

Free Markets and Competitive Norms  
Decoupling from Commodity Programs

INTRODUCTION

Since the 1920's, economists, policymakers and farmers have debated the need for programs to deal with surplus conditions in agricultural markets which drive farm prices below variable costs of production. For the most part, economists argued for reliance on the free market and the competitive system to cure the problems of low prices and low income brought about by excess supplies. Some economists, however, suggested that unrestricted competition results in destructive actions and suggested that government intervention could improve market performance (4). Farmers and many of their organizations asserted that they were at a disadvantage in the market compared with other industries and needed help to get a fair deal. Policymakers listened to both their farmer constituents and to economists. More often than not they agreed with the view that agricultural markets were depressed and sold this view to consumers and taxpayers. Family farmers were identified as the backbone of our society. Policymakers pointed to depressed farm incomes and suggested that aid to commodity producers was necessary to protect our food supply.

Intervention programs were designed to raise total income for the sector and average incomes of commercial producers of program commodities above free market levels (2). The programs, by supporting prices, holding stocks, idling land and providing direct payments transfer income from taxpayers and consumers to farmers. As the various administrations have operated the programs since the 1930's, they have provided annual price floors for program commodities. During most the past 55 years, these floors exceeded short run market clearing levels. Over the entire 55 year period, they have exceeded

long run free market prices. Thus, the price floors have encouraged production which was larger than the market could clear. The excess over sales accumulated in government storage programs and this led to restrictions on production to avoid further accumulations. For the producers of program commodities, income and asset values were higher than they would have been in the absence of the programs.(2) The majority of producers of program commodities became dependent on or coupled to the income support programs.

A change in direction occurred with The Food Security Act of 1985 (FSA) which moved a step away from price supports and a step toward market orientation by allowing price floors and commodity prices to decline. Under the 1985 Act income support to producers of program commodities has been maintained through direct payments base on program yield and program acreage. To facilitate the transition to market orientation and provide protection to producers against the shock of a rapid price decline, direct income support was increased. Substantial expansion in government cost occurred because the direct payments replaced hidden transfers from consumers through supported prices.

In the 1980's the size and distribution of the program budget have become major policy issues. The purpose of the income transfer and effectiveness of the program in achieving income stability appear to be in question and there is considerable debate over whether these income transfers should continue. Some question whether certain commodity producers still deserve a larger than free market share of income. If they do not, there may be a need to cushion the transition to a free market as they are decoupled from the subsidy. While many oppose income support they suggest that the government may have a role in providing for market stability.

The objectives of this paper are to (1) consider how a free agricultural

market would differ from the normative competitive market and (2) to suggest how Federal programs might be used to improve discovery of long run prices and thus improve resource allocation in a market oriented system with minimal Government intervention.

