How Market-Oriented Is United States’ Farm Policy?

C S C Sekhar, Yogesh Chandra Bhatt

Farm policy in the United States has crucial implications for world agricultural markets as the US is a major producer and exporter of many agricultural commodities. This study analyses the economic effects of various farm programmes, as enacted in various Farm Acts. The analysis shows that most of the domestic farm programmes are geared towards affecting production, directly or indirectly. These include the totally coupled programmes like the non-recourse loan programme, partially coupled programmes like the production flexibility contract payments, and largely decoupled payments like the direct payments and counter-cyclical payments. The coupled programmes have the maximum market-distorting effect because they are linked to current production. Decoupled programmes like CCPs reduce revenue variability and the risk faced by the farmers. The combined effect of these programmes is to insulate the US farmer from the market to a large extent and stabilise his returns from farming. In addition, there are commodity-specific programmes like the peanut programme, sugar and sweetener policy, etc, which perhaps make the US farm sector one of the most supported farm sectors in the world. This high level of domestic support has implications for production and export surpluses, and in turn, for the world markets.

The United States (US) is the world’s largest exporter of agricultural products. It commands a large share in the world export market for several important commodities such as wheat (25%), rice (12%), corn (70%) and cotton (40%) during recent years. The US is the largest exporter of soybean and third largest exporter of soybean oil. It is also the world’s leading supplier of food aid for humanitarian relief and economic development, contributing almost 60% of total global food aid in the decade up to 2005. Therefore, US policies have large implications for international markets.

Beginning in the mid-1980s and continuing through the 2000s, a series of changes occurred in US farm policy. These changes, implemented through the US Farm Acts, mainly aimed at moving agriculture from the highly managed sector of the early 1980s to one with greater market orientation, particularly with regard to programmes affecting farmers’ production decisions. In this paper we attempt to assess the degree of success achieved in realising this objective. Specifically, we attempt to analyse the effect of important farm programmes in attaining increased market orientation. This issue assumes renewed importance as a new US Farm Bill is on the anvil. As US policy has strong implications for the world market, it is important to make a systematic analysis of this issue. The issue is also important in view of the impasse in the negotiations of the World Trade Organisation (WTO) over the question of domestic subsidies in developed countries vis-à-vis the market access in developing countries. The paper is organised as follows. In Section 1, a brief account of the important farm programmes is given. Section 2 analyses the economic effects of these farm programmes. Section 3 illustrates the market-alienating effects of US farm programmes and provides the conclusions.

1 Major Farm Programmes in the US

The Farm Act is the principal way in which the US Federal government supports domestic agriculture. Following the policy effects of the early 1980s, that supported market prices and led to large stocks of grains, the Farm Act in 1985 introduced various measures that included lowering of commodity loan rates and target prices and introducing marketing loans. However, cultivation was restricted to a few programmes which encouraged farmers to cultivate specific crops.

The Farm Act in 1990 furthered the move towards market orientation by introducing cropping flexibility in a part of farmers’ cropped area. The 1996 Farm Act terminated acreage restriction programmes and target-price-based deficiency payments.
payments and introduced almost total cropping flexibility (Young and Westcott 1996). These policy changes provided greater freedom to farmers for making production decisions based on market signals. The 2002 and the 2008 Farm Acts further extended many of the programmes of the 1996 Farm Act. The 2002 Farm Act introduced counter-cyclical payments (CCPs) to address the price risk faced by the farmer. The 2008 Act introduced a scheme – average crop revenue election (ACRE) – programme – to mitigate price risk as well as yield risk. The payments under the CCP or the ACRE programme are delinked from current production and are made on the basis of fixed historical production. There is a clear attempt in successive Farm Acts to make us agriculture more market-oriented.

The programmes for agricultural commodities, which are the main focus of the present study, can be broadly classified into five categories.

1) Production/supply management programmes (acreage reduction programmes or ARP).
2) Income-support programmes (deficiency payments, direct payments, CCPs, etc).
3) Price support and commodity storage programmes (non-recourse loans, farmer operated reserve programmes).
4) Export and food-aid programmes.
5) Commodity-specific policies.

A summary of the major programmes is presented in tabular form in the Appendix (pp 71-72). Here, we discuss in detail the first three important categories of programmes.

1.1 Production/Supply Management Programmes

Acreage was the major component of supply management. Various acreage limitation programmes were employed in an effort to influence production, support farm incomes by raising domestic prices and limit government costs. Some of these programmes were the ARP, paid land diversions (PLDs) and voluntary 0, 50/85-92 programmes. In addition, the long-term conservation reserve programme (CRP) affected acreage available for production. ARPs began in the early 1980s. If supplies were estimated by the US Department of Agriculture (USDA) to be excessive, ARPs were required and PLDs were permitted. To be eligible for programme benefits, farmers were required to idle a crop-specific percentage of their acreage base, as specified by the ARP. No payments were made for idle ARP land. The 1996 Farm Act eliminated these supply control programmes, and decoupled planting decisions from programme parameters.

1.2 Income Support Programmes

Income support and supply management programmes were important in affecting land use in the US from 1974 to 1995. Supply management policies aimed at increasing farmers’ income through limiting supply and thereby raising prices. On the other hand, income support programmes provided incentives to increase acreage and were offsetting the effects of the former. There are mainly two types of income support programmes – deficiency/direct payments and CCPs.

