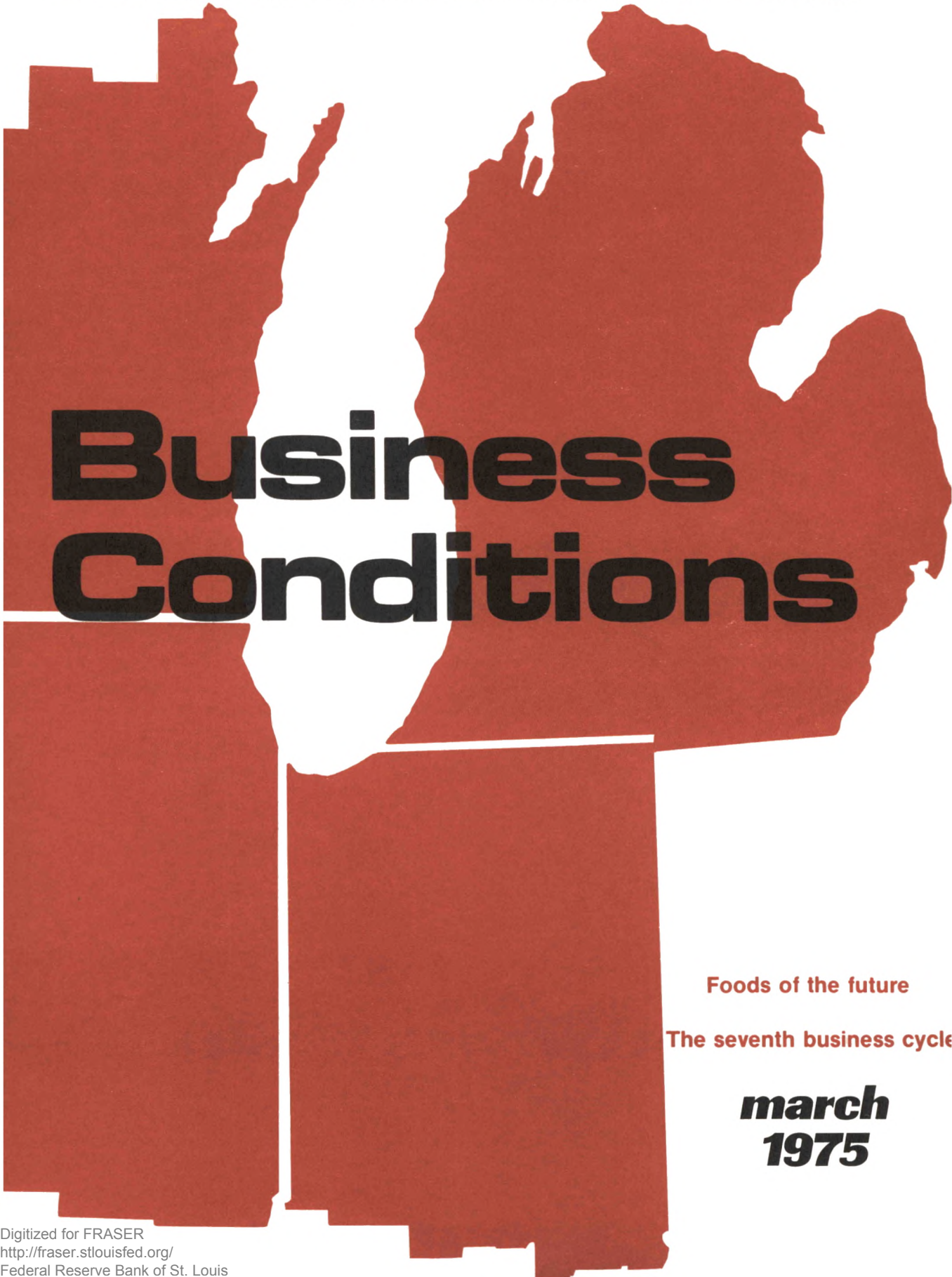
an economic review by the Federal Reserve Bank of Chicago



Business Conditions

Foods of the future

The seventh business cycle

march 1975

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Foods of the future

One of the earliest attempts to develop an alternative to an existing food occurred when short supplies and high prices in a wartime economy prompted Napoleon to offer a prize to the person who could invent an edible fat to substitute for butter. The prize-winning product was margarine. Today, margarine is a widely used food in leading industrial nations; in the United States margarine sales are two and one-half times greater than those of butter, the product it was designed to replace.

Numerous alternative food products have been introduced since Napoleon started the search for substitutes. The most notable success besides margarine has been shortening and cooking oils to replace lard. More recent additions in the field of successful imitations include non-dairy coffee whiteners, whipped toppings, and bacon flavored bits. But where some substitutes have succeeded, others have failed. Filled milk, for example, was adopted rapidly in the United States in the late 1960s and accounted for more than 10 percent of fluid milk sales in some markets. However, restrictive regulations have reduced sales of filled milk to less than 1 percent of total milk sales.

Successful alternative foods seem to have several characteristics in common. First, the product being imitated is readily accepted and used by large segments of the population. Second, the alternative food very closely resembles the look, feel, smell, and taste of the natural product—or produces an end result nearly identical to the original product, as cooking oil does. In some cases, the alternative food may offer other advantages, such as a lower saturated fat level.

The final and perhaps most important common characteristic is that the alternative food be priced competitively. This does not mean that the alternative must be priced lower than the food being replaced, although most are priced at or below that point. Convenience values, such as longer shelf life, less waste, or no refrigeration required, may make the imitation more desirable if offered at even a slightly higher price.

Protein: The building blocks

Protein is essential to life processes in humans and animals. Plants can synthesize protein directly from raw elements such as hydrogen, nitrogen, and oxygen. Ruminant animals can convert limited amounts of nitrogen to protein but most animals synthesize protein only indirectly, deriving their life-giving amino acids through the assimilation of food already developed by the plant world.