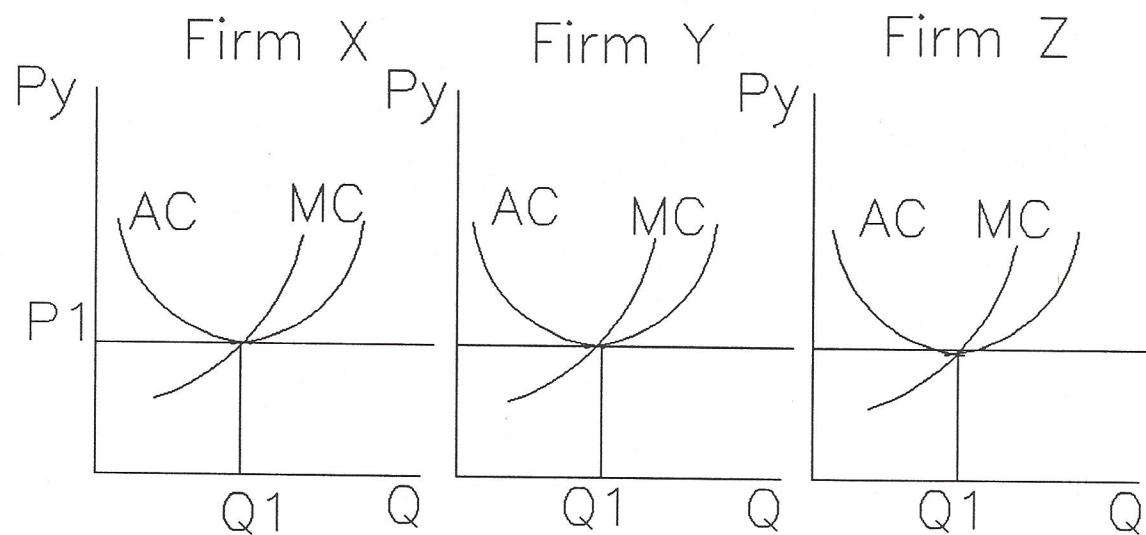
#### THE COMPETITIVE MARKET NORM

At the center of the agricultural policy issues is the basic premise that the competitive market is an efficient and equitable allocator of resources and that the free market for agriculture resembles the competitive norm sufficiently to infer that it would produce an efficient and equitable solution to price and resource adjustment.

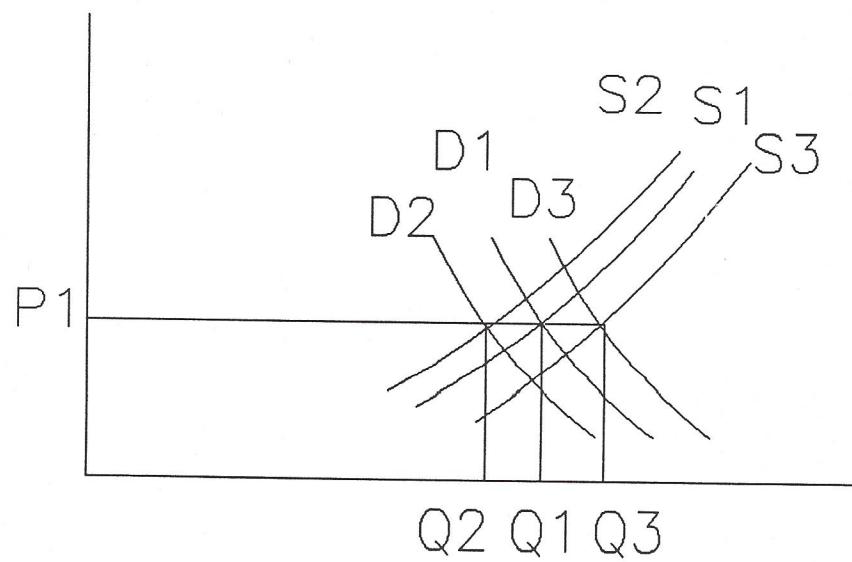
The assumptions of competitive market theory are a scale against which we measure economic performance. According to these assumptions, market intervention should occur only in cases where the market failed to behave competitively. If markets are effective, efficient and equitable, they will result in just the right use of resources to produce just the right quantity of a commodity and free trade will result in countries producing according to their comparative advantage. An equilibrium is achieved between production and consumption. This competitive theoretical framework assumes perfect knowledge and instantaneous adjustment to equilibrium for long run and short run positions. That is, there is no short run. Resources adjust (enter or exit the production process) and excess resources are eliminated. No stocks are carried in the system because production is in equilibrium with consumption and instantaneous adjustment occurs after a shock.

Figure 1 depicts three firms in a normative competitive structure. All produce at the same cost and receive the same price. The firms are so small

Figure 1  
Competitive Norm Equilibrium



Commodity Sector



that they do not affect the market price by their decision to produce.

Resource supplies are readily available at current prices. Entry and exit are costless and shocks induced by a change in sector demand are adjusted to by entry or exit of firms. The commodity sector panel of figure 1 depicts the effects of a demand decrease to D<sub>2</sub> and an increase to D<sub>3</sub>. A new equilibrium is achieved instantaneously. The market passes information from consumers to producers concerning the quantity of resources to use in production and how much to produce. In a free competitive market, quantity and price adjust to bring about an equilibrium between the quantity producers are willing to supply and the quantity consumers are willing to buy.

