3 783	4 119	4 214	4 363
Overheads							
interest paid	$m	4 901	4 331	4 455	5 023	4 758	4 341
rent and third party insurance	$m	462	477	494	513	525	537
Total	$m	9 030	8 634	8 732	9 655	9 497	9 241
Total cash costs	$m	32 605	31 955	29 662	31 646	32 362	32 146
Depreciation a	$m	4 532	4 676	4 794	4 945	5 071	5 202
Total farm costs	$m	37 137	36 631	34 456	36 591	37 432	37 348
Returns							
Gross value of farm production	$m	43 738	41 929	39 665	47 748	48 885	46 948
Net returns and production							
Net value of farm production b	$m	6 601	5 298	5 209	11 157	11 452	9 600
Real net value of farm production c	$m	7 523	5 856	5 626	11 688	11 727	9 600
Net farm cash income d	$m	10 819	5 865	10 003	16 103	16 523	14 803
Real net farm cash income c	$m	12 331	6 482	10 805	16 869	16 920	14 803

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 2012–13 Australian dollars. **d** Gross farm cash income less total cash costs. **f** ABARES forecast.
Note: Prices used in these calculations exclude GST.
Sources: ABARES (compiled from various market sources); Australian Bureau of Statistics

FIGURE 5 Contribution to exports by sector, balance of payments basis Australia

Proportion of merchandise exports

Proportion of exports of goods and services

2011–12

Other merchandise 14%
Rural **a** 15%
Mineral resources 71%

Services 16%
Rural **a** 12%
Other merchandise 13%
Mineral resources 59%

2010–11

Other merchandise 15%
Rural **a** 14%
Mineral resources 71%

Services 17%
Rural **a** 12%
Other merchandise 13%
Mineral resources 58%

2009–10

Other merchandise 18%
Rural **a** 15%
Mineral resources 67%

Services 20%
Rural **a** 12%
Other merchandise 15%
Mineral resources 53%

2008–09

Other merchandise 17%
Rural **a** 15%
Mineral resources 68%

Services 19%
Rural **a** 12%
Other merchandise 14%
Mineral resources 55%

2007–08

Other merchandise 23%
Rural **a** 16%
Mineral resources 61%

Services 22%
Rural **a** 13%
Other merchandise 18%
Mineral resources 47%

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	2011–12	2012–13 f
Farm						
Grains and oilseeds	88.0	116.1	116.6	139.9	156.5	124.7
Total crops	103.9	113.2	114.4	127.2	140.2	122.6
Livestock slaughterings	113.4	111.6	109.5	110.6	110.4	113.7
Total livestock	102.3	100.7	98.8	100.5	101.2	103.5
Total farm sector	103.9	108.0	107.5	114.6	121.3	113.7
Forestry a						
Broadleaved	130.1	120.8	107.8	110.8	103.7	111.6
Coniferous	136.3	117.5	127.4	132.7	119.3	123.6
Total forestry	133.3	119.5	118.5	122.7	112.3	118.3

a Volume of logs harvested excluding firewood. **f** ABARES forecast.
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	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
Agriculture, forestry and fishing							
agriculture	$m	20 179	21 857	26 171	25 605	27 726	30 044
forestry and fishing	$m	4 094	4 136	4 436	4 429	4 429	4 317
total	$m	24 343	26 030	30 623	30 054	32 156	34 361
Mining	$m	117 292	119 661	123 310	133 015	131 109	140 287
Manufacturing							
food, beverage and alcohol	$m	23 328	23 294	22 556	24 205	24 085	22 886
textile, clothing, footwear and leather	$m	10 018	10 486	9 386	7 331	6 855	6 707
wood and paper products	$m	7 791	7 486	6 909	7 191	7 092	7 000
printing, publishing and recorded media	$m	5 034	5 161	4 319	4 133	4 125	3 839
petroleum, coal, chemical products	$m	18 728	19 190	17 259	17 903	17 913	18 036
non-metallic mineral products	$m	4 990	5 212	5 172	5 073	4 971	4 621
metal products	$m	20 628	22 965	22 660	21 296	22 203	22 354
machinery and equipment	$m	19 712	20 352	19 579	20 731	20 566	21 207
total	$m	108 679	113 034	107 250	107 760	107 808	106 651
Building and construction	$m	88 152	94 316	98 381	98 639	103 338	107 864
Electricity, gas and water supply	$m	30 959	31 036	32 335	33 200	33 811	33 357
Taxes less subsidies on products	$m	90 809	92 542	91 632	91 198	93 524	93 941
Statistical discrepancy	$m	0	0	0	− 1	1	4 462
Gross domestic product	$m	1272 777	1 320 746	1 342 514	1 370 541	1 403 888	1 452 891

a Chain volume measures, reference year is 2010–11. **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

	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
	'000	'000	'000	'000	'000	'000
Agriculture, forestry and fishing						
agriculture	306	302	322	325	307	290
forestry and logging	8	8	8	7	6	8
commercial fishing c	10	14	9	11	12	11
support services	26	30	24	26	27	27
total	350	354	362	369	351	335
Mining	135	146	170	173	205	248
Manufacturing						
food, beverages and tobacco	214	229	226	228	229	228
textiles, clothing, footwear and leather	50	50	48	46	45	39
wood and paper product	78	69	67	64	57	55
printing, publishing and recorded media	51	54	51	52	56	42
petroleum, coal and chemical product	92	98	90	88	85	88
non-metallic mineral product	36	42	40	37	37	38
metal product	161	159	157	147	147	146
other manufacturing	342	359	348	343	336	320
total	1 024	1 060	1 028	1 006	992	956
Other industries	8 864	9 124	9 332	9 479	9 806	9 893
Total	10 374	10 684	10 892	11 027	11 355	11 432

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

	2010–11				2011–12			
	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun
	$b	$b	$b	$b	$b	$b	$b	$b
Agriculture, forestry and fishing and forestry	58.5	58.5	58.2	60.2	60.3	60.1	60.4	62.4
Mining	11.6	11.4	11.2	12.4	13.5	14.3	15.3	17.0
Manufacturing	38.0	37.9	39.0	39.1	41.0	40.8	43.7	42.5
Construction	29.8	29.6	30.1	30.1	29.3	28.8	29.2	30.3
Wholesale and retail trade, transport and storage	90.7	92.3	93.3	92.8	95.4	97.3	99.5	101.7
Finance and insurance	103.7	99.1	94.1	89.4	93.4	96.5	99.2	100.8
Other	314.0	312.2	316.9	314.1	315.4	320.6	321.6	329.3
Total	646.3	641.0	642.9	638.0	648.4	658.4	668.9	683.9

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

	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m	2011–12 $m
Rural debt						
All banks a	47 188	53 743	57 384	58 097	60 184	62 324
Other government agencies b	1 286	1 409	1 620	1 811	1 871	2 076
Pastoral and other finance companies	4 592	5 126	4 462	2 029	2 010	1 801
Large finance institutional debt c	53 066	60 278	63 467	61 937	64 065	66 201
Deposits						
Farm management deposits	2 782	2 879	2 843	2 784	3 216	3 532

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	2011–12	2012–13 f
World							
Crops							
Wheat a	US$/t	362	271	209	317	299	360
Corn b	US$/t	202	190	160	255	281	325
Rice c	US$/t	551	609	532	518	590	566
Soybeans d	US$/t	507	450	429	524	533	618
Cotton e	USc/lb	72.9	61.2	77.5	164.3	100.1	81.0
Sugar g	USc/lb	11.7	14.9	20.3	26.5	22.7	18.0
Livestock products							
Beef h	USc/kg	294	307	319	391	433	455
Wool i	Ac/kg	945	794	872	1 132	1 203	1 000
Butter j	US$/t	4 027	2 485	3 477	4 683	3 883	3 370
Cheese j	US$/t	5 073	3 281	3 748	4 221	4 258	4 150
Skim milk powder j	US$/t	4 204	2 333	2 948	3 392	3 233	3 270

a US hard red winter wheat, fob Gulf. b US no. 2 yellow corn, delivered US Gulf, (July–June basis). c USDA nominal quote for Thai white rice, 100 per cent, Grade B, fob, Bangkok (August–July basis). d US cif Rotterdam. e Cotlook 'A' index. f ABARES forecast. g Nearby futures price (October–September basis), Intercontinental Exchange, New York No. 11 contract. h US cif price. i Australian Wool Exchange eastern market indicator. j Average of traded prices (excluding subsidised sales).
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	2012–13 f
Crops b							
Grains and oilseeds							
Winter crops							
barley	$/t	313	231	172	216	196	249
canola	$/t	542	548	440	544	500	503
field peas	$/t	407	345	241	266	231	235
lupins	$/t	335	280	249	268	232	292
oats	$/t	281	216	160	196	201	204
triticale	$/t	252	257	220	184	175	221
wheat	$/t	390	281	218	257	252	342
Summer crops							
corn (maize)	$/t	258	283	268	259	223	249
rice	$/t	414	566	457	240	270	255
grain sorghum	$/t	258	205	196	213	201	203
soybeans c	$/t	664	551	551	501	472	465
sunflower seed c	$/t	609	696	696	567	551	529
Industrial crops							
Cotton lint d	c/kg	191	193	205	377	225	184
Sugar cane (cut for crushing)	$/t	26	32	44	41	39	33
Wine grapes	$/t	787	527	464	413	457	470
Livestock							
Beef cattle	c/kg	320	320	311	336	343	323
Lambs	c/kg	346	415	444	519	465	395
Pig	c/kg	241	304	291	269	266	261
Poultry	c/kg	196	215	204	197	193	197
Livestock products							
Wool	c/kg	503	430	456	623	673	545
Milk	c/L	49.6	42.5	37.4	43.2	42.1	39.0

