5 The Employment Act of 1946: Some History Notes

17 The Farm Sector in the 1980s: Sudden Collapse or Steady Downturn?
The Review is published 10 times per year by the Research and Public Information Department of the Federal Reserve Bank of St. Louis. Single-copy subscriptions are available to the public free of charge. Mail requests for subscriptions, back issues, or address changes to: Research and Public Information Department, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, Missouri 63166.

The views expressed are those of the individual authors and do not necessarily reflect official positions of the Federal Reserve Bank of St. Louis or the Federal Reserve System. Articles herein may be reprinted provided the source is credited. Please provide the Bank's Research and Public Information Department with a copy of reprinted material.
About 40 years ago, Congress passed the Employment Act of 1946. In the first article of this Review, "The Employment Act of 1946: Some History Notes," G. J. Santoni shows that the legislation, as initially proposed, stirred up considerable controversy. Its sponsors believed that earlier failures to deal with unemployment in the United States and other nations had contributed significantly to the rise of National Socialism in Germany, which eventually culminated in World War II.

Its detractors argued that business cycles arose, in part, from major shifts in the relative demand or supply of various goods and services; government attempts to maintain employment in the face of such shifts, therefore, would be inefficient and socially counterproductive. Critics felt, moreover, that the application of the new theory of compensatory finance to avoid periodic booms and busts required forecasting accuracy that was unachievable.

Santoni shows that the legislation that was initially proposed did not fare well in the debates. The Employment Act of 1946 approved by Congress differed markedly from the proposed Full Employment Bill of 1945. As approved, the act recognized both high employment and price level stability as important economic policy objectives. Furthermore, the requirement to apply the principle of compensatory finance, the centerpiece of the 1945 proposal, was stripped away.

Recent financial problems in U.S. agriculture are considered by many to be an aberration; these analysts feel that the relative prosperity that farmers enjoyed in the 1970s represents a more accurate picture of what financial returns to farming should be. In the second article in this Review, "The Farm Sector in the 1980s: Sudden Collapse or Steady Downturn?" Michael T. Belongia shows that such an interpretation is unwarranted. Instead, the elusive gains in asset values during the 1970s masked a continuation of the long-standing downward trend in the profitability of farming. Moreover, the author demonstrates why low and declining returns to farming are the natural result of market forces attempting to move marginal land, labor and other resources to nonfarm employment. Despite various programs designed to help the "family farm," the author argues, a continuing decline in the size of the U.S. farm sector is likely.
The Employment Act of 1946: Some History Notes

G. J. Santoni

Thus, because of the planlessness of the twenties — because of the lack of courageous action immediately following the collapse — the nation lost 105,000,000 man-years of production in the thirties.

— Full Employment Act of 1945, Hearings, p. 1104

About 40 years ago, in response to the Depression of the 1930s, Congress passed the Employment Act of 1946. Its sponsors believed that earlier failures to deal with massive worldwide unemployment had contributed significantly to the rise of National Socialism, which eventually culminated in World War II. This belief urged the act's sponsors to find a solution to the problem that had caused "such a great melting away of prosperity in such a short period of time."

The legislation followed on the heels of a revolution in macroeconomic theory. This new theory suggested that periodic booms and busts could be avoided if government pursued a policy of "compensatory finance." The new theory promised the success of centrally directed economic stabilization policy and provided the nucleus around which the proposed legislation was built.

The bill that was initially proposed stirred up considerable controversy. Some considered it "a great Magna Carta of government planning for full employment." Others viewed it as "utterly alien to America and her institutions." Over the intervening years, discussions of the Employment Act have become less shrill, but we continue to regard unemployment as an important problem. The purpose of this paper is to place this policy concern in its historical context as it initially surfaced in congressional debates of the Full Employment Bill of 1945 and as it re-emerged in debates of the Full Employment and Balanced Growth Bill of 1976.

**THE IMPETUS FOR THE BILL**

Chart 1 plots the unemployment rate from 1900–40. Before 1930, the unemployment rate moved around an average of about 4.5 percent. Beginning that year, however, it rose substantially, reaching 25 percent of...
the labor force by 1933, then declined fairly slowly to a level of about 15 percent in 1940. During the 11-year period from 1930–40, it averaged about 18 percent. Charts 2 and 3 show real gross national product and the price level (as measured by the implicit GNP deflator) over the same period. Like chart 1, these charts show a sharp economic contraction beginning in 1930. By 1933, real GNP had declined to about $140 billion from its level of about $200 billion in 1929, while the price level fell by about 40 percent.

The sharpest recorded contraction in economic activity that occurred before this episode followed World War I (from 1918–21), and the sponsors of the Full Employment Bill were motivated by the fear that the end of World War II and the re-entry of discharged war veterans into the civilian labor force would augur a return of the problems of the 1930s.