1.2.1 Deficiency Payments/Direct Payments

Under this programme, a fixed payment, which is the product of a fixed payment rate (fixed by the government) multiplied by the historical production of the crop, is directly made to the farmer. Some crops are notified as eligible for these payments and the payment rates are fixed for each crop in the Farm Act. The farmer is required to select some base acreage and base yield from the past on the basis of which the base production of the crop is calculated. The payments are made based on the following formula.

Payment for the Crop = (Programme Payment Rate for the Crop * Base Production of the Crop).

(Note: * mark is to indicate that the payment for the crop is a product of the Programme Payment Rate for the Crop and Base Production of the Crop.)

The payments made under this category are illustrated in Figure 1 (p 65). The degree of coupling with current production depends on the way the different parameters on the right hand side of the formula are fixed. When the programme benefits are available for the current production of the crop, there is distortion of production choices of the farmer. On the other hand, when historical production in some distant past is considered, it has relatively less effect on marginal production. Initially, payments were made totally on the basis of current production. Partial flexibility in planting was allowed in the 1990 Act by introducing production flexibility contract (PFC) payments, but payments were still tied to current production on 75% of the land and this affected the production choices of the farmer. The 1996 Act attempted to address this issue by increasing production flexibility to 100% of cropped area, but the payment rate still remained linked to current production. This was corrected in the 2002 Act. In the 2002 Act, fixed direct payments replaced the PFC payments. The Farm Act of 2008 largely continued these provisions. Therefore, support under these programme varied over time from deficiency payments (highly coupled to production) to PFC payments that are relatively less coupled to direct payments (largely decoupled from current production).

Some of the economic implications of income support programmes are as follows: initially in the 1990 Act, the planting flexibility was only partial and the PFC payments were more in the nature of deficiency payments. Therefore, the programme did have a definite effect on marginal production choices of the farmer. In the 1996 Act, there was a near complete planting flexibility but the payment rate was still based on current production. In that sense, the PFC payments were partially linked to the prevailing market conditions. However, with progress to direct payments in 2002, the programme can be said to have been totally decoupled from current production. Fixed direct payments are no more tied to production of specific crops, the amount of production or the price of the crop. With planting flexibility, farmers are not confined to producing crops for which they are receiving direct payments. They can receive payment for wheat, but in any given year plant soybeans in the area in which they are receiving wheat payments.
Thus, farmers’ planting decisions are based on expected market prices and variable costs of production. However, one important point needs to be noted. There is a primary economic effect of direct payments which is to increase farm income and land values. Direct payments also increase producer wealth and facilitate additional investment. This, in turn, could reduce farmer’s risk aversion. In this way, direct payments can lead to higher crop production. Also, since producers have the option of updating base payment acres in 2002 from 1996 levels, and since new crops have been added to the programme, there could be an incentive to continue producing programme crops and/or to expand production in order to maintain a production history in anticipation of future opportunities to expand payment acres.

1.2.2 Counter-Cyclical Payments

The CCP was introduced in the 2002 Farm Act. Under this programme, a target price is set for each commodity. If the market price falls below the target price, then the difference between the target price (net of direct payment rate) and the market price constitutes the CCP payment rate. The CCP payment rate, multiplied by the historical production (chosen by the farmer), is the total CCP payment made to the farmer.

\[
\text{CCP Payment for the Crop} = (\text{CCP Payment Rate for the Crop} \times \text{Base Production of the Crop})
\]

where CCP payment rate = Target Price – Direct Payment Rate – Market Price (or loan rate if it is higher than the market price)

This programme was introduced to provide an improved counter-cyclical safety net, replacing the ad hoc market loss assistance payments provided during 1998-2001. The main feature of this programme is that the payments run counter to the current cycle of prices. Lower is the market price, higher are the payments under the programme. To receive payments on crops covered by the CCP programme, a producer enters into annual agreements for crop years. Payments are based on historical production and are not tied to current production. At enrolment, producers must select base acres and base payment yield. The payment amount is equal to the product of the payment rate, the payment acres (85% of base acres), and the payment yield. The payments made under this programmes are illustrated in Figure 2 (p 66).

CCPs support and stabilise farm income when market prices are below the target prices. Some of the economic implications of CCPs are the following. Since CCPs are based on current market prices, producers may view the payments as a risk-reducing income hedge. In addition, updating acreage base and updating payment yields reduces production efficiency because producers may not fully respond to market signals, but instead, the response is to market prices plus expected benefits of future programmes and future programme changes. The current basis for the CCP benefits may affect producers’ expectations of how future benefits might be disbursed. Payments that are linked to past production may lead to expectations that benefits in future will be linked to current production. Such expectations could affect current production decisions. For example, farmers may not fully use planting flexibility to move from currently uneconomic crops. Farmers would then have incentives to build a planting history for crops covered under the programme rather than responding to market signals. Similarly, the use of inputs that affect current yields may be influenced, if farmers expect future farm legislation to permit an updating of payment yields.
1.2.3 ACRE Programme

This is a new programme introduced in the 2008 Farm Act and it is mainly a revenue protection one. This programme reduces both yield risk and price risk, unlike CCPs which reduce only the price risk. Payments under the programme are available when the state revenue and the farm revenue are both less than some benchmark level. Crops covered are wheat, corn, grain sorghum, barley, oats, upland cotton, rice, soybeans, other oilseeds, peanuts, dry peas, lentils, small chickpeas, and large chickpeas. It is an extension of the CCP programme in the sense that it seeks to offset the revenue variability arising out of both farm yield and market price. Beginning with the 2009 crop year, producers could sign up for this optional, revenue-based counter-cyclical programme which is an alternative to receiving CCPs. Since the ACRE programme offsets the total revenue variability arising out of either price or yield fluctuations, it helps in reducing farmers’ risk-aversion, leading to an indirect increase in production.