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.
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	2011–12	2012–13 f
Farm							
Grains							
Wheat							
production	Mt	607	685	679	653	694	656
consumption	Mt	603	645	652	659	692	679
closing stocks	Mt	133	173	200	194	196	174
exports **b**	Mt	110	137	128	126	145	131
Coarse grains							
production	Mt	1 081	1 112	1 113	1 098	1 151	1 106
consumption	Mt	1 057	1 079	1 104	1 130	1 150	1 125
closing stocks	Mt	165	195	197	164	166	148
exports **b**	Mt	127	113	123	116	139	115
Rice							
production **c**	Mt	433	448	441	448	463	464
consumption **c**	Mt	429	437	438	446	457	466
closing stocks **c**	Mt	81	92	96	99	105	104
exports **bd**	Mt	29	29	31	36	38	36
Oilseeds and vegetable oils							
Oilseeds							
production	Mt	391	397	445	457	438	459
consumption	Mt	401	401	421	443	455	458
closing stocks	Mt	62	57	75	82	65	67
exports	Mt	91	94	108	109	108	113
Vegetable oils							
production	Mt	129	134	141	148	153	155
consumption	Mt	126	131	139	144	149	155
closing stocks	Mt	12	13	14	14	17	17
exports	Mt	54	56	58	60	62	65
Vegetable protein meals							
production	Mt	226	224	240	252	258	261
consumption	Mt	223	223	234	246	258	261
closing stocks	Mt	8	6	8	10	11	11
exports	Mt	69	66	70	75	77	78
Industrial crops							
Cotton							
production	Mt	26	23	22	25	27	25
consumption	Mt	26	23	26	25	22	23
closing stocks	Mt	14	13	10	11	15	17
exports	Mt	9	7	8	8	10	8
Sugar							
production	Mt	167	149	159	166	175	178
consumption	Mt	160	161	163	164	168	172
closing stocks	Mt	71	61	56	59	65	71
exports	Mt	48	48	53	55	53	52

Continued

TABLE 11 World production, consumption, stocks and trade for selected commodities **a** *continued*

	unit	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13 f
Livestock products							
Meat **deg**							
production	Mt	248	250	257	259	264	266
consumption	Mt	246	248	254	255	260	262
closing stocks	Mt	2.3	2.2	2.1	2.2	2.4	2.2
exports **b**	Mt	23.9	23.2	24.4	26.4	27.2	28.1
Wool **h**							
production	kt	1 201	1 104	1 127	1 102	1 110	1 120
consumption **di**	kt	1 165	1 105	1 125	1 130	1 110	1 105
closing stocks **j**	kt	55	65	55	47	47	62
exports **k**	kt	553	484	501	503	470	467
Butter **dg**							
production	kt	7 872	8 039	8 181	8 556	8 856	8 950
consumption	kt	7 471	7 546	7 823	8 110	8 346	8 450
closing stocks	kt	250	277	197	204	234	245
exports	kt	707	811	740	717	752	760
Skim milk powder **gl**							
production **d**	kt	3 311	3 455	3 415	3 655	3 879	4 000
consumption **d**	kt	3 022	2 911	2 998	3 226	3 391	3 490
closing stocks **d**	kt	328	556	496	358	313	330
exports	kt	1 087	1 140	1 345	1 565	1 570	1 560

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.
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	2011–12	2012–13 f
Crops							
Grains and oilseeds							
Winter crops							
barley	kt	7 160	7 997	7 865	7 995	8 349	6 866
canola	kt	1 214	1 844	1 907	2 359	3 124	2 636
chickpeas	kt	313	443	487	513	485	746
field peas	kt	268	238	356	395	342	337
lupins	kt	662	708	823	808	977	464
oats	kt	1 502	1 160	1 162	1 128	1 274	1 036
triticale	kt	450	363	545	355	580	435
wheat	kt	13 569	21 420	21 834	27 410	29 923	22 035
Summer crops							
cottonseed	kt	188	466	547	1 269	1 694	1 336
corn (maize)	kt	387	376	328	357	422	445
rice	kt	18	61	197	723	941	1 082
grain sorghum	kt	3 790	2 692	1 508	1 935	2 223	2 364
soybeans	kt	35	80	60	30	86	109
sunflower seed	kt	73	55	41	43	47	61
other oilseeds **a**	kt	40	34	40	33	37	42
Total grains and oilseeds	kt	29 668	37 935	37 699	45 352	50 505	39 994
Industrial crops							
Cotton lint	kt	133	329	387	898	1 198	945
Sugar cane (cut for crushing)	kt	32 621	31 457	31 235	27 443	27 658	31 465
Sugar (tonnes actual)	kt	4 763	4 634	4 472	3 610	3 733	4 500
Wine grapes	kt	1 837	1 684	1 533	1 598	1 582	1 613
Horticulture							
Fruit							
apples	kt	265	295	264	300	271	290
bananas	kt	207	270	302	203	280	310
oranges	kt	409	348	391	292	388	341
Vegetables							
carrots	kt	273	264	267	225	284	284
onions	kt	254	284	260	331	274	278
potatoes	kt	1 400	1 179	1 278	1 128	1 265	1 265
tomatoes	kt	382	440	472	302	432	434
Livestock							
Slaughterings							
Cattle and calves	’000	8 680	8 583	8 364	8 097	7 873	8 130
Sheep	’000	11 158	10 501	7 333	5 341	5 175	6 600
Lambs	’000	20 529	20 395	19 478	17 880	18 879	21 000
Pigs	’000	5 171	4 476	4 561	4 643	4 733	4 665
Live exports							
Cattle exported live **b**	’000	708	845	871	728	579	450
Sheep exported live **c**	’000	4 070	4 067	3 060	2 916	2 562	2 000
Meat produced							
Beef and veal **d**	kt	2 132	2 125	2 109	2 133	2 115	2 180
Lamb **d**	kt	428	416	413	391	419	460
Mutton **d**	kt	243	220	162	123	120	152
Pig meat	kt	374	321	331	342	351	345
Chicken meat **d**	kt	797	832	834	1 015	1 030	1 042
Total	kt	3 975	3 914	3 849	4 005	4 034	4 179

Continued

TABLE 12 Agricultural, fisheries and forestry commodity production Australia *continued*

	unit	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13 f
Livestock products							
Wool e	kt	459	420	423	429	424	425
Milk g	ML	9 223	9 388	9 023	9 101	9 480	9 600
Butter h	kt	128	148	128	122	120	122
Cheese	kt	361	325	349	339	340	360
Casein	kt	10	10	8	5	5	5
Skim milk powder i	kt	164	212	190	222	230	234
Whole milk powder	kt	142	148	126	151	140	138
Buttermilk powder	kt	13	15	13	12	11	12
Forestry – logs harvested j							
Broadleaved	'000 m^3	13 211	12 485	11 144	11 448	10 713	11 527
Coniferous	'000 m^3	15 157	13 314	14 433	15 041	13 522	14 010
Total	'000 m^3	28 368	25 799	25 577	26 489	24 235	25 537
Fisheries k							
Tuna	kt	14.6	13.7	11.0	9.1	10.9	11.5
Salmonids l	kt	25.9	30.0	32.0	35.4	37.8	40.4
Other fish	kt	118.2	115.7	120.7	110.8	115.7	116.9
Prawns	kt	22.8	24.2	27.3	26.9	22.9	22.5
Rock lobster m	kt	14.3	12.2	10.1	9.9	9.5	9.6
Abalone	kt	5.3	5.6	5.0	5.2	4.8	5.0
Scallops	kt	10.3	7.6	7.6	6.2	2.3	5.2
Oysters	kt	13.6	14.2	14.9	14.0	14.8	15.3
Other molluscs	kt	6.8	6.6	6.4	6.5	6.5	6.5
Other crustaceans	kt	6.4	5.8	5.7	6.1	6.2	6.0