The data presented in charts 1–3 did not exist when the bill was debated in 1945. As a result, the authors of the bill used unofficial estimates of unemployment for years prior to 1942 to bolster their arguments in favor of the bill’s passage. These estimates were inserted into the hearings from a book by Henry Wallace that was widely referred to in the popular press at that time.

___

1It was not until August of 1942, when the task of estimating unemployment was transferred from the Works Progress Administration to the Census Bureau, that official definitions of “employed” and “unemployed” were developed and consistently applied in periodic surveys of the labor force. See Bancroft (1957), p. 66 and U.S. Department of Labor (1982), p. 3.


3See Wallace (1945).
Wallace’s data, which span the period 1900–44, are reproduced in chart 4. The chart presents estimates of the labor force, the level of employment consistent with “full” employment, and the actual level of employment. The story told by Wallace’s graph, which shows a large gap between full and actual employment during the 1930s, is consistent with the more refined data shown in chart 1.9

A THEORY OF THE BUSINESS CYCLE: CIRCA 1945

The sponsors of the Full Employment Bill were influenced by the view of John Maynard Keynes.10 He suggested that unemployment was the result of insufficient aggregate demand relative to the full employment supply of output.11 Keynes argued that swings in aggregate demand generate business cycles with corresponding fluctuations in employment and unemployment.12

While Keynes suggested a number of factors that could induce changes in aggregate demand, the one

---

8Wallace estimates full employment by subtracting an estimate of frictional unemployment from the labor force. See Wallace (1945), pp. 19–20.

9Wallace (1945), pp. 20–22. Wallace attributed the abnormally high level of unemployment to “the planlessness of the twenties” and suggested that the system of free enterprise in the United States survived only because of the “bold, courageous action of the Roosevelt New Deal” and then only by the narrowest of margins.

10In the minds of both the sponsors and opponents, the legislation was considered an application of the theory “advanced by Lord Keynes, Stuart Chase, Sir William Beveridge, and Mr. Henry Wallace.” Stuart Chase was a social scientist and the author of numerous popular books and articles concerning the Depression. Sir William Beveridge was best known as the chief architect of Britain’s welfare state legislation that was enacted in the 1940s.

11See Keynes (1964), pp. 247–49 and 280–91. “We have shown that when effective demand is deficient there is under-employment of labour in the sense that there are men unemployed who would be willing to work at less than the existing real wage.” p. 289.

12“It is upon the fact that fluctuations tend to wear themselves out before proceeding to extremes and eventually to reverse themselves, that the theory of business cycles having a regular phase has been founded.” Ibid., p. 250.
he believed contributed most strongly to generating business cycles was fluctuation in business investment." In large part, this fluctuation reflects changes in "the state of confidence concerning the prospective yield" of available investment alternatives, which can change radically over time due to "the extreme precariousness of the basis of knowledge on which our estimates of prospective yield have to be made." Furthermore, activity on the London and Wall Street stock exchanges amplified the effect of the changes in the state of confidence on real investment. Keynes suggested that these stock exchanges transformed the extremely important social process of directing capital investment to its most profitable use "into a by-product of the activities of a casino...." While the sponsors of the Full Employment Bill may not have accepted every "jot and tittle" of Keynes' analysis, they clearly believed that labor market conditions were too important to be left to the vagaries of a roulette wheel.

**THE PROPOSED REMEDY: COMPENSATORY SPENDING**

The initial draft of the proposed legislation went under the title of the Full Employment Bill of 1945. This bill proposed to attack the problem of unemployment in two ways. Section 2(b) stated that "all Americans able to work and desiring to work are entitled to an opportunity for useful, remunerative, regular, and full-time employment." In the view of the sponsors,
the conditions necessary for continuous full employment could not be expected from the system of private enterprise. Consequently, the bill placed the responsibility for the maintenance of full employment on the federal government. Section 2(c) requires the federal government to "provide such volume of Federal investment and expenditure as may be needed . . . to assure continuing full employment."\textsuperscript{17}

Section 3 laid out a formula for the federal government to follow in pursuing this goal. The formula required the President of the United States to submit a national budget to Congress at the beginning of each regular session. The budget was to contain a forecast of both the level of output necessary to generate full employment over the next year and the level of output that was likely to result if government did not intervene. If the projected level of output was less than the level necessary for full employment, the President was required to recommend legislation that would produce a big enough deficit in the federal government's budget to raise output to the full employment level. If the relationship between the two output forecasts were reversed, the President was required to recommend legislation that would result in a budget surplus big enough to reduce output to the full employment level.\textsuperscript{18} At the time, this method of stabilizing economic activity was called "compensatory finance."\textsuperscript{19}

\textbf{DEBATES AND HEARINGS}

One of the important features of the draft legislation was that it put in place the machinery to apply the

\textsuperscript{17}Ibid., p. 81.

