



The 2008 US Farm Bill

What is in it and what will it change?

Ivan Roberts, Chloe Haseltine and Neil Andrews

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Foreword

In May 2008, the United States' Government enacted a new Farm Bill setting down US agricultural policies up to and including 2012. The new Bill retains most traditional agricultural support measures but it also introduces extra support options for the major field crops. Additionally, the Bill makes considerable changes to support arrangements for dairy and sugar, and to disaster relief arrangements. While the Bill is important for US farmers, it is also important for farmers around the world, including Australia, as US policies markedly affect world agricultural trade and prices.

In this report, important aspects of the new Bill are examined and their effects are assessed.

A handwritten signature in black ink, appearing to read 'P Glyde', with a stylized, cursive script.

Phillip Glyde
Executive Director
December 2008

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Executive summary

- The United States is the world's largest exporter of agricultural products and changes in US agricultural policies can have profound effects on world markets, which in turn affect Australian farmers.
- Every five or six years, the United States Government enacts a new Farm Bill setting down comprehensive legislation on farm policies. The latest Farm Bill is titled the *Food, Conservation and Energy Act of 2008* and was passed in May 2008. It covers the period from 2008 to 2012. The new Bill has made several changes and additions to the forms and levels of support to US farmers.
- The 2008 Bill was framed in an economic environment of two consecutive years of record high farm incomes and very high market prices, by historical standards. This was especially the case for grains, oilseeds and dairy.
- The new Bill adds to existing layers of US farm support by:
 - increasing the range of crops receiving substantial support;
 - providing farmers with an option to receive revenue assurance payments (the Average Crop Revenue Election program) linked to variations in prices and yields;
 - formalising disaster assistance previously provided on an ad hoc basis;
 - providing greater potential support for dairy farmers when prices for milk drop below specified levels or when prices for feed rise above specified levels; and
 - reinforcing already highly protective arrangements for sugar.
- The new revenue assurance option increases the likely extent of future support for grains and oilseeds. This makes support to US farmers less transparent and less amenable to analysis than previously.
- The US President George W Bush vetoed the Bill largely because of the cost at a time when farmers were doing so well and because of concerns it could undermine US efforts to open foreign markets. However the US Congress overrode the veto.
- The buoyant income and market price expectations existing when the 2008 Farm Bill was framed are being followed by some retreat in market prices from the historically high levels which applied in 2007 and 2008. This appears to have occurred because of both supply responses and uncertainties arising from the financial crisis.
- Nevertheless it appears that market prices for most major crops, with the notable exception of cotton, will remain above the support prices in the new Bill over its life. Consequently support levels for the major grains and oilseeds through traditional price-related payments seem likely to be smaller than in the current decade so far.

- While support through traditional farm payments is expected to be lower than in the past, the addition of the Average Crop Revenue Election program, which links payments to variability in revenue, opens up possibilities for high support levels when prices and/or yields drop, even when prices are still relatively high.
- Expectations of an extended period of high prices and returns for the supported items could have provided an opportunity for US legislators to reduce many of the complex, costly and market distorting government measures of the past without significant adjustment costs to farmers and rural communities. Yet the legislation will provide greater opportunities for support even when market prices are higher than previously.
- The new Farm Bill will provide additional avenues and more scope for support and protection to US farmers.

Introduction

The United States is an extremely large producer and consumer of agricultural products and the world's largest single country exporter. It is also a country where there is substantial government policy intervention in parts of agriculture.

As in many countries, the agricultural policies pursued in the United States are largely designed to achieve domestic objectives. In particular, they are designed to provide support and security for incomes of domestic producers. While such objectives may be mainly internal, they can have marked external effects. This is because both US production and consumption of agricultural products are large, and changes in the balance between these variables, including those arising from government policies, can markedly affect world export supplies, import demand and world market prices.

Every five to six years, the US Government enacts a new Farm Bill which includes comprehensive legislation, setting down directives on levels of policy settings and compulsory or discretionary measures. That legislation covers a range of 'titles' or activities. The latest is the *Food, Conservation and Energy Act of 2008*, which incorporates 15 titles including commodities, conservation, trade, nutrition, credit, rural development, research, forestry, energy, horticulture and organic agriculture, livestock, crop insurance, commodity futures, miscellaneous, and trade and taxes (ERS 2008a). The Bill was enacted in mid-2008 and sets down the policies and settings to apply for the five years from 2008 to 2012.

The passage of the 2008 Farm Bill was atypical because it was vetoed by President George W Bush. The main concerns expressed by the President in announcing his intention to veto were that the costs arising from the Bill were excessive at a time when agricultural prices were high and farm incomes were at record levels. He also indicated that the Bill, by increasing trade distorting subsidies, would undermine their ability to open foreign markets to American agricultural goods (The White House 2008). Despite the President's veto, the Bill passed into law because when it was returned to Congress, Congress overrode the veto.

While the Farm Bills have a central place in US agricultural legislation, major US policies can also be implemented through other legislation. Examples are four consecutive annual emergency support packages enacted from 1998 to 2001. Also, the agricultural sector can be markedly affected by legislation for other activities. An important example is the *Energy Independence and Security Act of 2007*, which mandates targets for use of

renewable fuels to 2022, including an increased target for ethanol which, in the United States, is currently produced predominantly from corn. As such it can markedly affect production and use of corn and production and use of other crops competing with corn for land, thereby affecting trade, internal prices and world prices for many agricultural products.

Selected important elements of the *Food, Conservation and Energy Act of 2008* are summarised and appraised in this report.

Background to US commodity support and major elements of the new Farm Bill

Government support to US agriculture is concentrated on dairy, sugar, and a group of field crops termed 'farm program crops'. Together, these commodities accounted for about 40 per cent of the value of US agricultural production in 2008. The remainder of US agriculture, primarily the major meat and horticultural industries, receives relatively little support.

Farm program crops

Support through traditional arrangements

Support to producers of the farm program crops has mainly taken the form of government payments to ensure minimum unit returns on production in addition to income support payments made on historic farm area and yield bases.

Traditionally the farm program crops comprised wheat, rice, the various feed grains and cotton. Oilseeds, predominantly soybeans, received limited farm program support until the late 1990s. However, the full range of farm program payments was extended to them in 2002. Some program payments were also extended to protein crops including small chickpeas, lentils and dry peas in 2002. Also, major changes to support arrangements for peanuts were made in the 2002 Farm Bill, aligning assistance arrangements to them with the traditional farm program crops.

In the 2008 Farm Bill, full program crop benefits were extended to some protein crops. Crops now receiving the full suite of farm program support payments include wheat, corn, grain sorghum, barley, oats, upland cotton, long-grain rice, medium grain rice, peanuts, soybeans, other oilseeds, dry peas, lentils, small chickpeas and large chickpeas.

Since the *New Deal* support arrangements of the 1930s, support arrangements for the farm program crops have been highly formalised. They now include a combination of support for actual production to

ensure unit returns at least as high as administratively set 'loan rates', and direct and countercyclical payments made on historically determined area and yield bases.