a Linseed, safflower seed and peanuts. **b** Excludes animals exported for breeding purposes. **c** Includes animals for breeding.**d** In carcass weight and includes carcass equivalent of canned meats. **e** Greasy equivalent of shorn wool (includes crutching), dead and fellmongered wool and wool exported on skins. **f** ABARES forecast. **g** Includes the whole milk equivalent of farm cream intake. **h** Includes the butter equivalent of butteroil, butter concentrate, ghee and dry butterfat. **i** Includes mixed skim and buttermilk powder. **j** Excludes logs harvested for firewood. **k** Liveweight. **l** Includes salmon and trout production. **m** Includes Queensland bugs.
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 $m	2011–12 s $m	2012–13 f $m
Crops						
Grains and oilseeds						
Winter crops						
barley	2 244	1 850	1 356	1 729	1 636	1 713
canola	659	1 011	840	1 283	1 562	1 326
chickpeas	195	199	211	207	269	418
field peas	109	82	86	105	79	79
lupins	222	198	205	216	227	136
oats	423	251	186	221	256	212
triticale	113	93	120	65	102	96
wheat	5 292	6 021	4 765	7 052	7 540	7 547
Summer crops						
maize	100	106	88	92	94	111
rice	7	34	90	174	254	276
grain sorghum	977	553	296	412	446	480
soybeans	23	44	33	15	41	51
sunflower seed	44	38	29	24	26	32
other oilseeds a	31	28	34	27	28	32
Total grains and oilseeds	10 788	10 778	8 662	12 134	12 973	12 946
Industrial crops						
Cotton lint and cottonseed b	254	693	828	2 818	2 786	1 916
Sugar cane (cut for crushing)	861	1 021	1 382	1 115	1 080	1 052
Wine grapes	1 446	887	709	712	723	758
Total industrial crops	2 560	2 601	2 919	4 644	4 588	3 725
Horticulture						
Table and dried grapes	202	286	273	302	300	309
Fruit and nuts (excl. grapes)	2 758	2 871	2 950	3 013	3 206	3 542
Vegetables	3 363	3 012	3 023	3 338	3 418	3 585
Other horticulture	1 693	1 556	1 649	1 606	1 680	1 748
Total horticulture	8 015	7 725	7 895	8 259	8 604	9 184
Other crops nei c	2 858	1 665	1 660	1 706	1 550	1 185
Total crops	24 222	22 769	21 136	26 743	27 715	27 041

Continued

TABLE 13 Gross value of farm and fisheries production Australia *continued*

	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m	2011–12 s $m	2012–13 f $m
Livestock						
Slaughterings						
Cattle and calves **d**	6 813	6 806	6 567	7 164	7 244	7 045
Sheep **e**	400	428	499	484	383	350
Lambs **eg**	1 481	1 725	1 832	2 029	1 950	1 818
Pigs	902	976	965	919	934	899
Poultry	1 637	1 862	1 785	2 077	2 078	2 147
Live exports						
Cattle exported live **h**	541	646	701	660	651	575
Sheep exported live **h**	287	340	298	348	345	250
Total livestock **i**	12 104	12 834	12 722	13 762	13 670	13 176
Livestock products						
Wool **j**	2 309	1 806	1 928	2 673	2 857	2 318
Milk **k**	4 572	3 988	3 371	3 932	3 986	3 744
Eggs	468	447	428	572	578	588
Honey and beeswax	63	86	80	66	79	82
Total livestock products	7 412	6 326	5 807	7 243	7 500	6 732
Total farm	43 738	41 929	39 665	47 748	48 885	46 948
Forestry products l						
Broadleaved	947	936	852	870	824	886
Coniferous	890	823	924	961	884	921
Total	1 837	1 759	1 777	1 832	1 707	1 807
Fisheries products m						
Tuna	210	187	125	150	174	169
Salmonids **n**	302	326	369	409	430	450
Other fish **o**	431	463	464	424	451	447
Prawns	272	290	325	305	284	286
Rock lobster **q**	426	415	381	390	416	418
Abalone	189	189	173	178	163	172
Scallops	33	26	23	22	6	15
Oysters	89	93	101	99	104	111
Pearls **r**	114	90	105	120	114	114
Other molluscs **t**	52	49	32	31	38	35
Other crustaceans	63	66	65	65	76	69
Total fish	2 207	2 214	2 191	2 231	2 291	2 318

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** Total livestock slaughterings includes livestock disposals. **j** Shorn, dead and fellmongered wool and wool exported on skins. **k** Milk intake by factories and valued at the farm gate. **l** Excludes logs harvested for firewood. **m** Value to fishermen of product landed in Australia. **n** Includes salmon and trout production. **o** Includes an estimated value of aquaculture. **q** Includes Queensland bugs. **r** Includes Northern Territory aquaculture production from 2009–10. **s** ABARES estimate. **t** 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	2011–12	2012–13 f
Crop areas							
Grains and oilseeds							
Winter crops							
barley	'000 ha	4 902	5 015	4 422	3 681	3 774	3 875
canola	'000 ha	1 277	1 693	1 695	2 078	1 807	2 216
chickpeas	'000 ha	306	338	429	653	327	564
field peas	'000 ha	293	300	285	318	249	281
lupins	'000 ha	752	577	692	756	691	451
oats	'000 ha	1 238	870	850	826	726	673
triticale	'000 ha	360	323	350	187	330	292
wheat	'000 ha	12 578	13 530	13 881	13 502	13 963	13 323
Summer crops							
maize	'000 ha	68	65	59	62	77	79
rice	'000 ha	2	7	19	76	108	121
grain sorghum	'000 ha	942	767	498	633	657	762
soybeans	'000 ha	15	42	31	17	38	51
sunflower seed	'000 ha	48	52	27	37	40	46
other oilseeds **a**	'000 ha	20	20	16	19	18	17
Total grains and oilseeds	'000 ha	23 207	24 095	23 787	23 946	23 824	23 622
Industrial crops							
Cotton	'000 ha	63	164	208	590	600	442
Sugar cane **b**	'000 ha	381	391	389	334	370	385
Winegrapes **e**	'000 ha	166	157	152	154	145	158
Livestock numbers c							
Cattle							
beef	million	24.78	25.29	24.01	25.94	26.40	26.70
dairy	million	2.54	2.61	2.54	2.57	2.65	2.67
milking herd **d**	million	1.64	1.68	1.60	1.59	1.63	1.66
total	million	27.32	27.91	26.55	28.51	29.05	29.37
Sheep	million	76.9	72.7	68.1	73.1	76.0	76.2
Pigs	million	2.41	2.30	2.29	2.29	2.16	2.12
Forestry plantation area							
Broadleaved	'000 ha	950	991	973	980	na	na
Coniferous	'000 ha	1 014	1 020	1 024	1 025	na	na
Total plantation area **g**	'000 ha	1 973	2 020	2 009	2 017	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. **na** not available.
Sources: ABARES; Australian Bureau of Statistics

TABLE 15 Average farm yields Australia

	unit	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13 f
Crops							
Grains and oilseeds							
Winter crops							
barley	t/ha	1.46	1.59	1.78	2.17	2.21	1.77
canola	t/ha	0.95	1.09	1.13	1.14	1.73	1.19
chickpeas	t/ha	1.02	1.31	1.14	0.79	1.48	1.32
field peas	t/ha	0.91	0.79	1.25	1.24	1.38	1.20
lupins	t/ha	0.88	1.23	1.19	1.07	1.41	1.03
oats	t/ha	1.21	1.33	1.37	1.37	1.75	1.54
triticale	t/ha	1.25	1.12	1.56	1.90	1.76	1.49
wheat	t/ha	1.08	1.58	1.57	2.03	2.14	1.65
Summer crops							
maize	t/ha	5.69	5.82	5.56	5.74	5.48	5.65
rice	t/ha	8.15	8.46	10.39	9.54	8.71	8.95
grain sorghum	t/ha	4.03	3.51	3.03	3.06	3.38	3.10
soybeans	t/ha	2.34	1.89	1.90	1.71	2.26	2.13
sunflower seed	t/ha	1.51	1.07	1.54	1.14	1.17	1.31
Industrial crops							
Cotton (lint)	t/ha	2.12	2.01	1.86	1.52	2.00	2.14
Sugar cane (for crushing)	t/ha	86	80	80	82	75	82
Winegrapes	t/ha	11.1	10.7	10.1	10.4	10.9	10.2
Livestock							
Wool a	kg/sheep	4.30	4.29	4.25	4.30	4.26	4.20
Whole milk	L/cow	5 624	5 602	5 653	5 727	5 816	5 801

a Shorn (including lambs). **f** ABARES forecast.
Sources: ABARES; Australian Bureau of Statistics