\textsuperscript{18}Ibid., p. 82.

principle of compensatory finance on a continuous basis, year in and year out. The sponsors believed that a continuous application was necessary because they interpreted Wallace's data as indicating that high levels of unemployment were a natural consequence of free enterprise.

The Sponsors' Interpretation of the Data

As mentioned, a striking feature of Wallace's data is the large and persistent gap between full employment and actual employment that occurred during the 1930s (see chart 4). The gap averages about 18 percent of the labor force, indicating that a very serious economic problem existed during this period. Wallace, in his book, and the sponsors of the Full Employment Bill, during the hearings and debates, focused entirely on this gap.

From the viewpoint of the bill's sponsors, these data indicate that the system of private enterprise was prone to sizeable periodic disruptions. The congressional debates and hearings are filled with assertions that "the history of employment and production in the United States is a record of boom and bust. It is a record of brief periods of growth and development culminating in peaks of prosperity that gave way to disastrous collapse;" or that "private enterprise, left to its own devices, cannot provide full employment and cannot eliminate periodic mass unemployment and economic depressions."20

The Opponents' Interpretation of the Data

To opponents of the bill, the data suggest that employment behavior during the 1930s was perverse by past standards. Indeed, the '30s are noteworthy because the behavior of unemployment during these years was so unusual.21

Chart 4 shows that the level of actual employment remained very close to the estimate of full employment over the first 30 years of the sample. There were sharp increases in 1908, 1914, and 1921; and the gap was negative during America's involvement in World War I.22 These gaps, however, quickly vanished so that actual employment was never much different than full employment for any appreciable length of time.

Opponents of the bill disputed claims that the conditions experienced in the 1930s were a natural consequence of free enterprise.23 While agreeing that business cycles are inevitable, they argued that economic forces operate to move the economy in the direction of full employment. The opponents suggested that compensatory spending should be applied only in the event of an extreme contraction to limit its depth and duration.24

In addition to this dispute, the debate focused on three specific points: 1) whether the requirement to maintain continuous full employment and price level stability was feasible; 2) whether the government could generate the necessary forecasts; and 3) whether the right to employment should be written into law.

Continuous Full Employment and Inflation

The opponents thought business cycles were inevitable, and their consequences, in the form of temporarily reduced employment, could not be legislated away. They argued that business cycles were symptoms of the adjustment process to, say, a major change in consumer demand in favor of some goods but against others, a change that causes production costs to rise for some goods but fall for others, or a change in aggregate supply like an unusually good or bad harvest. Any of these changes results in a movement of resources (including labor) from one job to another. The adjustment takes time to complete and, in the interim, unemployment increases.

The proposed bill required the federal government to retard these necessary adjustments. While the opponents conceded that "Government spending can for awhile create full employment as it did during the war,"25 they objected to the policy because it reduces...
unemployment in the short run by moving it to the long run and does so at the cost of higher inflation.  

The sponsors of the bill conceded this point but argued that the resulting inflation would be insignificant in comparison to a return to high levels of unemployment and the social unrest that would inevitably follow in its wake.

**Impossible Forecasting Accuracy**

The bill required the president to estimate the number of jobs necessary for full employment, the value of production consistent with full employment, and the value of production that would occur in the absence of any new federal compensatory spending program. In the opinion of the opponents, successfully completing such a task 16 to 18 months in advance of the events was virtually impossible. They pointed out that the estimates would depend on the prevailing price level, the kinds of goods (and hence, jobs) making up aggregate production, and average wage rates. They asked Congress to consider "how wrong any estimate for 1930 would have been, if made in 1929."  

The defense mustered against this criticism was that the bill required forecasts based on "current trends" in the data. Opponents pointed out that maintaining continuous full employment required the discovery of deviations from trend as well as breaks in the trend before they occurred. Extrapolating current trends would not do the job.

**The Right to Employment**

No provision of the bill received more attention during the debates than section 2 (b-c), which extended to all able Americans the right to an opportunity for full-time employment. Extending this right meant that the federal government would become responsible for assuring that enough jobs were available. Opponents objected to this provision because: 1) the bill made no provision for enforcing the right; 2) it would lead people to expect more than the government could possibly deliver; and 3) the provision is socialistic and alien to the basic principles of the United States.

During the debates, supporters conceded that, "the statutory enunciation of the right to an opportunity for employment does not imply redress through the courts." Rather, people who believed they were prevented from exercising this right could petition the government to improve its economic policy or obtain a change in government through the regular election process. Opponents argued that the inclusion of this right in the bill, at best, extended an empty promise to the electorate and led them to expect more than the government was willing or able to deliver. At worst, any attempt to enforce the right would be incompatible with the fundamental objective of the bill as well as with democratic institutions.