#### THE FREE MARKET DEPARTS FROM THE NORM

The model just presented is a useful guide for analysis, but the market for farm commodities departs from the assumptions of the perfect market model in several important ways. Specifically, participants lack perfect knowledge; production and consumption do not adjust simultaneously; random shocks from weather affect production and there is not a fixed functional relationship between units of input and units of output; and production is seasonal, but consumption is continuous. In addition, farms vary in size, technology, resource quality, and products produced. And, although producers can plan for an expected output and estimate how that output might vary, they have no basis for determining how output will vary in any one year.

In the free market the quantity shocks that occur because of weather induced yield variability are more than trivial conditions. Although producers can calculate the likelihood of a particular shock, they have no information at planting time on the magnitude of the shock that will occur this year. Even if no economic variables change, weather will bring about a mismatch between expected and actual yield and therefore expected and actual prices. Because

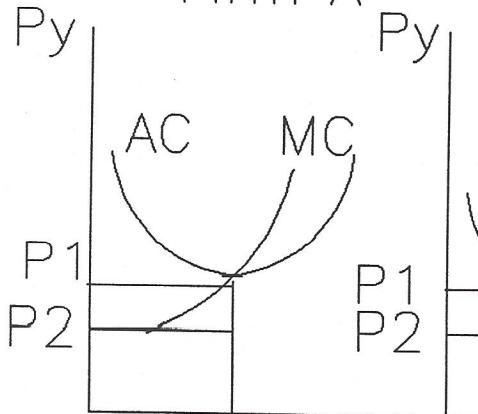
the market allocates actual production among consumers rather than allocating expected supply among expected demands. And, because production is seasonal while consumption is more or less continuous, fundamental economic shifts in demand or supply, as opposed to weather induced supply shifts, are difficult to identify. Thus, producers, consumers and policy-makers have difficulty in forming expectations that conform to the basic economic forces in the market and in adjusting toward an equilibrium position.

Free market planting decisions must be made using an expected price and an expected cost relationships. Investments are lumpy and capital can not be discretely altered once an investment is made. Production takes place if returns are expected to be sufficient to cover variable cost. However, it is only coincidental if expected cost and actual cost or expected price and actual price equate. If the expectation are realized producers earn a return sufficient to cover variable cost and some or all of the fixed cost. If ex post returns are insufficient to cover ex ante costs, losses are incurred and firms go into debt, use previous savings or sell off their assets to a more successful producer.

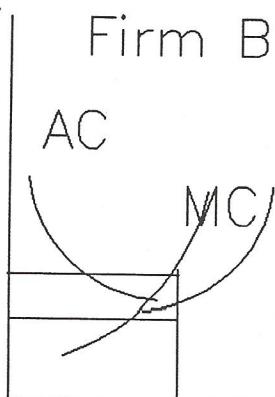
The first two panels of Figure 2 represents two firms out, of many, in a free market and show their ex post condition relative to market price for the commodity and costs. Firm A lost money while firm B made a profit. As a result firm A goes out of business and firm B acquires the assets forming firm AB shown in the third panel. Because of the reorganization, firm AB is able to produce the combined output of A and B at a lower cost than either A or B and can earn a larger profit at the prevailing prices for the commodity by expanding output beyond the previous level to  $Q_{AB}'$ . With other firms expanding production through similar reorganizations or because of technological change

