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THE OUTLOOK FOR FOOD SUPPLIES AND PRICES

(By James R. Donald, Deputy Outlook and Situation Officer, Economic Research Service, USDA)

The current food situation is highlighted by: Large supplies due to fairly good crop harvests and heavy output of livestock and poultry products; relatively strong demand both here and abroad; and marketing costs that are rising about in line with general inflation in the U.S. economy. All this adds up to the relative stability we've seen in retail food prices this year. The 1977 outlook is for continued generous food supplies. Prices will start the year fairly stable but increase into spring if beef supplies tighten as expected.

With the increase in food supplies outpacing demand this year, retail food prices will average only about 3 percent above 1975. Rising marketing spreads, coupled with higher prices for imported foods and restaurant meals, are behind the moderate retail price rise. Larger supplies are also contributing to an increase in per capita food consumption in 1976. And, combined with the moderate rise in retail prices, consumer expenditures for food may increase about 6 or 7 percent from 1975.

FOOD DEVELOPMENTS DURING 1976

Food supplies

Increased supplies of food commodities are available this year. A significant expansion in livestock and poultry supplies and larger January 1 inventories of crop-related foods are offsetting slightly smaller production of crop foods. For major field crops: Wheat production is near last year's record; the corn crop is record large; however, the soybean crop is down because of smaller plantings and drought-reduced yields.

Among other crop foods: Supplies of sugar and sweeteners are much larger this year; fresh and processed potatoes and sweet potatoes have been in tight supply, but the important fall potato crop is record large and should be adequate for domestic use and expanded exports; tonnage of processing vegetable crops will be the smallest since 1972, but carryover stocks will keep supplies large enough for domestic disappearance, particularly for canned vegetables; and the citrus crop is expected to be well above last year's record, while noncitrus tonnage is down moderately. Some imported foods, and a few fishery products, are in tighter supply.

Livestock and poultry product supplies are well above a year ago, reflecting the record 1975 feed crop and favorable feed prices in relation to livestock and poultry product prices. Rising pork output combined with large beef production pushed meat output to very high

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levels this summer. For the year, output of animal products is likely to exceed 1975 by 5 to 6 percent, with more generous supplies of beef, pork, broilers, turkeys, and milk.

Food demand

While softening a bit with the summer pause in economic activity, demand has been fairly strong for record food supplies. The turnaround in economic activity that began in the second half of 1975 has resulted in gains in employment and rising consumer incomes. Combined with larger supplies and relatively stable food prices, this has led to rising civilian consumption of food products.

Domestic demand for crops—which flow into both feed and food uses—has been rising in response to expanded livestock production. However, the gain in demand for animal feed is expected to slacken in coming months as cattle numbers decline and feeders alter plans in response to less favorable feed cost-product price relationships.

Export demand for U.S. farm commodities has been rising in recent years, and is expected to remain relatively strong through mid-1977. A high level of exports is indicated for the coming year by expanded domestic activity in several countries—notably in Europe, Canada, and Japan—and the need for relatively large imports by Europe because of reduced crop prospects. However, world food production prospects are improved this year, with indications of expanded production of both food grains and feed grains. This should lead to some easing in tight world food supplies, particularly wheat, and a slightly reduced level of total commodity imports from the United States.

Food prices

The combination of the farm price of food and marketing costs determines the price of food to consumers. There are several ways to measure food prices or costs. USDA computes the retail cost as well as the farm value, and farm-retail price spread, for a market basket for farm foods, based on data from the Bureau of Labor Statistics (BLS). BLS includes a measure of retail food prices in its Consumer Price Index. In this index, food accounts for about one-fourth. The food index itself includes two components: Food consumed at home, or purchased in grocery stores, accounts for most of the total, with food consumed away from home accounting for 20 to 25 percent. The food-at-home component is weighted slightly more toward livestock products than crop foods.

With food supplies outpacing demand, farm food commodity prices have been easing since the summer of 1975 due to a decline in farm value, a measure of returns to farmers for food products. This fall, the *farm value* of the market basket of farm food commodities will be well below a year ago and, for the year, average nearly 4 percent below 1975. Livestock-related foods—particularly meat animals—have shown the greatest decline. Crop-related foods generally have been under less downward price pressure.

Although the farm value of the food market basket has declined over the past year, the *retail cost* of the basket of farm foods is averaging slightly higher in 1976. A rise of about 5 percent in the *farm-retail spread* is accounting for the small rise in the retail cost of domestically-

produced foods. While the spread is widening this year because of higher marketing costs, largely reflecting wage settlements and higher packaging and transportation costs, the expected increase is only about half the 1975 advance. Among major foods, price spreads have increased the most for those commodities showing the sharpest price declines at the farm, including beef, pork, and bread.