1.3 Price Support Programmes: Non-Recourse Loan Programme

Non-recourse loan programme is the most important price support programme in the US. The main feature is that the payments are directly linked to current production. Producers receive a loan from the government at a designated loan rate by pledging grain production as collateral. Upon harvest, the farmer can get a loan on all or part of his newly harvested crop. The farmer is required to keep the collateral in approved storage bin on his farm. The farmer is free to repay the loan at any time during the length of the loan period, which is normally nine months. He also has the option to default on loan payment in which case the collateral is forfeited and deposited with the commodity credit corporation (CCC). At the end of the loan period, if the loan amount along with the accrued interest is higher than the prevailing market price, it makes economic sense to default on loan payment. The gains thus accrued to the farmer constitute “marketing loan gains” (MLG). As a result of this programme, when the loan rates were relatively high during the late 1970s to mid-1980s, there were high default rates that pushed the government-held stocks to very high levels. To cut the administrative costs and storage costs, a new kind of payment system was introduced. Under this, the farmers are not required to place the crop as collateral in order to get the loan. If the market price falls below the loan rate, the farmer can dispose of the produce in the market and the difference between the loan rate and market price is paid to the farmer as “loan deficiency payments” (LDPs). Figure 3 (p 67) provides the pattern of payments under this programme.

Some of the broad economic implications of these programmes are as follows. The effects on marginal production are two-fold. First, because the loan benefits are extended only to crops currently produced, the crops receiving higher payments get preference in farmers’ current production decisions. The second effect arises because of the link between loan rates and market prices. When commodity prices are below commodity loan rates, loan benefits augment market receipts. When prices are low, marketing loans create incentives to produce specific crops for which loan provisions exist. Cross-commodity effects of a supply response to relative returns (which includes marketing loan benefits) result in acreage shifts among competing crops.

2 Economic Effects of the Programmes

The economic effects of important farm programmes have been briefly discussed in the previous section. However, in view of the far-reaching impact of these programmes on crop production, we undertake a detailed analysis of these effects here.
Different types of government payments and other farm programmes influence production decisions of the farmers and agricultural markets in different ways. Loan deficiency payments, for example, affect production decisions and market outcomes differently than an equal amount of PFC payments. This variation in effects among different programmes is related to how closely programme benefits are linked to farmers’ behaviour and market outcomes.

Farm programmes are coupled if there is a direct link between the determination of the programme benefit and the farmer’s production decisions and market conditions (such as prices). In turn, the benefits of coupled programmes affect per-unit net returns associated with specific production choices. Therefore, coupled programmes have the greatest potential to affect agricultural production and agricultural markets. In contrast, decoupled payments are fixed income transfers that do not depend on the farmer’s production decisions, output levels, or market conditions. Decoupled programme benefits do not subsidise production activities, inputs, or practices. These income transfers do not change per unit net returns at the margin. Thus, they have little direct effect on production decisions or marginal production of specific commodities.

However, because decoupled payments raise the overall economic well-being of farm households, indirect influences on agricultural production are possible through wealth and other effects. Overall, the effects of decoupled payments on production are likely to be small in the aggregate. In the following part, we focus upon production incentives and supply response of coupled and decoupled farm programmes because other outcomes such as prices, domestic use, and exports reflect changes in the market equilibrium following the changes in production.

2.1 Coupled Programmes
Coupled programmes that are closely linked to production of specific crops distort the mix of crops planted and may also affect total land use. Benefits that are linked to production of specific crops increase expected returns to these crops. Increase in production of programme crops translates into additional benefits which, in turn, provide further incentives to farmers to expand output of these crops. As a result, production decisions for those commodities are based not only on expected returns from the marketplace, but also government payments. Cross-commodity effects also occur because changes in expected returns for one crop affect relative net returns among cropping alternatives. Some farmers are likely to respond to a coupled payment by increasing the total planted area and/or shifting the mix of crops towards those with higher coupled payments.

Out of all the programmes, the non-recourse loan programme influences the production decisions of a farmer to the maximum extent because the benefits of the programme are directly linked to current production. When prices are relatively low, marketing loan gains supplement returns from the market, thereby raising the incentive price of the farmer. Annual effects of marketing loans vary by year, depending on the absolute and relative magnitudes of the expected crop-specific marketing loan benefits. For example, with marketing loan benefits ranging from around $5 billion to over $8 billion in 1999-2001, total acreage planted under eight major programme crops increased by an estimated two to four million acres annually.
in those years (Westcott and Price 2001). Acreage shifts across crops reflect expected relative benefits among cropping alternatives. In some situations, marketing loan benefits can result in larger effects on individual crops than in the aggregate. Studies show that the marketing loan programme not only affects production efficiency adversely, but also the marketing efficiency (Saak 2003).

Other coupled programmes like crop insurance, change the distribution of expected income when yields are low. The US subsidies for crop insurance premiums are proportional to the premium. Since premiums are higher for crops that are riskier to insure, premium subsidies are higher for riskier crops, which encourage production of riskier crops and production in riskier regions. Young et al (2001) report that government crop insurance subsidies of about $1.5 billion a year would add about 9,60,000 acres (about 0.4%) to annual production of eight major field crops, with plantings of wheat and cotton expanding the most.

