

AGRICULTURE: PARITY, PARITY, PARITY

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ISSUE DEFINITION

Parity, defined by Webster as "the state of being equal or equivalent," has been a goal of American agriculture since the 1920s when the phrase "equality for agriculture" came into popular use. Since then, there have been repeated attempts by American farmers to gain economic parity, generally through protest movements like those in early 1978 and early 1979. A protest movement of farmers in the early 1930s led Congress to pass the Agricultural Adjustment Act of 1933, which initially formalized the concept of parity. As written into law, parity was a mathematical comparison of prices farmers paid and prices they received. This ratio of prices, called the parity ratio, became a widely used barometer of how well farmers were faring economically. Numerically, the ratio was set equal to 100 for the period 1910-14. In the years thereafter, prices paid by farmers (the denominator) went up faster than prices received by farmers (the numerator) and the ratio of the two price indexes, the parity ratio, declined. In July 1980 the ratio was 64, down 7 points from a year earlier. Two other parity measures -- parity income and parity prices -- are described below.

BACKGROUND AND POLICY ANALYSIS

The historical "roots" of parity go back to the decade following World War I. Throughout that turbulent period, which led up to the Great Depression of 1929, American agriculture suffered from low prices and depressed farm incomes.

At the exhortation of their government, American farmers had geared up production to meet a national emergency, World War I. When the war ended in 1918, foreign demand for American grain and cotton dropped sharply, leaving large amounts of farm output without a market. These surpluses depressed farm prices and thrust depression-like conditions on farm families.

As farm prices plunged and farm incomes declined, farmers cut back on purchases of all types of manufactured goods. This action hit farm machinery makers hard because they also had geared up production during the War period. When there was no Federal response to the severe income problem of farmers, leaders in the farm supply companies began to push plans of their own.

Two of these leaders, George N. Peak and Hugh S. Johnson, with the Moline Plow Company of Moline, Illinois, saw the problem in simple terms: farm prices had dropped after the war but prices of manufactured items had not. Their answer: reestablish farm prices to their former level and thereby rebuild farm purchasing power.

Peak and Johnson took this idea to the National Agricultural Conference of 1922. When the response was favorable, their next step was to draft a pamphlet titled "Equality for Agriculture" that outlined the problems that low farm prices caused. They also proposed a somewhat complicated solution: Separate farm markets into two markets, a domestic market and an export market. Next, maintain the prices of farm commodities in the domestic market at a fair exchange value.

This idea was developed more fully by personnel of the U.S. Department of Agriculture and drafted into legislation by the Senate Drafting Service in

1923. It was introduced into Congress on Jan. 16, 1924, by Senator McNary of Oregon and Representative Haugen of Iowa.

The McNary-Haugen Plan, as it came to be known, was to face Congress in each session between 1924 and 1928. Twice it was defeated by the House (Representatives and twice it passed Congress only to be vetoed by the President. Its major contributions were the national debate it generated on agricultural issues and the numerical concept that it developed for measuring "fair" prices for agriculture.

The bill's numerical concept for measuring a "fair" price sounded complex: A fair price at any point in time was defined as that price that would bear the same relation to the general price level as the price of the commodity had during the period immediately prior to World War I. But it actually was fairly simple. To illustrate, the pre-war price of wheat was 98 cents when the WPI (wholesale price index), which measured the general price level, had a value of 100. By 1923, the WPI stood at 156 and farm proponents argued that a fair price for wheat was 156% of 98 cents or \$1.53 per bushel. This concept would later become known as the "parity price" for wheat. The actual price received by farmers for wheat in 1923 was 92 cents per bushel.

Legislative Enactment of Parity

The defeats of the original "fair" price plans between 1924 and 1928 were not the result of congressional and Presidential disfavor with the price concept but rather with the export dumping and domestic price fixing necessary to maintain such prices. Consequently, when the Great Depression struck in 1929, the concept of fair farm prices continued to be stressed even though the other aspects of the McNary-Haugen plan were quietly shelved.

