

## Special Article

## A Fair Income for Farmers?

Persistence of low commodity prices and prospects of reduced farm income in 2000 have prompted ongoing discussion regarding the amount and form of assistance that should be provided to agriculture through government programs. Questions have arisen about the efficacy of current farm programs in providing a safety net for farmers' income, particularly after 2 consecutive years of emergency assistance packages totaling nearly \$15 billion. In an effort to strengthen the farm safety net, USDA Secretary Glickman earlier this year proposed several initiatives that would deliver a total of \$11 billion to agriculture over the next 3 years. But political debate over agricultural subsidies and the notion of a "fair" income from farming is likely to continue.

The idea of a fair income from farming draws on a long tradition of promoting "equity" or "parity" between the farm and nonfarm sectors, although what is meant by fair is often vague. Recently, USDA's Economic Research Service (ERS) extrapolated from nonfarm safety net concepts to analyze costs associated with income transfers from Federal taxpayers to farmers. Three illustrative safety-net scenarios were based on a goal of ensuring some minimum standard of living for farm households, and one was based on a goal of providing adequate compensation for farm labor and management (AO January-February 2000). The analysis met with some criticism because of a perceived association of income transfers with social welfare programs. Critics assert that farmers do not want to be given a "welfare check" but rather want to earn a fair income from working at the business of farming.

To explore that perspective, ERS is investigating the implications of a fair income goal for contemporary U.S. agriculture by analyzing the financial performance of farms, delineating farms by enterprise type—i.e., field crop, specialty crop, or livestock—to capture the heterogeneity in farming today. This article focuses on the financial performance of wheat farms—farms with at least half of total value of production from wheat.

### What is a Fair Income?

A common definition of fair income for a farm business is a level of income that enables the farm to pay its bills—i.e., revenue from the sale of commodities is sufficient to cover the costs of production. Such a farm may be called *financially viable*. Note, however, that this definition does not include a return to the operator. Thus, a financially viable farm may generate income that is sufficient to cover business expenses but not provide adequate income to support a household.

To capture the short- and long-run dimensions of farm financial viability, the analysis considers three measures of farm production costs. *Variable costs* are defined as expenses incurred in the production process that vary with the quantity and prices of inputs used—e.g., seed, fertilizer, fuel, repairs, and wages paid to hired labor. *Total cash costs* are defined as variable costs plus



expenses for overhead items such as rent, taxes, insurance, and interest payments. *Economic costs* are total cash costs plus an allowance for depreciation, along with an imputed return to management and to unpaid labor of the operator and family.

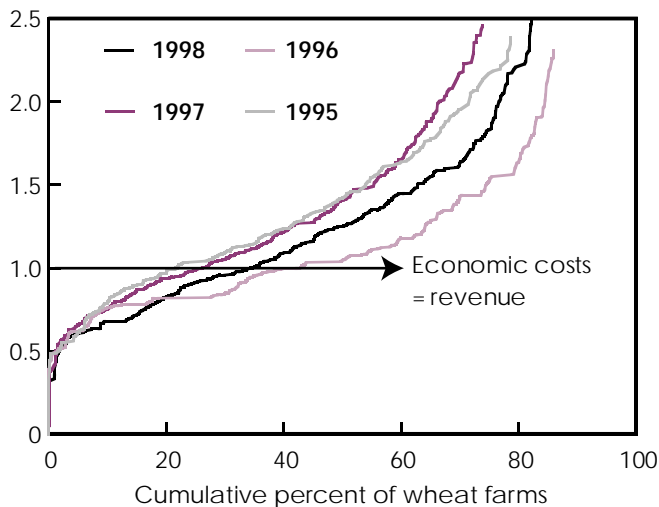
A farm can often survive for a year if revenue covers variable costs, or even for several years if revenue covers total cash costs, particularly if the operator is able to draw on cash reserves or other liquid assets, to borrow against assets, or to obtain income from nonfarm sources. However, such remedies are only temporary. In order to sustain the business over a longer period, revenue must cover economic costs. For example, in the short run, the allowance for depreciation (an economic cost) may be deferred and aging equipment may be repaired (a cash cost). But in the long run, as machinery wears out or becomes obsolete, the shortage of funds for replacement may affect the farm's ability to generate revenue.

Total farm revenue is defined in this analysis to include estimated cash receipts from market sales of crop and livestock commodities (annual average state-level commodity price multiplied by volume of production), direct government payments, and crop insurance indemnity payments. Market receipts are estimated conservatively to isolate the impact of costs on financial performance in a given crop year. Thus, the analysis assumes that all production is sold in the current year, and that no strategy is employed to improve price performance above the season average—i.e., no gains from forward contracting or from hedging.