The somewhat confusingly termed 'loan rates' are actually administratively set prices for each program crop. The US Government provides loans to farmers growing farm program crops. Farmers then use the loans to finance their upcoming crops, with those crops used as collateral. If the market price for the crop is above the loan rate, the producer can repay the loan and keep the balance. If the market price falls below the loan rate, the government is obliged, at the farmer's option, to receive the crops tendered as collateral into public stocks as full repayment for the loan (termed a 'non recourse loan'). However, since the mid-1980s, the government has been reluctant to build up public stocks and introduced a range of payments to cover the gap when the market price falls below the loan rate. There are three types of payments: marketing loans, loan deficiency payments and certificate exchange gains, all fulfilling the same general function.

In addition to the loan rate-related payments made on actual production, farmers with program crop area and yield bases receive direct payments and countercyclical payments. Those bases have been determined from past plantings and yields. The direct payments are set at constant rates per bushel, pound or hundredweight and apply irrespective of market price levels. The countercyclical payments vary inversely with market prices when market prices are between an 'effective price' which is the loan rate plus the unit direct payment rate, and an administratively set target price.

Loan rate-related payments are paid on farmers' actual production of particular crops, while direct and countercyclical payments are made on the basis of each farmer's base crop area and yield, irrespective of what is actually produced on the base area. For example, a farmer with a cotton base receives direct and countercyclical payments for cotton even if he or she is producing another crop, such as soybeans, or nothing at all. The only instances when program crop farmers are precluded from receiving any program payments are if they are producing fruit, vegetables or wild rice on their program bases.

The 2008 Farm Bill largely retains the structures of support in the 2002 Farm Bill for farm program crops. Direct payment rates remain the same as in the 2002 Bill. Also, for most program crops, loan rates remain unchanged from previous levels. However, higher loan rates are set down for 2010 to 2012 for wheat (increase of 6.9 per cent), barley (increase of 5.4 per cent) and oats (increase of 4.5 per cent). The new Bill maintains target prices at previous levels for 2008 and 2009 except for a reduction for upland cotton (1.6 per cent). It also maintains existing target prices for corn and rice from 2010 to 2012. However, it increases target prices

for wheat (6.4 per cent), barley (17.4 per cent), oats (24.3 per cent), grain sorghum (2.3 per cent) and soybeans (3.4 per cent) from 2010 to 2012. Target prices, loan rates and direct payment rates in the 2008 Farm Bill are compared with those in the 2002 Bill in table 1.

Another change in the 2008 Farm Bill is the introduction of target prices and countercyclical payments for some pulse crops, namely dry peas, lentils, small chickpeas and large chickpeas. Dry peas, lentils and small chickpeas were eligible for support through loan rates and the associated payments in the 2002 Farm Bill, but did not receive support through the target price arrangements. There is no provision for direct payments for these pulse crops in the 2008 Bill.

In the new Bill, a small modification is made to the areas on which direct payments are provided. In the 2002 Bill, both direct and countercyclical payments were provided for 85 per cent of the farmer's base area. The new Bill provides for countercyclical payments to continue to be provided for 85 per cent of the base area. However, direct payments will be provided for 85 per cent of base area only for the 2008 and 2012 crop years. For the intervening years (2009 to 2011), payment areas for direct payments will be reduced to 83.3 per cent of the base area.

1 Policy settings for major farm program crops under the 2002 *Farm Security and Rural Investment Act* and the 2008 *Food, Conservation and Energy Act*

	wheat US\$/bus	corn US\$/bus	barley US\$/bus	sorghum US\$/bus	oats US\$/bus	cotton US\$/lb	soybeans US\$/bus	rice US\$/cwt
Loan Rate								
2002 Farm Bill								
2002-2003	2.80	1.98	1.88	1.98	1.35	0.52	5.00	6.50
2004-2007	2.75	1.95	1.85	1.95	1.33	0.52	5.00	6.50
2008 Farm Bill								
2008-2009	2.75	1.95	1.85	1.95	1.33	0.52	5.00	6.50
2010-2012	2.94	1.95	1.95	1.95	1.39	0.52	5.00	6.50
Direct payment								
2002 Farm Bill								
2002-2007	0.52	0.28	0.24	0.35	0.024	0.067	0.44	2.35
2008 Farm Bill								
2008-2012	0.52	0.28	0.24	0.35	0.024	0.067	0.44	2.35
Target price								
2002 Farm Bill								
2002-2003	3.86	2.60	2.21	2.54	1.40	0.724	5.80	10.50
2004-2007	3.92	2.63	2.24	2.57	1.44	0.724	5.80	10.50
2008 Farm Bill								
2008-2009	3.92	2.63	2.24	2.57	1.44	0.7125	5.80	10.50
2010-2012	4.17	2.63	2.63	2.63	1.79	0.7125	6.00	10.50

Source: Library of Congress 2008.

The average crop revenue election (ACRE) program

A potentially important addition to the new legislation provides an option for producers to choose to receive revenue assurance payments under what is termed the ACRE (average crop revenue election) program. This program covers all farm program crops and peanuts from 2009 to 2012 and is an alternative to farmers receiving countercyclical payments. Farmers who elect to join the ACRE program receive payments when revenue from program crops falls below levels determined from moving averages of past yields and market prices. The option chosen will apply for the full period from 2009 to 2012, so producers are not able to make annual changes between support through ACRE and traditional program support. Also, producers must enter all of their eligible crops into the program, not just one or some. If farmers elect to join the ACRE program they are subject to a 20 per cent reduction in direct payments and a 30 per cent reduction in loan rates.

The basic idea behind ACRE is that if there is a marked drop in participating farmers' revenue from previous levels because of reduced yields, reduced prices, or both, those farmers receive support.

Payments under ACRE are made when both of two thresholds are triggered:

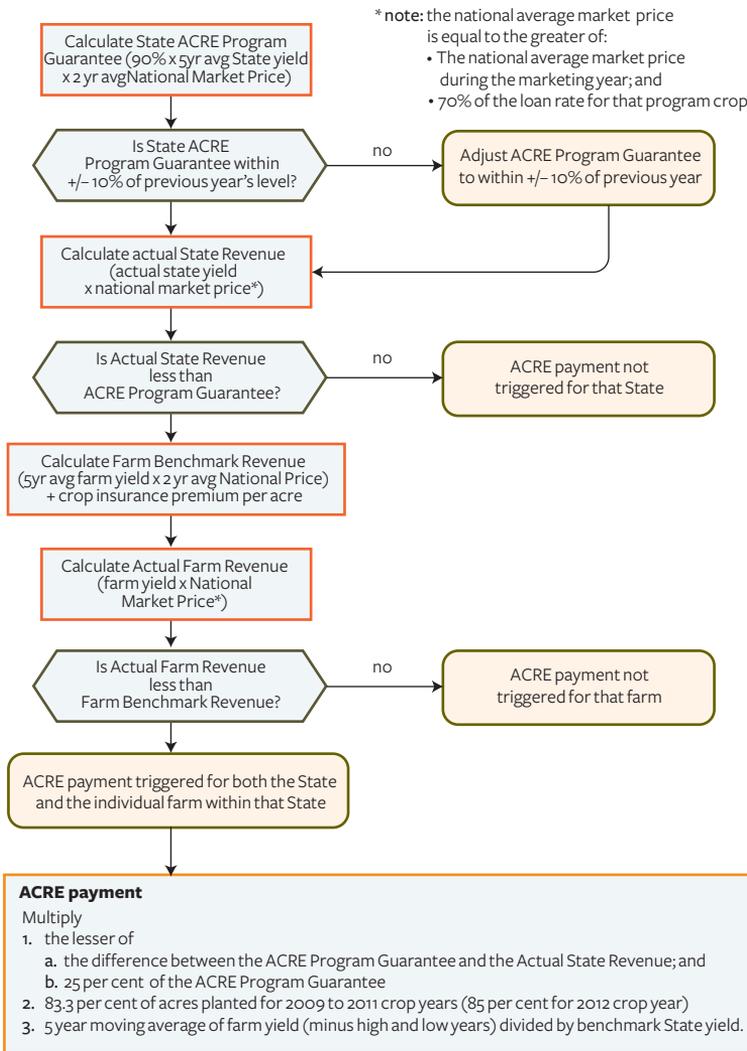
- when actual state revenue per acre for the supported crop during the crop year is less than the state ACRE program guarantee; and
- when the producer's actual farm revenue per acre for the supported crop for the crop year is below the farm's benchmark revenue.

