

Readjusting Montana's Agriculture

II. Montana Farm Prices

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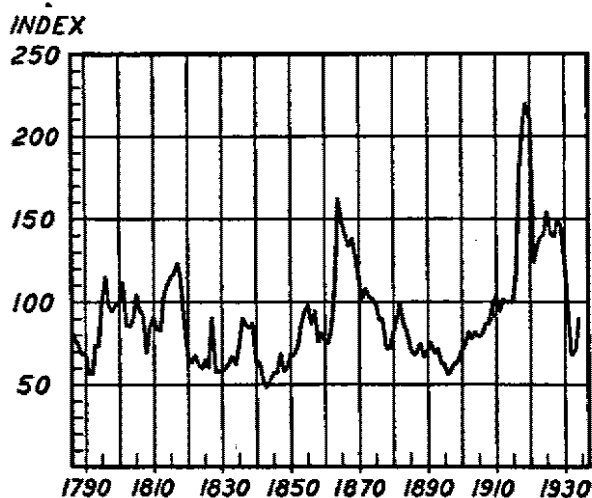


Fig. 1.—Index numbers of farm prices in the United States, 1786-1934. (1910-14=100)

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INTRODUCTION

The price mechanism in a fully competitive society acts as a governor and regulator of economic activity. All business decisions generally center around prices, present or prospective. Profit and loss calculations are functions of prices and production. Higher prices, current or anticipated, generally encourage greater production.

In agriculture, prices are a dominant influence in income, in standard of living, and in community stability. Farm plans and programs are, in considerable measure, functions of price relationships between various alternative crops and livestock. Where a choice in crops is possible, one major consideration is price. There is to some extent, therefore, competition between crops and livestock for the use of land, labor, and capital. Moreover, there is competition between uses of various crops. If in any area feed is expensive and livestock high, the feed tends to be sold direct; if the reverse situation prevails, the feed tends to be sold in the form of livestock.

The social importance of the price level is evidenced by the problems accompanying material price declines, such as occurred following the World War and again in 1930-32. Depression, unemployment, material falling off in total purchasing power, reversal of the usual farm migration cityward, loss of equities and values, foreclosures, farm strikes, and so on—these are some of the problems arising out of precipitous price declines.

Not only wide price swings themselves, but also the unequal movements of various prices are significant and disturbing. In a period of depression, farm prices commonly fall considerably, while agricultural production maintains a high level. In many branches of industry, the reverse generally has occurred, namely, falling pro-

INDEX NUMBERS OF MONTANA FARM PRICES

A monthly index number of Montana farm prices has been constructed to show the relationship of current to past prices. A simple weighted aggregative formula was used in constructing the index¹.

The prices combined in the index cover the following products: wheat, barley, rye, flaxseed, potatoes, dry beans, sugar beets, all hay, beef cattle, lambs, hogs, wool and butter. The base used is the average monthly prices for 1924, 1925, and 1926.²

An index of marketings was constructed from the carlot shipment data. The base used in this case was the average monthly shipments for the years 1924, 1925, 1926; the average prices for 1924-1929, inclusive, were used for weights. Considerable quantities of some farm products are shipped by motor carrier, and, hence, are not shown in railway shipment data. Except for butter and potatoes, however, most of the products included in this index are shipped by rail. Since so many products are combined, the error due to the exclusion of part of the shipments is not significant.

The quantity index multiplied by the index of prices is used to represent an index of income. While some farm products are not included, the index shows the trends in income adequately. A separate index is shown for crops and for livestock.

Table 3 shows the annual index of prices, quantities shipped, and gross income, covering the period for which all or some price and shipment data are available. The data are for the crop year, August to July.

The index of crop income shows the influence of low prices and relatively poor crops in 1931 and of low prices in 1932. Income from livestock has been relatively higher than income from crops since 1928.

¹The formula used is as follows:
$$\frac{\sum P_t Q_t}{\sum P_b Q_t}$$
 where P_t =prices in any given month or year, P_b =prices in the base period, Q_t =the weights used. These weights were based on the average monthly quantity of each product shipped in carlots for the years 1925-1929, inclusive. These data were obtained from the Montana Railroad Commission at Helena.

²The index may be converted to any base desired by dividing each figure by the figure for the particular base chosen. For example, to convert to a 1913 base, divide each figure in the index by the 1913 figure.

