COMMODITY PROGRAMS AND INFLATION*

J.B. PENN**

Inflation has been identified by many as the nation's number one economic problem. And that makes the theme of this plenary session--inflation and its pervasiveness in agriculture and the food system--especially timely. Unfortunately (and perhaps inexcusably), we have woefully little rigorous analysis of the subject to allow comprehensive assessment of impacts. We can, then, hardly be prescriptive. The role of the agricultural commodity programs in the performance of the national economy and their contribution to the persistent inflation is complex. The complexity has grown in this decade with the increased interdependence of the agricultural sector and the national economy.

This paper identifies and explores the major considerations necessary for full and complete analysis of the costs and benefits of these programs to society, especially the inflationary impacts. I will discuss:

- o the impacts of inflation on the agricultural sector and the commodity programs
- o the role of commodity programs in affecting the national price level,
- o the mechanism by which agricultural prices are transmitted through the economic system, and
- o some issues and research areas important to future public policy decisions.

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** Deputy Administrator for Economics, Economics, Statistics and Cooperatives Service, U.S. Department of Agriculture, Washington, D.C.

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Background and Current Setting

Agriculture has a dual role in inflation--it is both perpetrator and victim. And, of course, the distributive impacts are ever present; seldom are the groups that benefit (cause) from inflation the ones most immediately victimized by it. But everyone is eventually victimized by inflation. So, why this paradox? Why do people urge their special interest, such as the commodity programs, when short-term gains must surely be overtaken and hugely outweighed by long-run adversities?

Expectations and Self-Interest

We have seen another curious paradox in recent public opinion polls of the national mood. Most individuals feel they are doing well and have bright prospects. Yet, they feel that the country is in poor shape and has an uncertain future.

This split personality of the American public exhibits an incongruity between personal and national expectations which cannot exist forever. Individuals will eventually cease to prosper if the nation ceases to prosper.

This apparent irrationality may well derive from the subject of this session, inflation. It is directly related to the subject of this paper; the farm commodity programs, part of a growing concern over special interests versus the national interest.

A popular phrase, the "Me-First" decade (or generation) is used to characterize our present situation: one where people focus so closely on their own economic position that the national interests become blurred. This condition is not only condoned but supported

by public policy. Such selfishness is most evident in efforts to control inflation. The public tells the opinion pollers that inflation is the nation's number one economic problem. Further, all agree that the most strenuous effort should be made to halt inflation, so long as the burden falls on someone else. The cry of the me-firsters is loudest when any attempt is made to rationalize Federal programs--with a view toward improving efficiency and eliminating duplication--or to reduce the deficit of the Federal budget. Such attempts inevitably run into one or another of the special interest groups.

When inflation becomes the perceived norm, the incongruity between personal and national expenditures may not be so incongruous after all. Most people have found ways to beat the system. Some buy land or homes or other things that appreciate more rapidly than the cost of living. Government and private sector workers have succeeded in getting their wages, salaries, and pensions indexed to the cost of living.

Does individual progress really go hand in hand with national deterioration? A positive response may unfortunately be the logical one. As individuals, we are earning more money and increasing our material levels of well-being, while at the same time, the country is losing ground. The national economy becomes less and less competitive with those of other nations (evidence the growing sentiment for protectionism). It becomes increasingly vulnerable to the actions of other nations, as the recent OPEC oil price increases have demonstrated.

Personal hopes, in the long run, must come into accord with national expectations. But, not the least of the evils of inflation is that it keeps postponing the day of reckoning. It keeps advancing the time when Americans must finally come to grips with the problem.

Old Paradigm of Commodity Programs

The commodity programs were inaugurated to alleviate low farm incomes experienced in the twenties. The income problem emerged as per capita incomes in the nonfarm economy rose to levels such that the demand for food became inelastic. Consumers could purchase all the food they needed. But, the farm sector productive capacity was far in excess of that needed to meet domestic and foreign requirements. The excess production brought sharply lower commodity prices and the resulting farm incomes were much lower than incomes in the nonfarm sector.

The initial programs were considered temporary, but the resource disequilibrium in agriculture was severe. Resource adjustment was much too slow for the problem to be quickly eliminated. Low incomes persisted and the programs were continued, even to this day. Only in atypical periods, such as wartime and the recent 1973-75 period, have the programs been shelved.