By 1933, the severe economic conditions facing agriculture created an environment favorable to the passage of emergency farm legislation. This legislation, the Agricultural Adjustment Act of 1933, part of which was later declared unconstitutional, included a fair price objective for farm products. Fair farm prices, it stated, were prices that "give agricultural commodities a purchasing power with respect to articles farmers buy, equivalent to the purchasing power of agricultural commodities in the base period." The base period was specified as 1910-1914.

The 1933 AAA charged the Secretary of Agriculture to implement the price objective, which at that point was not yet referred to as parity. The legislation established a new numerical method for calculating "fair" prices. The new method related the prices received by farmers to those they paid for inputs, rather than to the level of wholesale prices received by nonfarm sellers. The reasoning was that farmers bought items at retail rather than wholesale prices, so their "fair" selling prices should reflect changes in the retail prices paid.

The retail prices used were those that the Department of Agriculture had earlier included in a new statistical series called the Prices Paid Index. That index was similar to the WPI in one respect -- it was given a base value of 100 for the period 1910-1914.

Revisions of Parity Prices

The years of efforts to pass farm legislation in the pre-1929 era built up a strong and well-organized farm pressure group. When it finally achieved success in establishing the goal of fair prices in the 1933 AAA, there was strong pressure for further action to improve farm prices. One of the first steps came in 1935 when Congress was encouraged to include interest payments on farm mortgages and tax payments on farm real estate in the Prices Paid Index. Since both interest payments and real estate taxes were rising faster than other input prices, their addition to the Prices Paid Index tended to increase its level and, in turn, increase the level of parity prices.

The next step came in 1936 after the Supreme Court ruled parts of the 1933 Act unconstitutional. Congress responded by passing the Soil Conservation and Domestic Allotment Act. It included another concept of parity -- parity income. Instead of using a measure of parity based only on prices, Congress now based it on net income, thus bringing quantities of products purchased and quantities of products sold by farmers into the calculation. The language in the 1936 Act specified that the Secretary of Agriculture was to reestablish, as rapidly as practicable, "the ratio between the purchasing power of the net income per person on farms and that of the income per person not on farms that prevailed during the five-year period August 1909-July 1914."

While parity income had many advantages, it soon became obvious that it was far more complex and difficult to calculate than parity prices. In general, accurate calculations could not be completed until after farmers sold their products, often at the end of the year. When farm prices slumped badly in mid-1937, Congress was not willing to wait until the year's end for the statistical results. Steps were taken to reestablish a concept of parity based on prices. This was accomplished in the 1937 Agricultural Marketing Act. Congress directed the Secretary of Agriculture to "establish prices to farmers at a level that will give agricultural commodities a purchasing power with respect to articles which farmers buy, equivalent to the purchasing power of agricultural commodities in the base period."

The next revision of the parity concept came in the 1938 Agricultural Adjustment Act, the culmination of a decade of efforts by farm groups for effective farm legislation. The 1938 AAA finally defined parity prices in the law. In addition, it spelled out the methodology for calculating parity prices. In reality, this meant that the technical methodology that had been developed by the Department of Agriculture after passage of the 1933 Act was incorporated into the 1938 law and thereafter could only be changed by Congress.

The following simple formula for calculating a particular commodity price was adopted:

$$\begin{array}{rcl} \text{Average Price} & & \text{Current Value} & & \text{Current} \\ \text{during the} & & \text{of Prices} & & \text{Parity} \\ \text{Base Period} & \times & \text{Paid Index} & = & \text{Price} \\ \text{(1910-1914)} & & \text{(1910-14=100)} & & \end{array}$$

This formula was useful for its simplicity but it soon gave results that created problems. The primary problem was the fixed relationship between different commodity prices. In the case of each commodity, its price in the 1910-1914 period was multiplied by the same number, that is, the current value of the Index of Prices Paid. This resulted in a constant relationship between the parity prices of different commodities regardless of evolving

market relationships or even changes in the costs of production. This meant that some commodities, mainly crops where technological change was raising yields per acre, were experiencing very favorable returns per acre relative to other commodities. This soon resulted in overproduction of those commodities. The problem remained until the tumultuous policy-making years after World War II when changes finally were made in the parity formula.