TABLE 3.—INDEXES OF MONTANA FARM PRICES, QUANTITIES SHIPPED, AND GROSS CASH INCOME^a

Period	General Index			Crop Index			Livestock Index ^b		
	Price	Quantity	Income	Price	Quantity	Income	Price	Quantity	Income
1910.....	71.2	—	—	68.9	—	—	76.4	—	—
1911.....	68.2	—	—	85.1	—	—	67.7	—	—
1912.....	63.8	—	—	53.1	—	—	79.3	—	—
1913.....	65.5	—	—	55.5	—	—	80.6	—	—
1914.....	82.2	—	—	81.9	—	—	83.1	—	—
1915.....	79.2	—	—	73.2	—	—	88.6	—	—
1916.....	126.5	—	—	134.4	—	—	114.4	—	—
1917.....	154	—	—	158.9	—	—	146.3	—	—
1918.....	155.2	—	—	158.1	—	—	163.3	—	—
1919.....	171.6	63.4	108.8	190.3	25.0	47.6	142.9	112.1	160.3
1920.....	104	78.5	79.6	112.1	89.2	100.0	91.4	58.4	53.3
1921.....	80.7	74.7	60.3	82.2	85.7	70.4	78.5	60.6	47.6
1922.....	84	103.8	87.2	76.6	124.5	95.4	95.5	74.8	71.4
1923.....	83.2	94.7	78.8	76.9	101.2	77.8	93.1	85.7	79.8
1924.....	103.4	102.1	105.5	105.7	105.8	111.9	99.7	100.4	100.1
1925.....	107.1	99.6	106.7	108.5	98.6	107.0	104.9	98.6	103.4
1926.....	98.5	86.9	83.9	94.1	95.6	89.9	100.3	96.9	97.1
1927.....	98.2	129.2	126.8	87.8	159.5	140.0	114.3	86.6	99.0
1928.....	92.8	128	118.8	71.1	157.3	111.8	126.2	99.1	125.0
1929.....	88.4	101.2	89.5	75.9	100.7	76.4	107.9	102.9	111.1
1930.....	55.9	100.1	55.9	44.7	93.0	41.6	73.1	98.8	72.3
1931.....	46.5	58.3	25.8	42.1	34.7	14.6	50.9	80.7	41.0
1932.....	47.6	88.9	33.5	31.7	100.9	31.9	47.0	81.0	38.0
1933.....	52.0	83.0	44.0	50.2	74.1	38.3	54.8	84.5	50.6

^aCrop year, August-July. Calculated from monthly data. ^bLivestock and livestock products.

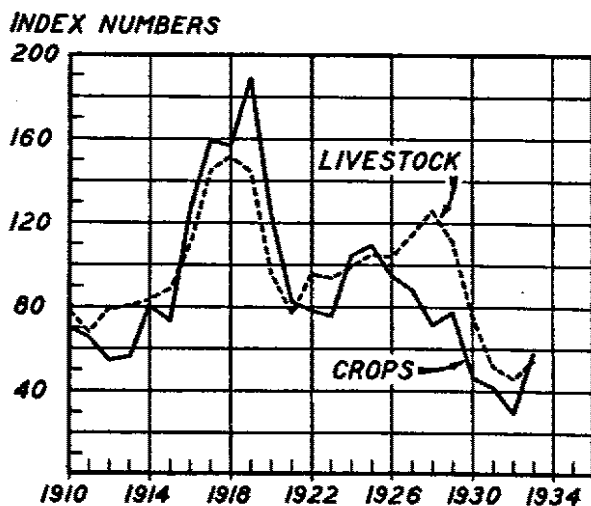


Fig. 10.—Index numbers of Montana farm prices for crops and livestock. (1924-25-26=100)

Figures 10 and 11 show the price indices for crops and livestock and the indices of gross farm income.

The index of livestock prices has been above the index of crop prices since 1926; the influence of beef prices on the livestock index for 1928 is very evident. During the period 1916 to 1921, inclusive the index of crop prices was considerably above the index of livestock prices. The low point for both indices was reached in 1932, being 31.7 for crops and 47 for livestock.

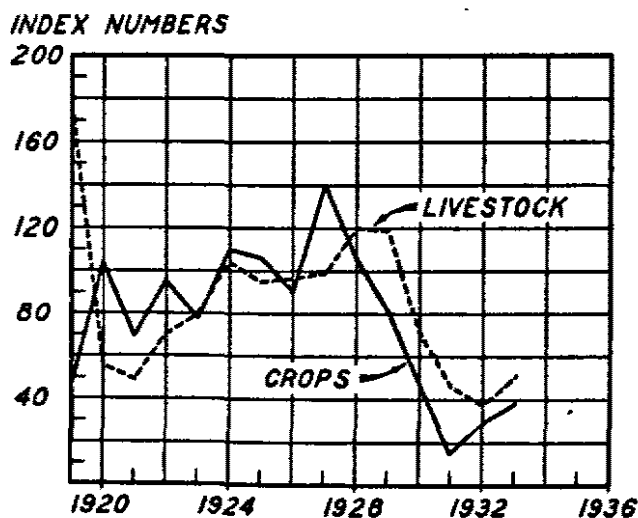


Fig. 11.—Index of Montana farm income, crops, and livestock. (1924-25-26=100)