

## Farm and Nonfarm Household Comparability

Aside from operating a farm, U.S. farm households differ widely in most circumstances, including financial. But how and why are they unique from other U.S. households? In agriculture, the majority of farm households are proprietorships, meaning that, unlike most U.S. households, some portion of the household's income and wealth is associated with the business. Since this may affect the comparability of well-being, we begin by comparing farm households with nonfarm proprietorship households.

An estimated 1.9 million farms (of 2.2 million total) were organized as sole proprietorships in 2000. This is a useful group to study since the owner and operator of the business are the same and there is a direct relationship between the household and the business. The owner has total control of the business and exclusive entitlement to its capital and profits. Because sole proprietorships are relatively easy to set up and maintain, this form of business ownership is also common among nonfarm businesses. The 1998 Survey of Consumer Finances found nearly 6 million nonfarm businesses organized as sole proprietorships (appendix C). These represent a variety of establishments including dry cleaners, hotels, construction companies, and an assortment of retail stores.

The 1990s were characterized by business prosperity. According to the Small Business Administration (SBA), new business formation reached a record level in 1998 with 898,000 new firms (SBA, 1999).

Between 1982 and 1998, the number of business tax returns increased by over 70 percent to nearly 25 million (SBA, 1999). About 21 million Americans are engaged in some type of entrepreneurial activity.

Not only has the number of small businesses grown, but the income derived from them has as well. Income from nonfarm sole proprietors and partners, who operate the vast majority of small businesses, increased by over 6 percent from 1997 to 1998 (SBA, 1999). Meanwhile, average net worth of nonfarm proprietors increased by 24 percent.

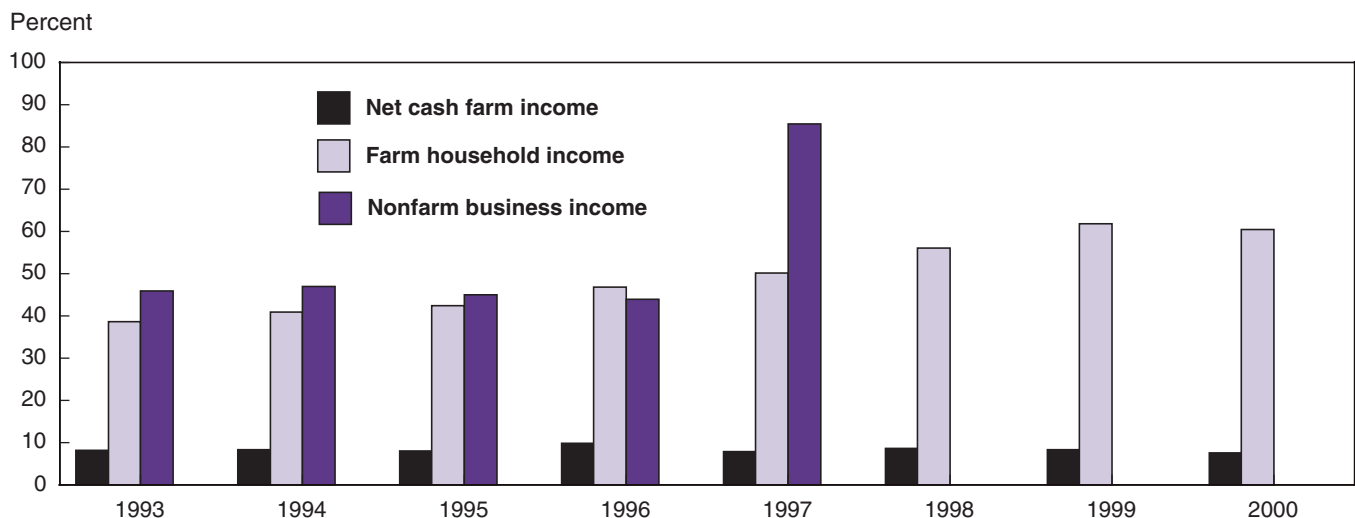
Many farm proprietorship households shared in the strong performance of the nonfarm economy because of their reliance on off-farm employment and other sources of nonfarm income. While farm business earnings were relatively stagnant during 1993-99 (and declining when adjusted for inflation), average household income increased by 60 percent, reaching nearly \$62,000 per farm by 1999 (fig. 19).