The various conditions for triggering payments and the rules for calculating ACRE payments are shown in figure a.

Both the state program guarantee and the farm benchmark revenue are determined by multiplying moving averages of historical national market prices and yields (average state yields for the state program guarantee and the average specific farm yield for the farm benchmark revenue) to determine support per acre. Yields are calculated from averages for the previous five years with the highest and the lowest excluded, while national average market prices are calculated from the previous two years.

A relevant crop insurance premium is added to the farm benchmark revenue on a per acre basis. The state program guarantee is set at 90 per cent of the moving average yield multiplied by the moving average price. Annual changes in the state program guarantee are limited to plus or minus 10 per cent of the previous year's level.

a 2008 Farm Bill: ACRE payments



Conceptually, the program provides support when revenue received by farmers within a state for a crop falls below the state revenue guarantee and when eligible producers within the state suffer what is referred to in the legislation as an ‘individual loss’ (Babcock and Hart 2008). That ‘loss’ is incurred if actual farm revenue for the relevant crop falls below the moving average based farm benchmark revenue that also incorporates the farmer-paid crop insurance premium. The payments are likely to be greatest when both state yields and market prices fall sharply relative to the relevant moving averages.

Dairy support

There are significant changes in the new Farm Bill for dairy. In the past, US Government support for dairy has mainly taken the form of support for milk prices, with such support underpinned by tariff quotas on imports of dairy products and export subsidies for some products. Those arrangements have been complemented by pricing arrangements for milk under federal and state milk marketing orders. Those orders involve setting minimum prices at processing plants for various classes of drinking milk and for milk used in the various categories of dairy products (Manchester and Blayney 2001). In addition, since 2002, milk producers have received support payments from the US budget under milk income loss contracts (MILC). These payments are made on quantities up to a given amount of milk marketed per farm, for months when market prices fall below a benchmark level.

In the 2002 Farm Bill, an internal floor price for milk (the USDA purchase price) was set at \$9.90 per 100 pounds of milk. This was the same level as applied under the 1996 Farm Bill. Since the early 1990s, the Farm Bill support prices have been well below market prices and, according to Manchester and Blayney (2001), have had little more than a psychological effect.

A major change has been made to how minimum price support is provided for dairy in the 2008 Farm Bill, with support prices set for major bulk processed products, not, as in the past, for milk. The support prices for cheddar cheese, butter and non-fat dry milk (skim milk powder) and past price ranges are shown in table 2.

It is evident from table 2 that the support prices in the 2008 Farm Bill for the designated products are low relative to past market prices for most of the time. However, there were instances, probably at seasonal lows in 2001, 2002, 2003 and 2006 when market prices for cheddar cheese and in 2002 and 2003 when market prices for butter, dipped below what are now minimum prices. In addition, in late 2008, marked declines in dairy prices resulted in the US Government's agriculture support management agency, the Commodity Credit Corporation (CCC), purchasing quantities of non-fat dry milk (Cattle Network 2008).

In addition, the 2002 Farm Bill provided for producers to receive direct MILC payments on up to 2.4 million pounds of milk per farm a year when the monthly Boston price for class 1 milk fell below a benchmark price of \$16.94 per 100 pounds. The payment rate was set at 34 per cent of the difference between the class 1 price in Boston and the benchmark price. That same benchmark price is maintained in the 2008 Farm Bill. However, in the 2008 Bill, both the quantity limit per farm and the rate of payment are increased for the period from 1 October 2008 to 31 August 2012. Over that period, the quantity limit per farm is 2.984 million pounds a year and the payment rate is 45 per cent. The increased rates result in higher direct

2 Market prices and support prices in the 2008 Farm Bill

	average market prices						new Bill support prices
	2001 US\$/lb	2002 US\$/lb	2003 US\$/lb	2004 US\$/lb	2005 US\$/lb	2006 US\$/lb	US\$/lb
Cheddar cheese in barrels a							1.10
High b	1.68	1.35	1.58	2.17	1.72	1.44	
Low b	1.06	1.03	1.02	1.23	1.30	1.05	
Cheddar cheese in 40 pound blocks a							1.13
High b	1.78	1.39	1.60	2.20	1.76	1.43	
Low b	1.07	1.02	0.99	1.30	1.36	1.12	
Butter a							1.05
High b	2.25	1.38	1.48	2.36	1.74	1.41	
Low b	1.13	0.93	1.00	1.39	1.33	1.14	
Non-fat dry milk c	0.98	0.90	0.81	0.84	0.94	0.89	0.80

a Quotes reported by National Agricultural Statistics Service from Chicago Mercantile Exchange.

b Figures are the high and low prices for any trading day during the year. c National Agricultural Statistics Service.

Source: National Agricultural Statistics Service, 2008a.

support through MILC at times when the payments are triggered. After 31 August 2012, the quantity limit per farm reverts to 2.4 million pounds a year and the payment rate reverts to 34 per cent.

An initiative in the 2008 Farm Bill is to adjust the MILC benchmark support price upward if feed prices rise above specified levels. This has the effects of triggering MILC payments at higher market prices for milk and increasing levels of potential MILC payments. The feed price threshold for increasing the benchmark support price for milk as calculated for a national average dairy feed ration is \$7.35 a hundredweight (100 pounds) for any month from January 1, 2008 to August 31, 2012 and \$9.50 a hundredweight thereafter.

In months when the average price of dairy feed exceeds \$7.35 a hundredweight, the \$16.94 benchmark price for milk increases by 45 per cent of the percentage increase in the price of feed above \$7.35 a hundredweight. Farmers will then receive MILC payments if the Boston class 1 price is less than the new, higher, benchmark price.

The history of MILC payments so far has been one of marked variation in payment levels, reflecting the variability of market prices in relation to the benchmark price and volumes marketed in months when prices have been below the benchmark price (table 3).

In all years since the MILC support arrangement was instituted, except 2003, the payments under that scheme have been small relative to the

3 Past MILC payments

Fiscal year ^a	MILC payments US\$ million	value of milk production %
2003	1 795	8.40
2004	221	0.80
2005	9	–
2006	352	1.50
2007	157	0.44

^a Year ended 30 September of the year shown.