If consumers purchased only domestically produced farm foods from grocery stores, they would pay about 1¼ percent more for food this year than a year ago. But consumers also buy imported foods, such as coffee and fishery products. Taking these purchases into account pushes up average retail food prices by slightly more than 1 percentage point—to an average increase of nearly 2½ percent for all food consumed at home.

Finally, consumers do not purchase their total food needs in grocery stores. That is, they eat away from home in places like restaurants and pay for the services of someone else to prepare and serve meals. And taking this into account tacks another percentage point onto this year's food price increase.

All told, taking into account farm-produced foods, imported foods, fishery products, and meals eaten away from home, the prices consumers pay for food will average around 3 percent more in 1976 than in 1975. Still, this is sharply below 1975's 8½ percent increase and the lowest annual rate of increase since 1971.

Per capita consumption and consumer expenditures

With record large food supplies and higher consumer incomes, U.S. per capita food consumption for all of 1976 is likely to be up a little over 2 percent from 1975, and nearly equal the record high of 1972. Consumption of crop foods, where 1976 supplies were supplemented by large carryovers from 1975 crops, may be up slightly over 1 percent, while animal product use may be about 3 percent higher. The combination of 2 percent larger consumption and 3 percent higher prices will mean a rise of 6 or 7 percent in *consumer expenditures* for food. But food spending is not likely to match the rise in disposable personal income; so the percentage of income spent for food is likely to average slightly less than the 17.1 percent in 1975.

FOOD OUTLOOK FOR 1977

Looking ahead into 1977, large food supplies will continue to slow the rise in food prices during the first half. At the same time, demand expansion and rising marketing costs will put upward pressure on food prices. On balance, a retail food price increase of 2 to 4 percent is in prospect for the first half of 1977.

However, the seasonal pattern of food price movements may shift sharply as 1977 unfolds, mostly due to a reduction in beef supplies by next spring. During the first quarter of 1977, a price increase of 2 or 3 percent is expected over a year earlier, mainly reflecting increasing prices for coffee, some produce items and higher marketing costs and restaurant meals. But by next spring, food price increases may be a little sharper if the economy is strong and beef output declines as expected. Prospective higher farm prices, coupled with marketing costs

5 to 6 percent above the spring of 1976, may lead to food price increases averaging 3 or 4 percent above last spring.

Crop supplies and livestock product output during the first half of 1977 generally depend on plans and actions already taken by producers. The second half of next year is less certain. On the crop side, farm prices this winter and next spring, along with growing and harvesting conditions, will greatly influence crop supplies during the summer and fall of 1977. Relatively favorable crop prices are indicated if demand continues strong as expected and this should lead to large 1977 plantings, particularly for soybeans.

Prospective 1977 crop developments also will influence production plans for livestock and poultry. Output of animal products should remain large in the second half of 1977, especially if supplies and prices of feed are favorable to livestock and poultry producers.

Cattle are a key to the outlook. If feed cattle prices improve this winter and next spring as expected, cattlemen will likely increase placements on feed and reduce the number of animals going to slaughter directly off grass during the first half. This would point to a little larger beef production in the second half. Coupled with continued relatively large pork, poultry, and milk output, animal product supplies would continue at a high level, although below the second half of this year.

On balance, 1977 looks like a year of fairly generous food supplies for consumers, with another year of only moderately rising retail food prices.

What Price Food: Source and Causes of Price Variations

Now, let's examine the food situation in a long-run perspective. Today's interest in food prices is in stark contrast to just 3 years ago. Let me quote the first line of the food outlook talk presented at this conference in December 1973: "Food prices in 1973 have risen at the most rapid rate in over a quarter century." (Summers, 1973.)

Prices are still a topic for discussion, but the overall level of retail food prices has been fairly stable in 1976 and concern now more often centers around particular foods rather than the overall level of food prices. Developments over the past few years have stimulated considerable interest in a better understanding of the forces and factors influencing the Nation's food system. Insight can be gained by reviewing causes of the sharp rise in food prices during 1973 and 1974 and the slowdowns in 1975 and 1976.

WORLD FOOD TIES GROWING

The understanding of how much food, which types of food, and at what price food is available to consumers involves a complex set of developments that came into focus in the 1970's. Of particular note is the interdependence of the food production and marketing system in the United States and the food systems of other countries. A brief overview of supply-demand developments during the 1970's will help us understand these interrelationships and provide a basis for examining implications for the future.

The most striking development has occurred on the demand side. Since 1972, the value of U.S. agricultural exports has jumped from less than $10 billion to about $22 billion. U.S. exports have grown in importance until they now account for about a fourth of the total market for crop commodities.