Evolution of Modernized Parity

Among the many battles over Farm Policy in the Post-World War II period, the attempt to change the computation of parity prices was among the most difficult. Strong farm interests were present on all sides and the issue had been around long enough so that it was relatively well understood. Any change meant higher parity prices for some products and lower prices for others. In the compromise Farm Act of 1948, a "transitional" parity formula was developed to pave the way for more flexible parity prices. A "modernized" parity formula would become effective but not until Jan. 1, 1950. This date was later extended due to the Korean War.

The change in the parity formula was designed primarily to remove the fixed price relationships. The new concept accomplished this by replacing the base year price (1910-1914) with a moving average of prices received by farmers for each commodity. This moving average was specified as the most recent 120-month average of prices received by farmers for the specific commodity. As currently calculated, a 10-year average price is determined each January. It is then used each month during the following calendar year in parity price calculations. For example, the 1970-1979 average is used in 1980. In actual use, the 10-year average price is first deflated by dividing it by the average value of the Index of Prices Received by farmers (with 1910-1914=100) during the same 10-year period. This yields an "adjusted base price." This "adjusted base price" is then multiplied by the current month's Index of Prices Paid to give the current month's parity price for that commodity.

The formula for a given commodity becomes:

Average Price of Commodity over the most recent 10-year period	x	Current Month's Index of Prices Paid by Farmers (1910-1914= 100)	=	Current Month's Parity Price for specific commodity
Average Index of Prices Received by Farmers over the most recent 10-year period (1910-1914=100)				

These calculations are made once each month by the Statistical Reporting Service of the Department of Agriculture and published in its periodical, Agricultural Prices. They provide a base set of "fair" farm commodity prices for comparison with current market prices.

Uses of Parity Prices

Following are some of the more significant uses of parity prices:

(1) To measure changes in the purchasing power of a unit of a commodity. A comparison of the parity price with the price actually received by farmers for a commodity gives a measure of the change in the per unit purchasing power for that commodity.

		<u>June 1980 Farm Prices</u>	
		<u>100%</u>	<u>Actual</u>
		<u>Parity</u>	<u>Market</u>
Wheat	(bushel)	\$6.57	3.82
Corn	(bushel)	4.55	2.73
Cotton	(pound)	1.09	0.50
Soybeans	(bushel)	11.40	6.97
Milk (all)	(cwt)	18.20	12.50
Beef cattle	(cwt)	83.30	62.60
Hogs	(cwt)	77.90	41.00
Eggs	(dozen)	1.05	0.51

(2) To determine support-price levels. Historically, legislation requiring or authorizing the United States Department of Agriculture to support prices of agricultural commodities has not specified the dollars-and-cents prices at which the commodities are to be supported. Instead, legislation indicated a specific percentage of parity, or a range in percentage of parity, at which the commodity must or may be supported. Since 1974, parity prices no longer determine support prices for such commodities as the food and feed grains, and upland cotton. Price support for those commodities are based on "target prices" specified in the law. Parity prices are used for milk, however.

(3) To administer marketing-agreement and marketing-order programs. Parity prices are used in the administration of marketing-agreement and marketing-order programs for dairy, fruits, vegetables, and certain other agricultural commodities, including nuts, tobacco, and hops, as provided in the Agricultural Marketing Agreement Act of 1937, as amended. Under such programs, the handling of an applicable commodity is subject to regulation; the statute authorizes no action that has for its purpose the maintenance of prices to farmers above the parity level.

The Parity Ratio

The third type of parity measure -- besides parity prices and parity income -- is the so-called parity ratio. While simple in concept, it may be the most complex to interpret and evaluate. As it evolved over the years after the 1933 AAA was passed, it was simply the ratio of "prices received by farmers" and "prices paid by farmers." The Department of Agriculture, using its technical talents, had gathered data on both sets of prices from farmers and other businesses beginning as early as 1910. These prices were then combined, using proper statistical techniques, into the two indexes -- prices

paid and prices received -- and publication began in 1922. Each index was set equal to 100 for the base period 1910-1914. The ratio of the two indexes was termed the "parity ratio."