Sources: National Agricultural Statistics Service 2008a; ERS 2008b.

overall value of milk production. However, in 2003, market prices were below the benchmark level for a significant period and the payments contributed appreciably to producers' returns.

Sugar support

As with the farm program crops, support and protection for the US sugar industry has been substantial. In fact, measured levels of support for US sugar, as reported by the OECD (2006), have generally been the highest reported for any US crop (the OECD has not reported support for cotton which has also been substantial). However, there are some characteristics of the sugar situation which differ markedly from those for the farm program crops and influence the support measures adopted. These include:

- the United States is a major exporter of most farm program crops but is an importer of sugar;
- the US Government has been prepared to make substantial budgetary outlays to support producers of the main farm program crops. To date it has not been prepared to make significant budgetary outlays to support sugar producers and processors;
- US sugar industries, as well as competing against sugar imports, face substantial competition from alternative sweeteners, especially high fructose corn syrup which now accounts for more than half the US market for caloric sweeteners; and
- under the terms of the North American Free Trade Agreement (NAFTA), the US sugar market is open to competition from sugar from Mexico.

A key objective of the support policies for sugar is to maintain internal US prices above administratively set loan rates. Those rates were 18 cents a pound of raw cane sugar (since 1985), and 22.9 cents a pound for beet sugar (since 1996).

The 2008 Farm Bill progressively raises loan rates from 18 cents a pound for raw cane sugar in 2008, by 0.25 cents a year to reach 18.75 cents in 2011 and maintains it at 18.75 cents in 2012. For refined beet sugar, the 2008 loan rate remains at its previous level of 22.9 cents a pound. From 2009 to 2012, it will be set at 128.5 per cent of the rate for raw cane sugar, bringing it to 24.1 cents a pound in 2011 and 2012.

In recent Farm Bills it has been stipulated that the Secretary of Agriculture shall operate the program to the maximum extent practicable at no cost to the government by avoiding forfeiture of sugar to the government's stock management agency (the Commodity Credit Corporation). In this context, the high support received by the US sugar industry is funded directly by consumers paying domestic market prices well above world market prices. Such prices can only be sustained by managing the flow of supplies to the internal market. Measures used to manage supplies include tariff quota restrictions on imports of sugar, marketing allotments to limit quantities marketed by processors and/or assessments on domestic producers to limit supplies reaching the market.

In the 2008 Farm Bill, marketing allotments for processors are designed to secure a minimum of 85 per cent of domestic consumption for the domestic sugar industry. The Bill also includes a directive to manage imports at the minimum level necessary to ensure compliance with international trade agreements and to ensure supplies in the event of a domestic supply shortfall, including by increasing tariff quotas. The 85 per cent minimum market share is broadly consistent with average levels in recent years.

To avoid forfeitures at times of large supplies, when prices threaten to fall below loan rates, provisions are made for sugar, and for sugar cane and beet which has already been planted, to be diverted to ethanol production.

Support for US users of upland cotton

The 2008 Farm Bill introduces a new provision to give adjustment assistance subsidies to US users (cotton millers) of upland cotton, whether it is domestically produced or imported. Most of the cotton used in the United States is domestically produced. The subsidies are 4 cents a pound of cotton from 1 August 2008 to 31 July 2012, after which the level will be 3 cents a pound. The subsidies are to be used for specified purposes including acquiring, constructing, installing, modernising, developing, converting or expanding land, plant, buildings, equipment, facilities or machinery.

While this adjustment subsidy for cotton used for processing is a new arrangement, it follows subsidy arrangements, termed 'step 2' provisions

which applied for both exports and domestic use. Those step 2 provisions were repealed in 2006 as a direct result of Brazil's successful WTO challenge of US cotton subsidies. The former step 2 subsidies applied for sales of US cotton on both export and domestic markets when US price quotations exceeded world indicator prices in northern European markets.

General programs affecting US agriculture

Supplemental agriculture disaster assistance program

US farmers receive benefits to safeguard them against the effects of disasters both through subsidised insurance and government disaster relief.

For many years, US crop farmers have received benefits from subsidised crop insurance, with net subsidies notified to the World Trade Organisation averaging US\$1.6 billion a year from 1999 to 2005 (WTO 2007). Additional assistance was provided in the case of disasters through ad hoc support measures. The subsidised crop insurance benefits still apply but, in the 2008 Farm Bill, the ad hoc measures used to provide disaster relief are formalised under a supplemental agriculture disaster assistance program. That program covers supplemental revenue assistance payments (SURE), emergency assistance for livestock, honey bees and farm-raised fish (ELAP), livestock forage disaster program (LFP), livestock indemnity program (LIP) and tree assistance program (TAP) (FSA 2008).

For all programs except LIP, producers must obtain a crop insurance policy for each insurable commodity. The non-insured crop disaster assistance program (NAP) covers each non-insurable commodity produced on the farm. For LIP, producers are exempt from this insurance requirement. Arrangements apply from 2008 to 2012. However, many farmers had not taken out crop insurance for 2008 when the new Farm Bill came into force. Those farmers had the option to buy into the program for 2008 by paying an administrative fee (FSA 2008). That option has been important in 2008 because of substantial flood damage to crops in the upper mid-west in May.

The schemes operate for eligible producers on a whole farm basis when:

- the county is covered by a federal disaster declaration; or
- the county is contiguous to a county with such a declaration; or
- the farm suffers a 50 per cent revenue loss, regardless of the disaster status of the county (Hart 2008).

For the SURE program for crops, eligible producers receive payments of the lesser of:

- 60 per cent of the difference between a ‘disaster assistance program guarantee’ and a computed level of actual total farm revenue; or
- 90 per cent of the expected revenue, which is the sum of each crop’s contribution as determined from adjusted acreages planted, historical yields and insurance price guarantees.

Program guarantees are determined by a formula involving the sum of two elements, one for insurable crops and the other for non-insurable crops.

For insurable crops, the formula is:

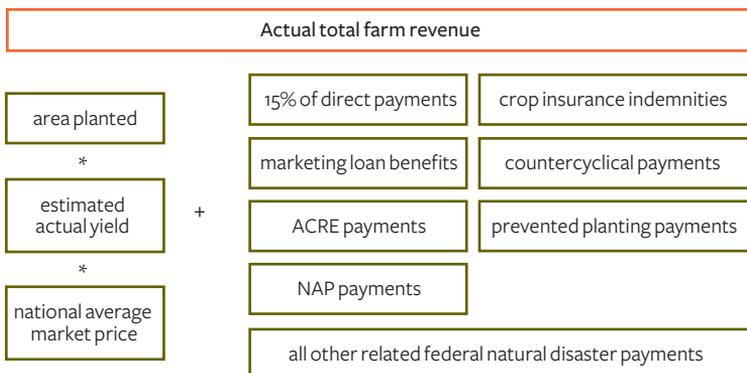
$$\text{Disaster Assistance Program Guarantee} = \left[\begin{array}{c} 115\% \\ \text{of the} \\ \text{insured} \\ \text{value} \end{array} \right] * \left[\begin{array}{c} \text{area} \\ \text{insured} \end{array} \right] * \left[\begin{array}{l} \text{the higher of:} \\ \bullet \text{ actual historical} \\ \text{production yield} \\ \bullet \text{ countercyclical} \\ \text{payment program yield} \end{array} \right]$$

insured value = farmer’s minimum crop coverage level * insurance price

For non-insurable crops, the formula is:

$$\text{Disaster Assistance Program Guarantee} = \left[\begin{array}{c} 120\% \end{array} \right] * \left[\begin{array}{c} \text{nominated} \\ \text{NAP price} \end{array} \right] * \left[\begin{array}{c} \text{area} \\ \text{planted} \end{array} \right] * \left[\begin{array}{l} \text{the higher of:} \\ \bullet \text{ adjusted NAP} \\ \text{yield guarantee} \\ \bullet \text{ countercyclical} \\ \text{payment program yield} \end{array} \right]$$

Under the SURE program, actual total farm revenue is:



If crop losses in a state are widespread enough to trigger ACRE payments, Hart (2008) concluded ACRE will compensate farmers for crop losses, not SURE.