These programs have incorporated a variety of methods to secure farm incomes at politically acceptable levels. For over three decades, the preoccupation was with supporting commodity prices. Maintaining prices above market clearing (equilibrium) levels proved to have many undesirable side effects. Uneconomic production was encouraged and

consumption was discouraged. Surpluses, of course, accumulated. These results necessitated production control, and various means, usually involving some form of limiting the land input, were used. By the end of the sixties, price support loans, direct purchases, marketing quotas and orders, set-asides, diversion, acreage allotments, direct payments, and some other methods had all been used at various times to increase commodity prices and farm incomes. It all amounted to high costs for increasing farm incomes.

New Paradigm of Commodity Programs

The incomes problem in agriculture had seemingly become eternal as we entered the seventies. Huge commodity surpluses were in Government stockpiles, vast acreages of cropland were idle, and the income transfers to the farm sector were large and growing. But, largely unnoticed, the needed sectoral resource (especially labor) adjustment had been slowly occurring over the years (Schuh). The resource disequilibrium was becoming less pronounced even though the symptoms lingered. And, just when the problem appeared to be most severe--the largest proportion of the acreage capacity ever, fully one-fifth, was idle in 1972--a convergence of events produced a dramatic economic upheaval. Evidently, the sector was nearing relative resource equilibrium when the upheaval occurred.

The economic environment for agriculture is a much different one today than before the upheaval. Perhaps the most significant difference is the greatly increased importance of international markets, these

now absorb one-third of the value of domestic production and the physical output from one acre of every three. While the incomes problem is no longer paramount in the new setting, equally serious problems have emerged. The instability of commodity prices and farm incomes is perhaps the major problem confronting the sector today. The potential instability is greatly increased by the international markets. They have added the foreign counterpart to the domestic sources of uncertainty and instability such as weather aberrations and economic and political vacillations.

The instability problem is made much more severe by the structural changes that have occurred in the farm sector over the years. Farmers, once able to endure periods of depressed economic conditions because of their relatively low fixed costs and little use of industrial inputs, are unable to do so today. The cost structure of most farm businesses is significantly different today. Annual debt service and fixed cost commitments must be met. Additionally, almost 60 percent of the annual production inputs are purchased, most from the nonfarm sector. The prices of many of these inputs have risen rapidly in this decade, even though unit costs (reflecting productivity) may have been rising less rapidly. This is an important source of cost-push inflation and is in stark contrast with former times when few inputs were purchased from the nonfarm sector and at much more stable prices.

Even though the structure of the farm sector was changing markedly, the basic structure of the commodity programs remained largely unchanged at the beginning of this decade. However, some modifications had been effected over the years to incorporate greater economic rationality. Further modifications have been made in the seventies, at least for the major crop commodities: commodity-by-commodity production restraints were discarded in 1980 in favor of constraining the total plant capacity; full separation of the price support and income support (direct payments) approaches, begun in the mid-sixties, was achieved in 1973; and, in 1977, the antiquated acreage allotment system was abandoned, downward flexibility for the price supports was adopted, additional commodities (rice and peanuts) were brought into the general program framework, and provisions for a price-stabilizing grain reserve were adopted. Direct purchase programs, market orders, import restrictions, and other programs, however, continue to be operated for some major and several minor commodities.

Perhaps the most significant change has been the separation of the price support and income support functions of these programs. This resulted from recognition of the distortions arising from holding commodity prices above market clearing levels, not the least of which was the reduced competitiveness of U.S. commodities in export markets. This separation was completed in the 1973 Farm Bill when the target price/deficiency payment scheme was adopted. This allowed the price supports to be set at relatively

low levels, generally below the market prices, thus largely avoiding the distortions. Deficiency payments now provide the income support formerly provided through price supports. Direct payments, of course, can also contribute to inflationary pressures in the economy, even though prices are not immediately affected.

Transmission of Inflation

An important aspect of the role of commodity programs in inflation is the way in which commodity prices are passed through the economic system. The prices of many agricultural commodities seldom enter directly into determination of the composite national price level. Rather, as raw materials, they influence, to varying degrees and after lags of varying lengths, the prices of final (consumer) products which do enter directly into determination of the national price level. Agricultural commodities may be:

- o sold directly to consumers (e.g., fruits and vegetables and, in this case, their prices are consumer prices);
- o used as raw materials for manufacture of finished food products (e.g., wheat for bread), hence are reflected indirectly through the food component of the CPI; 1/
- o used as raw materials for industrial products (e.g., soybean oil for paints and varnishes) and are also subsequently reflected indirectly in the appropriate category of the CPI; and

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1/ The all-food component of the CPI also reflects prices for food products that do not have a domestic farm origin. These include imported foods, fish and nonalcoholic beverages.