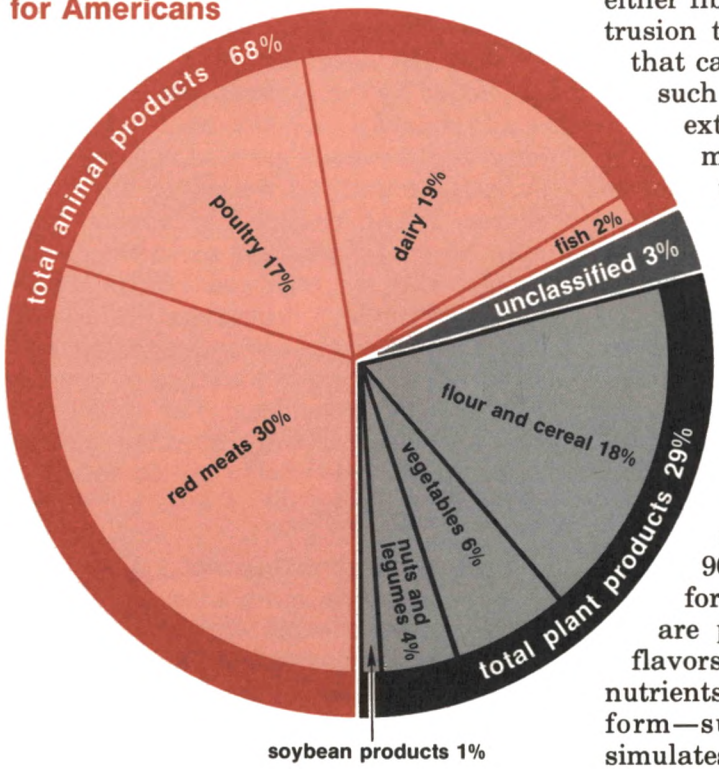
Protein deficiencies are symptomatic of certain sectors of the human population, even in a country as well off as the United States. Young children, teenagers, pregnant women, lactating mothers, elderly people, and the poor seem to be consistently subject to varying degrees of protein deficiency. For some of these groups, poor dietary habits are a matter of choice and education is the solution. For others—the poor and the elderly in particular—protein deficiencies are related to financial or physical inability to obtain a properly balanced diet.

One way to correct protein deficiencies is to incorporate more than the normal levels of vegetable protein into the human diet. Over 15 percent of the U.S. population's total protein intake traditionally comes from wheat flour. Other plants providing protein include dry beans, peas,

lentils, peanuts, and soybeans. Sources of plant protein that are less frequently used for human consumption include cotton seed, sunflower seed, and sesame seed.

Unfortunately, however, plant protein is usually deficient in one or more of the essential "building block" amino acids that animal protein supplies for proper nutritive balance. Moreover, human beings have acquired an indelible taste for animal protein after countless millenniums of devouring it. A large part of the world's population requires that meat, poultry, fish, or dairy products—and the look, aroma, and texture associated with these foods—be provided for sustenance each day. Any product that is going to replace that part of the human diet provided by animal protein will have to exhibit much of the same sensory qualities.

Animal products are the major source of protein for Americans



By the mid-twentieth century scientific technology had provided synthesized forms of many of the amino acids that exist naturally in animal protein but are missing in plant protein. However, the problems associated with the differences in the physical characteristics of plant protein and animal protein products remained unsolved until recently. High protein soy flour was sometimes utilized as a low-cost extender in some meat dishes, but the resulting product was not always physically appealing.

Technology's new "foods"

A process called texturizing transforms basic plant protein into a fibrous substance that has the chewy appeal of certain foods. Nearly all the progress in this area to date has involved soybeans, although other plants may be included in the future. The texturizing process uses either fiber spinning or thermoplastic extrusion to create a protein-rich material that can be blended with other foods—such as hamburger or sausage—as an extender or can be fabricated into a meat analogue—a totally synthetic product with the look and texture of meat. Various artificial flavorings and supplementary nutrients are added to give the analogue the flavor of the natural meat product.

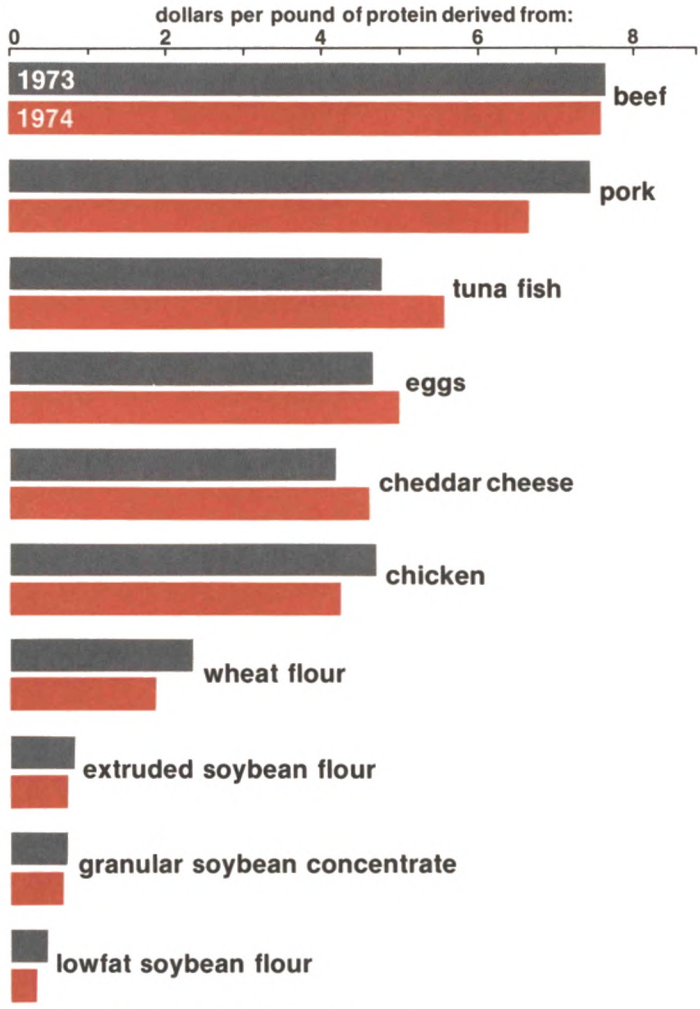
To manufacture a soy/meat analogue by spinning, defatted soybean flakes (50 percent protein) are upgraded to a soy protein isolate (about 90 percent protein) that is spun to form fibers. Bundles of these fibers are passed through binders, colors, flavors, seasonings, and supplementary nutrients, resulting in a distinct physical form—such as slices or cubes—that simulates animal products. Generally