2.2 Decoupled Programmes

In contrast to coupled programmes, direct payments (DP) and CCPs are essentially decoupled from current production as they are paid regardless of whether the programme crop is currently produced or not. As these payments are made on considerations of historical acreage and historical yield, current acreage decisions of planting and input use are not affected at the margin by these payments. Therefore, producer-incentive price at the margin (for current production) is guided by the movements of relative prices in marketplace.

2.2.1 Direct Payments

Direct payments are largely decoupled since programme benefits do not depend on farmer’s production choices or market conditions, and payments do not affect per unit returns. However, since direct payments are tied to acreage, these benefits are capitalised into farmland values, thereby increasing aggregate producer wealth. Producer wealth, in turn, affects production decisions through investment effect and reduction in risk-averseness (Westcott et al 2002; Westcott and Young 2004).

As for the wealth-induced investment effects, there is a direct effect on account of higher liquidity and an indirect effect due to relaxation of credit constraint. Higher liquidity and higher net worth resulting from direct payments can facilitate additional agricultural production through the increases in agricultural investment. This is also true for farmers who otherwise face credit constraints or limited liquidity. Agricultural investment can also rise because of increased “creditworthiness” of the farmers due to lowering of risk of default. Greater credit availability facilitates additional investments. Additionally, the reduced risk of default can lead to lower interest rates facilitating an increase in investment. For some farmers, increased liquidity provided by the payments may also reduce the need for obtaining loans for short-term operations or for longer term investments. Although there is opportunity costs associated with self-financing, those opportunity costs would be lower than commercial cost of credit. This lower cost of capital can lead to an increase in the overall size of current operations and can raise the level of investment on the farm, both of which would increase farm output. Overall, the increased investment facilitated by direct payments, raises farm sector equity and wealth providing a secondary avenue to wealth effects on production.

The second wealth effect of direct payments on production operates by modifying the farmer’s perception of risk. If payments raise producers’ wealth and lower their risk aversion, they may take on more risk in their production choices. This may entail in an increase in overall production and may also change the production mix, perhaps making cultivation of riskier crops with higher mean (but more variable) expected returns possible. Chavas and Holt (1990: 529-38) found evidence of declining absolute risk aversion with higher wealth, implied by positive wealthy effects on the plantings of corn and soybeans.

2.2.2 Counter-Cyclical Payments

CCPs are essentially decoupled from the farmer’s cropping decisions since they are paid on a constant, predetermined output (equal to 85% of a fixed acreage base times a fixed CCP payment yield) and are not affected by farmer’s current production. Therefore, the CCPs do not affect marginal revenues. The expected marginal revenue of a farmer’s additional output is the expected market price (augmented by marketing loan benefits when prices are lower than loan rates). Hence, CCPs do not affect production directly through expected net returns (Westcott et al 2002).

However, these payments may influence production by reducing revenue variability and risk. Since these payments are linked to market prices, they may influence production decisions indirectly by reducing the total and per unit revenue risk associated with price variability. For example, when the market price of a programme crop decreases in the range from the target price (net of the direct payment rate) to the loan rate, changes in producer revenues arising out of these changes in market prices are partly neutralised by the countercyclical payments. This reduces the revenue risk for the farmer associated with price variability.

Without the CCPs, the distribution of market price and that of the expected revenue per unit production are the same. However, with CCPs, the expected revenue distribution is much narrower than that of market price, owing to the price-offsetting nature of the CCPs (Westcott et al 2002). For a risk-averse farmer, reducing the variability of expected revenues is of prime concern. Thus, the production choice may be skewed in favour of programme crops receiving CCP payments. This revenue stabilisation consideration supplements the profit maximisation objectives that normally underlie the production decisions. The resulting crop-mix and equilibrium level of production reflect the joint consideration of profit maximisation and revenue stabilisation concerns. Also, since the CCPs reduce overall revenue risk, a risk-averse farmer may shift some land to riskier crops that provide expected returns with higher mean, but also higher variability. Again, the chosen production mix would be based on the jointly considered
factors of profit maximisation and revenue risk reduction. Since CCPs provide a revenue risk reduction instrument, the farmer may reduce the use of alternative risk management strategies.

The exact magnitude of these various effects discussed here is an empirical issue. Although expected net returns may remain a dominant consideration, revenue risk reduction provided by CCPs will be important for risk-averse producers.

### 2.2.3 Updating Base Acreage and Payment Yields

Updating the base acreage and payment yield may influence current production choices if farmers expect future legislation to allow them again to update these programme parameters for their farms. For example, farmers may not fully use planting flexibility to move from historically planted and supported crops if they expect future farm programmes to permit an updating of their base acreage. Instead, farmers would have incentives to build and maintain a planting history for programme crops to use for possible future base acreage updating, thereby constraining their response to market signals. Similarly, the use of non-land inputs that affect current yields may be influenced if farmers expect that future farm legislation will permit updating of payment yields. Such updates may also reduce incentives to grow lower yielding varieties of programme crops that have other marketable characteristics. Allowing acreage bases and payment yields to be updated can reduce economic efficiency in production since farmers may not fully respond to signals from the marketplace, but instead, respond to market prices plus the expected benefits of future programmes and programme changes.

