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Cost and Price Tendencies on the Farm

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Much has been said and written to prove on the one hand that under present conditions there is no money in farming, and on the other hand that the farmer of all business men is the greatest profiteer. A very common method of comparing the profits of farm business with the profits of other business is illustrated by the figures so frequently quoted for prices of wheat, retail flour and retail bread. For conditions in August, 1918, the price of wheat has been quoted as 259% of the 1913 price, while the retail price of flour at the same time was only 206% of the 1913 price and retail bread price only 177% of the 1913 retail price. This is interpreted to mean that the farmer must of necessity be making a much larger profit than either the miller, merchant or baker. Whatever the facts in the case may be, this method is open to criticism. In drawing such a conclusion it assumes that costs of operation in each line of business have remained at a constant ratio which is altogether unlikely. The only way to judge the financial status of the farming industry now as compared with its status before the war is to compare margins, or the difference between costs and prices.

In Table 1, is shown the cost and price indices on corn, wheat,

TABLE 1.—COST AND PRICE TENDENCIES ON THE FARM

Year	Corn Index		Wheat Index		Pork Index		Beef Index		*U. S. Price Index for Crops and Live Stock
	Cost	Price	Cost	Price	Cost	Price	Cost	Price	
1920 July	....	....	279.8	281.0	226.5	212.1	238.0	218.0	
1919	165.5	230.0	248.5	231.0	230.5	187.9	233.5	197.8	234.3
1918	200.0	248.5	173.0	231.0	218.2	223.8	228.1	196.2	214.1
1917	101.9	196.0	156.1	224.0	147.0	218.5	186.0	157.0	178.3
1916	151.0	156.8	197.1	189.1	110.1	117.1	152.0	120.9	121.2
1915	85.5	96.0	138.1	110.8	118.0	97.2	124.2	110.0	101.5

*Bureau of Labor Statistics 1920.

pork and beef for the past six years. The average for 1910-1914, inclusive, is taken for the base or as 100. Referring to the table it will be noticed that in 1919 the cost-of-production index for corn was 165.5, which means that the average cost of production for this year (1919) was more than one and one-half times the cost for the period 1910-14. The cost in 1919, to be exact, was 1.655 times the cost for the period 1910-14.

Under normal conditions, on the average Missouri farm from 70% to 75% of the receipts come from the sale of corn, wheat, hogs and cattle. It is possible to judge from the cost and price indices of these four lines of business what returns the farmer will have in the way of income. In 1915, for instance, the corn price was 96%, or 4% under the 1910-1914 average, but the cost of producing corn was only 85.5% of the average 1910-14 costs, or 14.5% less. This means of course greater returns from corn sold. In the case of wheat the price was 110.8% of the 1910-14 average but cost of production was 138.1%. This shows that in 1915, as compared with the 1910-14 period, wheat was a losing proposition. The same is true of pork and beef. With three out of the four main enterprises losing, a low income for 1915 is to be expected.

In the first four columns of Table 2 are the average labor incomes made by a number of farms as shown by complete accounts which farmers kept. In the last column is the theoretical income calculated for Missouri farms from the cost-and-price indices given in Table 1. In making these calculations a constant cropping system and live-stock system is used. As an actual fact cropping systems and live-stock systems were shifted during the war so that the theoretical figures are thrown further off during these

TABLE 2.—LABOR INCOMES

Year	*Iowa	†Wisconsin	††Indiana	Missouri	Calculated Income on Basis of Indices in Table 1. Missouri.
1919	$....	$....	$....	$1756	$1579
1918	$2656	$....	$1421	$2221	$1872
1917	$3285	$1075	$ 852	$3554	$1904
1916	$1659	$ 626	$ 810	$ 728	$ 759
1915	$ 370	$ 68	$ 187	$ 463	$ 461
1914	$....	$ 56	$ 44	$ 264	$....
1913	$ 303	$ 214	$ 256	$....	$....

*From a paper on Studies of Land Values by O. G. Lloyd, Farm Management Dept Iowa State Agri. College.

†Wisconsin Bulletin 300 on War Prices and Farm Profits.

††H. M. Dixon in Journal of Farm Economics April, 1920.

years. As farm operations get back to normal the theoretical figures come nearer to the average shown by actual accounting.