Figure 2 Free Market

Firm A



Firm B



Period 1

$Q_a$

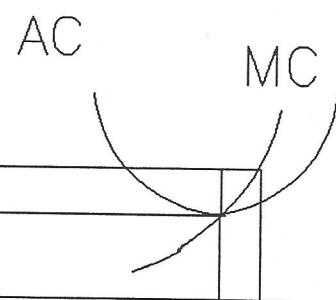
$Q_b$

Firm AB

Period 2

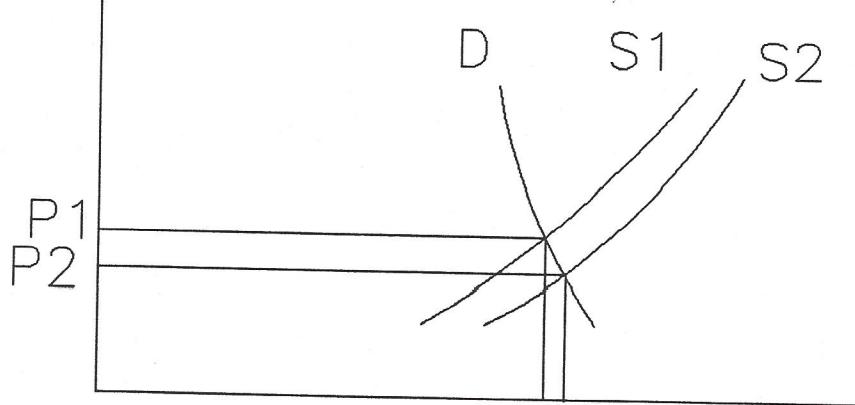
$P_y$

$P_1$   
 $P_2$



$Q_{ab}$

Commodity Sector



sector supply increases driving down the commodity price and inducing further structural change.

Figure 3 depicts the impact of either a technological or structural change against a constant demand in a free market. Supply shifts from period to period and price declines along a constant demand curve. If demand is inelastic sector revenue declines.

#### Policy Induced Disequilibria

Government action using current prices as the trigger variables to initiate changes in program variables prevents the prices from serving as true measures of the need for production in the current period or for future periods.

Support prices established through commodity loans and stock holding by the government distort the allocation of the current year's crop. Figure 4 shows how a loan rate or support price above the market clearing price restricts consumption and results in stock accumulation to protect support price. Over time the constant support price induces greater and greater production relative to demand and adjustment to the free market becomes more and more difficult to achieve without introducing major shocks to producers who are dependant on the support prices to sustain their income and the value of their assets.

Government price floors and income payments impose (1) a heavy burden on the public treasury, and (2) result in higher taxes, (3) higher cost of living, and (4) over stimulation of production for the protected commodity. Yet, in spite of these problems, agriculture programs from 1933 to 1985 have been used to raise incomes of producers by establishing a floor price for program commodities, by acquiring stocks, and limiting production or marketings. A persistent problem has remained throughout the existence of the programs.