To sum up, most of the support programmes in the US are geared towards affecting production, directly or indirectly (Young and Westcott 2000; McDonald and Sumner 2003). The programmes have the potential to distort supply response to a considerable degree. Coupled programmes (the marketing loan programme) have the highest potential to distort the market due to their link with current production. The direct payments, although in principle are not linked to marginal production, have wealth effects. They increase investment, reduce risk aversion and relax credit constraints of the farmer. Finally programmes like CCPs and ACRE payments, supposedly decoupled from current production, reduce the revenue variability of the farmers and thereby farmers’ risk. The combined effect of all these programmes is to insulate the US farmer from the market to a large extent and to stabilise his returns from farming.

### 3  Market-Alienating Effect of Farm Programmes on the Farmer

The US farm policy has been moving towards increasing market orientation with the introduction of programmes that have reduced the degree of coupling of benefits to production. This trend reflects the related policy goals of reducing market distortions and fulfilling commitments to international trade agreements. In this section, we attempt to analyse the success of this policy framework considering the net effect of all the major programmes taken together. Direct payments, counter-cyclical payments and marketing loan programmes are the major programmes analysed here. Let us illustrate the combined effect of these programmes with an example.

For the sake of simplicity we assume that the same crop registered under direct payments and CCP programmes is also cultivated under the marketing loan programme. First, a direct payment “DP” is made. If the market price plus the DP is below the target price of the crop, the difference is paid as CCP payment. Since this is a deficiency payment, this payment will continue to increase as the market price falls reaching its maximum when the market price equals the loan rate. If the market price falls further below the loan rate, the CCP will not increase, but the marketing loan gains come into picture.

1. Direct Payments (DP): Fixed payment based on historical production and a fixed payment rate DPR.

\[ DP = DPR \times \text{Historical production} \]

2. Counter-Cyclical Payments (CCP): These payments are made whenever effective price (which is equal to direct payment rate plus higher of farm/market price, loan rate) falls below target price (set by USDA).

\[ \text{Counter-cyclical payment rate (CCP)} = \text{CCPR} \times \text{Historical production} \]

where

\[ \text{Counter-cyclical payment rate (CCPR)} = \text{Target price (TP)} – \text{direct payment rate (DPR)} – \text{Max \{farm/market price (MP), loan rate (LR)\}} \]

Here market price (MP) is variable, whereas TP and DPR are constant for a reference year

a. If \( MP > LR \) and \( \geq (\text{TP-DPR}) \), then \( \text{CCPR} = 0 \)

b. If \( MP > LR \) but \( < (\text{TP-DPR}) \), then \( \text{CCPR} > 0 \)

And CCP approaches its maximum value when \( MP = LR \) and remains constant thereafter.

c. If \( MP < LR \), then MLG/LDP starts while DPR and CCPR remain constant at their respective maximum values.

3. Marketing Loan Gains (MLG) or Loan Deficiency Payments (LDP):

\[ \text{If } MP < LR, \text{ MLG/LDP } = (LR-MP) \times \text{current production} \]

As can be seen from Figure 4, CCPs become effective as soon as the market price falls below the target price (TP) less the direct payment rate (DPR). The quantum of CCP payments increases with the decline in market price until the market price reaches the loan rate. Thereafter, the CCPs are constant. From this point, the marketing loan gains (for farmers who
forfeit their crop to CCC) and loan deficiency payments (to farmers who do not place their crop in CCC stocks) begin to support the farmer and are the highest when market price falls well below the commodity loan rate. This example assumes that the original programme crop is also the currently planted crop. Otherwise, CCCs and direct payments are based on the original programme crop and the MLG/LDPs are paid, based on the currently produced crop. This will only marginally alter the implications but it is clear that the farmer’s income is stabilised over a long range of market price changes. Table 1 brings out the extent of government support. It can be seen from Table 1 (col 18) that even when the market prices fall well below the loan rates, the farmers’ income is stabilised to the extent of 83% of the targeted income.

Table 1: Support Received through Farm Programmes by the US Farmer – An Illustration