**SOME IMPORTANT CHANGES**

The debates resulted in significant changes between the bill as it was initially reported and the legislation that was finally enacted by Congress (see shaded insert on the next page). For example, amendments succeeded in eliminating the declaration of the right to an employment opportunity, the federal government's responsibility to assure continuing full employment, and the requirement to submit a budget based on the principle of compensatory finance. In particular, section 2 of the final version states that it is the intention "of the Federal Government . . . to promote maximum employment, production, and purchasing power." Thus, the actual legislation is a state-

---

28Of course, scarcity assures everyone of a job at a sufficiently low wage. The rub came because the wage considered to be "remunerative" was $2,000 per year which was the average annual income of private nonagricultural workers at that time.

29As the Kiplinger Washington Letter once noted, "Jobs for everyone able and willing to work leaves out a lot of people."

30Assuring Full Employment in a Free Competitive Economy (1945), p. 27.

31Assuring Full Employment in a Free Competitive Economy, Minority Views (1945), pp. 4-5, 27. This criticism was discounted by Sen. Thomas of Utah, a spokesman for the bill. He reminded detractors "that the basic difference between the American constitutional concept (and totalitarian regimes) . . . is that in America we have all the time the welfare of the individual person in mind." The senator's argument calls to mind Daniel Webster's observation that "There are men in all ages who mean to govern well, but they mean to govern. They promise to be good masters, but they mean to be masters."
Important Differences Between the Bill and the Act

The following summarizes some of the more important differences between the Full Employment Bill as reported by the Banking and Currency Committee and the Employment Act of 1946 that was approved on February 20, 1946. Italics are added to emphasize deletions or changes in wording.

The 1945 Bill

Section 1
"This Act may be cited as the Full Employment Act of 1945."

Section 2
b) "All Americans ... are entitled to an opportunity for useful, remunerative, regular, and full-time employment.
c) In order to assure the free exercise of the right to an opportunity for employment ..., the Federal Government has the responsibility to assure continuing full employment, that is, the existence at all times of sufficient employment opportunities for all Americans ."
d) To that end the Federal Government shall, ..., provide such volume of Federal investment and expenditure as may be needed, ..., to assure continuing full employment.

Section 3
"The President shall transmit to Congress ... a general program, pursuant to section 2, for assuring continuing full employment ."

The 1946 Act

Section 1
"This Act may be cited as the Employment Act of 1946."

Section 2
"The Congress hereby declares that it is the continuing policy and responsibility of the Federal Government ... to promote maximum employment, production, and purchasing power."

Section 3
"The President shall transmit to the Congress ... a program for carrying out the policy declared in section 2 ."

UNEMPLOYMENT AFTER THE EMPLOYMENT ACT

Unemployment in the United States remained at fairly low levels for about 20 years following the Employment Act (see chart 5). The unemployment rate averaged 4.6 percent from 1950–70. This average was just about the same as the average for 1900–29 which was about 4.5 percent. Business cycles, of course, occurred in both periods and account for fluctuation in the unemployment rate around its average. After 1970, however, the unemployment rate began to rise. By 1975, it had reached a level of more than 8 percent. An unemployment rate this high had not been experienced since the 1930s and it rekindled many of the fears that had motivated the 1946 legislation.

\^Whether this relatively low average rate was simply fortuitous or the result of the legislation is beyond the scope of this paper.

The 1976 bill resurrected “the right of all adult Americans able, willing, and seeking work to opportunities for useful paid employment at fair rates of compensation.” It required the president to establish “annual numerical goals for employment, production, and purchasing power” and to submit a budget containing a “level and composition of Federal expenditures, measured against estimated capabilities at full employment and production, necessary to support the annual economic goals proposed in section 3 and to support the Full Employment and Balanced Growth Plan . . .” In addition to this core, the bill contained provisions regarding the coordination of monetary and fiscal policies, economy in government, anti-inflation policy, regional employment policy, youth employment policy and income maintenance; it also established an Advisory Committee on Full Employment and Economic Growth.

The legislative process was less kind to the 1976 bill than it was to its 1945 forerunner. One critic of the bill remarked that the seedling of the unemployment goal had grown into an “unmanageable Christmas tree,” an “unworkable monster” that deserved to be chopped down. The bill was debated for more than two years and, like its forerunner, was stripped of its substantive provisions when President Carter signed it on October 27, 1978 (see the shaded insert on the next page for the main provisions of the Full Employment and Balanced Growth Act of 1978).

---


31A comment of Raymond Moley’s regarding the proliferation of conflicting goals in some New Deal legislation seems pertinent at this point. Moley wrote that “to look upon these policies as the result of a unified plan was to believe that the accumulation of stuffed snakes, baseball pictures, school flags, old tennis shoes, geometry books, and chemistry sets in a boy’s bedroom could have been put there by an interior decorator.” Moley (1939).
The Full Employment and Balanced Growth Act of 1978

The following is a condensed list of the main provisions of the Humphrey/Hawkins Act.