speaking, the protein content of this material is higher than the natural product, although the precise level varies with the combination of items that goes into its manufacture. Also, fat content of the meat analogue is markedly lower than the natural product. Although fiber spinning has a great deal of flexibility with respect to the types of products that can be produced, it is also a relatively complex and expensive process.

Thermoplastic extrusion, the other method of producing texturized soy protein, uses soy flour, a cost-saving advantage since no further upgrading is necessary. With this method, a cooker-extruder forces the material through a die, the shape and size of which controls the texture. The resulting dehydrated product is an unflavored material containing about 50 percent protein. One part of extruded soy protein plus two parts water results in a material with 17 percent protein, approximately equal to the protein content of meat. The hydrated mixture is then mixed—used as an extender—with the meat product. It is generally agreed that the maximum amount of extruded soy protein (hydrated form) that can be mixed with a meat product is about 25 to 30 percent. More than this usually causes a marked decline in the desired texture characteristics. However, spun fibers can be used both as meat analogues or as extenders at higher mix ratios and still retain what many people consider a desirable texture.

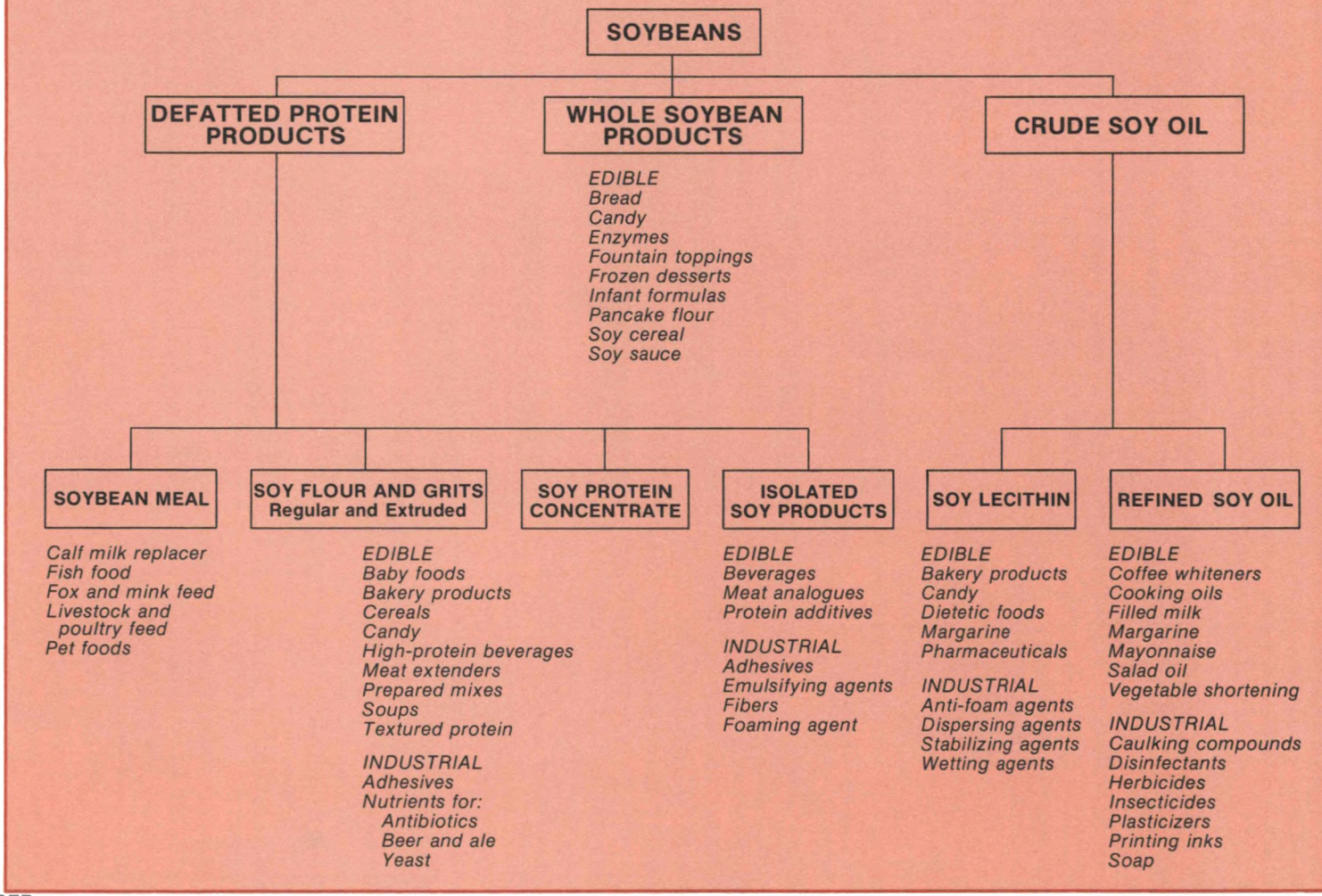
The cost differential between the manufacturing methods is reflected in the prices of the resulting products. Extruded textured soy protein products currently are priced around 20 cents per pound of dehydrated products. Extenders derived from spun fibers are approximately three times more expensive than extenders derived from the extruding process. Meat analogues fabricated from the spun fibers are even more expensive because of the additional processing required.