TABLE 16 Volume of agricultural, fisheries and forestry exports Australia a

	unit	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13 f
Farm							
Grains and oilseeds							
Winter crops							
barley b	kt	4 050	3 898	4 234	4 625	6 568	4 746
canola	kt	519	973	1 238	1 471	2 323	2 093
chickpeas	kt	218	467	459	409	653	746
lupins	kt	76	157	377	289	244	78
oats (unprepared)	kt	115	196	216	127	163	109
peas c	kt	142	118	163	254	248	208
wheat d	kt	7 408	13 410	13 725	18 431	23 038	21 850
Summer crops							
cottonseed	kt	18	37	106	268	654	676
maize	kt	1	69	15	12	68	119
rice	kt	104	106	54	174	513	550
grain sorghum	kt	251	1 368	487	553	1 112	1 298
other oilseeds e	kt	11	10	13	7	6	13
Total grains and oilseeds	kt	12 913	20 809	21 088	26 620	35 589	32 486
Industrial crops							
Raw cotton g	kt	266	260	395	505	994	1 106
Sugar	kt	3 493	3 268	3 506	2 735	3 001	3 350
Wine	ML	709	750	777	727	713	720
Meat and live animals							
Beef and veal hi	kt	930	968	899	937	948	970
Live cattle j	'000	708	845	871	728	579	450
Lamb h	kt	163	156	157	157	174	200
Live sheep k	'000	4 070	4 067	3 060	2 916	2 562	2 000
Mutton h	kt	158	146	111	86	89	117
Pig meat h	kt	39	32	30	31	29	27
Poultry meat h	kt	30	37	28	31	38	40
Wool							
Greasy ls	kt	343	314	308	335	301	297
Semi-processed	kt (gr eq)	67	62	49	44	37	33
Skins	kt (gr eq)	73	69	70	65	67	68
Total ks	kt (gr eq)	483	445	428	444	405	398
Dairy products							
Butter m	kt	57	70	74	56	49	55
Cheese	kt	203	146	168	163	161	169
Casein	kt	9	8	10	5	4	4
Skim milk powder	kt	120	162	126	155	141	146
Whole milk powder	kt	82	116	91	108	102	100

Continued

TABLE 16 Volume of agricultural, fisheries and forestry exports   Australia **a** *continued*

	unit	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13 f
Forest products							
Sawnwood	'000 m³	338	355	387	348	255	251
Wood-based panels	'000 m³	274	345	256	253	228	211
Paper and paperboard	kt	790	769	890	1 029	1 122	1 073
Woodchips	kt	6 166	5 255	4 818	5 064	4 150	4 174
Fisheries products							
Tuna	kt	12.6	11.5	9.5	7.8	8.9	9.6
Salmonids	kt	3.0	6.6	4.0	6.4	5.8	4.7
Other fish	kt	6.7	7.5	7.1	7.7	6.5	6.9
Prawns **n**							
Frozen	kt	4.7	4.7	4.5	6.4	5.3	4.3
Rock lobster							
Fresh, chilled, frozen							
or cooked	kt	9.5	9.6	7.7	7.0	6.9	7.4
Abalone							
Live, fresh or chilled	kt	1.7	1.9	1.8	1.7	1.6	1.7
Frozen or cooked	kt	0.7	0.5	0.7	0.8	0.8	0.7
Prepared or preserved	kt	1.2	0.9	1.1	1.0	0.8	0.9
Scallops **o**	kt	1.1	1.1	1.1	0.6	0.4	0.6

a ABARES has revised the calculation method for the volume of farm exports series back to 1988–89. **b** Includes the grain equivalent of malt. **c** Includes field peas and cowpeas. **d** Includes the grain equivalent of wheat flour. **e** Includes soybeans, linseed, sunflower seed, safflower seed and peanuts. Excludes meals and oils. **f** ABARES forecast. **g** Excludes cotton waste and linters. **h** In shipped weight. Fresh, chilled or frozen. **i** Includes meat loaf. **j** Excludes breeding stock. **k** Includes breeding stock. **l** ABS recorded trade data adjusted for changes in stock levels held overseas. **m** Includes ghee, dry butterfat, butter concentrate and butteroil, and dairy spreads, all expressed as butter. **n** Excludes volume of other prawn products. **o** Includes crumbed scallops. **s** ABARES estimate.
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 a

	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m	2011–12 $m	2012–13 f $m
Farm						
Grains and oilseeds						
Winter crops						
barley b	1 496	1 321	1 093	1 295	1 875	1 534
canola	303	595	583	866	1 344	1 227
chickpeas	139	275	255	213	385	497
lupins	31	61	115	89	65	30
oats	37	64	53	37	47	32
peas c	61	62	60	85	93	91
wheat d	2 990	5 028	3 692	5 516	6 381	7 083
Summer crops						
cottonseed	8	19	46	85	195	189
corn (maize)	5	13	8	6	24	50
rice	110	143	59	151	417	440
grain sorghum	76	405	116	146	299	388
other oilseeds e	27	27	24	14	10	18
Total grains and oilseeds	5 283	8 015	6 102	8 502	11 135	11 578
Industrial crops						
Raw cotton g	466	500	755	1 367	2 736	2 451
Sugar	1 006	1 338	1 887	1 436	1 718	1 561
Wine	2 683	2 428	2 164	1 957	1 859	1 884
Total industrial crops	4 155	4 266	4 805	4 760	6 312	5 896
Horticulture						
Fruit	590	688	589	460	507	503
Tree nuts	181	233	212	211	240	275
Vegetables	422	487	542	607	712	581
Nursery	32	29	23	20	15	17
Other horticulture h	274	280	274	293	258	279
Total horticulture	1 500	1 717	1 640	1 592	1 732	1 655
Other crops and crop products	1 876	2 368	2 346	2 461	2 517	2 528
Total crops	12 813	16 367	14 894	17 315	21 695	21 657
Meat and live animals						
Beef and veal	4 192	4 857	3 953	4 328	4 466	4 552
Live cattle i	446	538	550	499	412	330
Lamb	803	925	916	1 026	1 061	1 090
Live sheep j	287	340	298	348	345	250
Mutton	443	482	433	404	362	420
Pig meat	128	124	109	106	100	92
Poultry meat	32	43	36	38	45	51
Total meat and live animals	6 330	7 308	6 293	6 747	6 789	6 840
Wool						
Greasy k	2 115	1 729	1 773	2 371	2 448	1 930
Semi-processed	362	281	238	251	242	187
Skins	319	312	291	426	433	362
Total k	2 796	2 322	2 303	3 048	3 123	2 479

Continued

TABLE 17 Value of agricultural, fisheries and forestry exports (fob) Australia **a** *continued*

	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m	2011–12 $m	2012–13 f $m
Dairy products						
Butter	195	232	211	252	201	198
Cheese	968	796	715	731	751	769
Casein	125	107	88	53	48	46
Skim milk powder	508	553	352	504	474	488
Whole milk powder	392	475	296	402	378	361
Other dairy products	577	520	427	404	439	417
Total	2 765	2 683	2 089	2 345	2 293	2 279
Other livestock and livestock products	2 237	2 400	2 217	2 354	2 530	2 715
Total livestock exports	14 129	14 713	12 902	14 494	14 735	14 313
Total farm exports	26 942	31 080	27 796	31 809	36 430	35 970
Forest products						
Sawnwood	120	125	125	115	88	88
Wood-based panels	109	101	97	98	83	79
Paper and paperboard	635	606	649	747	717	771
Woodchips	1 072	997	856	884	729	747
Other	535	514	543	629	611	594
Total forest products	2 471	2 343	2 270	2 474	2 229	2 280
Fisheries products						
Tuna	206	177	118	131	163	159
Salmonids	22	47	30	54	42	36
Other fish	96	109	110	101	85	87
Prawns **l**						
Frozen	66	81	60	77	65	56
Rock lobster						
Fresh, chilled, frozen or cooked	401	462	399	368	387	403
Abalone						
Live, fresh or chilled	88	88	100	88	81	88
Frozen or cooked	56	50	53	59	57	55
Prepared or preserved	73	70	63	65	59	63
Scallops **m**	28	33	30	15	15	16
Pearls	264	366	244	241	207	206
Other fisheries products	41	45	39	48	66	63
Total fisheries products	1 342	1 529	1 247	1 249	1 228	1 233
Total rural exports n	30 755	34 952	31 312	35 532	39 887	39 483

a ABARES has revised the calculation method for the value of farm exports series back to 1988–89. **b** Includes the grain equivalent of malt. **c** Field peas and cowpeas. **d** Includes the grain equivalent of wheat flour. **e** Includes soybeans, linseed, sunflower seed, safflower seed and peanuts. Excludes meals and oils. **f** ABARES forecast. **g** Excludes cotton waste and linters. **h** Other horticulture includes mainly coffee, tea, spices, essential oils and other miscellaneous horticultural products. **i** Excludes breeding stock. **j** Includes breeding stock. **k** On a balance of payments basis. ABS recorded trade data adjusted for changes in stock levels held overseas. **l** Other prawn products included in other fisheries products. **m** Includes crumbed scallops. **n** Derived from farm, forest and fisheries products.
Sources: ABARES; Australian Bureau of Statistics, *International Trade, Australia,* cat. no. 5465.0, Canberra; Department of Agriculture, Fisheries and Forestry, Canberra