### Farm and Nonfarm Businesses Vastly Different Contributors to Sponsoring Households

There are stark differences between farm and nonfarm proprietorship households in the importance of the

Figure 19

**Average business net cash income and household income for farm and nonfarm proprietorships, 1993-2000**



Source: Agricultural Resource Management Survey (ARMS), 1993-2000; and Survey of Consumer Finances (SCF), 1997.

business as a source of household income. These differences occur largely at the extremes where the business either detracts from household income or contributes the majority of household income. For more than 60 percent of farm households in 1997, the business siphoned money income away from the household (fig. 20). On average, before-tax household income was reduced by more than 25 percent to compensate for farm business losses. In contrast, only 4 percent of nonfarm businesses incurred losses that reduced before-tax household income. The business was the principal source of income (80 percent or more) for nearly half of nonfarm proprietorship households, versus 7 percent of farm proprietorship households.

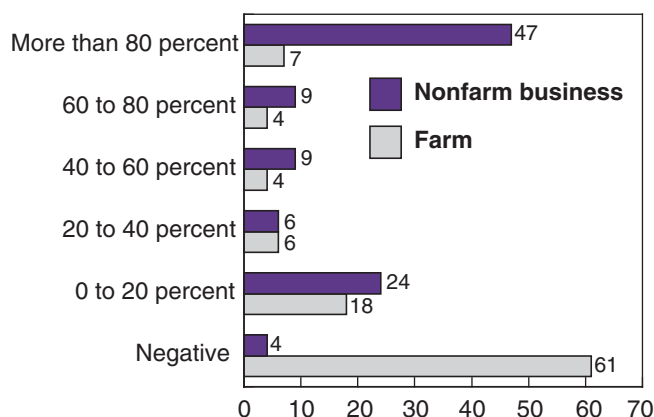
Disparity in the size structure of farm and nonfarm businesses helps to explain this result. Most nonfarm proprietorships are large in terms of gross revenues. The majority of farm proprietorships (95 percent) are small businesses with gross annual sales below \$250,000. For 45 percent of larger farm businesses (>\$250,000), the farm was the primary source of household income.

Wealth is another story. For two-thirds of farm proprietorship households, farm business net worth represents over 80 percent of household net worth. Only 9 percent of nonfarm proprietorship households depended on the business for the majority of household wealth. The business contributed less than 20 percent of household wealth for over half of all nonfarm proprietorships (fig. 21).

While there is little difference between current incomes of farm and nonfarm households, this is partly due to many farm households' straddling the farm and the nonfarm sectors. Isolating business performance from household well-being is important because business performance is only a contributor to household well-being, although it matters greatly whether it adds to or subtracts from well-being. But is comparability between farm and nonfarm households in income and wealth justified when returns to agriculture are low compared with returns to alternative investments? Economic theory suggests that capital will flow between the farm and nonfarm sector and arbitrage away differences in returns, with any remaining differential compensating for varying levels of risk associated with a given rate of return.

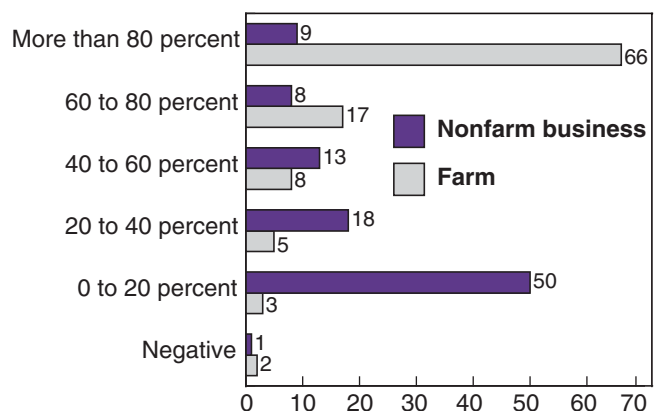
Although equality in returns can be measured using benchmarks such as stock prices over time, comparing

Figure 20  
**Ratio of business income to total income for farm and nonfarm proprietorship households, 1997**



Source: Agricultural Resource Management Survey (ARMS), 1997; and Survey of Consumer Finances (SCF), 1997.

Figure 21  
**Ratio of business equity to household net worth for farm and nonfarm proprietorship households, 1997**



Source: Agricultural Resource Management Survey (ARMS), 1997; and Survey of Consumer Finances (SCF), 1997.

farm businesses with other small, family-owned businesses may be more useful because they are exposed to the same macroeconomic shocks, types of risk, and asset immobility that affect farm businesses. Because all family-owned businesses can add to as well as drain a significant portion of family income and wealth, using the nonfarm entrepreneurial class as a reference group for farm businesses will deepen our understanding of the farm household.