<table>
<thead>
<tr>
<th>MP</th>
<th>A_0</th>
<th>Y_0</th>
<th>A_y</th>
<th>Y_y</th>
<th>TP</th>
<th>DPR</th>
<th>LR</th>
<th>DP</th>
<th>CCP</th>
<th>MLG</th>
<th>Total Payments</th>
<th>Market Receipts</th>
<th>Target Income</th>
<th>Shortfall in Target Income</th>
<th>Total Payments as % of Shortfall in Target Income</th>
<th>Total Receipts</th>
<th>Total Receipts as % of Target Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>35</td>
<td>100</td>
<td>150</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td>5</td>
<td>25</td>
<td>50</td>
<td>1,000,000</td>
<td>0</td>
<td>1,500,000</td>
<td>5,250,000</td>
<td>7,500,000</td>
<td>2,250,000</td>
<td>67</td>
<td>6,750,000</td>
<td>90</td>
</tr>
<tr>
<td>32</td>
<td>100</td>
<td>150</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td>5</td>
<td>25</td>
<td>50</td>
<td>1,300,000</td>
<td>0</td>
<td>1,800,000</td>
<td>4,800,000</td>
<td>7,500,000</td>
<td>2,700,000</td>
<td>67</td>
<td>6,600,000</td>
<td>88</td>
</tr>
<tr>
<td>29</td>
<td>100</td>
<td>150</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td>5</td>
<td>25</td>
<td>50</td>
<td>1,600,000</td>
<td>0</td>
<td>2,100,000</td>
<td>4,350,000</td>
<td>7,500,000</td>
<td>3,150,000</td>
<td>67</td>
<td>6,450,000</td>
<td>86</td>
</tr>
<tr>
<td>26</td>
<td>100</td>
<td>150</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td>5</td>
<td>25</td>
<td>50</td>
<td>1,900,000</td>
<td>0</td>
<td>2,400,000</td>
<td>3,900,000</td>
<td>7,500,000</td>
<td>3,600,000</td>
<td>67</td>
<td>6,300,000</td>
<td>84</td>
</tr>
<tr>
<td>23</td>
<td>100</td>
<td>150</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td>5</td>
<td>25</td>
<td>50</td>
<td>2,000,000</td>
<td>30,000</td>
<td>2,800,000</td>
<td>3,450,000</td>
<td>7,500,000</td>
<td>4,050,000</td>
<td>69</td>
<td>6,250,000</td>
<td>83</td>
</tr>
<tr>
<td>20</td>
<td>100</td>
<td>150</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td>5</td>
<td>25</td>
<td>50</td>
<td>2,000,000</td>
<td>75,000</td>
<td>3,250,000</td>
<td>3,000,000</td>
<td>7,500,000</td>
<td>4,500,000</td>
<td>72</td>
<td>6,250,000</td>
<td>83</td>
</tr>
<tr>
<td>17</td>
<td>100</td>
<td>150</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td>5</td>
<td>25</td>
<td>50</td>
<td>2,000,000</td>
<td>1,20,000</td>
<td>3,700,000</td>
<td>2,550,000</td>
<td>7,500,000</td>
<td>4,950,000</td>
<td>75</td>
<td>6,250,000</td>
<td>83</td>
</tr>
<tr>
<td>14</td>
<td>100</td>
<td>150</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td>5</td>
<td>25</td>
<td>50</td>
<td>2,000,000</td>
<td>1,65,000</td>
<td>4,15,000</td>
<td>2,10,000</td>
<td>7,500,000</td>
<td>5,40,000</td>
<td>77</td>
<td>6,250,000</td>
<td>83</td>
</tr>
<tr>
<td>11</td>
<td>100</td>
<td>150</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td>5</td>
<td>25</td>
<td>50</td>
<td>2,000,000</td>
<td>2,10,000</td>
<td>4,60,000</td>
<td>1,65,000</td>
<td>7,500,000</td>
<td>5,85,000</td>
<td>79</td>
<td>6,250,000</td>
<td>83</td>
</tr>
<tr>
<td>8</td>
<td>100</td>
<td>150</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td>5</td>
<td>25</td>
<td>50</td>
<td>2,000,000</td>
<td>2,55,000</td>
<td>5,05,000</td>
<td>1,20,000</td>
<td>7,500,000</td>
<td>6,30,000</td>
<td>80</td>
<td>6,250,000</td>
<td>83</td>
</tr>
<tr>
<td>5</td>
<td>100</td>
<td>150</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td>5</td>
<td>25</td>
<td>50</td>
<td>2,000,000</td>
<td>3,00,000</td>
<td>5,50,000</td>
<td>75,000</td>
<td>7,500,000</td>
<td>6,75,000</td>
<td>81</td>
<td>6,250,000</td>
<td>83</td>
</tr>
<tr>
<td>2</td>
<td>100</td>
<td>150</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td>5</td>
<td>25</td>
<td>50</td>
<td>2,000,000</td>
<td>3,45,000</td>
<td>5,95,000</td>
<td>30,000</td>
<td>7,500,000</td>
<td>7,20,000</td>
<td>83</td>
<td>6,250,000</td>
<td>83</td>
</tr>
</tbody>
</table>

A_y = Presently cropped area (ha) and yield (tonne/ha); A_0 = Historical area (ha) and yield (tonne/ha); MP = Market Price ($/tonne); TP = Target Price ($/tonne); DP = Direct fixed payments received ($) = DPRA_yY_y; DPR = Direct Payment Rate ($/tonne); LR = Loan Rate fixed by the USDA ($/tonne); CCP = Counter Cyclical Payments Received ($) = (TP-DP-MP)AY_0Y_y; MLG = Marketing Loan Gain ($) = (LR-MP)A_yY_y; Total Payments from the government ($) = CCP+MLG+DP; Total Receipts ($) = Total Payments + Market Receipts, Target Income = (A_yY_y)*Y_0, Total payments as percentage of shortfall in target income = Total Payments as % of Shortfall in Target Income/(Target Income)*100, Shortfall in Total Payments as % of shortfall in target income = Total Payments as % of Shortfall in Target Income/(Target Income)*100, Total Receipts = Total Payments + Market Receipts, Target Income = (A_yY_y)*Y_0, Total Receipts as % of Target Income = Total Receipts/(Target Income)*100.

Figure 5: Extent of Support under US Farm Programmes

(Percentage)

Source: Author’s calculations.

Figure 5 brings out that the government support increases rapidly as the returns from the market fall because of fall in the market price. The relative movements of programme payments vis-à-vis market price and stabilisation of farmers’ income from programme payments should be of interest and not the absolute magnitudes of the payments per se since Table 1 and Figure 5 are based on a hypothetical example. This stabilisation of farmers’ income, which also implies their insulation from the market, results in increases in production discussed in the previous subsection. The extent of support also shows that the avowed objective of greater market orientation of farmers in successive Farm Acts is not realised.