The growth in world demand was largely brought on by increasing incomes and rising population, coupled with the decision by the U.S.S.R. to import food. This introduced more uncertainty into domestic agricultural markets and caused sharp variations in food prices to both farmers and consumers. U.S. exports are sensitive to both supply and demand conditions in other countries. These conditions can change rapidly if weather reduces crops or if economic activity stimulates demand, as well as with economic-trade policies, such as international currency alignments.

The sharp rise in U.S. retail food prices in 1973 is explained by a combination of these conditions. Simply put: Weather-reduced world crops in the face of expanding world economic activity and strong demand caused a jump in food prices. Although the farm value represented only about 40 percent of retail cost, higher commodity prices accounted for three-fourths of the 14½ percent rise in retail food prices in 1973.

In 1974, retail food prices again increased by 14½ percent, but only about a fourth of the increase was due to higher farm commodity prices. Farm price rises were moderated by an easing of the tight world food supply-demand relationship. But marketing spreads rose sharply, reflecting rising costs and delayed passthrough after economic controls were removed. The sharp rise in marketing costs also reflected economic interdependence of world economies as the embargo tightened oil supplies. This contributed to higher costs for the energy-dependent U.S. food system, from farm to retail.

Since 1974, farm food prices have continued an easing trend as world food supplies generally caught up with demand. In 1975, about three-fourths of the advance in retail prices was due to rising marketing costs. In 1976, marketing costs are accounting for all the moderate increase in retail food prices, even though there has been a slowing in the marketing cost rise. The farm value of food will be below 1975.

Thus, it is evident that both the level of and changes in retail food prices vary with food supply-demand conditions here and abroad, as well as with marketing costs in this country. For individual foods, the volatility in prices can vary greatly, depending on the proportion that farm value is of retail cost. Livestock and poultry products are generally more closely tied to the volatility of farm prices than are crop foods since the farm value constitutes a higher proportion of their retail cost. Moreover, inventories of major crops can cushion the impact of supply-demand changes. For example, the farm value for beef and eggs accounts for over half of the retail cost, while for bread and corn flakes the farm value is less than a fourth. Fresh fruit and potatoes tend to fall between these extremes. While fresh produce undergoes little processing, marketing costs are large because of transportation and retailing costs (Harp, 1976).

Sources of food supply

The U.S. food supply depends heavily on the output of domestic farms and ranches. In the 1970's, the percentage of the total supply of food from domestic production has fluctuated around 88 percent. The remaining 12 percent comes from imports.

The supply of livestock food commodities is almost entirely from domestic sources, 96 percent, while about 70 percent of crop foods are produced in this country. Prices for imported crop foods can be quite variable, such as for coffee, reflecting supply and demand conditions both here and abroad.

Supply factors.—U.S. farm production of food commodities is heavily dependent on the relationship between production costs and product prices. Production costs are closely tied to the quantity and price of inputs farmers use. Farmers are becoming increasingly dependent on outside sources to furnish production inputs.

Today, farmers purchase well over half their inputs from outside sources, and these purchases have been rising. Thus, the farm sector is becoming increasingly linked to and dependent upon input supply industries—and the availability and price of inputs have a critical impact on farm food production. At the same time, costs have been rising in other sectors of the economy in response to rising energy costs and inflationary pressures. This has resulted in cost pressures throughout all the sectors of the food system in the 1970's.

Cost pressures on prices can be moderated by productivity gains throughout the food system, either through more output from a given quantity of inputs or from the same output from a reduced quantity of inputs. But productivity gains in the food system appear to have slowed in the 1970's.

For example, one study found that food system labor productivity slowed from over a 3-percent annual growth rate in the 1960's to less than 1 percent in the 1970's (Durost and Kirkley, 1976). Among the sectors of the food system, the farming sector has been the leader in productivity gains. But in the 1970's, farm labor productivity has slowed and crop production per acre has been cut below longer term trends.

Several developments have tended to reduce yield levels: Less productive acres have been brought back into cultivation; high input prices caused farmers to cut back on the quantity of inputs used, especially in years of declining farm prices; and weather and disease have taken a severe toll on the farm sector several years, with the corn blight of 1970 and weather problems in 1974 and 1976. On the livestock side, the banning of DES (diethylstilbestrol) tended to moderate efficiency gains in cattle and calf feeding, although substitutes for DES should help recapture losses.

Sources of demand for food

There are three primary sources of demand for farm commodities: Domestic food use; animal feed; and exports. As a percentage of total use, domestic food use and animal feed have trended downward in the 1970's. Exports of all farm food products now account for nearly 18 percent of the total compared with about 12 percent in 1971. But

exports of crop foods account for 27 percent of crop utilization compared with 18 percent in 1971. Animal feed accounts for about 30 percent of total utilization, but year-to-year variations usually are not as sharp as for exports.