In general, nonfarm businesses achieved a median rate of return on assets that was slightly greater than that of all farm businesses and slightly less than that of farm businesses with sales greater than \$250,000. For firms with a negative return on assets, nonfarm businesses

performed worse than farm businesses. The entire distribution of nonfarm returns, surprisingly, is more dispersed than farm returns despite the common emphasis on the complexity and heterogeneity of farming.

Return on assets can be further decomposed into two measures that indicate gross profitability (operating profit margin) and efficiency (asset turnover). Large farms fare well relative to nonfarm businesses regarding profitability, with equal or greater operating profit margin for farm businesses over much of the distribution (although high-return large farms under-performed high-return nonfarm businesses). Smaller farms, on the other hand, have lower operating profit margins than nonfarm businesses at every point in the distribution (table 9). Smaller commercial farms may accept a lower return in part because of perceived noneconomic benefits of farming as a way of life. The most compelling difference between farm and nonfarm businesses is in the ability of nonfarm businesses to generate much higher sales from assets relative to farm businesses.

Table 9 also shows the return on assets for the same population, but this time weighted by the volume of sales rather than the population. This focuses on output rather than on the firm itself. For example, 50 percent of the agricultural output for all farms returned at least 1.8 percent of the value of the assets used in producing the output, while 50 percent of the farm businesses realized a profit of at least 0.2 percent. The output-weighted numbers are higher than the farm-weighted distribution because less profitable farms also tend to produce less output than more profitable farms. Likewise, 50 percent of the output of nonfarm businesses netted a return of 3.9 percent or higher, one per-

centage point higher than the rate of return earned by 50 percent of the nonfarm businesses themselves.

There is a clear distributional outcome when government payments are given to farmers. Government payments are not evenly distributed because they go only to farms producing certain commodities, and, among those eligible for payments, the actual payment amounts are determined by past production levels. As might be expected, then, government payments accrue disproportionately to large producers. The effect on income distribution, then, is to disproportionately increase the incomes of the top 20 percent of farm households by up to twice the amount of the middle 60 percent of households. A similar phenomenon exists at the lowest quintile of the income distribution, as government payments increased the incomes of the lowest 20 percent of farm households up to twice the amount of the middle 60 percent (Hopkins and Taylor, 2001).

In 2000, 17 percent of U.S. farm households reported lower incomes than in 1999, citing mainly a drop in farm prices and farm production. Larger and farming occupation households reported reduced incomes more commonly than limited-resource, retirement, and residential-type farms, implying that farm households mostly attribute income shortfalls to uncertainty in the farm economic portion of their earnings portfolio (fig. 22).

Farm household wealth is disproportionately invested in the physical capital used for farming. Two-thirds of U.S. farm households have 80 percent or more of their wealth invested in the farm business. In contrast, only 9 percent of nonfarm proprietorships have this high a level of specialization in their investments. In fact, half of these proprietorship households hold less than 20

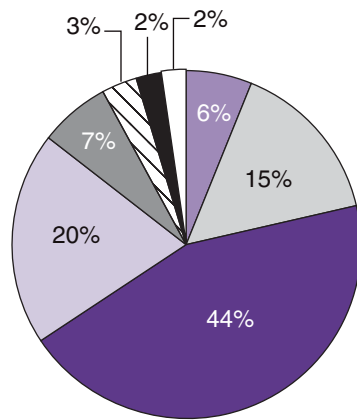
**Table 9—Rate of return on business assets for agriculture and nonagriculture sectors**

Group	25th percentile	50th percentile	75th percentile
	<i>Percent</i>		
<b>Return on assets, population weights:</b>			
Small farms	-7.6	-0.5	5.7
Large farms	-0.3	6.7	18.7
All farms	-7.2	0.2	6.5
Nonfarm businesses	-21.3	2.9	37.4
<b>Return on assets, weighted by sales:</b>			
Small farms	-6.8	0.0	7.0
Large farms	0.7	7.7	19.4
All farms	-4.8	1.8	10.7
Nonfarm businesses	-26.7	3.9	37.4

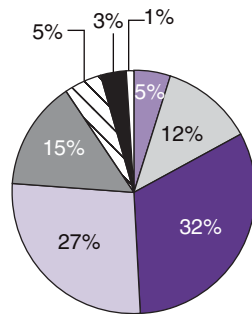
Source: 2000 USDA Agricultural Resource Management Survey and Survey of Consumer Finances.

Figure 22  
**Change in household income by farm type, 1999-2000**

83% report same or higher 2000 household income than 1999



17% report lower 2000 household income than 1999



Source: Agricultural Resource Management Survey (ARMS), 1999.

percent of their total wealth in their businesses. This disparity is because physical capital in farming is used both in production and as an investment, whereas most nonfarm households hold wealth in both physical capital and financial capital.