The accompanying chart (Figure 1) dealing with hogs and cattle shows at the base the trend of profit or loss each year as compared with the average for the period 1910-14. Below the zero line indicates a relative loss; above the line, a gain. The next chart above indicates the number of hogs and cattle in Missouri January 1 each year compared with the number on hand the year before on the same date. The third chart indicates the same thing for the United States as a whole. The uppermost chart indicates the home consumption of hogs and cattle for each year as compared with the previous year. The following notes are on data presented in this chart.

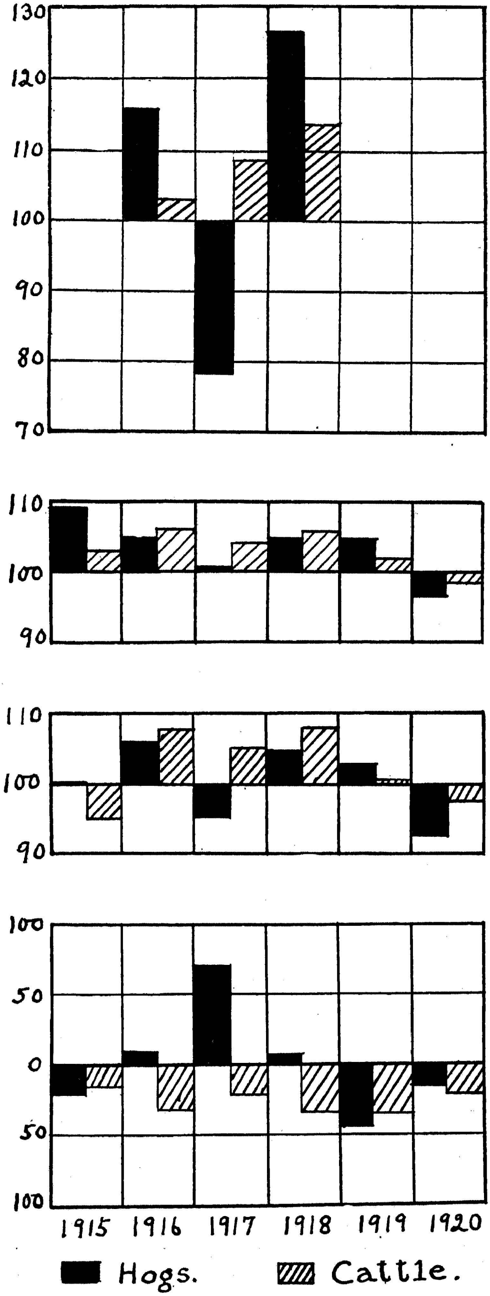
NOTES

Hogs.—It is expected that any adverse margin or poor financial returns for one year will tend to depress production the next year or for several years following. Studying the hog data in the accompanying chart it will be noticed that in 1915 the cost index was higher than the price index, yet the following year, 1916, the number of hogs on hand January 1, was greater than the number on hand the previous year . This was due partly to the better corn crop of 1915 and partly to the fact that in 1913-14 the hog population had been depleted by one of the three heaviest cholera-loss periods on record. The 1915 Missouri corn crop was the best since 1912 and was better than any crop since except the 1917 crop. This encouraged the heavier production of 1916 by promising a cheaper cost of production. The 1916 margin of profit was wider than the 1910-14 average, yet hogs in 1917, the following year, decreased from the year before. The favorable margin of 1916 encouraged a very close selling-off of hogs as there was a steady rise in price during the latter part of 1916. That hogs were sold off pretty close is indicated by the report of the average weights at the Chicago market for a series of years. The Chicago Daily *Drovers Journal* reported average weights of hogs received by years as follows:

1912	1913	1914	1915	1916	1917	1918	1919
226 lbs.	228 lbs.	231 lbs.	219 lbs.	210 lbs.	213 lbs.	234 lbs.	233 lbs.

With a reduced supply on hand the first of 1917 the margin for 1917 was wide, so wide in fact that the price resulted in cur-

SHOWING RECENT TENDENCIES IN THE CATTLE AND HOG BUSINESS



Trend of Home Consumption in the United States

Per cent of previous years consumption, by years.