Demand factors.—The level and composition of *domestic food use* or per capita food consumption reflect a combination of economic, sociological, and psychological factors. Historically, the level of per capita consumption in terms of total pounds has shown a gradual downward trend, although it has remained around 1,450 pounds (retail weight) in the 1970's. But of far more interest and significance is the changing composition of foods consumed, where sociological and psychological factors have increased in importance (LeBovit, 1976 and Manchester, 1976). Consumption has shifted away from lower valued foods toward those of higher value, reflecting improved living standards and rising per capita incomes. Both livestock and crop-related foods have trended upward at about the same rate; but within the livestock group, meat and poultry have been a big gainer while eggs and dairy products have trended downward. Among crop foods, vegetable oils and processed fruits and vegetables have shown major increases in use.

On balance, the combination of domestic demand factors affecting the level of per capita food consumption, as well as consumption of individual foods, tends to impact gradually over time. Sharp year-to-year changes are more likely to be associated with changes in food supplies. Also, participation in domestic food programs works in the direction of more stability in food consumption. Food stamps, in particular, may provide a floor for food expenditures above levels to which they otherwise would fall rather than generating a greatly expanded demand for food (Bunting and Reese, 1975). People participating in the food stamp program reached a peak of 19 million in 1975.

Animal feed use is tied in with per capita consumption of foods. As consumers have upgraded their diets, they have consumed more protein from meat and poultry, directly increasing the demand for feed crops.

The overall level of animal feed use shows more stability than does the use of individual feeds. However, the level of feed use can show considerable year-to-year change because of changes in feed prices in relation to animal product prices. For example, a sharp increase in cattle slaughter because of a squeeze on feeding profitability can cut back on the number of animals being fed and reduce feed requirements.

In the 1970's, supplies and prices of feed crop have shown considerable variation. This has meant increasing fluctuation in livestock product supplies and retail prices. But, by no means, is all the variability at the farm or the consumer level due to the increasing instability of feed supplies and costs. Cycles in beef and pork production, for example, would be likely even if adequate low-cost feed supplies were available to producers, reflecting farm level adjustments to changes in consumer demand.

Among the demand sources for food, exports are the most volatile. U.S. exports vary with both supply and demand factors abroad, as well as with changes in government policies in other countries. For

example, the decision of the U.S.S.R. to increase imports to meet food production shortfalls greatly tightened world food supply-demand balances and contributed to the sharp increase in U.S. farm and food prices.

As in the United States, the composition of food consumption abroad has been changing with the increase in the level of consumer income. Crop-related foods generally constitute a greater proportion of total food consumption than in the United States. But the consumption of meat and poultry as a source of protein is increasing, although it is still small in a number of countries.

Food production in many countries shows greater year-to-year variability than in the United States due to weather and climatic factors. Crops in the U.S.S.R., for example, are more vulnerable to weather since they are grown in more northern latitudes.

Thus, weather variability, growing demand for food, and closer world economic ties have led to a sharp increase in the level of U.S. food commodity exports. While these developments set the stage for sharp year-to-year changes in U.S. exports, trade arrangements with several countries help to stabilize U.S. food supplies and prices.

THE FUTURE

Since 1973 most of the increase in retail food prices can be attributed to increased marketing costs, including transportation, packaging, and labor costs. Still, with reduced prices at the farm level for food in 1976, retail food prices are advancing at about half the rate of increase as the CPI and thus slowing the increase in the overall cost of living.

As we move into the future, both the level of food prices and year-to-year changes will depend heavily on factors related to general price inflation, food production both here and abroad, productivity throughout the sectors of the food system, food demand, and Government policy.

The impact of these factors on retail food prices will be reflected through marketing costs and farm prices. Marketing costs have become increasingly tied to inflation, or the overall cost of living, and this is likely to remain the case in the future. If upward cost pressures continue as expected in the economy, marketing costs will rise. For example, about one-half of total food marketing costs are accounted for by labor and, currently, wage contracts of at least one-sixth of food industry employees include cost-of-living adjustment clauses that are tied to the CPI for all items (Barr and Blanciforti, 1976). And wages of nonunion and management employees usually follow changes in collective bargaining agreements. Further, transportation and packaging costs, the next two largest components of food marketing charges, will be responsive to rising energy requirements and generally higher operating costs.

On the production side, the world has the potential to produce adequate food supplies. Questions center around the level of farm prices needed by producers to cover the cost of producing food and the impact of weather, disease, and pests on the food supply. In the United States, farmers have the capability to produce sufficient food for current domestic and export needs but uncertainty centers around pro-

duction costs and product prices needed by U.S. producers to expand production to meet growing food markets.

Developments in the 1970's would suggest the possibility of a continued high level of exports, and considerable year-to-year variability because of changing conditions abroad.