- o sold for export, priced in the international commodity markets, thus are not reflected directly in the national price level, but influence the level of domestic prices.

The relative proportion of products sold directly to consumers and their importance in total food expenditures is small--valued at $3.5 billion or 1.5 percent of total food expenditures.

The prices of commodities that serve as raw material for food products are indirectly reflected in the food component of the CPI. The food component at present has a weight of 18 percent of the CPI, indicating that this proportion of total consumer expenditures is for food at home (12 percent) and away from home (6 percent).

Having noted that the primary linkage of commodity prices to the national price level, hence inflation, is through retail food prices, it is instructive to look at the relative importance of commodity prices in food prices. Some notion of this may be gained by examining food expenditures (price times quantity). The farm value of commodities in 1978 comprised 26 percent of total expenditures and 32 percent of expenditures for domestically produced farm foods (excludes imported foods, fish, and nonalcoholic beverages). Thus, the value of farm commodities in total domestic food expenditures comprises only about one-third, meaning that the remaining two-thirds are accounted for by nonfood inputs.

The food manufacturing and distribution sector--performing the functions of transforming domestic raw farm products into finished foods--contributes about twice as much to food costs as do commodities.

Thus, labor, energy, packaging, advertising, and profits have about twice as much impact (through food prices) as raw commodity prices on the national price level. Of these, labor (wage rates) is by far the largest, accounting for about one-half of the marketing bill. Food containers and packaging materials are the second largest, followed by rail and truck transportation.

An increasingly important factor in food price inflation is the large service component (an added product attribute). This is a response to changing consumer preferences arising from demographic and age distribution shifts, the changing role of women, income growth, and other factors characteristic of our population.

Illustrating the relative impacts of commodity price changes, a 10-percent increase in all commodity prices, ceteris paribus, would increase shortrun food prices about 3.3 percent. Likewise, a 10-percent increase in retail food prices would add about 1.8 percent to the inflation rate. The extent and rapidity of raw material price impacts on retail prices depend, of course, on the mix of commodity price increases (reflecting their relative importance) and on the ability of firms at each stage in the food system to pass through the price increases to the next stage, a function of their market power.

With this background, I now turn to examining the commodity programs, first as a victim, then as a perpetrator of inflation.

Inflation Impacts on Commodity Programs

There is a circularity in inflation and agriculture, both in terms of price transmission and in the formation of expectations that perpetuate inflation. Price increases are soon incorporated into decisionmakers' expectations; they become the perceived norm. These inflation expectations are in part self-fulfilling; they create demands for greater economic protection. As each group attempts to beat the system, to protect their self-interest, they seek enhancement of the commodity programs to protect them against inflation. The interest groups press their demands upon the Executive Branch and the Congress. Often they are successful: decisions are frequently taken in a micro context and another incremental contribution is made to perpetuating the expected inflation.

Inflation affects the farm sector in the short run through the costs of inputs. As noted above, 60 percent of the annual production inputs are purchased from the nonfarm sector. The prices of these inputs are largely determined by forces in the nonfarm economy. Cost increases are quickly reflected in these input prices and the imperfect structure of the inputs industries means these are quickly passed on to farmers.

The major longrun effect of inflation is perhaps in the way it affects the prices of fixed assets, primarily land for agricultural purposes. The effect is especially pronounced for farmers who have purchased land in this decade, when the average annual price increase has been 12 percent. The result is, of course, increased cost of

production, further creating incentives to seek enhancement of the commodity programs to reduce the risk associated with the large investment.

The inflation-induced production cost increases also affect the cost of operating the commodity programs. An obvious example is the milk price support program which indexes the level of support to the formula-determined parity price. The milk price support was $4.28 per hundredweight in 1969; today, it is $10.76, an increase of 151 percent for an average annual increase of 15 percent.

These are adverse impacts of inflation on agriculture other than the commodity programs. These are treated in the other papers and outside the scope of this discussion.

Commodity Program Impacts on Inflation

There is little doubt that the commodity programs, to the extent they are successful in achieving their purpose, contribute to inflation. And, they do so in a number of ways other than a direct increase in prices.