TABLE 18 Volume of forest products exports Australia

	unit	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
Quantity							
Roundwood	'000 m^3	1 171	1 045	986	1 377	1 638	1 806
Sawnwood a							
Coniferous roughsawn	'000 m^3	317	258	283	322	265	198
Coniferous dressed	'000 m^3	49	23	18	13	13	16
Broadleaved roughsawn	'000 m^3	36	40	40	37	40	27
Broadleaved dressed	'000 m^3	13	16	13	16	29	14
Total	'000 m^3	416	338	355	387	348	255
Railway sleepers	'000 m^3	11	11	9	9	8	9
Wood-based panels							
Veneers	'000 m^3	4	35	86	90	119	106
Plywood	'000 m^3	13	15	53	24	7	18
Particleboard	'000 m^3	18	6	17	9	6	3
Hardboard b	'000 m^3	4	0	2	1	2	2
Medium density fibreboard	'000 m^3	260	204	181	130	115	79
Softboard and other fibreboards	'000 m^3	10	14	8	2	5	20
Total	'000 m^3	309	274	345	256	253	228
Paper and paperboard							
Newsprint	kt	0	5	2	6	19	30
Printing and writing	kt	132	119	112	146	84	133
Household and sanitary	kt	32	37	38	31	39	26
Packaging and industrial	kt	640	630	617	708	887	933
Total	kt	805	790	769	890	1 029	1 122
Recovered paper	kt	1 060	1 286	1 216	1 444	1 323	1 403
Pulp	kt	16	21	22	18	31	1
Woodchips cd	kt	5 952	6 166	5 255	4 818	5 064	4 150

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

	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m	2011–12 $m
Value						
Roundwood	117	105	101	138	198	175
Sawnwood						
Coniferous roughsawn	81	63	70	76	67	55
Coniferous dressed	18	11	9	7	5	3
Broadleaved roughsawn	35	38	38	33	35	24
Broadleaved dressed	11	8	8	9	8	6
Total	145	120	125	125	115	88
Railway sleepers	5	3	4	2	3	3
Miscellaneous forest products	63	56	51	59	65	59
Wood-based panels						
Veneers	6	19	36	44	52	51
Plywood	8	9	4	3	2	2
Particleboard	6	4	7	3	2	1
Hardboard **a**	3	0	1	1	2	2
Medium density fibreboard **b**	97	76	52	45	39	26
Softboard and other fibreboards	6	2	1	1	1	1
Total	126	109	101	97	98	83
Paper and paperboard						
Newsprint	0	3	2	6	13	15
Printing and writing	149	133	128	143	88	120
Household and sanitary	102	106	111	97	94	64
Packaging and industrial	400	395	364	404	552	518
Total	650	635	606	649	747	717
Paper manufactures	112	103	106	102	112	134
Recovered paper	175	252	235	228	240	240
Pulp	12	15	18	13	11	1
Woodchips	950	1 072	997	856	884	729
Total	2 355	2 471	2 343	2 270	2 474	2 229

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	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
Quantity							
Roundwood	'000 m^3	5.0	0.7	1.4	0.9	0.6	1.1
Sawnwood a							
Coniferous roughsawn	'000 m^3	289.2	340.2	255.6	292.6	290.1	234.1
Coniferous dressed	'000 m^3	193.9	321.2	278.8	367.3	468.2	475.0
Broadleaved roughsawn	'000 m^3	67.4	61.5	52.2	44.1	43.8	46.6
Broadleaved dressed	'000 m^3	60.1	60.9	41.7	44.1	44.2	35.5
Total	'000 m^3	610.7	783.9	628.4	748.1	846.3	791.1
Wood-based panels							
Veneers	'000 m^3	29.0	31.5	21.4	15.4	17.4	15.4
Plywood	'000 m^3	244.0	236.6	199.1	227.7	277.6	296.6
Particleboard	'000 m^3	77.5	99.6	68.7	64.2	71.6	69.3
Hardboard	'000 m^3	38.4	32.1	23.5	33.0	48.5	68.9
Medium density fibreboard	'000 m^3	26.5	68.8	88.3	69.9	58.0	96.4
Softboard and other fibreboards	'000 m^3	14.2	14.3	10.6	6.2	6.5	7.1
Total	'000 m^3	429.5	482.8	411.7	416.4	479.6	553.6
Paper and paperboard							
Newsprint	kt	262.5	227.6	197.6	190.6	221.5	121.1
Printing and writing	kt	1 173.5	1 235.3	1 122.1	1 167.4	1 237.0	1 173.9
Household and sanitary	kt	101.8	81.1	82.0	101.1	113.8	117.7
Packaging and industrial	kt	258.4	303.1	254.0	285.3	313.8	333.1
Total	kt	1 796.3	1 847.1	1 655.7	1 744.4	1 886.1	1 745.8
Recovered paper	kt	9.6	10.2	3.0	3.4	2.0	2.7
Pulp	kt	359.0	388.7	344.7	265.0	233.2	256.1
Woodchips	kt	0.8	0.7	0.7	0.7	1.2	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

	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
	$m	$m	$m	$m	$m	$m
Value						
Roundwood	1	1	1	0	1	1
Sawnwood						
Coniferous roughsawn	148	186	134	140	135	103
Coniferous dressed	143	191	168	200	248	249
Broadleaved roughsawn	67	59	51	41	41	45
Broadleaved dressed	60	56	53	48	49	50
Total	418	492	405	429	473	448
Miscellaneous forest products	567	583	651	603	682	741
Wood-based panels						
Veneers	32	33	28	22	21	21
Plywood	168	153	145	138	170	183
Particleboard	26	34	27	20	21	26
Hardboard	30	28	26	30	40	54
Medium density fibreboard	14	33	41	37	34	36
Softboard and other fibreboards	7	3	4	3	3	3
Total	276	284	271	250	289	323
Paper and paperboard						
Newsprint	224	185	173	158	176	91
Printing and writing	1 453	1 456	1 468	1 355	1 347	1 217
Household and sanitary	177	137	154	164	185	187
Packaging and industrial	416	470	481	499	515	543
Total	2 270	2 248	2 276	2 175	2 223	2 037
Paper manufactures a	470	513	590	563	557	486
Recovered paper	2	2	1	1	0	1
Pulp	265	285	263	178	180	164
Woodchips	1	2	2	1	2	2
Total	4 271	4 412	4 459	4 200	4 407	4 202

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

| | 2006–07 | 2007–08 | 2008–09 | 2009–10 | 2010–11 | 2011–12 |
	kt	kt	kt	kt	kt	kt
Edible a						
Fish						
Live	na	na	na	na	na	na
Tuna	12	13	12	10	8	9
Salmonids	2	3	7	4	6	6
Other fish	9	7	8	7	8	6
Total fish **b**	23	22	26	21	22	21
Crustaceans and molluscs						
Rock lobster	10	9	10	8	7	7
Prawns	6	5	5	5	6	5
Abalone	4	4	3	4	3	3
Scallops	1	1	1	1	1	0
Oysters	0	0	0	0	0	0
Crabs	1	1	1	1	1	1
Other	1	1	1	1	1	1
Total	25	22	21	19	20	20
Total edible b	48	44	47	40	42	41

a Includes prepared and preserved. **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

	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m	2011–12 $m
Edible a						
Fish						
Live	41	43	46	40	33	32
Tuna	162	206	177	118	131	163
Salmonids	14	22	47	30	54	42
Other fish	63	53	63	69	68	53
Total fish b	280	324	333	258	287	289
Crustaceans and molluscs						
Rock lobster	463	401	462	400	369	387
Prawns	94	69	82	61	77	67
Abalone	246	217	208	216	212	197
Scallops	35	28	33	30	15	15
Oysters	2	2	3	3	4	6
Crabs	17	16	16	14	13	11
Other	19	8	6	5	12	28
Total	878	741	811	729	704	711
Total edible b	1 158	1 065	1 145	988	991	1 002
Non-edible						
Pearls c	314	264	366	244	241	207
Other non-edible	22	12	18	15	17	19
Total non-edible	336	276	384	259	258	226
Total fisheries products b	1 494	1 342	1 529	1 247	1 249	1 228

a Includes prepared and preserved. 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

	2006–07 kt	2007–08 kt	2008–09 kt	2009–10 kt	2010–11 kt	2011–12 kt
Edible a						
Fish						
Live fish	na	na	na	na	na	na
Tuna	35	39	38	40	46	41
Salmonids	13	10	11	10	10	10
Other fish	86	88	84	91	92	93
Total **b**	133	137	133	140	147	144
Crustaceans and molluscs						
Prawns	34	30	27	34	33	38
Lobster	1	1	0	1	1	1
Scallops	3	2	2	3	3	3
Oysters	1	1	1	1	1	1
Mussels	2	2	3	2	3	3
Other	25	25	27	26	25	25
Total	65	61	60	67	65	70
Total edible a	199	198	193	208	212	214

a Includes prepared and preserved. **b** Excludes live tonnage. **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