Figure 4  
Structural Change  
Impact on Supply

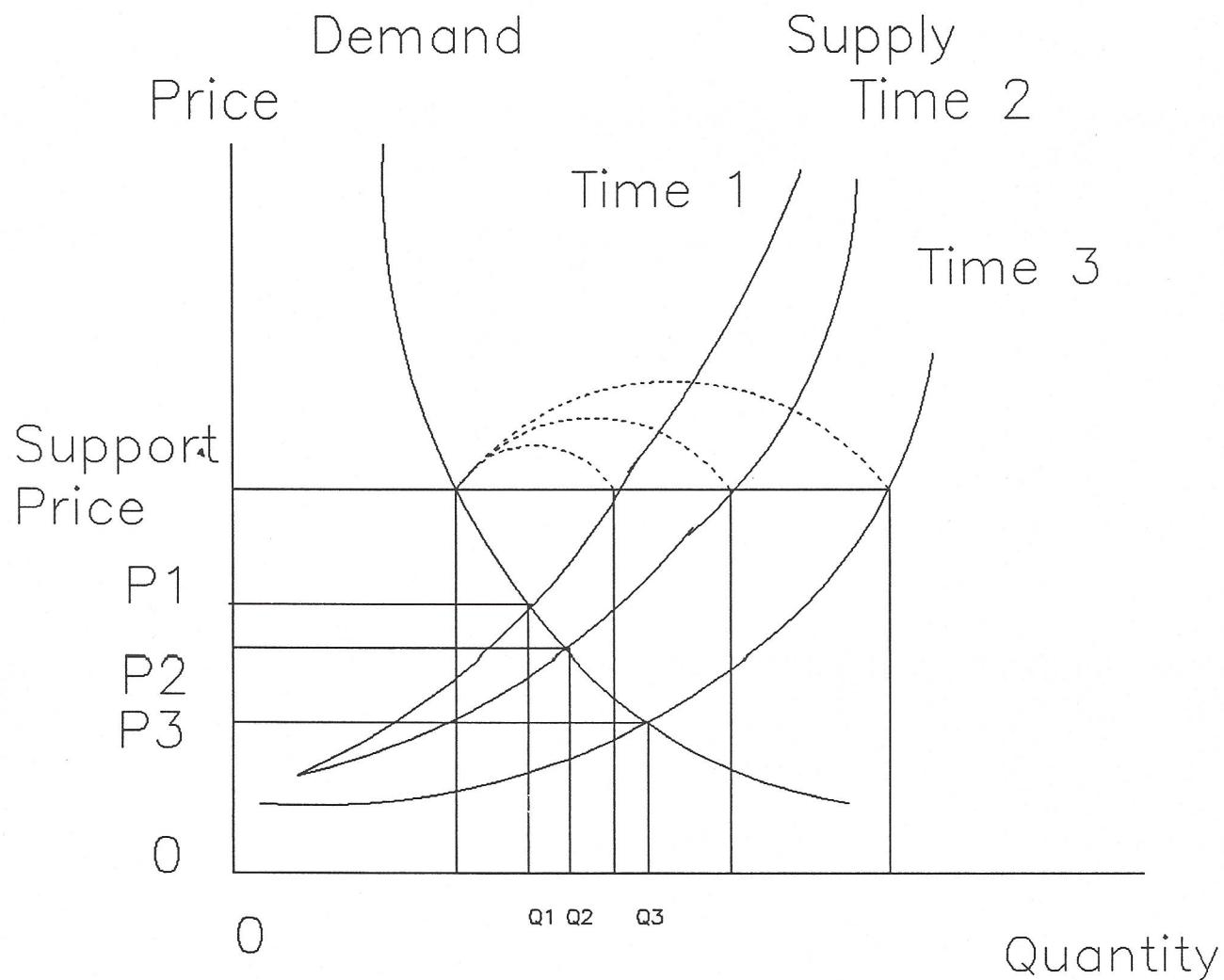
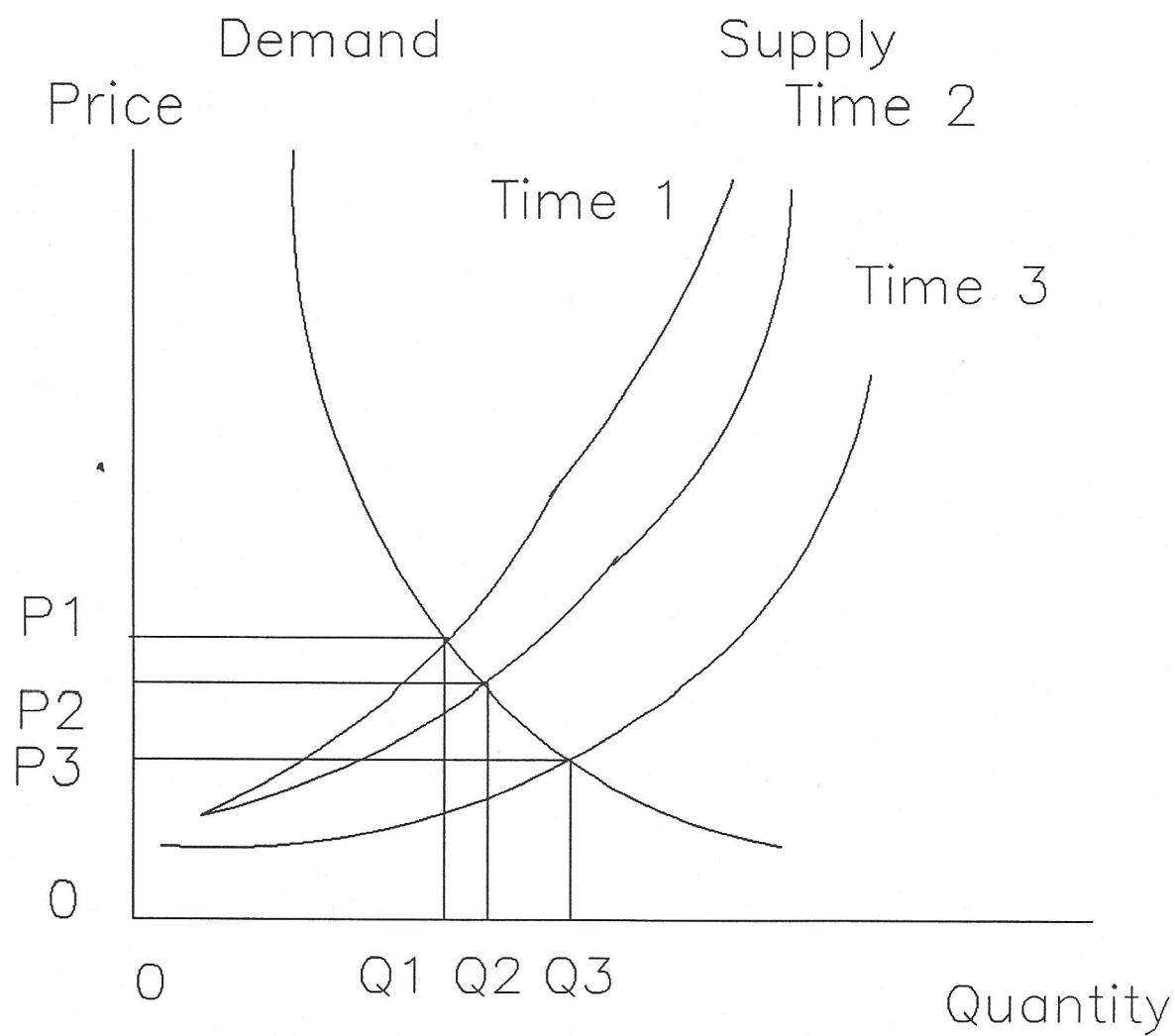