The question is: what does it tell us? Given below is the Department of Agriculture's explanation from the December 1977 issue of Agricultural Prices:

The Parity Ratio provides an indication of the per unit purchasing power of farm commodities generally in terms of the goods and services currently bought by farmers, in relation to purchasing power of farm products in the 1910-1914 base period. Thus, a Parity Ratio greater than 100 indicates that the average per unit purchasing power of all farm products is higher than in 1910-1914.

The Parity Ratio is a measure of price relationships; not a measure of farm income, of farmers' total purchasing power, or of farmers' welfare. The latter depends upon a number of factors other than price relationships, such as changes in production efficiency and technology, quantities of farm products sold, and supplementary income, including that from off-farm jobs and federal farm programs.

An adjusted parity ratio is computed and published which incorporates and reflects supplementary income from federal farm programs. A "Preliminary Adjusted Parity Ratio reflecting Government payments" based on the forecast of direct Government payments for the year is published each month in AGRICULTURAL PRICES.

Of considerable importance to farmers is what factors are included in the Prices Paid Index. Given below are the cost components and their individual importance in the Index.

PRICES PAID INDEX: RELATIVE IMPORTANCE OF COMPONENTS

COMMODITY GROUP	RELATIVE IMPORTANCE	
	1971-1973	June 15, 1977 Percentage
Consumer Price Index (CPI)	30.4	28.0
Production	57.6	59.4
Feed	11.8	12.2
Feeder Livestock	11.7	7.4
Seed	1.8	2.1
Fertilizer	4.2	5.1
Agr. Chemicals	1.7	1.6
Fuels & Energy	3.5	4.2
Farm & Motor Supplies	2.2	2.0
Autos & Trucks	2.5	2.8
Tractors & S-P Machines	4.5	5.4
Other Machinery	2.7	3.3
Building & Fencing	3.6	4.0
Farm Service & Cash Rent	7.4	9.3
<u>Total Commodities</u>	<u>88.0</u>	<u>87.4</u>
Interest	4.0	5.0
Taxes	2.8	2.4
Farm Wage Rates	5.2	5.2
<u>All Items</u>	<u>100.0</u>	<u>100.0</u>

It is the monthly publication of data that go into the parity ratio that has made it so appealing to those who follow the farm situation closely. It provides a score card on agriculture once each month much like the monthly consumer price index, the unemployment rate, and the more comprehensive economic indicators do for the general economy.

Given below are the historical and more recent levels of the parity ratio and other measures of the economic health of agriculture.

Economic Trends in Agriculture

	Parity Ratio	Income per Farm Family From farming	Income per Farm Family All sources	Farm Income as a Percent of Nonfarm	Net Assets Per farm
1910-1914	100	\$ 620	---	---	---
1915-1919	109	1,085	---	---	---
1920-1924	89	752	---	---	---
1925-1929	91	942	---	---	---
1930-1934	69	454	---	---	---
1935-1939	86	734	\$1,162	40.2	---
1940-1944	100	1,440	2,109	47.8	\$ 9,073
1945-1949	109	2,500	3,473	60.7	18,796
1950-1954	98	2,683	3,955	58.0	27,796
1955-1959	83	2,637	4,097	49.6	38,010
1960-1964	79	3,128	5,801	58.6	51,345
1965-1969	76	4,162	8,692	70.7	72,989
1970-1974	78	7,457	14,605	86.8	109,495
1975	76	7,617	17,539	88.4	158,725
1976	71	7,712	18,798	77.7	180,725
1977	66	7,439	19,035	81.6	207,742
1978	71	10,036	22,865	90.6	306,961

These data indicate that the trend in the parity ratio has been downward since 1950. In contrast, other measures of the farm economy have shown an upward trend. Income per farm has increased, particularly if income from off-farm sources is included. The net equity of farm families has increased dramatically, despite the falling parity ratio.

The different economic pictures indicated by the parity ratio and income measures suggest a weakness in one or the other of these measures. The weight of informed opinion has been that the parity ratio is the weaker measure of farm economic conditions.

First, there is the fact that the parity ratio only measures prices. It does not include any measure of the quantities of inputs purchased or the quantities of products sold. As farms increase in size and take advantage of economies of scale, this weakens the comparison of the parity ratio in one time period with that of another time period.