Direct government payments—primarily production flexibility contract payments, loan deficiency payments (LDP's), and conservation payments (e.g., from the Conservation Reserve and Wetlands Reserve Programs)—are included in the definition of revenue, although they would not universally be considered part of "fair income." The primary focus of this analysis is the long-

### Share of Wheat Farms Showing Long-Term Financial Viability Varies from Year to Year

Economic costs per farm revenue dollar



Economic costs equal to or below revenue indicates long-term financial viability.

Economic Research Service, USDA

term viability of wheat farms, which to some degree is influenced by a fixed payment made to eligible producers whether or not they produce a commodity. These guaranteed payments may offset expenses associated with farm loans (interest expense) or other overhead cost items. In the short run, the decision to produce depends on whether market revenue augmented by marketing loan benefits cover variable costs of production. Short-run financial efficiency (the extent to which variable costs or total cash costs are covered by revenue, measured after the decision to produce has occurred) pertains to the outcome of the decision.

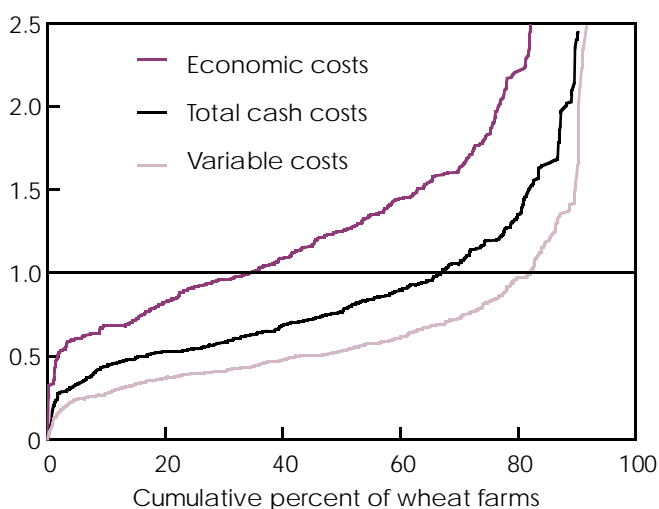
Data on U.S. farm businesses and households are from USDA's Agricultural Resource Management Study (ARMS), conducted annually by ERS and the National Agricultural Statistics Service. Farmers' responses to survey questions enable ERS to analyze production costs, revenue, and the relative importance of income from various sources—i.e., from the farm business, from off-farm employment or investment, and from government payments. Data from the ARMS may be aggregated to give a national perspective on the distribution of farm costs and revenues, or may be distributed by selected characteristics to illustrate the striking heterogeneity in the financial circumstances of farms and farm households in ways useful to policy debate (*AO* November 1999).

### Farm Size Affects Cost Structure

This analysis focuses on the long-run financial performance of wheat farms—farms with at least half of total value of production from wheat—because of the relatively wide geographic dispersion of wheat production, the significant role of government support, and the prolonged stress in the export-dependent wheat market. With the focus on long-term economic viability, it is

### Economic Costs Were Below Revenue for Over One-Third of Wheat Farms in 1998

Costs per farm revenue dollar



Economic costs equal to or below 1.0 indicates long-term financial viability.

Economic Research Service, USDA

total revenue, including decoupled government payments (i.e., not linked to production level) that is compared with total costs of production. In this framework, there are clear distinctions in financial performance among the estimated 44,000 U.S. wheat farms. Just over one-third of all wheat farms earned enough revenue to cover their economic costs of production, and to sustain the farm business over many years. Nearly two-thirds were able to cover total cash costs, allowing survival at least to the next year.

Government payments were important to wheat farms' revenue in 1998, averaging nearly \$20,000 per farm or over 20 percent of an average \$90,000 gross cash income. The bulk of direct government payments are from production flexibility contracts (authorized by the 1996 Farm Act and scheduled to end after 2002) and from the CRP. A relatively small share derives from LDP's—the mechanism to ensure a per-unit revenue floor (the loan rate) for program commodities. If contract and CRP payments were excluded from farm income, and LDP's were the sole source of direct government payments, income on only about a quarter of wheat farms would have been sufficient to cover economic costs.

Classifying wheat farms by economic cost per dollar of revenue—a measure of financial efficiency—allows identification of three distinct groups. The most financially efficient farm businesses cover their economic costs—i.e., cost per dollar of revenue is below 1. Financially efficient (“low-cost”) farms account for 35 percent of all wheat farms and produce 50 percent of the U.S. wheat crop. In proportion to their production share, wheat farms in the financially efficient group received close to 50 percent of all Federal payments to wheat farms, but for most of

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### Defining the Farm Typology Groups

#### Small Family Farms (sales less than \$250,000)\*

**Limited-resource.** Any small farm with gross sales less than \$100,000, total farm assets less than \$150,000, and total operator household income less than \$20,000. Limited-resource farmers may report farming, a nonfarm occupation, or retirement as their major occupation.