Figure 3  
Structural Change  
Impact on Supply



Policymakers have not been able to establish a safety-net floor price below the long run market price and they therefore had difficulty clearing out stocks from farmer or Government held reserves. This is not too surprising, because it is axiomatic that income support achieved through price supports requires that demand is inelastic and prices must be supported higher than the long run average free market price.

Legislators and program managers, throughout the history of commodity programs, have assumed that chronic excess production was the major force that resulted in a low income problem. However, they relied on weather related variability in production and on acreage reduction programs to extract them from the long run problem of government stock accumulation. The stock accumulation was the result of excess production created by the price support effort. However, production variability is an ineffective procedure for emptying out storage bins, unless large acreage reduction programs restrict production to a level short of expected demand at the supported price.

#### CONTINUING MARKET AND POLICY FAILURE

D. Gale Johnson, in an evaluation of agricultural policy, suggested that the policies of the 1950's were administered to protect agriculture from changing conditions. He believed that the policies of the 1960's were reasonably effective helping agriculture to adjust by moving resources including farmers out of production so that the sector could contract. In the Johnson context, The Agriculture and Food Act of 1981 again tended to protect the sector from changing conditions by fixing loan rates and target prices rather than allowing the sector to make the inevitable resource transfers that would occur

due to structural adjustment in a free market.

Speaking on the subject of policy failure prior to the development of the 1981 act, Johnson said: "If my analysis of the flexibility of resource allocation in agriculture is approximately correct, small errors in program formulation will very soon result in substantial cost to taxpayers, and possibly in difficulties in maintaining our pre-eminent position as a great agricultural exporter." In other words, Johnson thought it would be relatively easy to create significant excess capacity in agriculture, by setting price floors or making income payments payments that are inconsistent with the underlying demand and supply situation. He inferred that when agricultural output is greater than the demand, at supported prices, a long time and large income transfers are required to eliminate the excess productive capacity, if major shocks to the production sector are to be avoided. That is income payments would be needed until demand expanded and enough resources (people, machines and land) exited to arrive at a new equilibrium.