Second, the parity ratio does not take into account any improvements in farm productivity. One source of improved productivity has been rising crop yields. Rising crop yields have meant that for a given amount of purchased inputs, a greater amount of output is produced. In turn, gross sales can be increased and even with higher input prices, i.e., a falling parity ratio, net returns may be higher. This accounts for much of the rise in farm incomes and asset values at the same time that the parity ratio was falling.

Third, the parity ratio does not take into account shifts in the tastes and preference of consumers. Such shifts can reduce (or increase) the quantities of a commodity that is purchased and result in a decline (or increase) in its price and a fall (or increase) in the parity ratio. If the ratio falls for this reason, however, it differs from the typical interpretation of a declining parity ratio -- that is, in this instance, the falling price is reflecting a permanent change in the market rather than a temporary oversupply or a temporary fall in demand. Propping up the falling price will only result in a buildup of stockpiles of the affected commodity.

Fourth, because the parity ratio does not take quantities into account, it ignores the opportunity of producers to cut back on purchases during a period of rising input prices or to cut back on sales during a period of falling product prices. Such measures can temporarily offset the impact of adverse changes in prices. However, these measures can only be effective for short periods of time.

LEGISLATION

In the 95th Congress, 2d session, the following legislation was passed and signed into law by the President:

P.L. 95-279 (H.R. 6782)

Emergency Agricultural Act of 1978. As introduced, permitted marketing orders under the Agricultural Adjustment Act, as reenacted and amended by the Agricultural Marketing Agreement Act of 1937, to include provisions concerning marketing promotion, including paid advertisement, of raisins. Authorized distribution among producers of the prorata costs of such promotion. Introduced Apr. 29, 1977; referred to the Committee on Agriculture. Passed House, amended, on Oct. 31, 1977. S. 2690 was

incorporated into the measure on Mar. 13, 1978 (see below). Measure passed Senate, amended and with provisions similar to S. 2481 inserted (see below) on Mar. 21, 1978. A motion to disagree with the Senate amendments was passed in the House on Mar. 22, 1978, and conferences were scheduled to begin on April 3. Conference report filed in House (H.Rept. 95-1044) on April 6. Senate agreed to report on April 10. The conference report was rejected in the House on April 12. However, on April 24 the House requested further conference. On May 1, 1978, a second conference report (H.Rept. 95-1103), which excluded the flexible parity concept from the act, was submitted by Mr. Foley. On May 2 the Senate agreed to the conference report by a voice vote. On May 4, the House agreed to H.Rept. 95-1103 by a 212-182 vote. On May 16, 1978, the President signed H.R. 6782 into law.

In the 96th Congress, the following legislation has been introduced:

S. 1 (Dole et al.)

Amends the Agricultural Act of 1949 to require the Secretary of Agriculture to put into operation coordinated set-aside and price support programs for the 1980 and 1981 crops of wheat, feed grains, and cotton. Extends the current price support authority for milk, and sets the minimum price support for sugar. Amends the Food Stamp Act of 1977 to remove the ceiling on authorizations. Amends the Agricultural Trade Development and Assistance Act of 1954 to require minimum exports of United States farm commodities. Establishes the National Agricultural Production Cost and Statistical Standards Board. Introduced Apr. 15, 1979; referred to Committee on Agriculture, Nutrition and Forestry.

S. 80 (Nelson)

Amends section 201 of the Agricultural Act of 1949, as amended, to extend until Sept. 30, 1981, the requirement that the price of milk be supported at not less than 80 per centum of the parity price thereunder. Introduced Jan. 18, 1979; referred to Department of Agriculture for report and to Subcommittee No. 3 on Feb. 12, 1979.

S. 418 (Kassebaum et al.)

Amends the Agricultural Act of 1949: (1) to set the established prices for individual producers for the 1979 and 1980 crops of wheat and corn, and for the 1979 crop of upland cotton, at levels related to such producers' voluntary set-asides. Establishes a National Agricultural Production Cost and Statistical Standards Board. Introduced Feb. 9, 1979; referred to Committee on Agriculture, Nutrition and Forestry.