Trend of Supply

Per cent of previous years supply of hogs and cattle in the United States January 1

Per cent of previous years number of hogs and cattle in Missouri January 1

Trend of Profit and Loss Differential

Difference between cost and price indices by years

Indices based on comparison of costs and prices with average for 1910-11, inclusive tailing home consumption as well as the volume of export. This resulted in 1918 in an increase in the number of hogs on hand. The increase, however, was not so large but that the 1918 margin was a little above the 1910-14 average. This encouraged a further decrease in hogs Jan. 1, 1919 and at the same time this narrower margin also increased hog consumption above the year before. The 1919 production, in spite of the fact that the total exports for that year were greater than the year before resulted in a very unfavorable margin for the farmer. This brought about a market reduction in the hogs on hand January 1, 1920. Since the first of the year there has been a gradual tendency to lessen the number of hogs on hand as compared with the number on hand last year, the number on hand in the United States June 1 being less than 90% of the number on hand last year. It will be noticed on the chart from the number of hogs on hand January 1, 1920 as compared with the number on hand the year before that there has been a reduction in number of 7% to 8%. Also the unfavorable margin of the year before has been reduced about two-thirds. That effective reduction has been from 7% to 10% is shown further by receipts of hogs at twenty of the large markets. The receipts of hogs up to and including July 24, 1920, at these twenty markets was 20,570,000 head. Receipts for the same period last year were 23,063,000 head, a difference of 2,493,000 or a reduction of more than 10%. At the seven largest markets up to and including July 24, 1920 receipts were 14,380,000 head. Corresponding receipts for last year were 16,485,000 head, a difference of 2,105,000 head or a decrease in the supply of hogs of nearly 13%. It is plain that these reductions have not quite restored the farmer's hog business to its normal margin of profits. With conditions remaining exactly as they are, which would mean no better effective outlet for pork products than at present, an additional decrease in supply of 2% to 3% would be necessary for the farmer to get back to normal in his hog business. Where a good corn crop for the year is in prospect so that there is likelihood of a cheaper cost of production for another year the situation is modified. Increased consumption will of course depend on whether home consumption can be increased or whether exports will be further increased. The present financial and industrial situation does not argue for a larger home consumption. Increase of export trade is depending in a large measure on the foreign money situation. In view of all these considerations there is certainly no inducement to the farmer to prepare to exceed greatly this year's output of hogs.

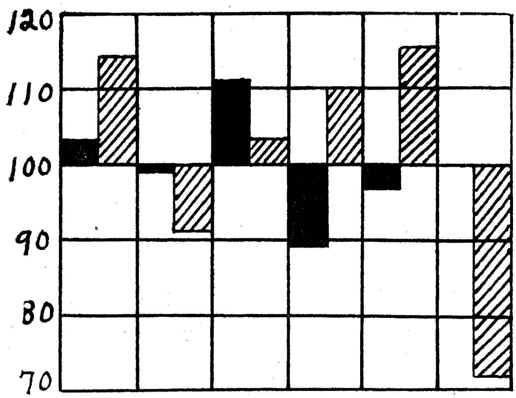
Cattle.—Noting the hog and cattle chart it will be seen that the 1915 cost-of-production index for cattle exceeded the price index. This state of affairs continued in a more or less degree for the four succeeding years and has been the case during the first half of 1920. As with hogs, years of least unfavorable margins are followed by larger increases in the supply of cattle on hand, or vice versa. The years of the more unfavorable margins have been followed by the largest cuts in production. The very unfavorable margin of 1919 resulted in a reduction in the number of cattle of about 2%. This 2% reduction made in the face of this year's demand has reduced the unfavorable margin of the year before about one-third. With exactly the same demand next year and with costs and other conditions the same a further reduction of supply of 4% or 5% would seem necessary.

Noting the reduction of cattle at the seven largest markets for 1920 up to and including July 24 there has been a falling off of from 5,563,000 head for this period in 1919 to 5,019,000 head in 1920. This is a reduction of 554,000 or 9½%. At twenty markets for this same period the receipts of cattle have been 7,084,000 head for 1920 as compared with 7,821,000 head in 1919. This as a difference of 737,000 or a decrease in supply of a little more than 9½%.