The total quantity of food that U.S. farms will supply, and at what prices, is related to production costs and the productivity of resources used by farmers. Upward cost pressures are likely to continue in the farm sector, especially for inputs related to energy, labor, and environmental quality. Among other inputs, a key question centers around the cost of feed. For example, feed cost rises would increase the cost of finished cattle and could result in the cattle industry becoming more dependent on roughages and thus tend to reduce productivity gains in feeding (Allen, 1976).

For both crops and livestock, there is further potential for substituting capital for other inputs, such as labor, and continuing output gains from adoption of available technology (Farrell, 1976). However, total farm productivity has slowed in recent years. Annual gains of 1 to 1½ percent to 1985 are projected by the Economic Research Service and realization of these gains assumes that yields will be subject to "the average weather conditions that prevailed during 1950–72" (Smith, 1976).

The projected rate of productivity gain likely would not fully offset the impact on production of rising costs, since the latter costs may rise more in line with prices for chemicals, fertilizers, and energy. And, even if productivity gains hold per unit food production costs and farm prices constant, expanding demand would likely exert upward pressure farm food prices in some years.

The worldwide demand for food products likely will continue to expand with rising world population and increasing per capita incomes. It is generally agreed that the United States can remain a competitive producer of food commodities in relation to other countries. This implies that the United States can maintain a significant share of world food trade, with a continued strong export demand for U.S. food products. However, world trade expansion could slow as countries abroad strive for greater self-sufficiency in food production. In this case, the rate of U.S. export growth may not match recent years.

U.S. per capita food consumption may continue relatively stable to possibly slightly increasing with use of processed foods and fresh meats continuing to show the fastest gain. This would suggest a little, if any, change in the farm value as a percent of retail cost due to these shifts since farmers' small share of processed foods likely would be offset by their large share for meat.

On balance, the level of retail food prices in the future will reflect the impact of inflation in the economy, marketing and production costs, productivity, and the level and composition of food demand.

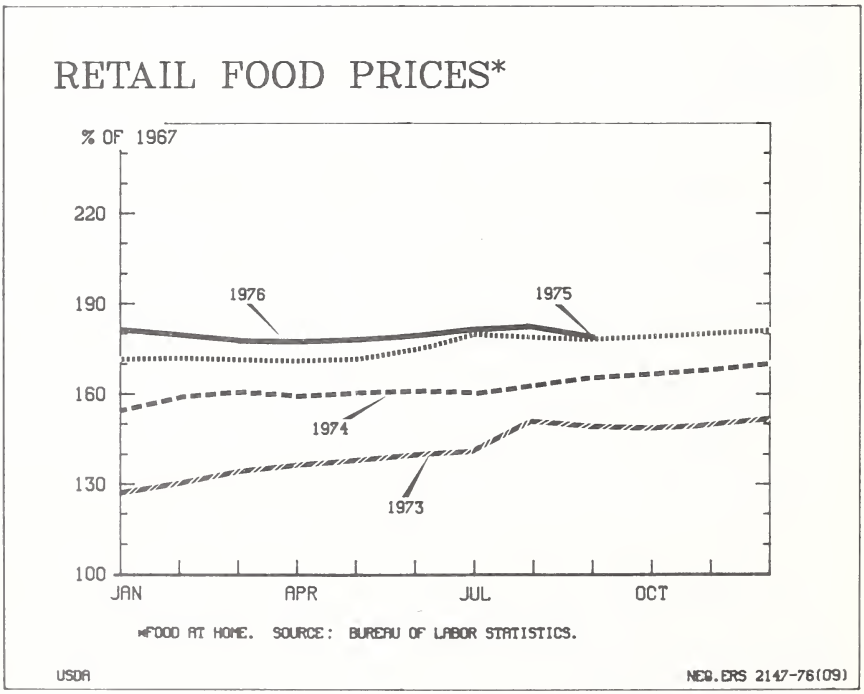
Retail food prices—and especially year-to-year variations in prices—also could be affected by Government policy. Governments can influence both farm and retail food prices through farm programs or retail price stabilization programs. Governments generally use indirect methods to moderate the impact of changes in food supplies and demand on farm retail food prices, such as the recent U.S. grain

trade arrangements with several countries. Reserve food stocks represent another indirect method, either through stocks owned and held by the Government, or through privately owned and held stocks with assistance from the Government; and actions may be related to international trade, including export embargoes, taxes and subsidies, adjusting tariffs and quotas on imports, trade arrangements and commodity agreements.