Soy protein is many times cheaper than protein derived from other sources*



*Annual average wholesale prices or equivalent prices to processors.

Manufacturers use soybeans in dozens of different products



A new era

On February 22, 1971 the Food and Nutrition Service of the U.S. Department of Agriculture announced that textured vegetable protein could be utilized as a meat extender in the school lunch program. With some 25 million children being fed through the program daily, a vast ready-made market existed for any ingredient that would be consumed in quantity. Industry leaders who had been seeking such approval from the USDA for years hailed the announcement as a significant victory for the food industry.

Favorable economics prompted the quick adoption of a mixture of textured vegetable protein and ground beef (soy protein/ground beef blends). The soy/ground beef blends reduced the cost of the finished food 10 to 20 cents per pound, a saving for many schools. Approximately 23 million pounds of textured vegetable protein were used by schools in 1971. The high meat prices of 1973 caused usage to almost double, and usage is expected to redouble within two years, reaching almost four pounds of textured vegetable protein per child served by the program.

Soy/ground beef blends had little or no impact at the retail level until 1973. Then, a major supermarket chain test marketed a soy/ground beef blend—75 percent meat and 25 percent textured soy protein—at 20 cents per pound less than the all-meat product. Shoppers switched to the cheaper blend in record numbers. Within six months the blend was providing more than 15 percent of the supermarket's total meat volume, and it was outselling regular ground beef by as much as 10 to 1 in some trading areas of the chain. It would seem that rigid quality control along with aggressive promotion largely destroyed the prejudices many consumers formerly held against soy blends.

Soy protein marketed as meat analogues—totally synthetic meat products—is most often found in health foods or in other specialized foods for those who prefer not to eat meat. However, several products such as the bacon flavored bits and imitation breakfast sausage are gaining consumer acceptance.

Nutritional aspects

Numerous tests have shown that the nutritive value of textured vegetable protein is high and that its protein efficiency ratio (PER) compares favorably with those of meats. PER is one way of measuring the dietary value of food protein. Casein, with a PER of 2.5, is used as the measurement standard. The PER of ground meat typically averages about 2.7, while the PER of textured vegetable proteins is 2.1 or more. However, the PER of pure soy protein products can be brought to the level of meat by the addition of methionine, an essential amino acid not as readily available in soy protein as in meats.

Combining soy protein with meat definitely results in a nutritionally sound product. In fact, there is to a certain degree a synergistic effect—the total nutritional value of the combined product exceeds that of either product consumed individually.

Acceptance of food substitutes

Consumer acceptance of alternative food products is influenced by a combination of sensory, aesthetic, and economic considerations. While flavor, color, odor, and texture are very important, advantageous price differentials could prove to be the basic determinant in overcoming less desirable sensory properties. Generally speaking, the physical properties of soy/meat blends and meat analogues closely resemble the products they are designed to replace. In the case of blends, sensory characteristics can vary with the

soy/meat ratio as well as with the brand of extender.

Results of recent studies show that soy/meat blends are generally acceptable to the majority of consumers that have used them. Blends were rated as high or higher than all meat products in terms of tenderness, lack of fatty taste, and consistency for making patties. There was some negative response to the appearance of blends in the precooked state and to the aroma or flavor. Nevertheless, soy/ground beef blends received higher ratings than the pure meat product in the category of overall food value and general satisfaction. One study showed that the majority of soy/ground beef buyers expressed either a preference for or, at worst, indifference to the blended product.

Retail sales of blend products have varied widely, in part depending on the price of the blend versus the all-meat

Soybeans: 2838 B.C.-1975 A.D.

The first recorded description of the versatile legume—or soybean—was made by Chinese Emperor Shang-Nung in 2838 B.C. Soybeans have served as a food throughout the Orient over the centuries, and currently the Japanese people derive about 12 percent of their total dietary protein from soybean products.

Soybeans were introduced to Europe in the eighteenth century and to the United States at the start of the nineteenth century. It was not until 1908 that English producers built a mill specifically for crushing soybeans to extract oil and meal in large quantities. Unfavorable climatic conditions inhibited European production efforts, and the bulk of soybeans for the English mills were imported from Manchuria. Soybean oil was utilized in soap, and soybean meal as a source of high protein animal feed.

The first U.S. soybean processors also imported the bulk of their supplies from Manchuria. Cottonseed oil mills were used to process soybeans in the south, and North Carolina was the leading soybean-producing state until 1924 when Illinois took over the top position. Soybean production in the United States remained relatively unimportant until World War II brought on a sharp increase in the demand for margarine, derived mainly from soybean oil. U.S. soybean production first exceeded 100 million bushels in 1942 and reached the 1 billion bushel mark in 1968. In 1973 the U.S. soybean crop was 1.6 billion bushels, almost three-quarters of estimated world production.

The soybean provides two important food components, fat in the form of oil and protein in the form of meal. Furthermore, both components are derived at a per acre rate—assuming average U.S. yields—that exceed most other oilseed, food grain, and feed grain crops. One bushel of processed soybeans typically will result in just under 12 pounds of oil and almost 48 pounds of meal. In the United States approximately 90 percent of the soybean oil goes to the edible oil market and the remainder is utilized in industrial products. About 97 percent of all soybean meal is utilized in animal feed and 3 percent in food.

product. As retail beef prices declined late in 1973 and early 1974, soy/ground beef sales declined. Some stores dropped the line entirely. Those that continued to market the blend through the summer of 1974 experienced a wide range in the share-of-market figures, from just a few percent to the majority of the ground beef market. Many stores that continue to promote the blended product are reporting an increase in total ground meat sales. Stores that maintained a price differential of less than 15 cents per pound typically experienced a decided decline in soy/ground beef volume.