Title I — National Goals and Priorities
1) Declares a national policy of promoting full employment, increased real income, balanced growth, a balanced federal budget, growth in productivity, an improved balance of trade, and price stability.
2) Declares a policy of primary reliance on the private sector for accomplishing the above economic goals.
3) Encourages the adoption of fiscal policy that would reduce federal spending as a percentage of GNP.
4) Requires the President to set budgetary goals so as to achieve an unemployment rate of not more than 3 percent among persons aged 20 and over, and 4 percent for persons 16 and over by 1983.
5) Requires the President to set a budgetary goal of reducing the rate of inflation to 3 percent by 1983. Furthermore, once the goal set in 4 above is achieved, the President is required to set a goal directed at reducing inflation to 0 percent by 1988.
6) Allows the President to modify the timetables for achieving the goals set forth in 4 and 5 above.
7) Requires the Federal Reserve Board to report to the Congress twice a year on its monetary policies and their relationship to the goals of the act.

Title II — Structural Economic Policies
1) Permitted the President to establish “reservoirs of public employment,” if he found that other policies were failing to achieve full employment goals.
2) Required that any reservoir jobs be useful and in the lower ranges of skill and pay, be targeted on individuals and areas with the worst unemployment problems and be set up so as not to draw workers from the private sector.

Title III — Congressional Review
1) Establishes procedures for Congressional review of Federal Reserve Board goals and policies.
2) Gives Congress the option of determining when the full employment goal could be reached should the President declare that the goal could not be met by 1983.

Title IV — General Provisions
1) Prohibits discrimination on account of sex, race, age, religion or national origin in any program under the bill.
2) Provides that workers in reservoir jobs be given equal pay for equal work, but not less than the federal minimum wage.

SUMMARY

The legislative proposal advanced in the Full Employment Bill of 1945 was motivated by the severe Depression of the 1930s and the fear that this condition would return with the demobilization following World War II. Many advocates of the legislation were convinced that the system of private enterprise was prone to sizeable periodic disruptions caused by the erratic behavior of business investment. As initially proposed, the legislation required the federal government to intervene to smooth out the business cycle. The legislation was based on the principle of compensatory finance which argued, for example, that a projected slump in economic activity could be offset by running a sufficiently large deficit in the federal budget.

The initial proposal did not fare well in the debates. Various people argued that business cycles reflected the process of redirecting resources (including labor)
brought about by major shifts in the relative demand or supply of various goods and services. In their opinion, the government’s responsibility should be limited to the relief of destitution which frequently could be accomplished more adequately and cheaply in ways other than maintaining employment in jobs of lesser value.35 Others argued that the application of compensatory finance required forecasting accuracy that could not possibly be achieved. They pointed out that the business slump that began in 1930 was not forecast in 1929 and that existing government agencies responsible for forecasting economic conditions produced results that were indistinguishable from random chance.

The Employment Act of 1946 that was approved by Congress differed markedly from the Full Employment Bill of 1945. As approved, the act recognized both high employment and price level stability as important economic objectives. Furthermore, the requirement to apply the principle of compensatory finance, the centerpiece of the 1945 proposal, was stripped away.

The Humphrey/Hawkins Bill of 1976 attempted to revive the main provisions of the 1945 bill. Congress, however, had become no more sympathetic in the intervening 30 years. As in 1946, they extracted the legislation’s teeth before approving it and created an “unworkable monster” by loading the bill with an agglomeration of conflicting policy statements. In the end, the bill was hailed as a legislative monument to Hubert Humphrey, who had died in January 1978. Apart from this, and the expression of congressional sentiment regarding a vast array of economic problems, the legislation was not expected to produce much of substance.

Debates over the economic consequences of the 1946 employment act continue to this day. However, many would agree with the assessment given by Alvin Hansen in a collection of papers celebrating the tenth anniversary of the 1946 act. In his opinion, public exposure to policy debates stimulated by the Economic Report of the President and the Hearings before the Joint Committee, both of which are required by the legislation, have had the effect of raising the level of economic literacy in the United States. As for the real economic consequences of employment legislation, he suggests that “there are as many economic opinions worthy of consideration as there are competent economists.”36

REFERENCES


---


Moley, Raymond. *After Seven Years* (Harper, 1939) pp. 369–70.


The Farm Sector in the 1980s: Sudden Collapse or Steady Downturn?

Michael T. Belongia

It has become popular to discuss the recent history of farm income and debt in the context of a 1973–80 boom period and a post-1980 collapse in the farm sector’s performance. This view suggests that the performance of the farm sector since 1980 represents a sharp break with historical experience.