The programs serve to reduce the economic risk associated with the production of a specific commodity. They limit the downside risk on price, enabling farmers to increase their financial leverage and encouraging lenders to lend more. This increased leverage and capital availability allows farmers to bid up the price of assets, especially land. Related, the programs also serve to influence farmers' long-term expectation about the profitability of production. More positive expectations are factors encouraging expanded asset acquisition, again usually resulting in increased asset prices.

To the extent that the programs lead (rather than lag) production cost increases, they serve to widen the cost-price spread, at least temporarily. This, in turn, stimulates greater use of inputs and expanded asset acquisition. However, the longrun average cost will eventually increase and any advantage from the wider spread eliminated. The increased demand for inputs will result in increased input prices, especially for those products in the most heavily concentrated markets. The cumulative cost increases (land and other inputs) from these effects become reflected in the longrun average cost and subsequently in higher product prices. But, the higher longrun average cost creates new demands for enhancement of the commodity programs and the cycle starts again.

The commodity programs may also produce other secondary impacts as they influence the CPI. The Federal budget today approaches $505 billion, of which some $160 billion (32 percent) is for Federal programs that are directly or indirectly indexed to the CPI (i.e., the benefits of outlays are tied to the "cost of living" as measured by the CPI). These include such programs as Social Security, Supplemental Security Income, military and civilian government employee retirement programs, the Food Stamp Program, and the like. Although not direct, a reasonable rule of thumb for measuring the second-round impact is that each 1 percent increase in the CPI increases Federal budget outlays by $1.0 billion to $1.5 billion.

A commodity price/food price/CPI increase has even more far-reaching impacts. About 23 million (23.7 percent) of the total labor force of 97 million workers are unionized and most have contracts with cost of living adjustments tied to the CPI. Thus, wage increases follow price increases. And, this is not limited only to unionized workers. Nonunion workers frequently follow the lead of the unions, emulating their wage demands. Thus, there is some "demonstration effect" with varying time lags. Wage increases are, of course, eventually reflected in the prices of the final products and the general price level. Many of these products are agricultural production inputs. The higher prices result in higher production costs for farmers. This full-circle transmission of commodity price increases gives rise to the so-called "ratchet effect": the eventual increased costs are largely inflexible downward while commodity prices are not. This produces another well-known condition, the "cost-price squeeze."

The capitalization of the commodity program benefits into land and other fixed asset prices may also produce a shortrun inflationary effect. However, the longer term effect of this capitalization may be much more serious as it affects entry, exit, and the structure of the farm sector.

Although the payments programs are less inflationary than price supports, they can have an adverse inflationary effect. To the extent inflation is demand-pull, the transfer payments to the farm sector undoubtedly increase this pressure. And, to the extent the payments increase the budget deficit, there are inflation impacts through debt

service and impacts that can extend even to the value of the dollar in international currency markets. These are the little explored areas in assessments of commodity program impacts.

In addition to the price support-loan and payments programs, other commodity programs such as federal market orders also contribute to inflation, if only in a small way (Dobson and Salathe, Jamison). While they do stabilize prices, they also do so at somewhat higher than competitive levels.

Food Prices and Inflation--A Historical Perspective

The supply and demand conditions underlying price formation for commodities are affected by many factors that serve to cause price volatility. These sources derive from domestic weather and natural phenomena (diseases, pests) and, much more importantly since the early seventies, world weather and world economic and political events.

A review of the historical role of commodity prices/food prices in inflation indicates that in 18 of the 29 years since 1949 food prices contributed less than 1 percentage point to the overall rate of inflation (table 1). In 22 of those years, food prices increased at a slower annual rate than the rate of inflation in the general economy. Food prices actually declined in 4 years, while the CPI has declined only once since 1949 (in 1955).