Conservation reserve program

Since 1985 the United States has implemented a substantial conservation reserve program (CRP) to set aside land considered to be at risk of erosion. Under this program, farmers enter contracts allowing them to receive payments for setting aside areas which were cropped but are considered to be at risk of erosion, for periods of between 10 to 15 years. As a condition of the contracts, farmers must maintain cover on the land, such as trees or grass.

The 2002 Farm Bill placed a limit of 39.2 million acres on the area under the CRP and in April 2008, the actual area within the program was 34.7 million acres. These areas compare with the total area planted to the main program crops of around 250 million acres.

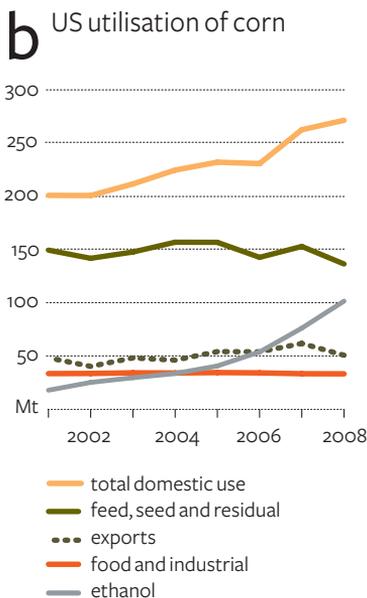
The 2008 Farm Bill reduces the cap on the area under the CRP to 32 million acres from 1 October 2009 to 2012.

Energy policies affecting agriculture

US energy policies are having substantial effects on both US agricultural production and the uses of major agricultural products, especially grains and oilseeds. By far the largest direct effect has been to rapidly increase the use of corn for the production of ethanol, as corn is the dominant feedstock for producing ethanol in the United States. However, there have also been significant effects on other crops because land has been diverted to corn. Some of the energy-related policies which affect agricultural products are included in the 2008 Farm Bill. Others likely to have significant effects in the future are in legislation relating to energy, in particular the 2007 Energy Independence and Security Act.

The use of corn to produce ethanol has been increasing in the United States for two main reasons. One is that petroleum prices increased substantially between 2003 and 2008. The other is that the United States introduced policies to secure supplies of liquid fuels.

In recent years there has been a major increase in US production of corn to meet the rising demand for ethanol. Most of the ethanol is blended with petroleum based fuels. In 2007-08, 76 million tonnes of US corn was used for ethanol production – almost twice the amount in 2005-06 (figure b). This constituted 23 per cent of the record crop in that year. The amount of US corn used for ethanol in 2008-09 is forecast to rise a further 33 per cent to 102 million tonnes (US Department of Agriculture 2008c). The



* Data for 2008 are USDA estimates.
Source: ERS 2008c.

estimates for 2008 indicate that the large expected increase in the use of US corn for ethanol will be at the expense of corn for feed and export.

The main supports provided to the US ethanol industry are blending credits for use of ethanol and import tariffs on ethanol. To encourage production and consumption of ethanol, quantities of biofuels to be used each year are mandated, and US Federal tax concessions are offered which give ethanol a cost advantage over other fuels. Between 2004 and the passage of the 2008 Farm Bill, gasoline refiners and blenders received a tax credit of 51 cents a US gallon (13.5 cents a litre) of ethanol blended with gasoline – this included imported as well as domestically produced ethanol. In the 2008 Farm Bill, if combined annual production and imports of ethanol exceed 7.5 billion gallons, this credit will fall to 45 cents a gallon (12 cents per litre) in the following year. In 2007, US ethanol production was 6.5 billion gallons and imports were 426 million gallons (RFA 2008). It is expected the 7.5 billion gallon threshold will be exceeded in 2008 and the credit will fall in 2009. The 6 cents a gallon saved will be set aside for further research into sources of ethanol other than the main crop-based feedstocks which are currently used (ICIS 2008).

To prevent foreign ethanol producers from benefiting from the tax credits, the US Government levies a 2.5 per cent ad valorem tariff and a specific tariff of 54 cents a gallon (14.3 cents a litre) on imported ethanol (Tokgoz and Elobeid 2006). In November 2007, the ad valorem equivalent of the combined tariffs was estimated by Coyle (2007) to be about 25 per cent. That duty insulates domestic ethanol production from more competitive foreign producers. Nevertheless, an exemption allows up to 7 per cent of US annual ethanol consumption to be imported duty free under the provisions in the US free trade agreement with Central America and the Dominican Republic (Office of the United States Trade Representative 2007).

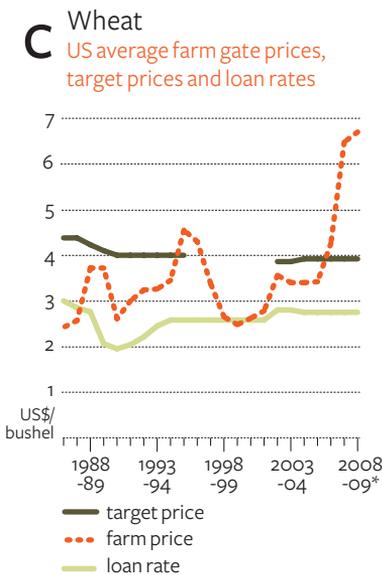
In addition to providing blending incentives to use ethanol, the US Government mandated progressively increasing use of renewable fuels in the *Energy Independence and Security Act of 2007*. That Act mandated using 36 billion gallons of renewable fuels by 2022 with all the increase after 2015 from cellulosic materials and feedstocks other than corn starch.

With current technologies and costs of critical inputs, ethanol production from cellulosic materials like switch grass, crop stubbles and wood chips is not commercially competitive on a large scale. Consequently, corn seems likely to remain the main source of US ethanol, at least for several years. The total mandated biofuels requirement for 2022 represents an almost five-fold increase over levels prior to the legislation (The White House 2007). Within the total there is a 15 billion gallon limit for ethanol from corn. If fully realised, that 15 billion gallons would require an increase of approximately 80 per cent in use of corn above what was used in 2007.