Conclusions

The study attempts to assess the effect of major farm programmes in the US on farm production. Direct payments, CCPs and marketing loan programmes are the major programmes analysed in the study. Direct payments and CCPs are decoupled in nature, whereas the loan programme and the loan deficiency payments are coupled to the current level and pattern of production. Direct payments are fixed payments unrelated to current production or market price. CCPs are made on the basis of fixed historical production, like the direct payments, but are linked to the current market prices. The loan programme payments linked to both the current production and current prices.

The analysis shows that these major farm programmes have insulated the US farmer from the market to a large extent and helped to increase and stabilise farmers’ revenues. While coupled programmes like the marketing loan programme have a direct impact on current production, even the decoupled programmes have indirect effects on production through wealth-induced-investment and by reducing risk-averse behaviour through stabilisation of farm revenue. Many major commodities such as corn, wheat, rice, soybeans and cotton are covered under these programmes. Increase in production as a result of this domestic support can lead to increased exports, which can have price-distorting effects in the world market (Westcott and Price 2001). Therefore, domestic subsidies mainly for major commodities should be reduced and the market orientation of the US farmer needs to be increased.

NOTES

1 Although generally referred to as Farm Acts, these acts are enacted under different years, like (Food, Agriculture, Conservation, and Trade Act of 1990, National Agricultural Law Centre, University of Arkansas, http://www.nationalaglawcenter.org/; Federal Agriculture Improvement and Reform Act of 1996, National Agricultural Law Centre, University of Arkansas; Farm Security and Rural Investment Act of 2002, National...
Agricultural Law Centre, University of Arkansas; Food, Conservation, and Energy Act of 2008, National Agricultural Law Centre, University of Arkansas.

2 For a detailed analysis of decoupled payments see Burfisher and Hopkins (2004).

REFERENCES


(Continued)

### Appendix: Major Farm Programmes in US – A Summary

<table>
<thead>
<tr>
<th>No</th>
<th>Programme</th>
<th>Main Features</th>
<th>Crops Covered</th>
<th>Limitations</th>
<th>Economic Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Income Support Programmes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Deficiency/ direct payments</td>
<td>1990 Farm Act - deficiency payments</td>
<td>Partial flexibility in planting on 25% of the acreage</td>
<td>Rice, wheat, feedgrains corn and upland cotton</td>
<td>Partial planting flexibility applicable to crops other than fruits and vegetables. ARPs restricted acreage that could be planted to any single programme crop. General programme payment limitations apply.</td>
<td>Payments were still tied to current production on 75% of the land and this affected the production choices of the farmer.</td>
</tr>
<tr>
<td></td>
<td>1996 Farm Act - Partial Flexibility Contracts</td>
<td>Hundred percent flexibility in planting but payment rate still linked to current production. ARPs eliminated</td>
<td>Same as in 1990 Act</td>
<td>Land must be kept in agricultural uses. Limitation on planting of fruits and vegetables as in 1990 Act. General programme payment limitations apply.</td>
<td>Payment rate is still linked to current production and therefore affected current production choices of the farmer</td>
</tr>
<tr>
<td></td>
<td>2002 Farm Act – Direct Payments</td>
<td>Hundred percent flexibility in planting. Payment rate is also fixed</td>
<td>Wheat, rice, upland cotton, other feedgrains, soybeans, other oilseeds and peanuts</td>
<td>Almost complete planting flexibility, except for some limitations on planting fruits, vegetables, and wild rice on base acres. The land must be kept in an agricultural or conserving use and farmers must comply with certain conservation and wetland provisions. General programme payment limitations apply.</td>
<td>Substantially decoupled from current production. But payments increase wealth effects and thereby overall investment</td>
</tr>
<tr>
<td></td>
<td>2008 Farm Act – Direct Payments</td>
<td>Hundred percent flexibility in planting. Payment rate is also fixed. Twenty per cent reduction for ACRE programme participants.</td>
<td>Wheat, corn, grain sorghum, barley, oats, upland cotton, rice, soybeans, other oilseeds, and peanuts</td>
<td>Same as 2002 Act. A pilot project for certain states to permit planting of cucumbers, green peas, lima beans, pumpkins, snap beans, sweet corn, and tomatoes grown for processing on base acres during each of the 2009-12 crop years.</td>
<td>Similar as in 2002 Act</td>
</tr>
<tr>
<td>(2) Counter-Cyclical Payments</td>
<td>2002 Farm Act – Counter-Cyclical Payments</td>
<td>Minimises price risk.</td>
<td>Wheat, corn, grain sorghum, barley, oats, rice, upland cotton, soybeans, other oilseeds, and peanuts</td>
<td>Same as for “Direct Payments” above</td>
<td>Reduces production risk by making payments to counter the production cycle. Payments linked to past production may lead to expectations that benefits in the future would be linked to the current production. Such expectations could thereby affect current production decisions.</td>
</tr>
<tr>
<td></td>
<td>2008 Farm Act – Counter-Cyclical Payments</td>
<td>Minimises price risk. Not available for farmers who participate in the new ACRE programme</td>
<td>Wheat, corn, grain sorghum, barley, oats, rice, upland cotton, soybeans, other oilseeds, peanuts, long-grain rice, medium grain rice, dry peas, lentils, small chickpeas and large chickpeas</td>
<td>Same as for “Direct Payments”.</td>
<td>Same as above</td>
</tr>
</tbody>
</table>