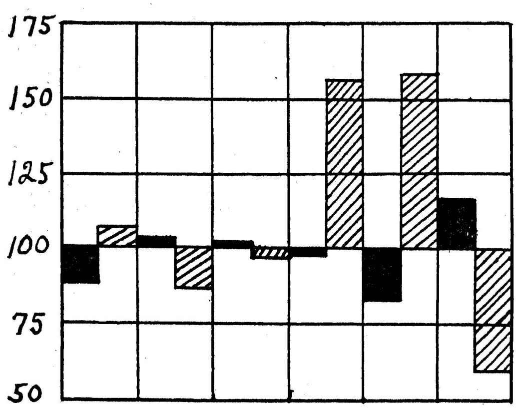
In the case of cattle the cumulative effect of any reduction in producing live stock is not felt until 2 or 3 years later as it takes this time to produce beef. The 9% or 10% shortage of 1920 receipts is a result of a reduction in the cattle business two years ago and shown in the decreased number of cattle on hand January 1, 1919. A further decrease during the year of 1919 as reflected in the number of cattle on hand January 1, 1920 would argue that the cattle business will be on a normal profit basis next year unless home consumption or export demand should be curtailed to an unusual degree.

Corn and Wheat.—Referring to the corn and wheat chart it will be noticed that there is a distinct relationship between margin of profit and acreage of corn and wheat put in. In the case of these two crops in most of Missouri a very marked increase in the acreage of one means a decrease in acreage of the other so that the relative acreage of corn as compared with wheat generally depends on the relative margin of profit in growing the two crops. In 1915 there was a favorable corn margin and a very unfavorable wheat margin. This resulted in 1916 in a considerably reduced wheat

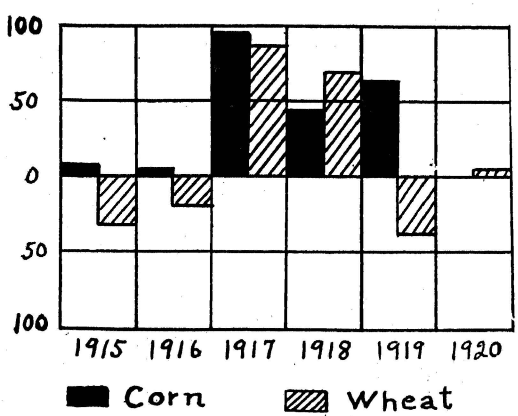
SHOWING RECENT TENDENCIES IN CORN AND WHEAT PRODUCTION



Per cent of previous years acreage seeded in the United States, by years



Per cent of previous years acreage seeded in Missouri, by years



Difference between cost and price indices, by years

Indices based on comparison of costs and prices with average for 1910-14, inclusive acreage and an increased corn acreage. With a less unfavorable wheat margin in 1916 there was only a small reduction in wheat acreage for 1917. The exceptionally attractive wheat margin in 1917 together with a guaranteed wheat price resulted in a very large wheat acreage for 1918 with a small reduction in corn acreage. In 1918, with the wheat margin even more favorable than the corn margin, the 1919 wheat acreage increased still further, with a further reduction in corn acreage. In 1919 the corn margin was very favorable and the wheat margin the most unfavorable in the last five or six years. This resulted in a very marked decrease in wheat acreage for 1920 and an increase in corn acreage. As the 1920 wheat crop goes to market it looks as if this year's margin of profit will be about normal with the 1910-14 average. This is based on $2.50 a bushel to the farmer for his wheat. With the world wheat situation as it is reported there is sufficient demand for the supply of wheat. However, if the margin of profit is artificially depressed by loss of wheat from inability to market or from market manipulation the wheat acreage of this year is not likely to be maintained in the face of increased fertilizer and other seeding expenses. July first crop reports indicate a wheat acreage in the United States for 1920 of 53,652,000 and a prospective yield of 809,600,000 bushels. This compares with a wheat acreage in 1914 of 53,541,000 and a yield of 891,017,000 bushels. The wheat raiser in Missouri should expect at least normal profits from this year's wheat crop. This means $2.50 a bushel or better for the bulk of this year's wheat crop in Missouri.