	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12
	$m	$m	$m	$m	$m	$m
Edible a						
Fish						
Live fish	0	0	0	0	0	0
Tuna	142	174	223	169	201	205
Salmonids	102	79	100	86	84	92
Other fish	454	458	498	494	482	492
Total **b**	698	711	821	749	768	789
Crustaceans and molluscs						
Prawns	308	250	271	299	291	351
Lobster	13	14	9	11	14	15
Scallops	30	28	30	34	34	44
Oysters	7	7	9	9	6	9
Mussels	9	9	12	9	10	12
Other	116	109	127	133	148	155
Total	483	417	458	494	504	585
Total edible a	1 181	1 129	1 279	1 244	1 271	1 374
Non-edible						
Pearls **c**	182	166	321	171	167	138
Other non edible	101	99	107	98	91	95
Total non-edible	283	266	427	269	258	233
Total fisheries products a	1 467	1 398	1 710	1 515	1 531	1 608

a Includes prepared and preserved. **b** Includes live value. **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 a

	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m	2011–12 $m
Farm						
Grains and oilseeds						
Winter crops						
barley **b**	218	234	335	284	260	366
canola	86	70	65	109	41	47
lupins	7	4	9	9	9	5
wheat **c**	276	355	291	299	408	395
Summer crops						
cottonseed	25	8	16	31	24	31
grain sorghum	1	25	319	70	105	219
other grains **d**	3	2	3	3	3	10
other oilseeds **e**	1	6	4	1	1	1
Total grains and oilseeds	618	703	1 043	805	852	1 073
Industrial crops						
Raw cotton **g**	59	47	39	31	48	63
Sugar	238	129	192	190	194	221
Wine	49	49	54	43	44	45
Total industrial crops	346	225	285	264	286	329
Horticulture						
Fruit	82	81	70	61	70	59
Tree nuts	19	13	15	17	16	20
Vegetables	52	42	49	34	47	43
Nursery	7	5	6	4	4	3
Other horticulture **h**	3	4	4	5	7	6
Total horticulture	162	146	144	121	143	131
Other crops and crop products	42	44	61	47	54	47
Total crops	1 168	1 118	1 533	1 237	1 335	1 580
Meat and live animals						
Beef and veal	2 078	1 794	2 066	1 682	1 667	1 549
Live cattle **i**	18	18	14	15	16	20
Lamb	63	53	67	52	60	63
Mutton	31	28	39	24	26	24
Other meat and live animals **j**	10	5	6	2	2	1
Total meat and live animals	2 200	1 899	2 192	1 776	1 771	1 657
Wool						
Greasy	6	0	2	4	9	12
Semi-processed	33	17	12	12	23	26
Skins	3	5	3	1	1	2
Total	42	22	17	17	33	39
Dairy products						
Butter	8	17	11	2	6	9
Cheese	338	427	399	358	356	423
Casein	32	38	44	26	22	21
Skim milk powder	11	10	22	3	2	2
Whole milk powder	1	0	0	0	0	1
Other dairy products	63	53	46	44	37	44
Total dairy product exports	453	545	521	433	423	500
Other livestock exports	481	394	438	323	339	303
Total livestock exports	3 176	2 859	3 168	2 549	2 566	2 499
Total agricultural exports	4 344	3 977	4 701	3 786	3 901	4 079

a ABARES has revised the calculation method for the value of farm exports series back to 1988–89. **b** Includes the grain equivalent of malt. **c** Includes the grain equivalent of wheat flour. **d** Includes grains not separately listed. **e** Includes oilseeds not separately listed. **g** Excludes cotton waste and linters. **h** Other horticulture includes mainly coffee, tea, spices, essential oils and other miscellaneous horticultural products. **i** Excludes breeding stock. **j** Includes other meat and live animals not listed separately.
Sources: ABARES; Australian Bureau of Statistics, *International Trade, Australia,* cat. no. 5465.0, Canberra; Department of Agriculture, Fisheries and Forestry, *Export Statistics,* Canberra

TABLE 27 Agricultural exports to the United States (fob) Australia **a**

	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m	2011–12 $m
Farm						
Grains and oilseeds						
Winter crops						
barley **b**	1	0	0	0	0	0
chickpeas	0	1	2	1	2	2
Summer crops						
cottonseed	0	0	0	10	0	20
other grains **c**	1	1	1	1	0	0
other oilseeds **d**	0	0	0	0	0	0
Total grains and oilseeds	3	2	3	12	3	22
Industrial crops						
Raw cotton **e**						
Sugar	97	47	78	68	92	86
Wine	956	745	741	608	478	452
Total industrial crops	1 053	793	820	676	569	539
Horticulture						
Fruit	73	65	60	67	33	33
Tree nuts	15	15	20	22	12	15
Vegetables	7	7	10	8	7	8
Nursery	5	4	4	3	2	2
Other horticulture **g**	18	19	18	14	16	15
Total horticulture	118	110	111	114	70	72
Other crops and crop products	63	93	174	167	168	142
Total crops	1 237	998	1 107	968	811	775
Meat and live animals						
Beef and veal	1 221	925	1 225	817	704	896
Lamb	308	313	354	303	335	305
Mutton	47	45	35	32	38	21
Other meat and live animals **h**	0	0	0	0	0	0
Total meat and live animals	1 576	1 283	1 615	1 152	1 077	1 222
Wool						
Greasy	16	9	7	9	11	8
Semi-processed	1	2	1	3	3	3
Skins	1	0	0	0	0	0
Total	19	11	8	12	14	11
Dairy products						
Butter	13	10	19	10	3	7
Cheese	53	37	60	20	12	3
Casein	32	42	29	23	13	7
Skim milk powder	5	7	0	0	0	0
Whole milk powder	13	9	8	9	4	4
Other dairy products	7	10	10	13	17	15
Total dairy product exports	123	115	126	74	50	35
Other livestock exports	108	105	125	116	125	115
Total livestock exports	1 825	1 514	1 874	1 354	1 266	1 383
Total agricultural exports	3 062	2 512	2 982	2 322	2 077	2 158

a ABARES has revised the calculation method for the value of farm exports series back to 1988–89. **b** Includes the grain equivalent of malt. **c** Includes grains not separately listed. **d** Includes oilseeds not separately listed. **e** Excludes cotton waste and linters. **g** Other horticulture includes mainly coffee, tea, spices, essential oils and other miscellaneous horticultural products. **h** Includes meat and live animals not listed separately.
Sources: ABARES; Australian Bureau of Statistics, *International Trade, Australia,* cat. no. 5465.0, Canberra; Department of Agriculture, Fisheries and Forestry, *Export Statistics,* Canberra

TABLE 28 Agricultural exports to China (fob) Australia a

	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m	2011–12 $m
Farm						
Grains and oilseeds						
Winter crops						
barley **b**	220	295	235	280	311	467
canola	1	0	21	0	0	0
wheat **c**	45	1	71	189	144	457
Summer crops						
grain sorghum	0	0	0	14	14	4
other grains **d**	0	0	1	1	0	1
other oilseeds **e**	1	1	2	1	45	116
Total grains and oilseeds	267	296	330	485	514	1 045
Industrial crops						
Raw cotton **g**	281	164	165	274	551	1 812
Sugar	29	15	3	4	31	7
Wine	49	62	94	140	181	209
Total industrial crops	358	241	262	418	763	2 028
Horticulture						
Fruit	4	8	6	6	8	10
Tree nuts	13	12	14	8	6	11
Vegetables	5	2	1	6	4	6
Nursery	0	0	0	0	1	1
Other horticulture **h**	2	2	3	4	3	4
Total horticulture	24	24	23	25	23	32
Other crops and crop products	16	25	7	7	8	22
Total crops	665	586	621	934	1 308	3 127
Meat and live animals						
Beef and veal	8	10	20	17	28	40
Live cattle **i**	8	0	0	5	4	0
Lamb	21	37	34	34	63	73
Mutton	4	5	9	13	12	14
Other meat and live animals **j**	0	0	0	0	0	0
Total meat and live animals	42	52	64	69	107	127
Wool						
Greasy	1689	1455	1328	1460	1864	1925
Semi-processed	49	28	55	62	21	24
Skins	293	265	271	257	351	369
Total	2 031	1 748	1 654	1 779	2 235	2 319
Dairy products						
Butter	3	4	3	5	4	7
Cheese	12	18	14	23	30	37
Casein	3	4	5	7	1	1
Skim milk powder	23	34	39	22	37	50
Whole milk powder	2	21	48	38	52	11
Other dairy products	37	58	54	45	35	58
Total dairy product exports	81	139	164	139	159	164
Other livestock exports	292	480	520	603	660	747
Total livestock exports	2 445	2 420	2 401	2 591	3 161	3 357
Total agricultural exports	3 110	3 006	3 023	3 525	4 469	6 484

a ABARES has revised the calculation method for the value of farm exports series back to 1988–89. **b** Includes the grain equivalent of malt. **c** Includes the grain equivalent of wheat flour. **d** Includes grains not separately listed. **e** Includes oilseeds not separately listed. **g** Excludes cotton waste and linters. **h** Other horticulture includes mainly coffee, tea, spices, essential oils and other miscellaneous horticultural products. **i** Excludes breeding stock. **j** Includes meat and other live animals not listed separately.
Sources: ABARES; Australian Bureau of Statistics, *International Trade, Australia,* cat. no. 5465.0, Canberra; Department of Agriculture, Fisheries and Forestry, *Export Statistics*, Canberra

