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Exploring Alternative Farm Definitions

Implications for Agricultural Statistics and Program Eligibility

Erik J. O'Donoghue, Robert A. Hoppe,
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**Erik J. O'Donoghue, Robert A. Hoppe,
David E. Banker, and Penni Korb**

Abstract

Meeting agricultural policy and statistical goals requires a definition of U.S. agriculture's basic unit, the farm. However, these goals can be at odds with one another. USDA defines "farm" very broadly to comprehensively measure agricultural activity. Consequently, most establishments classified as farms in the United States produce very little, while most production occurs on a small number of much larger operations. While desirable for obtaining comprehensive national coverage, measurement and analysis based on the current definition can provide misleading characterizations of farms and farm structure in the United States. Additionally, more stringent requirements have been proposed for farms to qualify for Federal agricultural program benefits. This analysis outlines the structure of U.S. farms, discusses the current farm definition, evaluates several potential criteria that have been proposed to define target farms more precisely, and examines how these criteria affect both statistical coverage and program eligibility.

Keywords: Agricultural statistics, Agricultural Resource Management Survey (ARMS), farm businesses, farm definition, program eligibility

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Summary

Meeting agricultural policy and statistical goals requires a definition of agriculture's basic unit, the farm. USDA defines "farm" very broadly to comprehensively measure agricultural activity. Consequently, most establishments classified as farms in the United States produce little output, while most production occurs on a small number of much larger operations.

What Is the Issue?

The current farm definition, while desirable for obtaining extensive national coverage, can provide misleading characterizations of U.S. farms and farm structure. Additionally, concerns have been raised that current farm (and farmer) definitions are too inclusive, making some producers with marginal involvement in agriculture eligible for Federal aid. Consequently, policy-makers have proposed several criteria to restrict Federal assistance eligibility.

What Did the Study Find?

The vast majority of U.S. farms together contribute a small share of total agricultural production, while relatively few farms produce the bulk of crops and livestock. The 2006 Agricultural Resource Management Survey (ARMS) showed that an estimated 75 percent of all farms each sold less than \$50,000 worth of agricultural products. These farms together:

- generated less than 6 percent of total U.S. gross agricultural sales
- operated about 25 percent of the acres used in farming
- incurred less than 15 percent of the total cash expenses used to operate farms in the United States.

Over 440,000 of those farms (more than 1 out of every 5 farms in the United States) realized less than \$1,000 in sales in 2006.

By contrast, fewer than 10 percent of U.S. farms generated at least \$250,000 in sales in 2006. Yet these farms:

- generated more than 75 percent of all U.S. gross agricultural sales
- operated more than 40 percent of all acres used in farming
- incurred two-thirds of all U.S. farms' cash expenses.

Because USDA's broad definition includes such a wide variety of farms, care should be taken when interpreting aggregate agricultural statistics.

Additionally, a broad farm definition does not help policymakers target Federal assistance at farms and producers actively engaged in agricultural production. Narrower definitions increase the likelihood that policymakers can achieve goals such as establishing price and farm income support, providing support to beginning farmers to increase U.S. agriculture's future viability, and protecting and preserving natural resources.

Accordingly, policymakers have proposed three main screens to restrict Federal assistance to achieve these goals better. Noting that operators heavily

engaged in farming usually generate high levels of sales and low levels of off-farm income, policymakers suggested grouping farms by sales levels (a sales screen), shares of household income derived from farming (a farm-income screen), and levels of off-farm income generated (an off-farm income screen).

However, potential drawbacks exist. Some farmers, while heavily engaged in farming activities, may only generate low levels of output or sales. For example, establishing an apple orchard requires growing trees for several years before fruit harvesting can begin. Additionally, inclement weather or livestock diseases can cause substantial production losses. Farmers also may choose to place products into inventory rather than sell them.

Calculating household incomes generates further concerns. Farmers with major recent expenses can have positive cash flows but negative net farm incomes. Additionally, off-farm income does not always indicate the household’s level of involvement in agriculture. For example, almost 22 percent of operators with households generating at least \$100,000 of off-farm income described their principal occupation as “farm or ranch work.” Off-farm businesses may also incur significant expenses and losses that can lower total net off-farm incomes, reducing the household’s apparent reliance on off-farm income. In 2006, roughly 14 percent of farm operators with off-farm income below \$1,000 described their principal occupation as “work other than farming/ranching,” while another 11 percent considered themselves “not in the paid workforce.”

