

National and Farm Incomes

time-element in relationships of incomes of economic segments and the national income in periods of change

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The belief that economic depressions and booms are farm-bred and farm-led is not validated by an examination of past time-sequences and relationships between national income and some of its important components.

The data used to test that belief were estimates of national income, by industrial origin, made and published by the United States Bureau of Foreign and Domestic Commerce. These data represent the net value added to production by each industry measured at factor costs—materials, labor, transportation.

Coefficients of correlation were computed for the depression period—1929–1941—national income and for the incomes originating in certain segments of the national economy. The adjusted coefficient of determination for national income and income originating in agriculture was .80; in mining it was .92; in contract construction, .90; in manufacturing of metals—iron, steel and non-ferrous metals—it reached .93; and, in manufacturing of machinery the coefficient was .90.

It is evident from this comparison that during the years 1929–1941 national income was less closely correlated with that originating in agriculture than with those incomes originating in mining, contract construction, manufacturing of metals, or in the manufacturing of machinery.

The belief that farm income falls more rapidly during depressions and leads the rise during booms was further tested by a comparison of the years 1929–1941 and the period of 1929–1941 plus the years of 1947–1950.

Incomes originating in mining, contract construction, manufacturing of metals and manufacturing of machinery, all dropped—on the average—more rapidly than farm income did when the national income was declining.

The belief that farm income leads the rise during booms also must be rejected after a study of the following table.

Averages of Relative First Differences When National Income Rose

Series	Period	
	1929–1941	1929–1941 plus 1947–1950
	per cent of rise	per cent of rise
Gross farm income	+10.9	+10.6
Cash receipts from farm marketings	+12.5	+11.6
Income originating in:		
Agriculture	+20.1	+16.3
Mining	+24.3	+24.3
Contract construction	+29.7	+27.7
Manufacturing of metals	+45.3	+39.1
Manufacturing of machinery	+43.2	+37.2

Another series relating to farm income—personal income derived from agriculture—was employed in the test.

This series was obtained by subtracting seasonally adjusted nonagricultural personal income from seasonally adjusted total personal income. Despite the seasonal adjustments the residual figures

representing personal agricultural income may still reflect some seasonal changes.

Major Turning Points in Three Seasonally Adjusted Quarterly Series

	Total personal income	Cash receipts farm marketings	Personal agricultural income
Down-turns	4Q.* 1929 3Q. 1937 1Q. 1949	4Q. 1929 4Q. 1937 3Q. 1948	4Q. 1929 4Q. 1937 3Q. 1948
Up-turns	2Q. 1933 3Q. 1938 1Q. 1950	1Q. 1933 3Q. 1939 1Q. 1950	1Q. 1933 1Q. 1939 3Q. 1950

*Q—Quarter-year.

On the three down-turns, farm income coincided with national income once, followed national income once, and led national income once. On the three up-turns, farm income led national income once, followed national income once, and coincided with or followed national income once.

The evidence obtained in the tests fails to validate the belief that agricultural income—more than other important segments of the national economy—leads in the decline or rise of national income.

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Averages of Relative First Differences When National Income Dropped

Series	Period	
	1929–1941	1929–1941 plus 1947–1950
	per cent of drop	per cent of drop
Gross farm income	-13.8	-12.8
Cash receipts from farm marketings	-14.6	-13.4
Income originating in:		
Agriculture	-17.3	-18.1
Mining	-22.3	-21.0
Contract construction	-27.2	-22.6
Manufacturing of metals	-27.2	-24.4
Manufacturing of machinery	-23.6	-21.1

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