**Retirement.** Small farms whose operators report they are retired (excludes limited-resource farms operated by retired farmers).

**Residential/lifestyle.** Small farms whose operators report a major occupation other than farming (excludes limited-resource farms with operators reporting a nonfarm major occupation).

**Farming occupation, lower-sales.** Small farms with sales less than \$100,000 whose operators report farming as their major occupation (excludes limited-resource farms whose operators report farming as their major occupation).

**Farming occupation, higher-sales.** Small farms with sales between \$100,000 and \$249,999 whose operators report farming as their major occupation.

#### Other Farms

**Large family farms.** Farms with sales between \$250,000 and \$499,999.

**Very large family farms.** Farms with sales of \$500,000 or more.

**Nonfamily farms.** Farms organized as nonfamily corporations or cooperatives, as well as farms operated by hired managers.

\* The \$250,000 cutoff for small farms was suggested by the National Commission on Small Farms.

them, market revenue alone was sufficient to cover variable, cash, and economic costs.

At the other extreme are the least efficient (“high-cost”) wheat farms, with costs more than half again as large as returns—cost per revenue dollar is 1.5 or higher. These account for 37 percent of all wheat farms but for just 14 percent of wheat production. Other sources of income or equity are required for these farm businesses to remain viable. Farms in the “mid-range” efficiency group—over one-fourth of wheat farms, with costs per dollar of revenue between 1 and 1.5—account for the remaining 36 percent of wheat production and represent farms that are close to becoming financially viable. Mid-range farms are more likely to become viable through higher prices, lower costs, and/or larger Federal payments.

What accounts for variation in the economic efficiency of wheat farms? Farm size and scale economies in large part explain cost differences between farms in the low- and high-cost groups. However, on average, mid-range and low-cost farms are quite

similar with respect to acres operated, production assets, and output (earning potential). Thus, economies of scale are not the driving factor in relative financial efficiency of the mid-range group and the most economically efficient. Instead, higher input costs seem to be key. Seed, fertilizer, and chemical expenses are about one-third higher for the mid-range group, as are repair and maintenance costs. Also, mid-range farms have almost twice the average interest payments and debt compared with the lowest cost farms.

Classifying mid-range farms according to ERS farm typology indicates the group includes limited-resource farms (gross sales under \$100,000, farm assets under \$150,000, and household income under \$20,000); small farms (gross sales under \$250,000 with operators whose primary occupation is farming); and large family farms (gross sales \$250,000 or more). The high-cost farms, in comparison, are predominantly farms classified as retirement and residential/lifestyle (operators report a primary occupation other than farming), although they include significant numbers of limited-resource farms as well.

Analysis of farm household income for mid-range farms indicates that, on average, the farm business is the main source of income for the household. In contrast, farms in both the lowest and highest cost groups had significant shares of income from off-farm sources that helped to support the farm household.

Larger Wheat Farms Have Higher Share of Operators With Relatively Low Economic Costs



Economic costs include total cash costs, allowance for depreciation, and an imputed return to management and unpaid labor of the operator and household. Economic costs per revenue dollar is less than 1 for low-cost (most financially efficient) wheat farms, 1-1.4 for mid-cost farms, and 1.5 or greater for high-cost farms.

The difference in economic efficiency between the mid-range and lowest cost farms is likely attributable to relative effectiveness in management decisions on production practices and technologies, marketing strategies, and financing. Some mid-range farmers may also be constrained in their ability to lower input costs if their farms are sited on unfavorable soils or in areas with difficult weather or pest problems.

### Getting to a "Fair" Income

Characteristics of U.S. wheat farms and their financial performance indicate diversity in the ways farmers manage their businesses and earn their livings. For that reason, an implication of this analysis is that there is no one fair price or fair income level, as the unit returns or revenue required for survival of the highest cost farms are well above those of the lowest cost farms. Such heterogeneity illustrates the difficulties in reaching consensus about government price and income support levels. However, the differences among wheat farms do provide some basis for assessing the sensitivity of the cost/revenue distribution to increases in revenue (either through higher prices or direct payments) and to reductions in costs that might result in a better, if not fairer, income from the farm business.

Farmers can often raise returns by adopting marketing strategies to improve price prospects for their crops. Top-performing farms routinely hedge, forward contract, and employ other strategies to raise returns above season-average (AO November 1999). Although marketing strategies will not enable every farmer to obtain the maximum price, revenue is generally lower if output is simply sold into cash markets at harvest.