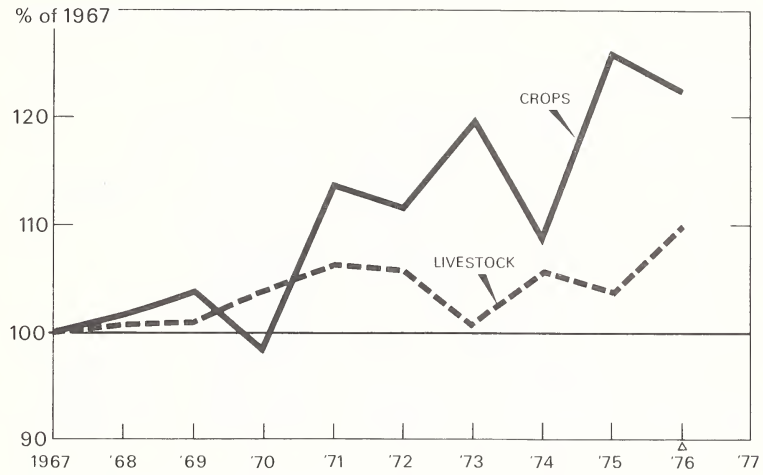
In looking ahead, most indications point to a desire of countries to assure their producers reasonable incomes and consumers adequate food supplies, whether through domestic production or trade. In either case, this points to closer economic ties among countries and perhaps relaxation of trade barriers, particularly to meet production deficits.

In summary, both producers and consumers became more aware of their food system in the 1970's. Their voices—whether from farmers in the United States who complained of grain embargoes or consumers in Poland who pressured the government to rescind sharp food price increases—were raised and heard around the world.

Consumer voices were probably louder than producers', particularly about the sharp rises in food prices. This might suggest pressures for more stability in food supplies and prices in the years ahead, but prospects appear far from certain about the level of food prices—the 3 percent yearly increase in food prices during the 1960's looks much less likely for the 1980's.



PRODUCTION OF FOOD COMMODITIES



Based on supply-utilization index data, which uses 1957-1959 farm price weights.
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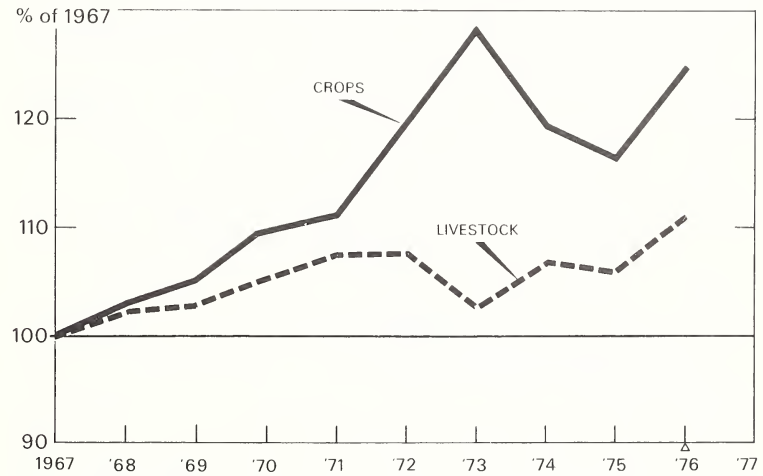
USDA/ERS November, 1976