Shifts in protein sources

The introduction and acceptance of the soy protein analogues and soy/meat blends have important implications for consumers and livestock producers. Although consumers might reduce expenditures while holding consumption levels constant, it seems more likely that they will want to purchase a larger volume of meat and meat blends for the same outlay. Typically, consumers allocate nearly the same percentage of annual income to the purchase of meat year after year.

Assumptions about the degree of market penetration that soy protein will achieve are tentative at best. The potential shift in resource allocation resulting from the substitution of soy protein for red meats and for poultry in processed foods was recently outlined by the U.S. Department of Agriculture. Three possible levels of market penetration were considered for the year 1980, with soy protein replacing 4 percent, 6 percent, and 8 percent of the protein that otherwise would be supplied in the form of processed meat. These represent minimum and maximum levels of market penetration thought possible with available technology at the time of the study.

According to the USDA report, cattle and calf slaughter without any soy protein substitution would total about 49 million head by 1980. Within the ranges of soy protein substitution levels used by the Department, cattle and calf slaughter would decline anywhere from 2 million to slightly more than 4 million head per year. Cattle slaughter has averaged around 37 million head per year recently, indicating herds must still expand, but at a slightly slower rate than if there were no substitutes. Annual hog slaughter would likely total about 100 million head by 1980 but meat substitutes, under the above assumptions, would bring that down to between 92 and 94 million head, still 12 to 14 million head above recent slaughter rates. As a result of these reductions in animal numbers, the total cultivated acreage required to produce the meat protein level established for 1980 would decline between .5 and 1 percent. More acreage would have to be devoted to the production of soybeans, while feed grain and roughage acreage would decline.

The adoption of soy protein as a substitute for meat in processed food is likely to impinge upon prices of lower-grade animals. However, the total effect hinges on such variables as consumer income and the prices of competing products. Overall, it appears that a larger amount of protein might be consumed, but that meat will make up a smaller portion of the total. Furthermore, while supplies of the various animal proteins must continue to expand, though at a slower pace than if no substitute were utilized, it seems likely that there may come a time when the growth rate in animal protein might stabilize at very near zero growth. Such changes, however, must be preceded by additional technological advances that will lower the cost and improve the quality of soy protein or other vegetable protein extenders and meat analogues.

Terry Francl

The seventh business cycle

Growth in general economic activity has been interrupted seven times by recessions since World War II. Peaks were reached in 1948, 1953, 1957, 1960, 1966, 1969, and 1973. The subsequent adjustments varied substantially in amplitude and duration from the "mini-recession" of 1966-67—often excluded from the list—to the severe and pervasive drop that began with the Arab oil embargo in October 1973 and gathered rapid momentum in October 1974.

The 1973-75 recession is still in progress and the ultimate pattern of the decline and recovery remains in doubt. Nevertheless, an examination of developments in earlier cycles may provide clues as to the future course of events. While each recession has its own distinguishing characteristics, underlying negative and expansionary forces remain much the same.

The accompanying charts show the pattern of the seven postwar recessions as reflected in five basic measures:

- "Real" gross national product (total expenditures on goods and services adjusted for price changes);
- Manufacturing output (from the Industrial Production Index);
- Total payroll employment;
- The total number of unemployed;
- The general price level (represented as the gross national product deflator).

Each of these measures is charted, with adjustment for seasonal variations, to show its path during the seven recessions and recoveries in the time spans delineated by successive peaks in real GNP. The lines depicting each cycle begin at the high watermark reached by real GNP in the previous cycle.

The postwar recessions

The term recession is sometimes applied to whole business cycles—the decline and the subsequent revival or recovery phase. The term is used here to denote only the downtrend.

It is certain that the current recession will be recorded as both the longest and the deepest since World War II. Real GNP declined for only two quarters following the peaks of 1948 and 1957 and for only one quarter in 1966-67. The other declines lasted four quarters, with the 1969-70 drop extended by the General Motors strike. In the current recession real GNP has declined each quarter since the fourth quarter of 1973. Most analysts believe that a substantial drop occurred in the first quarter of 1975 and that a further, although smaller, decline is probable in the second quarter. If so, the 1973-75 recession will have lasted six quarters, half again as long as any previous postwar decline.

The amplitude of a recession may be more important than its duration in determining its overall impact. Postwar recessions have been mild by the standards of the prewar period, but important nonetheless in interrupting average annual growth of about 4 percent. Four of the declines in real GNP were less than 2 percent, with the 1966-67 decline only a fraction of 1 percent. The 1953-54 decline was 3.4 percent. Although it lasted only two quarters, the 1957-58 decline amounted to 3.9 percent and was the sharpest of the first six postwar recessions. It now appears that the drop in real GNP from the fourth quarter of 1973 to the first quarter of 1975 was almost 8 percent, about twice as large as in 1957-58.

Business cycles vary

At least twice since World War II, in the spring of 1956 and in late 1962, recessions were predicted that did not in fact occur. These incorrect forecasts were based on slowdowns in certain key indicators. In 1962, moreover, it was suggested that a pattern of successively shorter upswings had emerged and that a recession "was due."

Ironically, in the late 1960s, after nearly a decade of almost uninterrupted growth, a widespread notion developed that the old-style business recession was extinct. It was suggested that the definition of the business cycle be expanded to include periods of retarded growth. The title of a government publication was changed from *Business Cycle Developments* to *Business Conditions Digest*. Unfortunately, the business cycle was not dead.