Price floors above long run market price levels are a major cause of excess production. They encourage producers to use more land, labor and capital than they would if prices were lower. However, removal of such floors will not, necessarily, result in a stable market for agricultural commodities or in an improved situation for producers even if commodities are more competitive on the world market. Initially, removing the floor price results in a decline in prices as excess production is forced onto the market. The price decline means that fewer producers will be able to cover the variable production costs and they will be forced to stop producing. They become part of the adjusted resources. In addition, a lack of homogeneity in the costs of production and marketing, resulting from differences in size, management,

technology and location, will produce continuing excess capacity disequilibrium. Loss of resources from the sector will occur regardless of the form of policy. Because costs vary among firms, any price level below the average variable cost of the highest cost firm will result in the inevitable resource adjustment. Some firms will stop producing and attempt to leave the sector. Often the land they had used does not go out of production but is recombined with that of a producer who had excess labor and machinery. Excess labor is removed but production does not diminish because others continue to earn returns above of their variable and, perhaps, total production cost. Unlike industrial assets under excess capacity situations, land retains its basic productivity. Frequently the assets of the exiting firms are recombined with those of the more profitable firms and production expands or cost decline or both.

In addition to the effect of enlargement of existing units on production, changing technology will result in a continuing expansion of production with a given set of resources. Producers have no means of retaining the cost savings and real prices will trend downward if output increases faster than the combined effects of population and income shift demand. With no change in demand, or with demand shifting more slowly than supply, price will decline forcing additional firms to exit. Production does not, necessarily, fall, because continuing consolidation of assets will occur. In the very long run, with firms exiting the sector, a homogeneity of sorts may be achieved and permit an equilibrium. Or, as concentration continues an oligopolistic system will be developed which permits some control of output at a level allowing the least competitive firm to remain in production because allocation of market shares has occurred.

## ADJUSTING TO THE MARKET: DECOUPLING

Past price support policies caused more resource employment in crop production than the level needed to meet domestic and export demand at current prices. Stocks have accumulated. Removing excess supply from the sector requires that real prices for output and real earnings must fall to force disinvestment from the sector or demand must be expanded faster than output grows.

Allowing real earnings to fall to the point that rapidly forces many of resources out of the sector is a painful treatment of the problem. In 1922, Henry A. Wallace, discussing the problem of heavy production against slack demand and addressing the possibility of market intervention said: "... in the long run every economic evil creates its own cure. If prices of farm products continue sufficiently long enough below cost of production, there will eventually be forced into bankruptcy enough farmers so that there will be no longer a disastrous surplus. At the same time there will be readjustments of land values, wages, etc., which will lower the production costs." (3) His statement approaches the level of biblical prophecy. Commodity prices and land values continued to fall through the 1920's. While some farmers went bankrupt others mechanized and expanded as a result of the lower costs of production achieved with mechanization. In addition, land formerly used to produce feed for horse became available for wheat, cotton and tobacco production. And, new land was made available through subsidised irrigation systems. Throughout the decade from 1922 to 1932 the number of producers increased rather than diminish as commodity prices declined. The expansion continued until the return on an additional acre of land at the margin was driven below the tax rate and the land was given up for taxes. In Dec. 1932, the Federal Farm Board found it reasonable to argue that the present need was to raise the general level of farm prices up to the average level of prices of other

commodities.(2)

Since 1933 the adjustment to lower revenues for individuals and for the sector has been slowed by commodity programs but it has not been avoided on a long term basis. Since 1933, over 4 million farms have disappeared. Even with programs, some producers found that they could earn more at a non farm job and quit farming. Some retired and were not replaced because prospective farmers found higher paying non farm jobs. Others combined farm and non farm employment to increase there real income. Yet, prices and incomes are still supported above world prices, production cost per unit of output continue to decline as technology changes and stocks accumulate in government storage unless acreage used for production is sharply restricted.