UTILIZATION OF FOOD COMMODITIES



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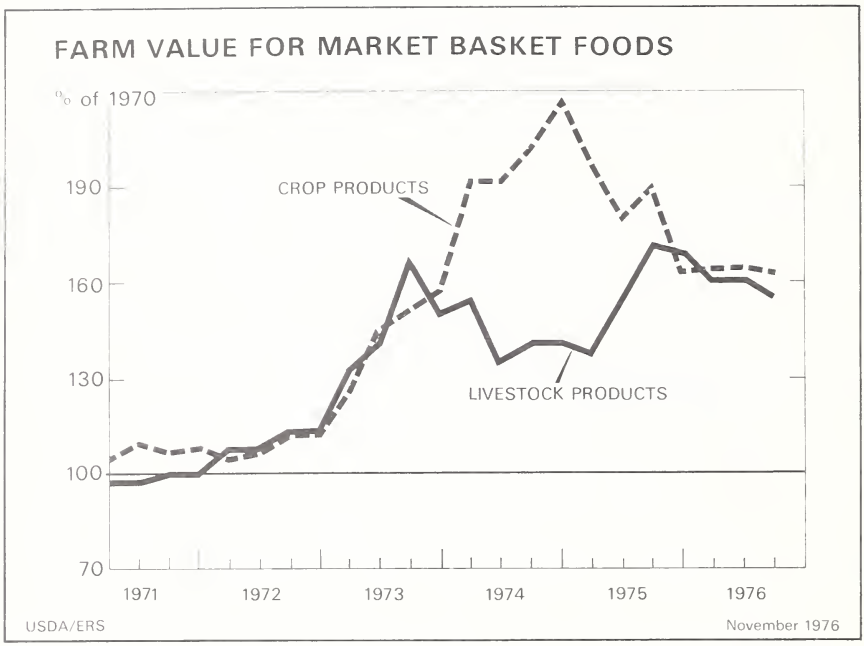
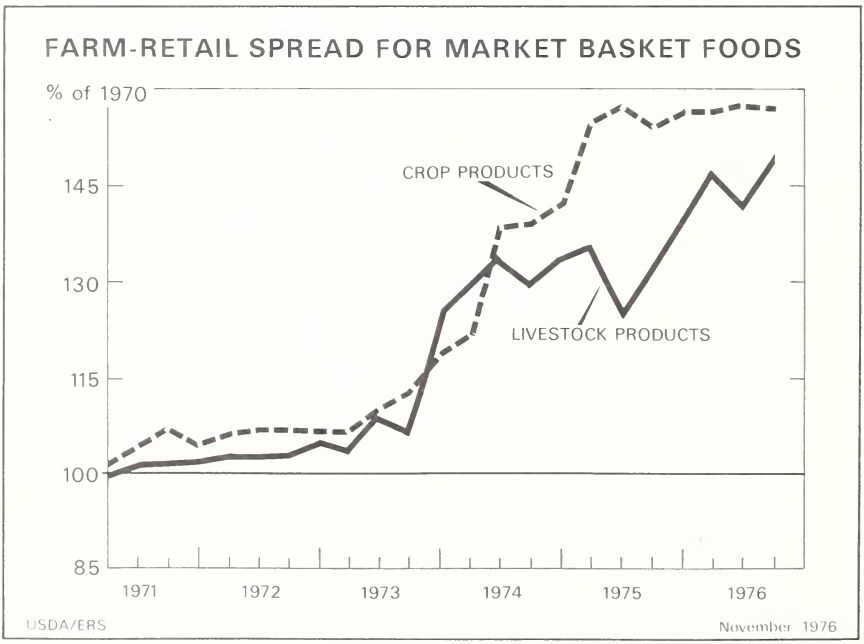
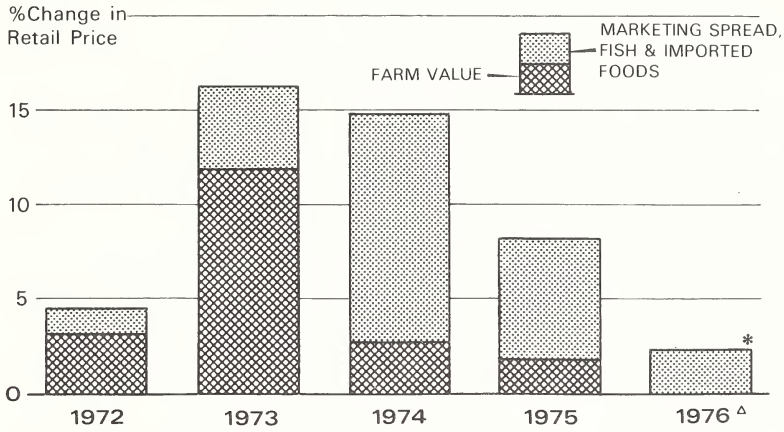

FARM VALUE FOR MARKET BASKET FOODS
% of 1970
190
160
130
100
70
CROP PRODUCTS
LIVESTOCK PRODUCTS
1971
1972
1973
1974
1975
1976
USDA/ERS
November 1976


FARM-RETAIL SPREAD FOR MARKET BASKET FOODS
% of 1970
145
130
115
100
85
CROP PRODUCTS
LIVESTOCK PRODUCTS
1971
1972
1973
1974
1975
1976
USDA/ERS
November 1976

COMPONENTS OF INCREASES IN FOOD STORE PRICES



*Farm value decreased. ΔEstimated.

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FARMER'S SHARE OF RETAIL PRICE

UNDER 25 PERCENT	25 TO 50 PERCENT	OVER 50 PERCENT
CANNED CORN	FROZEN ORANGE JUICE	BEEF
CANNED TOMATOES	PEANUT BUTTER	PORK
CANNED SPAGHETTI	FRESH APPLES	BUTTER
CORN FLAKES	LETTUCE	EGGS
SANDWICH COOKIES	ICE CREAM	MILK
BREAD	FLOUR	FRYING CHICKENS
FRENCH FRIED POTATOES	POTATOES	TURKEY