TABLE 29 Value of Australian forest products trade, by selected countries

	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m	2011–12 $m
Exports						
China	270	360	390	394	544	534
Taiwan	83	88	77	88	79	68
Hong Kong	72	54	51	68	42	39
Japan	888	965	860	774	745	579
Malaysia	48	57	78	82	106	112
New Zealand	365	375	324	319	314	306
Korea, Rep. of	116	91	103	48	40	40
Imports						
China	509	547	611	624	676	797
Finland	248	272	274	171	143	120
Germany	190	178	167	178	182	147
Indonesia	404	336	374	351	331	342
Malaysia	199	209	215	217	228	233
New Zealand	741	790	744	703	715	634
United States	276	289	320	313	285	297

Source: Australian Bureau of Statistics

TABLE 30 Value of Australian fisheries products trade, by selected countries Australia

	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m	2011–12 $m
Exports						
Edible (excluding live)						
China	59	26	30	43	143	58
Taiwan	50	45	54	33	30	18
Hong Kong	447	426	525	491	394	449
Japan	306	328	302	215	226	255
Malaysia	5	8	13	9	13	8
New Zealand	10	13	9	17	10	11
Singapore	41	40	44	38	41	43
Thailand	8	8	7	9	16	18
United States	115	72	64	49	35	23
Non-edible						
Hong Kong	156	128	201	138	145	97
Japan	69	53	64	50	43	44
New Zealand	9	2	2	3	3	2
United States	34	24	22	15	8	22
Imports a						
Edible (excluding live)						
Canada	22	16	13	13	15	14
China	156	133	152	173	186	231
Taiwan	27	32	33	37	39	39
Denmark	26	19	24	24	19	25
Indonesia	28	23	31	39	28	36
Japan	9	15	17	16	14	18
Malaysia	39	55	65	63	71	73
New Zealand	192	199	209	213	211	198
Norway	20	21	20	27	25	27
South Africa	33	24	23	30	28	31
Thailand	279	295	368	322	340	363
United States	40	29	50	37	40	45
Vietnam	155	142	167	153	162	175

a Country details for non-edible imports are not available.
Source: Australian Bureau of Statistics

TABLE 31 Food exports by level of transformation Australia

	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m	2011–12 $m
Minimally transformed						
Live animals except fish	752	761	924	924	924	787
Fish or shellfish	631	646	747	650	667	722
Horticulture						
Vegetables	147	137	152	150	166	152
Fruit and nuts	451	433	563	472	368	450
Total	598	571	716	622	534	602
Grains a	3 329	4 221	6 383	4 632	6 765	8 776
Oilseeds	167	346	644	657	973	1 555
Food nec	54	41	49	43	50	52
Substantially and elaborately transformed						
Meat						
Meat processing	7 048	6 506	7 411	6 313	6 887	7 069
Poultry processing	26	32	43	36	38	45
Bacon, ham and smallgoods	43	33	47	54	57	87
Total	7 117	6 571	7 501	6 403	6 983	7 202
Seafood	548	440	417	357	350	281
Dairy						
Milk and cream processing	1 089	1 258	1 354	880	1 107	1 065
Ice cream	42	37	31	31	33	27
Cheese	824	968	796	715	731	751
Other dairy products	482	499	497	440	451	422
Total	2 438	2 763	2 679	2 066	2 322	2 265
Fruit and vegetables	574	568	575	523	571	625
Oil and fat	169	239	303	289	293	317
Flour mill and cereal food						
Flour mill products	269	315	419	365	344	313
Cereal food and baking mix	372	287	390	445	614	880
Total	642	602	809	811	958	1 193
Bakery products						
Bread, cake and pastry	27	26	25	26	22	22
Biscuit	111	118	127	135	134	129
Total	137	144	152	161	155	150
Other food						
Sugar a	1 551	1 035	1 374	1 924	1 479	1 761
Confectionery	215	237	269	260	252	240
Food nec	1 142	1 094	1 422	1 424	1 360	1 629
Total	2 907	2 366	3 065	3 607	3 091	3 630
Beverage and malt						
Soft drink, cordial and syrup	39	38	45	55	61	63
Beer and malt	273	335	447	406	318	372
Wine	2 894	2 700	2 493	2 188	2 009	1 910
Spirit	89	86	105	101	97	103
Total	3 294	3 159	3 091	2 750	2 485	2 447
Total food and beverage						
Minimally transformed	5 532	6 585	9 462	7 528	9 913	12 493
Substantially transformed	17 530	16 528	18 243	16 606	16 863	17 776
Elaborately transformed	297	324	350	362	346	335
Total	23 359	23 438	28 056	24 495	27 122	30 604

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

	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m	2011–12 $m
Minimally transformed						
Live animals except fish	1	1	2	1	2	1
Fish or shellfish	57	65	67	72	73	67
Horticulture						
Vegetables	45	53	49	58	76	64
Fruit and nuts	189	216	225	262	245	290
Total	234	269	274	320	322	354
Grains	2	2	2	3	4	6
Oilseeds	78	49	49	36	36	41
Food nec	175	188	224	228	304	348
Substantially and elaborately transformed						
Meat						
Meat processing	446	381	525	497	478	493
Poultry processing	0	0	0	0	0	0
Bacon, ham and smallgoods	42	50	68	82	90	112
Total	489	431	593	579	567	606
Seafood	1 151	1 095	1 249	1 201	1 231	1 348
Dairy						
Milk and cream processing	40	67	69	66	72	75
Ice cream	40	37	39	40	44	45
Cheese	302	377	365	360	398	408
Other dairy products	98	176	157	150	180	227
Total	480	656	631	615	694	755
Fruit and vegetables	1 229	1 386	1 556	1 361	1 478	1 742
Oil and fat	481	489	578	485	517	516
Flour mill and cereal food						
Flour mill products	34	66	83	66	48	53
Cereal food and baking mix	325	462	576	577	523	504
Total	358	527	659	643	572	557
Bakery products						
Bread, cake and pastry	163	175	197	191	222	242
Biscuit	147	162	179	178	191	206
Total	310	337	376	369	413	448
Other food						
Sugar	20	22	44	71	125	95
Confectionery	371	438	518	525	547	576
Food **nec**	1 136	1 221	1 430	1 396	1 460	1 583
Total	1 527	1 681	1 992	1 992	2 131	2 255
Beverage and malt						
Soft drink, cordial and syrup	656	697	791	798	818	898
Beer and malt	126	161	226	212	196	219
Wine	334	454	502	477	490	554
Spirit	465	491	530	538	544	571
Total	1 582	1 802	2 050	2 026	2 048	2 243
Total food and beverage						
Minimally transformed	546	573	618	660	741	818
Substantially transformed	7 269	8 008	9 254	8 836	9 205	9 990
Elaborately transformed	338	396	429	434	445	481
Total	8 154	8 978	10 301	9 930	10 391	11 288

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

	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m	2011–12 $m
Canada	423	402	380	335	332	328
China	664	917	1 178	1 426	1 540	2 056
Taiwan	595	574	671	613	627	653
Egypt	151	174	315	266	402	383
Germany	123	162	153	109	263	262
Hong Kong	827	857	1 082	997	886	1 018
Indonesia	1 566	1 702	2 652	2 129	2 288	2 410
Japan	4 752	4 553	5 517	4 278	4 207	4 400
Korea, Rep. of	1 850	1 655	1 873	1 925	1 994	2 351
Malaysia	801	799	1 231	853	849	863
New Zealand	1 203	1 303	1 406	1 323	1 281	1 372
Philippines	240	308	563	318	502	685
Saudi Arabia	568	1 144	1 020	566	499	769
Singapore	650	712	792	722	739	800
Thailand	305	393	626	424	539	744
United Arab Emirates	284	445	567	528	581	583
United Kingdom	1 209	1 136	1 005	784	685	608
United States	3 058	2 552	3 054	2 379	2 165	2 236
Other	4 091	3 651	3 970	4 522	6 745	8 082
Total	23 359	23 438	28 056	24 495	27 122	30 604