Economic & Political Weekly | FEBRUARY 18, 2012 | VOL XLVII NO 7 | 71
Appendix: Major Farm Programmes in US – A Summary (continued)

<table>
<thead>
<tr>
<th>No</th>
<th>Programme</th>
<th>Main Features</th>
<th>Crops Covered</th>
<th>Limitations</th>
<th>Economic Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008 Farm Act – Average Crop Revenue Election (ACRE) Programme</td>
<td>A revenue protection programme. Reduces both yield risk and price risk, unlike CCPs which reduce only the price risk.</td>
<td>Wheat, corn, grain sorghum, barley, oats, upland cotton, rice, soybeans, other oilseeds, peanuts, dry peas, lentils, small chickpeas, and large chickpeas</td>
<td>(i) Available when the state revenue and the farm revenue are both less than some benchmark level. Participants are no longer eligible to receive CCPs. Also, for ACRE farms, direct payment rate for the farm is reduced by 20% and marketing loan rate by 30%.</td>
<td>Helps in reducing farmers’ risk-aversion leading to indirect increase in production.</td>
<td></td>
</tr>
<tr>
<td>II Price Support Programmes</td>
<td>1990 Act- Non-Recourse Loan Programme</td>
<td>Most important price-support programme in US. Farmer gets a loan on harvest as collateral. Can forfeit collateral if market price is lower than loan rate.</td>
<td>Wheat, corn, other foodgrains, cotton, rice, other oilseeds and soybean</td>
<td>Crop production is mandatory</td>
<td>When prices are low, programme creates incentives to produce specific crops for which loan provisions exist. Impacts occur mostly in years when market prices are low.</td>
</tr>
<tr>
<td>1996 Act- Non-Recourse Loan Programme</td>
<td>Same as in previous Act</td>
<td>Wheat, corn, other foodgrains, cotton, rice, other oilseeds, soybean, dairy, peanuts, sugar and honey</td>
<td>Same as in previous Act</td>
<td>Same as above</td>
<td></td>
</tr>
<tr>
<td>2002 Act- Non-Recourse Loan Programme</td>
<td>Same as in previous Act</td>
<td>Wheat, corn, grain sorghum, barley, oats, rice, upland cotton, ELS cotton, soybeans, other oilseeds, peanuts, mohair, wool, honey, small chickpeas, lentils, and dry peas</td>
<td>Same as in previous Act</td>
<td>Same as above</td>
<td></td>
</tr>
<tr>
<td>2008 Act-Non-Recourse Loan Programme</td>
<td>Same as in previous Act</td>
<td>All crops in the 2002 Act plus large chickpeas</td>
<td>Same as in previous Act</td>
<td>Same as above</td>
<td></td>
</tr>
</tbody>
</table>

Tata Institute of Social Sciences:
Platinum Jubilee Conference 2011-2012
on
‘Globalisation and Social Transformation: The Indian Experience’

Dates: February 17-19, 2012

Venue: Tata Institute of Social Sciences, V. N. Purav Marg, Deonar, Mumbai – 400 088

Vision of the Conference: to debate and deliberate the trajectory of globalisation as a transformative process and its consequent effects on the economic, social, and cultural institutions in India. It would be a forum for intelligentsia from academic and non-academic institutions, state and non-state organisations, practitioners and researchers to discuss the challenges of globalisation and the ensuing social transformation within a multi-disciplinary framework. The Conference aims at enhancing knowledge, identifying newer areas and methods of policy advocacy and intervention.

The Conference comprises keynote lectures, plenaries, parallel sessions, as well as oral presentations.

Conference Themes:

1. Economic Growth, Equality and Human Development
2. Organisation, Work and Innovation
3. State, Governance and Citizenship
4. Community, Identity and Marginalisation
5. Environment, Resources and Resistance
6. Inequalities, Vulnerabilities and Human Health and Well-being
7. Transforming Role of Social Institutions in a Global Society
8. Culture, Nation and Change

Speakers:
Mr.Abhyandan, Prof.Amitabh Kundu, Mr.Anish Andheria, Dr.Anu Rammohan, Dr.Bill Pritchard, Prof.Dan Hough, Mr.Debi Goenka, Prof. Enrol D’Souza, Prof. Ghanshyam Shah, Prof. Gopal Guru, Prof. Hargopal, Prof. Imogen Taylor, Prof. K.P. Kannan, Ms. Kalpana Sharma, Ms. Kanchi Kohli, Prof. Mathew Manimala, Prof. Mohan Rao, Prof. Neharika Vohra, Prof. Noshir Contractor, Dr. Ravi Duggal, Prof. Richard Black, Prof. Saskia Sassen, Dr. Sharachchandra Lele, Dr. Savayasaachi, Ms. Smruti Koppikar, Prof. Solomon Benjamin, Prof. Sudha Mohan, Prof. Surinder Jodhka, Prof. T. Jayaraman, Dr. Thelma Narayan, Ms. Vaishali Patil

Registration Fee:
– For Delegates Rs. 2500 and for Students Rs. 1000 for three days (Includes participation, hospitality, reading material and conference kit)
– On spot registration is available

To register: Visit: http://platinum.tiss.edu/events/national-conference/
Email: pjnc@tiss.edu  Call: 022-25525135 (Ms. Amruta Prakash)