Adjusting to the real economic conditions and making a transition to a lower level of returns while smoothing the adjustment process remains complex from both an economic and political perspective. Over half a century of experience shows that expansion of demand (shifting demand) at a fast enough rate to keep prices from falling is economically and perhaps biologically impossible. Arbitrarily establishing a rigid price floor or a target price results in price certainty and provides the wrong information about future profitability. Tying price floors to current production costs results in distortion and escalation of returns in a manner that escalates future resources values. This results in higher support levels in the future, higher production costs and an upward ratchet effect on support prices.

The complexity extends beyond agriculture. Eliminating subsidies for agricultural producers eliminates income in the communities in which they do business. Grocery stores, banks, input suppliers and other local merchants find that their services are no longer needed. Local governments loose tax

revenue and government services are reduced.

#### WORKABLE OPTIONS

Other than producers of specific commodities, their lobbyists and their representative few would argue that the regressive subsidy system currently in use, which aids the largest and most efficient and results in a skewing of net returns and wealth to program commodity producers, is a necessary or desirable program.

Many believe that the market should be free to adjust to general economic conditions yet there is a concern that moving to a free market would create undue adjustment problems for those who must do without the subsidies. Also, a general concern exists over the availability of food supplies and the stability of food prices.

Decoupling from price supports for specific commodities provides an opportunity to establish programs which limit subsidies and contribute to market stability without setting prices or subsidy levels. The critical aspect of any market oriented system is that the programs should not directly set prices.

Once decoupled from price floors, the dynamic effects of the heterogeneous structure and technological change will drive prices down causing excess resources (land, labor and capital) to leave agriculture. Accomplishing such an adjustment while reducing the shock to current producers and to rural communities will be difficult to achieve. However, the process could be facilitated by some type of resource buy-out program such as a long term acreage diversion program that removes resources from production without a tie to a specific commodity and without fixing prices. Such a program could result in retirement of resources from production and prevent their

recombination into other production units. Prices changes from changes in demand or changes in technology and output are the economically determined signals that we wish to have transmitted. With prices free to move according to real demand and supply shifts, the cost of resource diversion program would be diminished. The resource buy-out, similar to the dairy herd buy-out, would shift land, labor and capital out of production by allowing producers the option of bidding for a future stream of adjustment payments over a 5, 10 or 15 year period or continuing to produce for the free market with no protection through non recourse loans. The bid program would efficiently minimise the cost of the buy-out transition payments because the program would not be competing with other programs.

With prices free to shift and without nonrecourse loans, producers would experience a high degree of price variability from weather induced yield shocks. This variability in prices, due to impact of weather on yields, could be reduced to a minimum if a stocks acquisition and dispersal program bases on yield variability were implemented. As an example, if yield exceeded the ten year moving trend projected average, the government could offer to buy the deviation of the national average above trend yield times the national harvested acreage and some percentage of the 5 year moving average price. These stocks would always be for sale at 115 percent of the five year moving average price. Yield affects on price would be minimized and long run price trends would be more apparent.

#### CONCLUSIONS

To achieve improved long run price discovery flexibility in prices is essential. To treat chronic excess capacity through Federal programs

resources must leave the sector through positive adjustment programs and prices must adjust to economic stimuli. Prices must react to rationalize the market if income declines as a result of a change in the business cycle or if demand shifts as a result of a change in foreign exchange rates,

Without price fixing programs, the agricultural sector would continue to experience a high degree of quantity and price variability from yield shocks. Also, the sector would continue to experience price disequilibrium, because of heterogeneity, even after the excess capacity induced by current programs is removed.

Programs to provide for price stability must use quantity changes as triggers and prices must be free to move with long run supply and demand conditions.

Resource adjustment programs must be devised to provide for the transition of resources out of the sector with a minimum of economic disruption.

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