### Comparing Farm and Nonfarm Income and Wealth

In general, farm and nonfarm household income is similar at several points within the overall distribution (Gundersen et al.). Average incomes are similar for nonfarm and farm households. On the other hand, average wealth for farm households exceeds that of nonfarm households all along the continuum.

Income and wealth distribution is more noteworthy in demonstrating the inequality within the overall farm

and nonfarm population. This may indicate underlying differences in a population that reflect larger structural change. In the case of farm and nonfarm households, there is an interesting reversal in the potential for inequality to be important. For farm households, wealth is more equally distributed than income. For nonfarm households, income is more equally distributed than wealth (table 10, appendix D).

### Farm Households Save More, Spend Less Than Nonfarm Households

Empirical data (ARMS, 1998 and 1999) show that farm household expenditures are lower than nonfarm household expenditures even when controlling for differences in income, age, location, and size of population. Low levels of expenditure indicate low consump-

**Table 10—Quintile ratios and adjusted Gini coefficients for household income and wealth by region, 1997**

Regions	P20 (Low)	P80 (High)	P80/P20 <sup>1</sup> (quintile ratio)	Gini coefficient
<b>Income:</b>				
<i>Nonfarm households (1997)</i>				
Northeast	39	198	5.08	0.538
North Central	39	216	5.54	0.554
South	36	188	5.22	0.536
West	39	208	5.33	0.552
All households				
<i>Farm households (1997)</i>				
Northeast	33	205	6.21	0.699
North Central	36	201	5.58	0.596
South	37	202	5.46	0.604
West	36	242	6.72	0.700
All households	37	206	5.57	0.624
<b>Wealth:</b>				
<i>Nonfarm households (1997)</i>				
Northeast	5	315	63.00	0.785
North Central	7	333	47.57	0.772
South	8	349	43.63	0.809
West	5	583	116.60	0.817
All households	7	371	53.00	0.799
<i>Farm households (1996)<sup>2</sup></i>				
Northeast	46	236	5.13	0.520
North Central	43	232	5.40	0.520
South	48	279	5.81	0.536
West	38	256	6.74	0.571
All households	42	253	6.02	0.541

<sup>1</sup>P20 and P80 measure, in percentage terms, the ratios of the wealth of a farm operator household at the 20th percentile and a farm operator household at the 80th percentile to median wealth, respectively.

<sup>2</sup>Data not available for 1997.

tion by farm households and could be interpreted as low levels of economic well-being.

While household income and wealth measured in any particular year is affected by economic conditions, the level of household expenditures is determined by that household's beliefs about total income and wealth over a lifetime. Household spending can exceed income by borrowing or liquidating financial capital. One would expect this to occur most at very low levels of income.

At very low levels of income (below \$5,000), farm households consumed more than nonfarm households (fig. 23). Many farms in this category likely had low incomes due to weather or other factors and normally consume that amount. Generally, farm household expenditures were lower than nonfarm household expenditures in 1999. The spending trended upward along with income levels over much of the income distribution for both farm and nonfarm households.

Expenditures for farm and nonfarm households track with the earnings profile, increasing with age and then

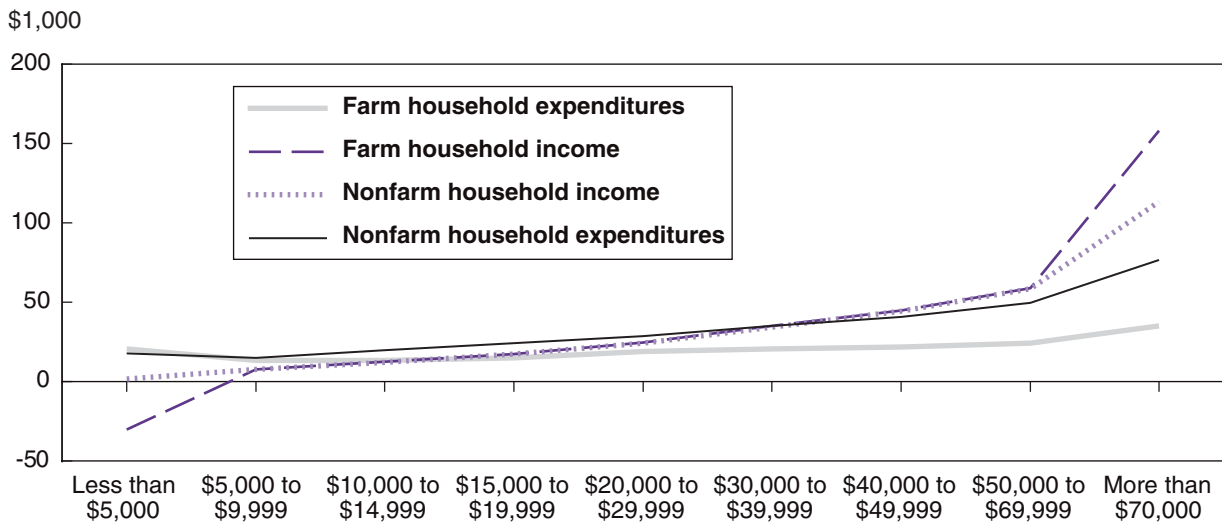
decreasing after age 45-54. The gap between income and expenditures (fig. 24), always positive, is greatest for farm households age 45-54. The gap between income and expenditures is relatively constant for farm households, and although both income and expenditures peak at age 45-54, neither expenditures nor incomes are monotonically increasing in age.