This article reviews the evidence used by some analysts to argue that the farm sector’s downturn is a recent phenomenon. It then analyzes alternative indicators more representative of the farm sector’s economic health and concludes that the 1980s are little more than the continuation of a long-established downward trend.


The performance of U.S. agriculture in the 1970s generally is characterized as a boom period on the basis of two indicators: export volume and asset values. As the indexes plotted in chart 1 show, exports and asset values rose rapidly through 1980; both series, however, have fallen precipitously since then. The 35 percent increase in U.S. farm export volume between 1973 and 1980 was the combined result of many coincident changes: production shortfalls in other grain-producing countries, the fall in the dollar’s real exchange value (following the switch to floating exchange rates), rapid growth in real foreign incomes and strong incentives from domestic commodity programs for U.S. farmers to expand output. Over the same period, a rising U.S. inflation rate, tax advantages associated with ownership of farmland and the incentives of commodity programs to expand production increased the demand for farm assets, primarily land. The result was a 46 percent increase in the real value of farm assets. Thus, the sharp increases in these two indicators presumably signalled that the markets for U.S. farm products were growing and that owners of assets employed in farm production were becoming wealthier.

Interpreting these indicators broadly as measures of economic well-being supports the current notion that the farm sector’s collapse began in 1981. Moreover, their parallel declines since then have been viewed as more than coincidence. With real farm exports falling 46 percent and real asset values falling 35 percent between 1980 and 1985, a causal chain seems clear: the loss of export markets abroad causes a decline in farm incomes, which, in turn, causes declines in asset values and defaults on farm debt. Given this view of when and why the farm sector’s problems originated, the apparent solution to the problem is to stimulate exports. This intent is expressed clearly in the 1985 Farm Bill and the discretionary implementation of its provisions by the Secretary of Agriculture. With greater foreign sales, presumably, farm income, prices and asset values all will rise.

Michael T. Belongia is a senior economist at the Federal Reserve Bank of St. Louis. Paul Crosby provided research assistance.
A LONGER-RUN PERSPECTIVE ON FARM SECTOR PERFORMANCE

There are at least two pitfalls to using export volume and asset values as primary indicators of the farm sector's economic health. First, selling larger quantities of output to foreign buyers says nothing about the profitability of farming. Export volume is solely a measure of quantity; it may bear little predictable relationship to the net returns earned by the labor and capital employed in farming. The export measure provides no information about the costs of producing farm products relative to prices received by farmers.

Second, the appreciation of farmland prices during the 1970s masked the incipient severe financial problem now facing farmers. Farmers were earning a relatively low return from farming itself; their chief gains accrued from the capital appreciation of farmland resulting from under-anticipated inflation. Farmers who borrowed against their higher-valued land were borrowing against gains in wealth that were not related to the income associated with farming. This financial strategy could be pursued only so long as asset values continued to rise fast enough to support the higher debt load they acquired.

A Longer-Run View of Returns to Farming

A considerably different picture of the farm sector's performance can be discerned from examining patterns in the relevant price, productivity and income data.

This alternative longer-run history of the farm sector begins with the relationships shown in figure 1 and chart 2. Figure 1 depicts total product (Panel (a)) and marginal product (Panel (b)) curves and illustrates a fundamental law of economics, the law of diminishing
returns. Total product is the total amount of output that can be produced from any particular quantity of inputs (land, labor, capital and other resources) used in production. Marginal product represents the change in total product that results from a change in the quantity of one input, holding the quantities of other inputs constant. The law of diminishing returns says that, at some point, the additional output gained from an extra unit of one input (marginal product) will begin to decline. Moreover, beyond some point, adding more units of an input reduces total product; the marginal product of this input is now negative. These relationships are discussed extensively in many microeconomics textbooks; thus, it is sufficient for current purposes simply to assert that, when more of any one input is added, while holding the quantities of other inputs constant, total output rises first at an increasing rate (between points A and B), then rises at a decreasing rate (between points B and C) and, finally, declines (to the right of point C).¹

Looking at Panel (b) of the figure, it is clear that we can observe greater productivity in the production of some commodity as a result of two very different causes. On the one hand, it is possible to move from point (1) to point (2) on curve MP₁; a reduction in the quantity of a specific input employed is associated with a movement back along the MP curve. The marginal product of the specific input remaining in the industry will be higher than before, although total product is lower. A second alternative is that some technological improvement shifts the entire MP curve to something like MP₂; thus, the marginal product for any quantity of input is greater under the new technology (MP₂) than under the old (MP₁).

There is, of course, a substantial difference between the two cases. The first case results from certain inputs leaving the industry; the second case results in additional inputs entering the industry.² The data for

¹See, for example, Stigler (1947), pp. 117–24; Hirshleifer (1976), pp. 344–45.