Appraisal of implications of the new Bill

At first glance, the US might appear to be largely a continuation of established support arrangements and levels. The system of support for farm program crops entrenched in the 2002 Farm Bill is maintained with, in most instances, relatively minor changes in loan rates and target prices. Also, while support prices for all milk produced have been replaced with support prices for just three major forms of dairy products, these changes are characterised as changes in the form of support which may not change the effects the support has on markets.

However, such first impressions could be misleading for the following reasons:



Note: The farm price for 2008/09 is the mid point of the price range forecast by the USDA.
 Source: ERS 2008b and previous; World Agricultural Outlook Board 2008.

- the market and price environment in which the 2008 Farm Bill operates is likely to differ markedly from that of past years. This is particularly the case for grain and oilseed crops where market prices since 2006 have been far higher than for many years (figures c to e) and also higher in real terms than at any time since the mid-1970s. In 2008, net farm incomes are forecast to be a record US\$95.7 billion as a result of higher prices – up 10.3 per cent on 2007, which was also a record at the time (ERS 2008d).
- the Bill extends the full range of farm program support to an increased number of products.
- the Bill includes the optional ACRE program that, if adopted by large numbers of US program crop producers, could have a substantial effect on the nature and levels of support for such program crop producers. That program incorporates many production distorting elements and it cannot be confidently concluded that future US program crop support will be less market distorting than applied before the 2008 Farm Bill.
- the formalised systems for disaster relief are likely to enhance the security of returns to US producers.

There are reasons to expect market prices for grains and oilseeds will remain above the target prices set in the new farm Bill for several years at least, although they will decline from 2008 levels. These levels were boosted by early season flood damage in the US mid-west and rapidly rising ethanol production.

The use of grains and oilseeds as feedstock for biofuels is large and has been rising, sustaining high prices for these crops. Mitchell (2008) concluded the increase in internationally traded food prices between 2002 and 2008 was caused by a confluence of factors, the most important being the large increase in biofuels production from grains and oilseeds in the United States and the European Union.

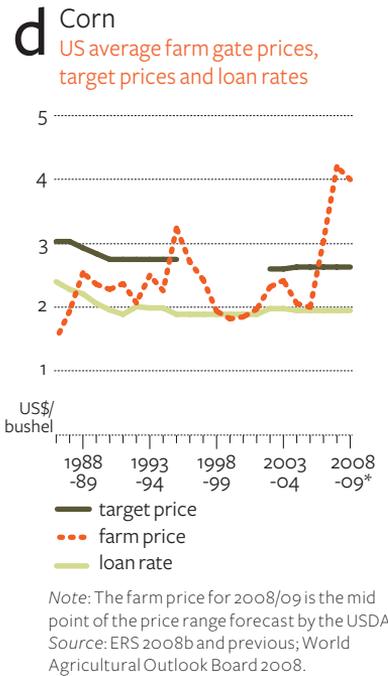
The increases in use of grain for ethanol are significant largely because the United States is the world's largest feed grain exporter and because increasing competition for US corn supplies from ethanol production will limit export availability (Westcott 2007). The November 2008 ERS (2008c) estimates indicate that the trend toward greater use of US corn in ethanol is continuing with a surge from 76 million tonnes in 2007 to 102 million tonnes in 2008. However, some industry sources (Washington View 2008) indicate that the current economic situation of the ethanol industry could result in 2008 use being around 96 million tonnes – still an increase of 26 per cent on the 2007 level.

Ongoing pressures to direct greater quantities of corn into ethanol production, under the targets in the *Energy Independence and Security Act 2007*, are also affecting demand. Given the targets reflect an intention to use more ethanol, these pressures on corn demand will continue until there is widespread commercialisation of new technologies enabling cellulosic feedstocks to be used instead. With present technologies, most of the ethanol used over the next few years is likely to be derived from corn. Nevertheless, realisation of those targets would require sufficient profitability, which will be affected by future prices for oil and corn. The corn price will in turn be determined by competition for available corn supplies from food, feed uses and exports.

With world oil prices falling sharply since mid-2008, the profitability of ethanol production would have been squeezed unless corn prices declined significantly. Such reductions in corn prices have occurred, but from extremely high flood-affected mid-2008 levels (figure f). However, some ethanol producers locked in corn supplies at very high prices, and as a result their profits have fallen sharply. Also, in 2008, credit has become increasingly tight, limiting throughput and planned capacity expansions (Galbraith 2008).

While prices for corn have declined since their mid-2008 peak, they were still high in historical terms at the end of October (figures d and f). In the medium term, price reductions for corn will be limited by competition for land from other crops; especially soybeans for which demand and market prices have been buoyant. The rate of ethanol production capacity expansion could be limited by decreased availability of credit following the current financial crisis. In an environment of slower world economic growth following the financial crisis, oil prices might be considerably lower than was envisaged in late 2007 when the *Energy Independence and Security Act* came into law.

A rapid rise in Chinese demand for oilseeds, primarily soybeans, which are used for stock feed and also to supply vegetable oil, has contributed to higher prices for oilseeds since 2006. As incomes have increased, China's consumption of meat and dairy products has risen and demand for stock feed has increased. This has been reflected in increased soybean imports



f Average US corn price monthly, ended October 2008



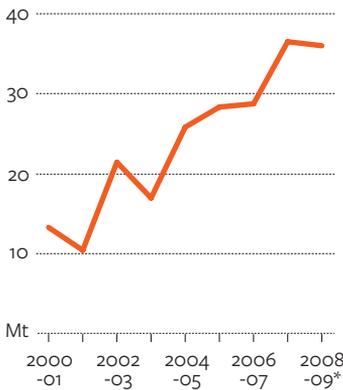
Source: National Agricultural Statistics Service, 2008b.

which have been a major feed input (figure g). The rising Chinese demand for soybeans, in addition to rising use of oilseeds for biodiesel primarily in the European Union and the United States, has contributed to higher world grain prices through increasing competition for land between oilseeds and cereals.

Economic growth in China, with its positive effect on global demand for soybeans is expected to remain relatively strong. However, it is likely to be significantly slower than previously anticipated because a slowdown in world economic growth is expected to reduce the rate of growth in export earnings (Gong 2008). Slower, but still considerable, economic growth would reduce upward pressures on world prices for grains and oilseeds which have been evident in recent years.

While recent high prices for grains and oilseeds will bring about supply responses, resource constraints are likely to limit increases in production. Such constraints include limits to supplies of oil, environmental concerns about increasing the use of land for cropping and constraints on water availability (von Braun 2007).

g China's imports of soybeans



Note: Data for 2008/2009 is preliminary.
Source: Foreign Agricultural Service, 2008.

Future prices for grains and oilseeds are more uncertain now than usual because of the current financial crisis and uncertainties concerning its effect on future economic growth around the world. Prices of grains and oilseeds seem likely to remain high by historical standards over the next few years. Large increases in factory capacity to produce ethanol and biodiesel have already occurred, and government policies are still encouraging biofuel production. Nevertheless prices are unlikely to be as high as levels during much of 2008.

If few US producers of the major grains and oilseeds elect to enrol in the ACRE program, and if world market prices for those crops remain above the target prices and loan rates in the new Farm Bill, US Government support payments will be markedly lower than during most of the current decade so far. Such payments would be largely confined to subsidies on crop insurance and direct payments which are unrelated to market prices. If market prices remain above or around the target prices, countercyclical payments will be low or zero. If they are above the loan rates, growers will not receive benefits through marketing loans, loan deficiency payments or certificate exchange gains.