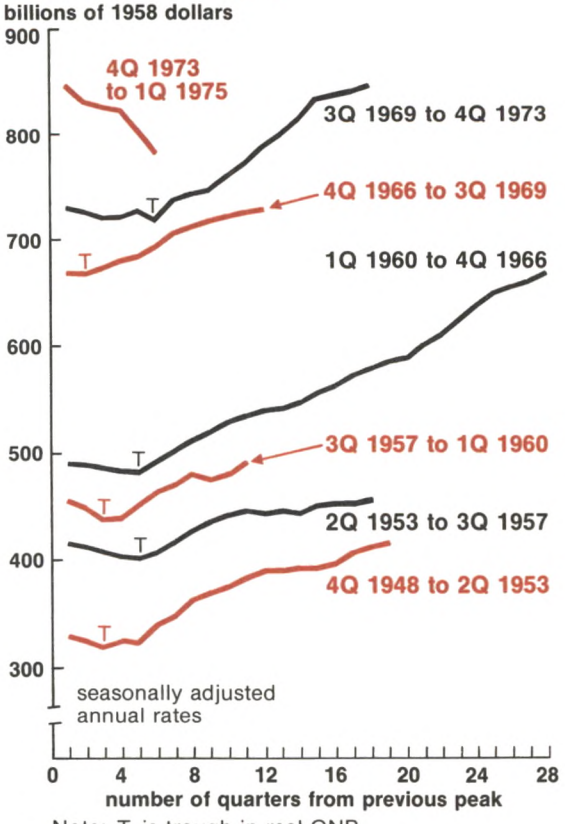
Each business cycle has been unique in some important respects. The recession of 1957-58 and the subsequent recovery was distinctly "V-shaped," and was so described. The decline and recovery of 1969-71 was abnormally elongated and can be called "U-shaped." Important strikes in the steel, coal, and auto industries played a major role in delaying recovery in 1949 and 1970 and, perhaps, in initiating the recessions that began in 1957 and 1960.

All postwar recessions have been followed by recoveries that lasted a minimum of two years. The upswing that started in 1961 lasted almost six years—over eight years if the 1966-67 dip is excluded. Increases in real GNP from one cycle peak to another have ranged from 8 percent to over 36 percent.

A measure of the resilience of the U.S. economy has been the time necessary for real GNP to regain its pre-recession peak after earlier recessions. In the first six postwar business cycles the previous peak was reached or exceeded in one, two, or three quarters of expansion.

When the current recession ends and the recovery phase of the cycle begins, the uptrend may be fairly rapid. Nevertheless, a great deal of lost ground will have to be regained before real GNP reaches the level it attained in the fourth quarter of 1973. Moreover, the economy will be handicapped in ways unknown prior to 1973 because of restricted supplies of energy, changed relationships between prices of major commodities, serious dislocations in world markets, severe liquidity problems of certain businesses and financial institutions, and a deterioration in confidence of consumers and investors unmatched since the 1930s.

The decline in real GNP in this recession has been the deepest since World War II



Note: T is trough in real GNP.

Manufacturing volatile

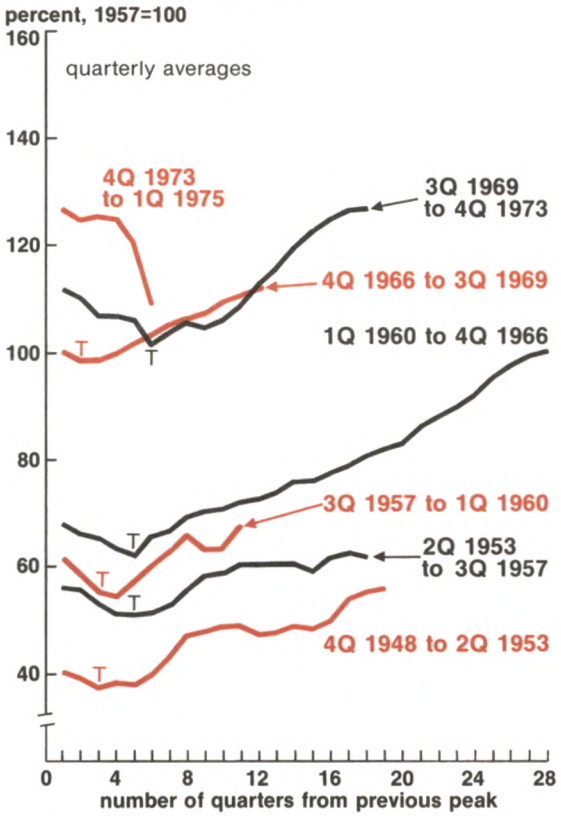
From 1948 through 1973 real GNP grew about 3.9 percent per year, while growth in manufacturing output averaged almost 4.6 percent. Peaks and troughs in these measures were usually coincident with some tendency for manufacturing to lead on the downswing, but declines in manufacturing output have been much sharper than declines in the broader measure of real GNP. It has taken longer, moreover, for manufacturing output to regain its previous cyclical peak, but increases later in the upswing have usually outpaced real GNP. These comparisons primarily reflect accumulations and liquidations of inventories of manufactured goods—salient features of virtually all business cycles.

Except for a 2 percent drop in 1966-67, manufacturing output has declined by 8 percent or more in each postwar recession, using quarterly averages. The largest decline in the first six recessions was 12.5 percent in 1957-58. From November 1973 to February of 1975 manufacturing output dropped almost 15 percent, with 90 percent of the drop concentrated in the months following September 1974. As in most earlier business declines, the drop in durable goods manufacturing has been greater than in nondurable goods.