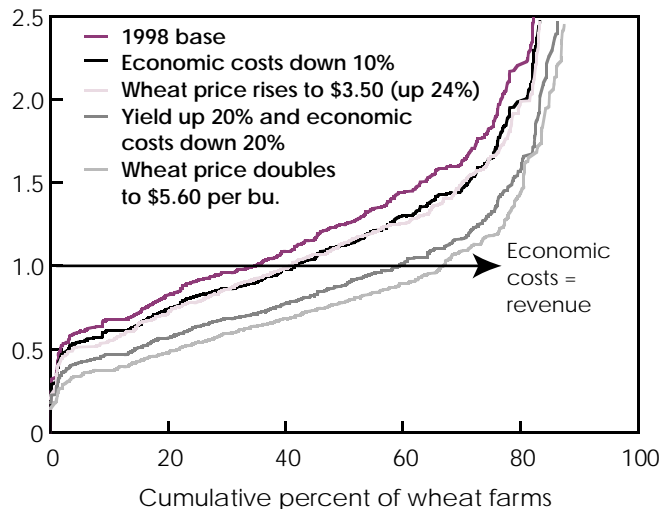
In this analysis, if the price received by farmers rose 25 percent above the season average—an increase not unusual when using marketing strategies—the share of wheat farms covering their economic costs would have increased to more than 40 percent from 35 percent. On the other hand, if the 1998 U.S. average price of wheat doubled to \$5.60 per bushel, the share of farms meeting economic costs would increase to two-thirds.

Even among farms of the same size, a cost differential exists between the lowest and the mid-range cost groups, suggesting that cost reduction through good management decisions and adoption of better technology would be a powerful way to improve financial prospects for those whose costs exceed returns. For example, the analysis indicates that if costs were reduced 20 percent while production was increased 20 percent, the share of wheat farms with sufficient revenue to cover economic costs would double to two-thirds, even with no price increase.

ERS research suggests that management decisions are responsible for the cost differentials and that differences in educational levels explain why some farmers make more effective decisions leading to better cost control. The ARMS data show that more than half of farmers in the low-cost group completed college, compared with about 30 percent in the mid-range group and 15 percent in the highest cost group.

### Alternative Scenarios Affect the Proportion of Financially Viable Wheat Farms

Economic costs per farm revenue dollar



Economic costs equal to or below revenue indicates long-term financial viability.

Economic Research Service, USDA

Technological innovation has the potential to lower costs, either by reducing the level of inputs needed for a given level of output or by increasing output without also increasing inputs. However, farmers must make good adoption decisions, and adopting new technology is a risky business that poses additional challenges to management skills.

### One Policy No Longer Fits All

Before World War II, the shift toward specialization that would transform U.S. agriculture had not yet begun in earnest, and national agricultural policy did not have to confront the striking heterogeneity observed today. In the 1930's, farms were likely more similar than farms today in cost structure and revenue, making the range of economic costs per revenue dollar much narrower. Depression-era farms resembled each other not only in size, but also in enterprise diversity of their operations. Specialization in production has introduced scale economies that now explain a significant part of cost differentials in U.S. farming, and has presented public policymakers with new challenges.

In the pursuit of a fair income for all farmers, the distributional impact on the sector varies according to the approach to the problem. When farms reduce costs through improving production and management practices, the net benefits of the cost saving accrue to individual farms and should persist until aggregate output expands and lowers price. When the Federal government implements policies that raise farm prices nationally or provide income assurance, both financially efficient and inefficient farms may benefit. But without changes in cost structure, high-cost farms would likely be vulnerable to financial loss if these income transfers or effective per-unit revenue floors were



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unavailable in the next season. When government makes direct payments based on historical production levels, farmers who stand to benefit most are those who grew the most in the past. Neither direct government payments nor government intervention to raise market prices encourages cost reduction by farmers, and the mid-cost group may suffer when the payments are used by their lower cost neighbors to expand output and put downward pressure on prices.

Without change in either onfarm management decisions or in the approach of government policy, earning a fair income sufficient to cover economic costs of production from the market is a dim prospect for a significant portion of wheat farmers in the U.S. today. However, about one-third of all wheat farmers can survive and prosper as long as they maintain their low-cost positions. Another third or so, which has very high production costs, survives because it is comprised mainly of households that do not depend on farming as the main source of income and that make economic decisions that allow them to subsidize farm losses with income from other sources.

The final third of wheat farm households—the mid-range cost group—does depend on the farm business for its livelihood but experiences production costs high enough to jeopardize long-term survival. In these circumstances, across-the-board, one-size-fits-all commodity policies that help the low-cost group expand and prosper are likely irrelevant to the highest cost group, and fail to ensure survival of the financially marginal mid-range group. Targeted policies that recognize and address the source of financial inefficiency are more likely to succeed with this mid-range group, as would better access to off-farm earning opportunities that would provide a buffer for the cost problems they experience. **AO**

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