Food prices have increased 185 percent since 1950. Up to 1967, the increase was relatively slow; the average annual increase was 2.5 percent. Since then, however, the rate has accelerated, to an annual average rate of more than 7 percent (9 percent since 1972). The two

Table / --Contribution of food prices to inflation

Year	CPI food	Change in CPI food	Contribution to all-item CPI 1/	All-item CPI	Change in all-item CPI	Increase in all-item CPI accounted for by food 2/
		Percent	Index points		Percent	Percent
1950	74.5			72.1		
1951	82.8	11.1	2.74	77.8	7.9	48.1
1952	84.3	1.8	.50	79.5	2.2	29.1
1953	83.0	-1.5	-.43	80.1	.8	0
1954	82.8	-.2	-.07	80.5	.5	0
1955	81.6	-1.4	-.40	80.2	-.4	0
1956	82.2	.7	.20	81.4	1.5	16.5
1957	84.9	3.3	.89	84.3	3.6	30.7
1958	88.5	4.2	1.19	86.6	2.7	51.6
1959	87.1	-1.6	-.46	87.3	.8	0
1960	88.0	1.0	.30	88.7	1.6	21.2
1961	89.1	1.3	.36	89.6	1.0	40.3
1962	89.9	.9	.26	90.6	1.1	26.4
1963	91.2	1.4	.29	91.7	1.2	26.0
1964	92.4	1.3	.26	92.9	1.3	22.0
1965	94.4	2.2	.44	94.5	1.7	27.5
1966	99.1	5.0	1.08	97.2	2.9	40.0
1967	100.0	.9	.21	100.0	2.9	7.4
1968	103.6	3.6	.83	104.2	4.2	19.7
1969	108.9	5.1	1.22	109.8	5.4	21.8
1970	114.9	5.5	1.38	116.3	5.9	21.2
1971	118.4	3.0	.81	121.3	4.3	16.1
1972	123.5	4.3	1.17	125.3	3.3	29.3
1973	141.4	14.5	4.11	133.1	6.2	52.8
1974	161.7	14.4	4.67	147.7	11.0	32.0
1975	175.4	8.5	3.15	161.2	9.1	23.3
1976	180.8	3.1	1.24	170.5	5.8	13.4
1977	192.2	6.3	2.62	181.5	6.5	23.8
1978	211.4	10.0	3.46	195.4	7.7	24.9

1/ The change in the CPI for food multiplied by its relative weight in the all-item CPI. The relative weight of food in the all-item CPI was 0.33 from 1950 through 1962, 0.22 from 1963 through 1965, 0.23 from 1966 through 1977 and 0.18 in 1978.

2/ Column 3 divided by annual change (index points) in the all-item CPI.

Source: Salathe, Larry E., and William T. Boehm. Food Prices in Perspective. U.S. Dept. Agr., Econ., Stat., and Coop. Serv., Agr. Inf. Bull. 427, July 1979, p. 6.

largest year-to-year changes occurred in 1973 and 1974 when retail food prices increased 14 percent each year.

Future year-to-year increases in food prices will more closely reflect the underlying rate of inflation in the nonfarm economy, evidencing the importance of the nonfarm inputs and services in producing finished food products. However, significant aberrations will still come from shortrun disruptions in the supply of and demand for raw farm commodities.

Issues and Research Areas

The overriding public policy issue is, of course, the elimination of the underlying causes of inflation in the national economy. Successful courses of action to achieve this have eluded policymakers since the late sixties, and no immediate solution is in sight. However, significantly slowing the rate of inflation will require a concerted effort across the entire economy, a lockstep approach to policy actions with few exceptions to special interest groups. There will be overriding social concerns that merit exceptions, but the means by which these concerns are treated will require close scrutiny to minimize economic distortions.

Research Areas

The major research need is the same one that Schuh noted in 1976: a greater understanding of how domestic agriculture and the national economy fit into a rapidly changing interdependent world. There is a great need for consideration of the farm sector-food system-macroeconomy relationships. The information from greater quantification and understanding of the relationships is a sorely needed input for public

policy decisionmaking. A primary area for research treatment is comprehensive analysis of macroeconomic impacts on the farm sector and food systems and, in turn, the impacts of these sectors on the macroeconomy. This is amply illustrated by the inflation issue.

The development of such research would enable more complete analysis of benefits, costs, and distributive impacts of the agricultural programs. More explicit considerations of the indirect and secondary consequences (alluded to above) could alter the estimated net benefits and policy conclusions about the programs. It could also suggest means by which the programs could be structurally improved.

There is a heightened awareness of the role of macroeconomic policies in determining the structure of the farm sector. Improved understanding of the sector-macroeconomy interdependencies and linkages could help identify and clarify often unrecognized policy impacts on farms by size, type, geographic location, form of business organization, and the like.

As inflation persists, questions about how particular groups will fare and about the role of particular programs under varying rates of inflation will become more frequent. Our present knowledge base for responding to these and related questions is inadequate.

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