Sources: ABARES; Australian Bureau of Statistics

TABLE 34 Total food imports, by selected source country Australia

	2006–07 $m	2007–08 $m	2008–09 $m	2009–10 $m	2010–11 $m	2011–12 $m
Brazil	120	129	150	110	148	176
Canada	252	220	268	234	219	210
China a	536	617	754	708	750	841
France	223	278	281	281	297	332
India	141	156	175	164	167	222
Indonesia	135	158	202	189	191	190
Ireland	510	536	559	585	252	89
Italy	422	436	494	463	430	469
Malaysia	273	354	459	392	455	456
Netherlands	166	182	220	197	200	275
New Zealand	1 414	1 671	1 684	1 801	1 895	2 047
Papua New Guinea	38	36	45	44	57	59
Singapore	123	155	205	194	539	792
Spain	192	173	153	186	171	158
Thailand	473	547	702	689	759	741
United Kingdom	292	295	314	331	324	347
United States	714	803	994	893	959	1 139
Vietnam	278	250	297	280	303	344
Other	1 853	1 981	2 346	2 191	2 275	2 401
Total	8 154	8 978	10 301	9 930	10 391	11 288

a Excludes imports from Hong Kong.
Sources: ABARES; Australian Bureau of Statistics

Report extracts

ABARES reports released since *Agricultural commodities* (vol. 2 no. 3 September quarter 2012)

Following is a selection of ABARES reports released since publication of *Agricultural commodities* in September 2012. 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 daff.gov.au/abares/publications.

ABARES' profile and work plan can be downloaded from daff.gov.au/abares/workplan.

For more information contact info.abares@daff.gov.au

Research reports

Native vegetation management on agricultural land

Research report 12.10

Authors: Keely Harris-Adams, Phil Townsend and Kenton Lawson
Publication date: 16 November 2012

This report examines the way native vegetation is managed on agricultural land, and particularly the role of regulation and government programs. The report, based on a national survey of 985 farmers, examines farmer attitudes to and involvement in native vegetation management and is supported by case studies.

It finds that most farmers are managing native vegetation for both environmental and production benefits and many intend to do more. However, farmers need greater clarity and certainty about government native vegetation management programs and regulations. This is particularly important given the long-term implications of native vegetation decision-making. Markets for environmental services will also be important in improving both production and conservation outcomes from agricultural land.

The report was funded through Caring for our Country.

Australian vegetable growing farms: an economic survey, 2010–11 and 2011–12

Research report 12.11

Authors: Therese Thompson and Kyann Zhang
Publication date: 4 December 2012

This report contains results from the most recent survey of Australian vegetable growers ABARES conducted between February and August 2012 on behalf of Horticulture Australia Limited. Comprehensive data on the physical, financial and socioeconomic characteristics of vegetable growing farms in 2010–11 and some provisional projection data for 2011–12 were collected as part of the survey. The potential short-run effects of carbon pricing on Australian vegetable growers are also examined.

Technical reports

Using remote sensing data and crop modelling to improve production forecasting: A scoping study

Technical report 12.3

Authors: Sonja Nikolova, Sarah Bruce, Lucy Randall, Guy Barrett, Kim Ritman and Margaret Nicholson
Publication date: 20 September 2012

The Integrated Crop Forecasting (ICF) report synthesises the outcomes and recommendations of the international workshop held on 13–14 February 2012 in Canberra. The aim of the workshop was to investigate the potential for developing a national mid to long-term crop forecasting system that could integrate satellite biophysical information, economic information and crop yield models. Such a system could improve crop condition monitoring and increase the accuracy of crop forecasting.

Understanding the drivers of profitability in Commonwealth fisheries

Technical report 12.4

Authors: Maggie Skirtun and Simon Vieira
Publication date: 13 November 2012

Over the past decade, a number of policies have aimed to improve stock sustainability and profitability in Commonwealth fisheries. This paper examines trends in the main drivers of profitability in four Commonwealth fisheries. The approach used distinguishes between those drivers of profitability that fisheries managers can influence (fish stocks and productivity) and those they are unable to influence (output and input prices). The results reveal a strong link between productivity improvements and the Securing Our Fishing Future buyback for most fisheries analysed.

Farm animal genetic resources: second national report—Australia

Technical report 12.5

Authors: Katherina Ng, Peter Stoutjesdijk and José ten Have
Publication date: 27 November 2012

This is Australia's second contribution to the United Nation Food and Agriculture Organization's (FAO's) ongoing assessment and monitoring of global animal genetic resources for food and agriculture.

In 2007, Australia, along with 108 delegations from other countries, adopted the Global Plan of Action (GPA) for Animal Genetic Resources and committed to the Interlaken Declaration on Animal Genetic Resources. The prominent theme in both the GPA and Interlaken Declaration is the need to conserve animal genetic resources. Strategic Priority 1 (SP1) of the GPA is to inventory and characterise animal genetic resources, monitor trends in population numbers, identify risks associated with managing the genetic resources, and establish country based early warning and response systems. This report demonstrates Australia's achievements under SP1.

The information in the report has been entered into the FAO's Domestic Animal Diversity Information System in accordance with an SP1 objective of strengthening global and regional information systems.

Other reports

Commodity outlook and financial performance of key agricultural industries in Tasmania

Conference paper 12.13

Authors: Peter Martin, Surya Dharma, Maggie Skirtun, Mihir Gupta, Kristen Corrie and ABARES commodity analysts
Publication date: 26 September 2012

This paper presents an overview of the agriculture, fisheries and forestry sectors, the recent financial performance of the broadacre and dairy industries in Tasmania and discussion of the outlook for some key commodities. This paper was prepared for the ABARES Regional Outlook conference held in Burnie on 26 September 2012.

Final Commonwealth marine reserves network proposal: ABARES social and economic assessment

Science and Economic Insights Issue 2012.1

Authors: James Larcombe and Nicholas Marton
Publication date: 26 September 2012

The paper summarises the key findings of an assessment of the potential impact of proposed Commonwealth marine reserves networks on commercial and charter fishing. The Department of Sustainability, Environment, Water, Population and Communities commissioned the work.

Commodity outlook and financial performance of key agricultural industries in the Darling Downs region of Queensland

Conference paper 12.14

Authors: Peter Martin, Haydn Valle and ABARES commodity analysts
Publication date: 25 October 2012

This paper presents an overview of the agriculture, fisheries and forestry sectors and the recent financial performance of the broadacre and dairy industries in the Darling Downs region of Queensland. It also discusses the outlook for some key agricultural commodities. This paper was prepared for the ABARES Regional Outlook conference held in Toowoomba on 25 October 2012.
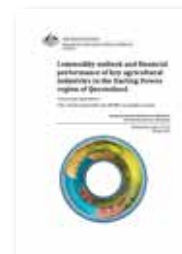
Australian grains: Grains outlook for 2012–13 and industry productivity

Authors: Beth Deards, James Fell, David Mobsby and Alistair Davidson
Publication date: 16 November 2012

This report provides a summary of the September editions of the *Australian Crop Report* and the grains section of *Agricultural commodities*. It includes an update on the productivity of the Australian grains industry.

Australian forest and wood products: March and June quarters 2012

Publication date: 22 November 2012

This issue of the *Australian forest and wood products statistics* (AFWPS) contains updated wood-based panel production and financial information (such as price indexes, wages, and sales and service income) and industry value added and trade data for the March and June 2012 quarters. It also includes 2011–12 data on forest employment, as well as industry socioeconomic indicators based on the Australian Bureau of Statistics (ABS) 2006 Census data. ABARES also updated historical data in response to revisions from information sources (such as the ABS) and made improvements to the current methodology.

Australian crop report: December No. 164 2012

Publication date: 4 December 2012

This quarterly report contains 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.

Status of key Australian fish stocks reports 2012

Publication date: 11 December 2012

The *Status of key Australian fish stocks reports 2012* provide the first national assessments of the status of key wild-catch fish stocks. The reports provide scientifically based stock status assessments for 49 key fish species (or species complexes), which contribute more than 80 per cent of the value and 70 per cent of the catch volume from Australian fisheries.

The Fisheries Research and Development Corporation developed a dedicated website to host the reports. Hard copies are scheduled for release in January 2013.

This first edition of the reports focuses on the status of targeted fish stocks. The status classifications do not consider broader ecosystem effects of fishing, such as bycatch or habitat impacts or social and economic considerations. These elements may be included in future editions or companion reports.

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Individual biospheres are used to visually describe the diverse nature
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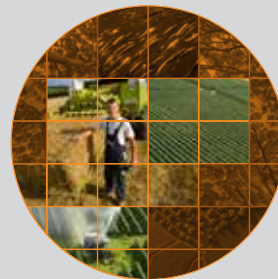
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