²The MP curve, multiplied by the price of the final good produced by this and other inputs, is the demand curve for the input. An outward shift in the MP (or VMP) curve, therefore, reflects an increase in the demand for that input.
the farm sector, shown in chart 2, indicate that agriculture’s productivity gains have been associated with reduced numbers of farmers. Starting from common index bases of 100 in 1950, the chart shows that output per farm worker has increased over 600 percent while the number of farm workers has declined about 70 percent. The data appear to be consistent with an upward movement along a curve such as MP, rather than an outward shift in factor productivity such as MP*. The coincident observation of both greater productivity and fewer farmers suggests that agriculture is now a declining industry and, moreover, has been so for several decades.

All things equal, more output per unit of input helps farmers as it would allow them to sell more product from the same amount of effort devoted to farming. But, all things are not equal. A change in prices of farm products also affects the well-being of farmers. Total revenue (TR) received by farmers is defined as price (P) times quantity sold (Q). We already have seen that productivity and total output have increased significantly in farming. The dashed green line plotted in chart 3 shows, however, that greater productivity (in conjunction with other factors, such as slow growth in food demand) has resulted in lower prices of farm products relative to prices of nonfarm products. With output rising and prices falling, what will happen to the well-being of farmers?

The result has to do with the elasticity of demand for farm products. For purposes of calculating the effect of changing prices on farm revenues, most studies estimate the price elasticity of food demand to be near −0.2. If we assume, for ease of graphical illustration...

---

3See, for example, King (1979), for a review of food demand studies. The income elasticity typically is estimated to be near 0.2, which suggests that food demand will increase slowly, relative to general economic growth, and instead will depend more on the growth of population than other factors.
tion (figure 2), that the demand curve for farm products is linear, it can be demonstrated that the marginal revenue curve for sales of farm products also will be linear and intercept the horizontal axis at exactly one-half the distance between the origin and the point where the demand curve touches the horizontal axis. It also is well known that a price elasticity of demand equal to \(-0.2\) is on the lower portion of the demand curve and is associated with negative marginal revenue. That is, a given percentage change in output will cause a larger percentage change in price in the opposite direction; consequently, total revenue \((P \times Q)\) will fall with greater farm productivity. Unless the costs of farm production are falling faster than the prices of farm products (and the relative price line in chart 3 suggests the opposite), the end result will be lower real farm income.

And, in fact, the solid black line in chart 3 shows that real farm income has been on a steady downward trend for many years. Real net farm income in 1985 was less than one-half of its value in 1950. Over the last 10 years, real net farm income has averaged $29.3 billion (in 1982 dollars), about 40 percent less than its $47.6 billion average value in the 1950s. Given the prior history of farm income, the "boom" of the 1970s appears to be best described as unusual.

Some might argue that the plot in chart 3 is misleading because income is not measured on a per capita basis. Because numbers of farmers and farms have been declining so rapidly, per capita income actually has risen in recent years.\(^4\) Clearly, it is not sensible to interpret the rising per capita farm income measure as

\(^4\)For proofs of this proposition, see Stigler, pp. 55–57 or King, pp. 840–41.

\(^5\)There are a number of problems with farm population series that lead to questions about what per capita measures of farm income mean.
implying improvements in the welfare of farmers vis-à-vis the rest of the economy. If so, we ought to observe increases in the number of farmers rather than what we actually see. Again, the point goes back to the marginal product curves in figure 1. The fact that farm productivity is rising while resources are leaving the industry suggests an upward movement along the MP, curve in contrast to, say, the computer industry, which is making great gains in productivity and attracting new resources to the industry. In fact, the returns to farming still must be below the returns to other occupations — farmers are continuing to leave farming for nonfarm activities.

**Returns to Farming: A Look at the Components**

In light of the foregoing analysis of long-term declining returns to farming, why were the 1970s a boom period? Chart 4 shows that the boom period was one of exceptional capital gains, not exceptional earnings from farm production. By dividing total returns to farming into income and capital gains components, the chart verifies the earlier discussion of income being generally low and trending downward. During agriculture's boom of the 1970s, however, capital gains were positive and, with the exception of 1974, at levels substantially above the percentage return represented by income. For example, in 1972, when farm income produced only a 2.9 percent return on equity, capital gains generated a 10.6 percent return on equity. By the late 1970s, the share of total returns produced by capital gains became even larger. Income's share of the return on equity was 1.5 percent or less in each year between 1976-79, while capital gains, over the same four years, showed an average return of about 9.5 percent. Chart 5 reinforces the point by noting that, with the exception of 1972-74, capital gains have represented nearly all of the returns to equity in farming.

The problem with using changes in farm asset values as a benchmark of farm sector performance becomes clearer when comparing the appreciation of farm assets with changes in other asset values. During the 1973-80 "boom," while the value of farm assets rose 152 percent, the median price of a single-family home rose 115 percent, the price of gold increased 526 percent and the value of stockholders' equity in all manufacturing corporations rose 79 percent. Thus, while farm asset values increased during the 1970s, both absolutely and relative to the prices of some assets, they declined relative to prices of other assets.