Although manufacturing activity has "bottomed out" in the same quarter as real GNP in earlier postwar recessions (except for a one-quarter lag in 1958), its subsequent recovery has been more sluggish. Manufacturing has taken at least one, and more often two, quarters longer to reach its previous high than has real GNP. Subsequent recovery in manufacturing was more rapid, however, and gains from one cyclical peak to another typically have exceeded the increase in real GNP by a significant margin. This occurred in all postwar cycles except for the one that peaked in the fourth quarter of 1974.

Output of residential building materials, passenger cars, and recreational equipment had been weak all last year. Starting in October, however, virtually all types of manufacturing began to slide. Extremely tight supply situations for most materials and components suddenly changed to surpluses, and attempts to build inventories at all levels gave way to programs to reduce inventories. In the first quarter of 1975 signs of weakness in demand spread to steel and to many types of capital goods. A moderate recovery in output seemed an early prospect only for industries such as autos that had already liquidated inventories to a substantial degree.

Manufacturing output has declined more sharply than in earlier recessions



Note: T is trough in real GNP.

Employment lags cycle

From 1948 through 1959 peaks in wage and salary employment tended either to coincide with cycle peaks in real GNP or to precede them slightly, as in the case of manufacturing output. In the past decade, however, the pattern has changed. Wage and salary employment has continued to increase after real GNP has begun to slip.

The tendency for employment to lag the cycle can be explained, in part, by the declining relative importance of manufacturing employment, which tends to be cyclically sensitive. Manufacturing employment was 35 percent of the total in 1948, but only 26 percent in 1973, after a persistent decline. When factory layoffs are spreading, governments, merchants, financial institutions, and other service industries often are increasing payrolls.

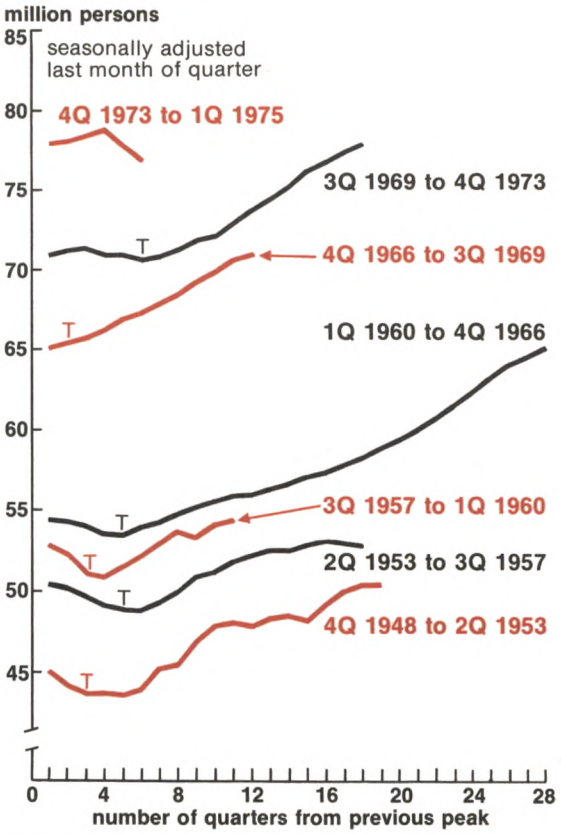
Employment continued to rise through the slight decline in total activity in early 1967. After total business peaked in the third quarter of 1969, wage and salary employment continued to rise through the first quarter of 1970. In 1974 employment reached a peak in October, although real GNP declined quarter by quarter through the year.

Unfortunately, the tendency for employment to lag total activity was also evident in the recovery stage of the last complete cycle. While real GNP regained its 1969 peak in the first quarter of 1971, employment did not reach the level of early 1970 until the third quarter of 1971.

Many employers in fields other than manufacturing have laid off workers in the past several months, but manufacturing continues to dominate changes in total employment. Payroll employment declined from a record 79.9 million in October 1974 to 76.6 million in February 1975. Manufacturing, which accounted for only 25 percent of total employment in October, accounted for three-fourths of this drop in employment. Actually, manufacturing employment had peaked in December 1973 and was already down 300,000 by October 1974. In addition, the average factory workweek declined from 40.6 hours in December 1973 to 38.8 in February 1975.

Many employers plagued with rising costs and lagging revenues will be reluctant to resume hiring even when business activity begins to improve. Some firms and governments are operating under some form of "freeze" on new hirings. Claims for unemployment compensation in March continued to exceed last year's volume by a wide margin. These developments have helped to build pressures for additional federally funded public service jobs.

Wage and salary employment rose through three quarters of 1974



Note: T is trough in real GNP.

Unemployment at postwar high

As employment declines in a recession, unemployment (defined as those without jobs who are seeking work) rises, and more than proportionately. Estimates of unemployment include not only those who have been laid off and who have not found jobs, but also those who quit their last jobs, those who have reentered the labor force, and new entrants who have never held jobs.

In late 1973 only 40 percent of the unemployed were "job losers." The remainder of those seeking work had not been discharged from previous jobs. This 40 percent proportion is about normal for prosperous periods. In a recession, however, the proportion of the unemployed represented by job losers rises. It reached 52 percent in January 1975.