If market prices fall markedly from their highs in recent years, but remain above US target prices, as could occur for grains and oilseeds from 2009 to 2012, program crop farmers will have an incentive to enrol in ACRE. This is because they will obtain significant ACRE payments in the years in which prices and/or yields drop. If they are enrolled in ACRE, they will not receive any countercyclical payments, marketing loans, loan deficiency payments or certificate exchange gains. However, growers who are not enrolled in ACRE would not receive those payments either if prices remain

above the target price and the loan rate. The only benefits reduced in these circumstances if ACRE is adopted would be direct payments which would decline by 20 per cent. With the direct payment rates set down in the Bill, that 20 per cent decline would be small relative to both overall returns and potential gains through ACRE payments. For example, the loss of direct payments for wheat, at 20 per cent of the 52 cent a bushel direct payment rate is 10.4 cents a bushel. This is equivalent to only 1.4 per cent of the median US farm-gate wheat price for 2007-08. The corresponding losses for direct payments for corn and soybeans would be even lower at an estimated 1.04 per cent and 0.7 per cent, respectively.

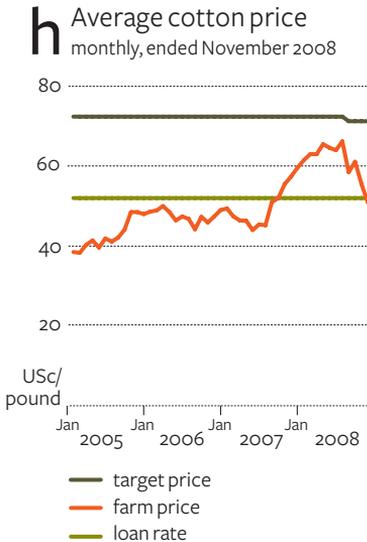
If US producers of grains and oilseeds expect prices to decline to below target prices within the 2009 to 2012 period they would see some prospect of receiving countercyclical payments. In making their choice whether to enrol for ACRE, they need to assess the likelihood of significant ACRE payments in the years when prices fall from their initial high levels, relative to the likelihood and size of future countercyclical payments. Producers also need to take account of the loss of 20 per cent of their direct payments if they elect to adopt the ACRE program.

An important characteristic of ACRE is that payments to producers under the program arise from the degree of variability of prices and yields as well as their levels. Zulauf (2008a) noted 'the choice of ACRE will depend on a farmer's assessment of how much ACRE improves the management of systemic risk relative to the current marketing loan and price countercyclical programs, while taking into account a 20 per cent reduction in direct payments as a risk management fee. Stated alternatively, ACRE should be selected because it improves the management of systemic downside risk – not because it will maximise government payments' (2008a). Although this is the case, producers' expectations of future government benefits from ACRE and those from traditional support arrangements would clearly be important in their choice concerning whether to adopt ACRE.

The Farm Bill legislation stipulates that the ACRE program guarantee price, 'shall be the simple average of the national average price over the most recent two crop years, as determined by the Secretary (of Agriculture)'. The first year for implementing the scheme is 2009. An important consideration for farmers' decisions about whether to adopt the program is that the legislation stipulates that the program guarantee price cannot change by more than 10 per cent in any crop year. This limitation follows recent years when prices for grains and oilseeds have been relatively high and would effectively lock in high ACRE guarantee prices for much of the period to be covered by the program.

Zulauf (2008a, b) estimated breakeven prices for corn, wheat and soybeans between ACRE and traditional programs using the average of

2007 and 2008 as the base period. He concluded that ACRE payments would exceed payments from traditional support arrangements if the average market price for the four crop years to 2012 was above \$2.87 a bushel for corn, \$4.39 a bushel for wheat and \$6.35 a bushel for soybeans. These breakeven points compare with average prices for 2006 and 2007 of \$3.62 a bushel for corn, \$5.37 a bushel for wheat and \$8.26 a bushel for soybeans.



Source: National Agricultural Statistics Service, 2008c.

For US cotton producers, factors affecting the decision to adopt the ACRE program are far different to those facing producers of grains and oilseeds. This is because, in contrast to grains and oilseeds, cotton prices have been below the target price, so cotton producers are still receiving and are likely to continue to receive countercyclical payments (figure h).

If US cotton growers were to adopt ACRE, they would lose their countercyclical payments. In addition, they would lose 20 per cent of their direct payments and face a 30 per cent reduction in their loan rates, potentially reducing support through certificate exchange gains, loan deficiency payments and marketing loans if market prices were to fall sharply. Furthermore, unless market prices for cotton were to surge to above the target price for an extended period, which seems unlikely, adopting ACRE would support their returns at below the target price. Consequently, unless cotton farmers are concerned about risks of greatly reduced yields at both farm and state levels, they have a greater incentive to retain the traditional forms of support rather than to adopt ACRE.

Where cotton farmers also produce grains and oilseeds, the choice of whether or not to adopt ACRE could be difficult. Current and future expectations for production of cotton and those other crops will influence the decision and there are generally greater incentives to enrol in ACRE if they produce relatively more grains and oilseeds than cotton.

Given the probability world market prices for most program crops could fall relative to their recent high levels, US farmers could view the availability of ACRE as a means of locking in returns at relatively high levels for years when market prices drop markedly or when yields decline. In this context, the provision in the new Farm Bill preventing the state ACRE program guarantee decreasing (or increasing) by more than 10 per cent from the guarantee for the preceding year will be very important. Not only will it limit the extent to which the guarantee can decline in a particular year, but it can also sustain higher guarantee levels than would apply in subsequent years without this 10 per cent provision.

It appears the low potential cost of entering into ACRE and the potential benefits in years of reduced prices or yields will make this program popular for producers of most farm program crops other than cotton. Babcock and Hart (2008) concluded they 'could find only one set of

circumstances under which traditional programs would provide more payments than ACRE: if market prices in 2009, 2010, 2011 and 2012 remain above the average levels in 2007 and 2008’.

There could be significant incentives in the ACRE arrangements to result in a substantial uptake of the program. Nevertheless there are some elements in the design of the program which could, over time, produce results inconsistent with farmers obtaining benefits when they most need them. Those relate to the way the program operates on moving averages of prices and yields, for example:

- where there is an abnormal and substantial surge in market prices for two years followed by a marked reduction but to levels that are still relatively high, such as still being above target prices, large payouts to growers would be made in the third year even though farmers’ returns and incomes would be high without the support.
- the double state and farm level triggers might result in revenue assurance payments not being made to some farmers even when they experience a sharp reduction in their yields if state level revenue benchmarks are not triggered in their state. However, if the individuals’ yield reductions were substantial because of local conditions such as storm damage or flooding, they could qualify for disaster relief payments.
- if future prices were low for three successive years, there could be little or no support in the third year because of the two year moving average price arrangement even though many farmers experience financial difficulties. Given the revealed propensity for the US Congress to provide additional support when market prices are low, such conditions might result in additional ‘emergency’ support in the future such as applied over an extended period of low prices from 1998 to 2001.