Although expenditures for farm and nonfarm households are similar in the West, in the other three regions farm expenditures are much smaller than nonfarm expenditures, despite the fact that farm household income exceeds nonfarm household income.

Farm and nonfarm households had comparable expenditure profiles for different household sizes. In general, households with more members had greater expenditures, although a plateau was reached at about four members for nonfarm households and was still rising at five members for farm households. All households, on average, spent less than their earnings, but savings (earnings - expenditures) was much greater for farm households.

Figure 23

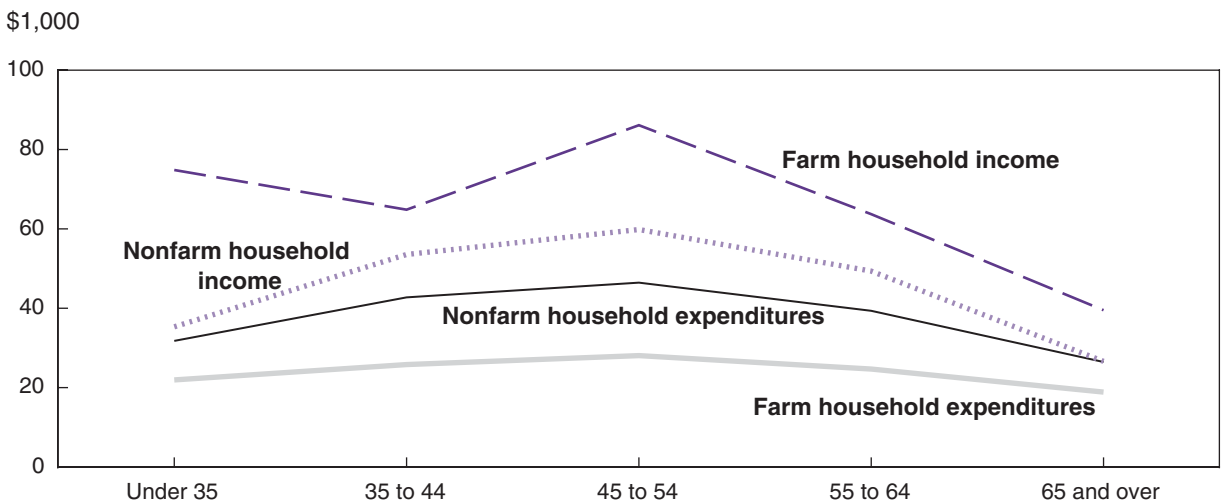
**Income and expenditures for farm and nonfarm households by income class, 1999**



Source: Agricultural Resources Management Survey (ARMS), 1999; and Survey of Consumer Finances (SCF), 1999.

Figure 24

**Income and expenditures for farm and nonfarm households by age class, 1999**



Source: Agricultural Resources Management Survey (ARMS), 1999; and Survey of Consumer Finances (SCF), 1999.

The trend for farm household expenditures to be lower than nonfarm household expenditures is sustained by simple summary analysis. For example, farm households may more readily categorize their expenses as business versus personal household expenses. As such, nonfarm households may be required to assume more transportation and work-related expenses directly relative to farm households, whose expenses are often commingled with the business. Farm households may also be able to spend less by providing a portion of their own consumption from their farm. Although food

is the most obvious savings, in some parts of the country a farm’s oil and gas expenses are waived in return for resource extraction agreements with utilities.

Or perhaps farm households simply choose to save, rather than consume, a greater portion of their income. This portion may be invested into the farm or some other business, or saved in more liquid accounts. Many farm households choose to save so that they can help their son or daughter get a start in farming. Finally, a farm’s debt servicing forces a higher savings rate.