THIRD QUARTER, 1976

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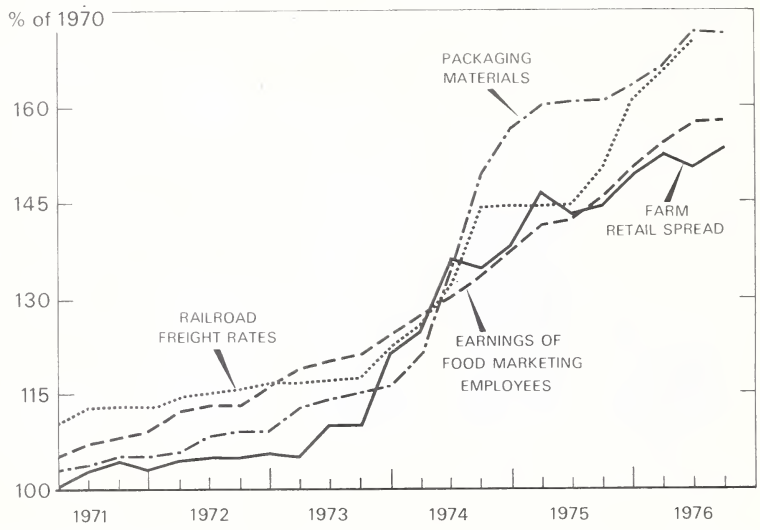
FARM RETAIL SPREAD AND MARKETING COSTS



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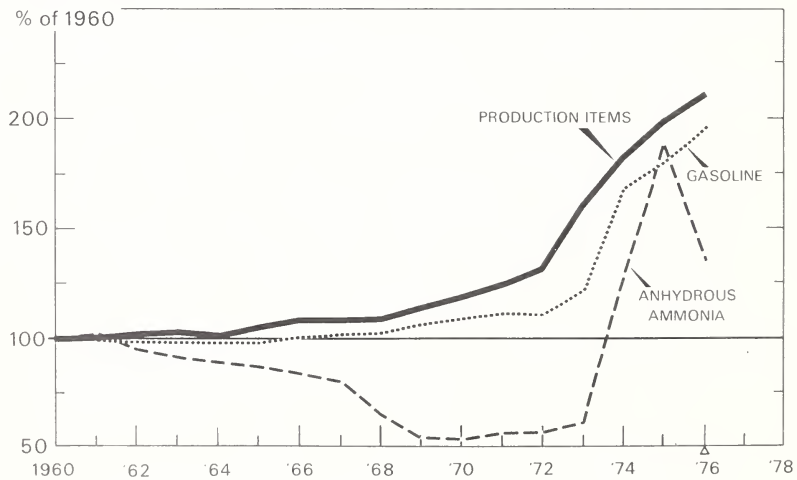
PRICES FOR PRODUCTION ITEMS, GASOLINE, AND ANHYDROUS AMMONIA



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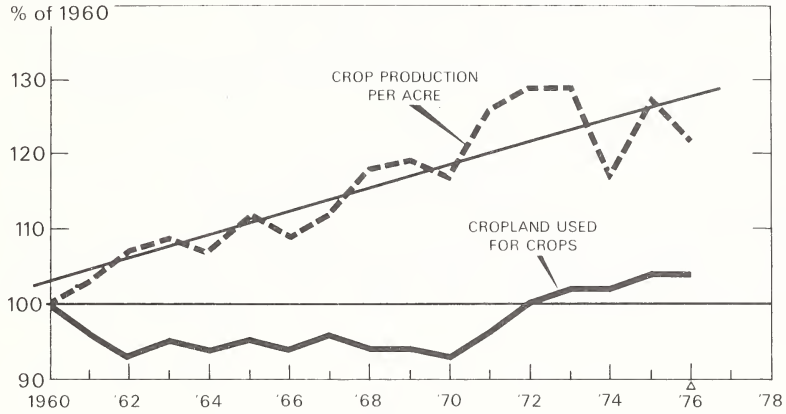
CROP PRODUCTION PER ACRE AND CROPLAND USED FOR CROPS



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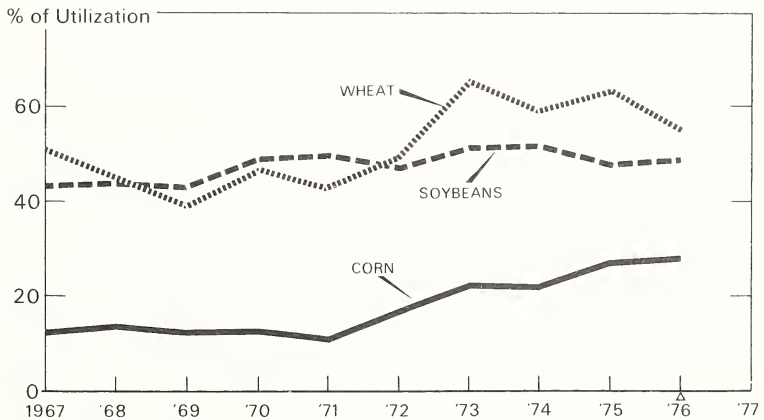
EXPORTS AS A SHARE OF UTILIZATION FOR SELECTED CROPS



Based on supply-utilization index data, which uses 1957 1959 farm prices weights.
△ Preliminary.

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