If ACRE had not been made available to US farmers in the 2008 Farm Bill, levels of support for farm program crops might be expected to be low over the period until 2012 for program crops other than cotton. However, the availability of ACRE could result in substantially greater support than if farmers were to continue to rely on the traditional support measures in cases when there are large reductions in prices and/or yields.

Support through ACRE is product-specific, is related to actual production and prices and ACRE payments require farmers to actually produce the crops for which the payments are made. As such, support through ACRE is likely to distort production more than support through the base-related direct payments and also more than countercyclical payments which vary with market prices but are paid on fixed bases. In addition, the farmers who opt for ACRE support will still receive 80 per cent of their former levels of direct payments. Also, the payments depend on the variability of

both prices and yields at both state and farm levels, making it difficult to predict potential support through the ACRE program. Because of these factors, it cannot be confidently concluded that future US program crop support will be lower or distort markets less than arrangements applying before the 2008 Farm Bill, even though it is expected that market prices could remain relatively high for several years.

For dairy, the change from providing price support for milk to providing price support for butter, cheddar cheese and non-fat dry milk appears likely to have only a minor effect on internal prices for milk or on overall levels of US support for milk. The levels at which the product support prices are set are relatively low but could result in some price support through market intervention in years of low market prices and, even then, only at times when there is a substantial surge in supplies.

The changes in the parameters through MILC payments would result in increased payments for milk if market prices fall below the trigger point, as a result of the legislated increase in the maximum amount of milk per farm eligible for the payments. The increase in the proportion of the difference between the Boston class 1 price and the benchmark price which applies for the payments would also increase potential payments. Compared with previous arrangements, the combined changes in the individual farm volume limit and the payment percentage result in up to a 64 per cent increase in potential payments for farmers receiving the maximum payments if prices fall below the benchmark price by the same amount. The potential increases in payments are even larger if feed prices rise above the level specified in the legislation. In the past there has been only one year, the low price year of 2003, when MILC has contributed markedly to milk producers' returns. In future, as in the past, it would only provide significant support when market prices dip below the benchmark price which has remained unchanged in this Bill. The adjustment in the Bill for the benchmark price at times of high feed prices increases the potential for higher future MILC payments.

For sugar, the changes in the new Farm Bill appear designed to entrench the current position of the domestic industry as a supplier to the domestic market and to provide some increase in returns to producers. This will be done by increasing loan rates and arranging as far as possible to limit imports to minimum levels consistent with international agreements. At the same time, provision has been made in the Bill to increase imports if necessary to ensure adequate domestic supplies.

The provision that, to the maximum extent possible, the Secretary of Agriculture must manage the sugar program at no cost to the government, by avoiding forfeitures of sugar to government stocks, gives rise to possibilities that significant government costs could still

arise under the program from measures not involving forfeitures to the Commodity Credit Corporation. This could be especially the case as costs would be involved for the potential diversion of sugar, cane or beet to produce ethanol as a safety valve outlet for supplies if internal prices appear likely to fall below the loan rate.

The availability of ethanol as a new market for sugar in the United States provides a means for securing the stipulated 85 per cent share of the domestic market for domestic producers. That stipulation reflects concerns that inroads could be made into domestic producers' sales by competition from Mexico, as Mexican sugar and sugar substitutes have access to the US market under NAFTA. Effectively US producers would be guaranteed an average volume of sales regardless of imports because the government has created an additional potential market for sugar in the United States (ethanol).

For cotton, the new user assistance subsidies will support domestic demand by cotton millers, providing some flow-on support to domestic cotton farmers. The 4 cents a pound subsidy is equivalent to between 6 per cent and 9 per cent of the value of cotton processed domestically. Although this is a new subsidy, it replaces previous support (step 2 subsidies) repealed in 2006. There is a significant difference, however, between the two forms of support. The new user assistance subsidies are not linked to cotton prices, are available for use of both domestic and imported cotton (although most cotton used in the United States is domestically sourced) and must be applied in specified ways. The step 2 subsidies applied only to US cotton and varied over time depending on the price of US cotton relative to cotton generally in northern European markets.

Another aspect of the 2008 Farm Bill of significance to US agricultural production and also for environmental considerations is the 18 per cent reduction in the maximum area for inclusion in the conservation reserve program (CRP). While this represents a marked reduction, it probably reflects likely reductions in the preparedness of farmers to enrol or re-enrol in the program given current high market prices and expectations relatively high prices may continue for several years. Such expectations could make crop farmers reluctant to renew their CRP contracts as they expire or to enter into new contracts. The reduction in the maximum area under the CRP reflects a change in relative community values accorded to conservation of environmentally fragile land and food and fibre production. However, the extent of environmental damage to land at risk of erosion may, for land with particular soil characteristics, be less today than in previous times because of advances in minimum tillage techniques.

Concluding remarks

The 2008 Farm Bill is likely to operate in a significantly different economic environment to that faced by US farmers for many years. Market prices for many major agricultural products have been at historical highs and, although there are uncertainties arising from the recent financial crisis, there are underlying forces which seem likely to maintain them above the traditional support prices for several years.

While the new Farm Bill retains many of the traditional support arrangements for US farmers, it provides new avenues for support through increasing the number of commodities receiving the full range of support measures, providing additional support options and formalising disaster relief.

In particular, the ACRE program provides additional farm program protection devices; greatly increasing the likelihood that farmers will receive substantial support when market prices are high. This becomes possible because support through the program is determined by variations in prices and yields and can be triggered even when market prices are above target prices, while farmers still receive most of the direct payments that they previously received. The higher levels of revenue security arising from the program and also from the more comprehensive disaster relief arrangements in the Bill are likely to translate into higher levels of US production than otherwise. For producers of the major crops, only those for whom cotton is their main enterprise seem likely to have incentives to retain support through the traditional measures rather than switch to ACRE.

For import-competing commodities, primarily dairy products and sugar, the changes in the new Bill focus on support for the traded products. The changes for dairy products reorient price support away from all milk to the major processed products and increase potential MILC payments when prices are low and/or when feed prices are high. These changes seem likely to result in a further strengthening of support. For sugar, the legislation is clearly protectionist in tone as it increases support prices, provides directions for imports to be managed at minimum levels consistent with international agreements and effectively reserves 85 per cent of the domestic market for US producers.

The buoyant market prices over the past two years have been instrumental in US farm incomes reaching record high levels. Expectations of an extended period of high prices and returns for the supported items could have provided an opportunity for US legislators to reduce many of the complex, costly and market distorting government measures of the past without significant adjustment costs to farmers and rural

communities. Yet the outcome of the legislation is to provide greater opportunities for support even when market prices are higher than previously. These factors were important in the President George W Bush's decision to veto the 2008 Farm Bill (The White House 2008). However, the overriding of the veto by the Congress has resulted in availability of additional avenues for support and more scope for protection for US farmers.

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10.08

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Forest and Wood Products Research and Develop-
ment Corporation

Grains Research and Development Corporation

Grape and Wine Research and Development
Corporation

Horticulture Australia

International Food Policy Research Institute

Land and Water Australia

Meat and Livestock Australia

Murray Darling Basin Commission

National Australia Bank

Rural Industries Research and Development
Corporation