The point is simply that, in an environment of high actual inflation and accelerating inflationary expectations, individuals will make changes in their portfolio holdings to hedge against the capital losses associated with unexpected changes in inflation and interest rates. Increases in farm asset values, as well as the values of a whole variety of comparable assets with varying sets of characteristics (liquidity, use in consumption or production, etc.), reflected these portfolio adjustments. The data on prices of farm products

---

*This observation is not new. T. W. Schultz suggested in the 1950s that government help expedite the flow of farmers to nonfarm work with a "reverse-homesteading" plan. Recognizing already that increasing farm productivity would make farming unprofitable for many current farmers, but that their transition to nonfarm work might be impeded by lack of skills, the notion was to give farmers a lump-sum payment that would allow them to establish an urban homestead and enter nonfarm employment. See D. G. Johnson (1958), p. 131.
or farm income, however, suggest that the rising farm asset values were not the result of higher profits from farming per se.

**WILL THE FARM SECTOR REBOUND?**

In contrast to the persistent negative trends depicted in the previous section, some analysts have argued that a lower value for the dollar's exchange rate would stimulate farm exports, raise farm income and reverse the decline in farm asset values. As mentioned earlier, this view is embodied in the philosophy of the 1985 Farm Bill and is espoused by some farm economists. Although few believe that exports will rebound to levels of 1980, many argue that there are significant opportunities to recoup a large share of the $18 billion in export sales lost in the last five years.

At least two pieces of evidence disagree with the prospect of significantly larger export sales. The first is the sharp gain in farm production in foreign nations in recent years. As table 1 shows, increases in U.S. production of wheat and cotton account for less than 10 percent of the increase in world production between 1980 and 1985; increases in U.S. soybean production are about one-fifth of the total gain. Only in corn production has the rest of the world lagged behind the United States.

These data support the general conclusion that, for a variety of reasons, foreign producers have expanded farm output considerably during the 1980s. With relatively slow growth in world food demand and rapid increases in the productive capacity of nations that formerly imported U.S. food commodities, it is difficult to see where there is potential to expand U.S. farm exports.

Reasons often given are the high world price floor set by U.S. commodity programs during the late 1970s, the view that the U.S. was an "unreliable" supplier after the 1980 embargo on grain sales to the Soviet Union and domestic policy decisions in foreign countries regarding food self-sufficiency.
Table 1

Changes in Total and U.S. Production of Major Crops, 1980–85

<table>
<thead>
<tr>
<th>Crop</th>
<th>Increases in U.S. production (million tons)</th>
<th>Rate of change</th>
<th>Increases in world production (million tons)</th>
<th>Rate of change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>6.0</td>
<td>9.3%</td>
<td>71.6</td>
<td>16.2%</td>
</tr>
<tr>
<td>Soybeans</td>
<td>1.9</td>
<td>3.8</td>
<td>9.5</td>
<td>11.7</td>
</tr>
<tr>
<td>Cotton</td>
<td>0.4</td>
<td>16.7</td>
<td>4.3</td>
<td>30.0</td>
</tr>
<tr>
<td>Corn</td>
<td>25.7</td>
<td>15.2</td>
<td>43.0</td>
<td>10.6</td>
</tr>
</tbody>
</table>

A second reason to doubt any reversal in the long-run decline in the size of the farm sector is the persistence of excess farm capacity in the United States, even during the export boom years. Chart 6, which depicts the excess capacity of the U.S. farm sector as a percent of total farm output, shows that long-run excess capacity now is near the post-1940 high of six percent that prevailed during most of the 1960s. Excess capacity for major crops, now at 13 percent, has risen to levels that existed prior to the export expansion of the 1970s. With another significant export expansion unlikely, however, it is difficult to see how this excess capacity will be reduced except by a reduction in the resources engaged in farming.

A longer-run view of the relevant data of the 1970s indicates that farming fundamentals — primarily relative prices and real income — have been declining for many years. In contrast, asset values have fluctuated erratically in response to accelerating inflation, tax incentives and other factors largely unrelated to the returns from producing and selling farm output. While it is true that farmland price appreciation made many farmers wealthy prior to 1981, this wealth increase occurred despite the decline in the profitability of farming itself.

**SUMMARY**

A short and selective view of history suggests that the farm economy was reasonably healthy prior to the collapse that began in 1981. This assessment is based on the substantial gains in export volume and asset values that were realized during the 1970s. Neither of these measures, however, has much to say about the inherent past or future profitability of farming.

---

**REFERENCES**


---

Excess capacity is defined as the difference between potential supply and commercial demand at prevailing prices. Potential supply is actual production plus possible production from diverted acres. See Dvoskin, p. 31.