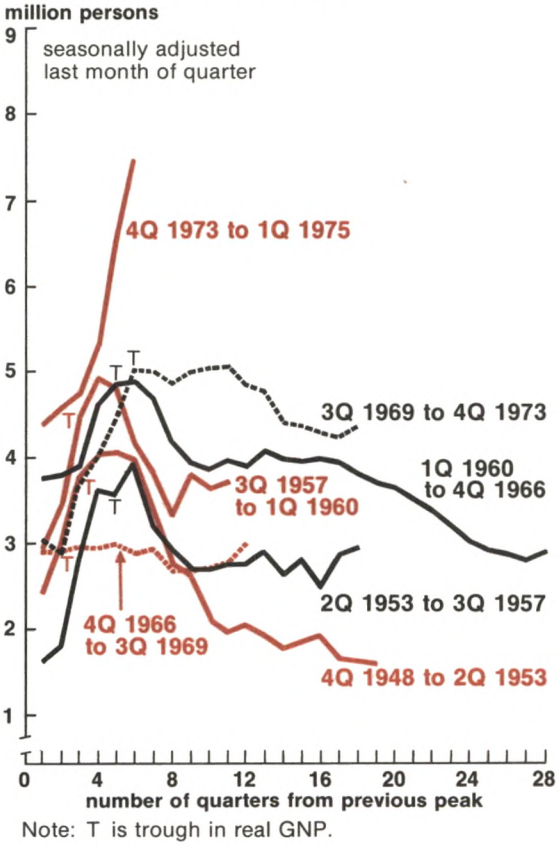
Unemployment is usually discussed as a percent of the civilian labor force—the total of those employed and those unemployed. The number of unemployed reached 4.2 million and the unemployment rate averaged 4.7 percent in the second half of 1973, the lowest levels obtained in the economic expansion that began in 1971. The rate averaged about 5.2 percent in the first three quarters of 1974, before jumping sharply to 8.2 percent (7.5 million) in January and February 1975. This was the highest rate since Pearl Harbor, but it was far below the levels prevailing throughout the 1930s. The rate averaged 25 percent in 1933 before declining to 14 percent in 1937, the lowest level reached in that decade.

The accompanying chart shows the number of unemployed, rather than the unemployment rate, to coordinate with other charts in this article. Trends in the unemployment rate and in the number of unemployed are very similar.

In postwar business cycles unemployment has traced a rough mirror image of employment, with peaks in unemployment corresponding with troughs in employment and vice versa. However, unemployment has tended to move to higher levels in each cycle both in numbers and as a proportion of the labor force. The long period of prosperity that climaxed in 1969 when unemployment averaged 3.5 percent, the lowest since the Korean War, was an exception.

Some analysts expect unemployment to rise to 9 or 10 percent later in 1975 or in 1976. This dismal projection reflects not only expectations of an unsatisfactory performance by the economy, but also expectations of increased numbers of job seekers, primarily those out of school or those from families whose breadwinner has lost a job.

The number of unemployed is much larger than in previous recessions



Note: T is trough in real GNP.

Inflation and recession

Prior to World War II, business expansions were usually preceded by a rising price level followed by a decline in prices in the ensuing recession (price stability prior to 1929 was an exception). In fact, recessions were sometimes termed "deflations." The pattern of price inflation since World War II has been quite different.

In the accompanying chart the general price level is represented by the "gross national product deflator," a measure obtained by dividing the dollar value of GNP by the "real GNP" obtained by deflating components of total spending with appropriate price indexes, taking 1958 as equal to 100. Trends in the deflator are similar to trends in the Consumer Price Index.

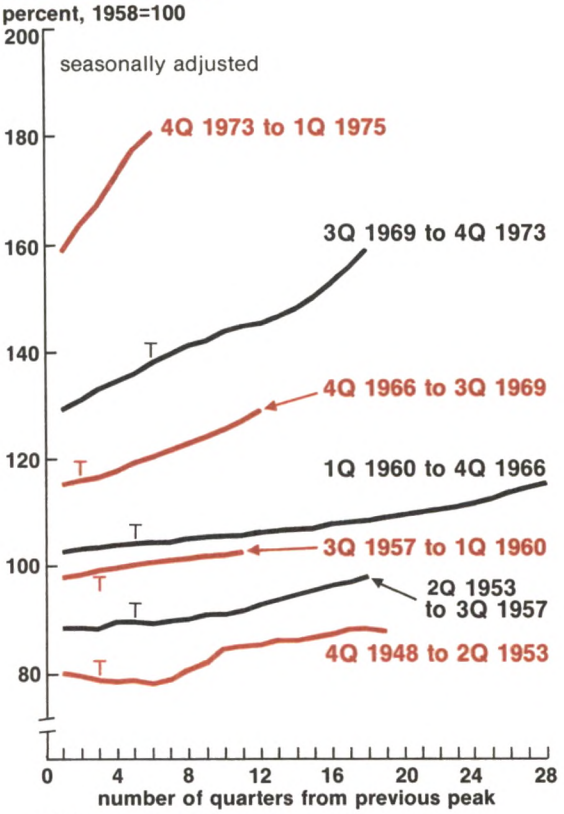
The first postwar recession, starting in 1948, saw the deflator decline by almost 3 percent, reaching a low point in the first quarter of 1950. Prices rose moderately prior to the start of the Korean War in June 1950, when a new burst of inflation began.

Following the Korean War, each postwar recession has been accompanied by increases in the price level, although at a slower pace. Competition increased as margins of unused capacity and manpower widened. In 1958, for example, the GNP deflator rose 2.5 percent, compared to 3.7 percent in 1957; in 1961 the increase was 1.3 percent, compared to 1.6 percent in 1960. In the first half of 1971, prior to the imposition of price controls, the deflator increased at a 4.8 percent rate, compared to 5.5 percent in 1970. In the recession year 1974, however, the deflator rose more than 10 percent, up from 5.6 percent in 1973, more than in any year since price controls were removed in 1947.

The rapid inflation of 1974 was aggravated by much higher oil prices, poor crops, problems associated with price controls, and rapidly rising wages in the face of an unprecedented decline in worker productivity. As output declined and unemployment increased in late 1974 and early 1975, prices of many commodities, components, and finished goods declined or at least rose at a slower pace. It appeared that general price inflation, at a record annual rate of 14 percent in the fourth quarter, was slowing rapidly in early 1975, and various analysts predicted a drop to a 5 or 6 percent rate of increase later in the year.

George W. Cloos

The GNP deflator shows that rapid price inflation has continued



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