Since the early 1980s, agricultural production has shifted dramatically to larger farms. As size increases, so does farm complexity, often leading to greater reliance on hired labor, rented equipment and land, and more intricate ownership arrangements. These trends have raised concerns among some that large, corporate farms are replacing the family farm and that farm program payments are not doing enough to preserve the family-farm structure of U.S. agriculture. Despite numerous organizations interpreting the term “family farm” differently, the majority of all U.S. farms, including some of the very largest farms, still qualify as family farms. Use of the screens discussed above could highlight potential conflicts between the goals of supporting family farms and restricting assistance to actively engaged farmers. Restricting Federal assistance only to those whose farm provided most of their household income could disqualify large shares of family farms from Federal aid (see table below).

How various criteria would have affected Federal aid eligibility for family farms in 2006

If eligibility had been contingent on:	Share of family farms that would have been disqualified	Share of family farm sales by the disqualified group
Farm income provides at least 50% of household income	82-87%	30-40%
Annual farm sales of at least \$10,000	58-70%	<4%
Annual off-farm income does not exceed \$100,000	18-20%	10-15%

How Was The Study Conducted?

The National Agricultural Statistics Service (NASS) and the Economic Research Service (ERS) jointly design and administer multiple surveys annually, known collectively as USDA's Agricultural Resource Management Survey (ARMS), which covers U.S. farming operations in the 48 contiguous States. This report focuses on the 2006 ARMS Phase III, which collected detailed information on farm operations and farm households from 21,700 respondents.

Particularly relevant to this report are ARMS data on acres operated, cash expenses, conservation practices, government payments, gross sales, household income, off-farm income, and characteristics of the farm, household, and operator. ARMS also sorts farms into sales categories, enabling the examination of data by sales class to provide a clearer picture of the structure of U.S. agriculture.

Introduction

The Federal Government has long collected agricultural statistics. The first Census of Agriculture was undertaken in 1840, laying the groundwork for the agricultural statistics that continue to be produced today.¹

Some statistics—such as crop acreage and production, livestock inventories and production, or farm revenues and expenses—are based on farm-level reports, and therefore require a farm definition. A broad definition, covering many businesses with very little farming activity, can provide a comprehensive accounting of aggregate land use and production. Narrower definitions may exclude businesses with limited farming activity, and may therefore provide less complete coverage of some aggregate statistics in favor of more focused coverage of entities with more substantial farming activity. Today, USDA uses a broad definition, defining a farm as any place that sells, or normally could sell, at least \$1,000 of agricultural commodities.

The current USDA definition provides extensive coverage of the farm sector and yields a clear pattern throughout U.S. agriculture for most commodities: most farms are very small and the bulk of production occurs on large farms, which constitute a small share of all farms. For example, some cattle operations can feed 40,000 head at one time. However, data from USDA's Agricultural Resource Management Survey show that most farms with cattle in 2006 had very few: an estimated 22 percent had fewer than 10 head on the farm, while another 24 percent reported 10-25 head.

That pattern is not limited to cattle. Although farms with 100-500 acres of corn accounted for 40 percent of the 2006 corn harvest, 2,000 farms harvested at least 2,000 acres of corn, while another 22,000 farms harvested 10 acres or less. Similarly, some fruit and vegetable farms harvested over 1,000 acres in 2006, and many had sales in the tens of millions of dollars. But most are much smaller: 80 percent of all fruit and vegetable operations harvested fewer than 50 acres. While those small farms generally had sales totaling less than \$2,000, some small acreage operations grew high-value crops, such as herbs, generating sales in the millions of dollars.

Broad coverage can easily mask underlying variation in agricultural production. If not used carefully, aggregate USDA statistics can lead to misleading representations of farm characteristics since farm-level averages are dominated by the many operations with limited production. To understand U.S. agriculture better, it is important to disaggregate the statistics and examine the heterogeneity of farms more closely.

¹For more information, see http://www.nass.usda.gov/About_NASS/History_of_Ag_Statistics/index.asp/.

Farm Definition Matters for Statistics and Federal Programs

The definition of a farm is important for farm statistics and for the design and delivery of farm programs. In 2006, farmers received close to \$13 billion in various commodity program payments and another \$3 billion in conservation payments, for a total of nearly \$16 billion in direct payments from the Federal government. Farmers also received assistance from various indirect sources such as subsidized premiums for crop insurance, or credit assistance in the form of loan guarantees and subsidized interest rates for farm operating and ownership loans. Additionally, funding for agricultural research and extension services, as well as a handful of other Federal programs, is allocated across States in accordance with each State's share of the Nation's farm population. Rules must therefore be set to define farms and farmers and to determine program eligibility.

The diversity of U.S. farms complicates agricultural statistics as well as the design of Federal farm programs. A substantial number of farms produce very little output or sales. Many farm households have a small commercial farm business, but draw the bulk of their income, and devote the majority of their time, to nonfarm employment. At the other end of the size spectrum, very large farms often have multiple stakeholders, including some owners or shareholders who may provide substantial capital, but little on-farm labor or management.

Policymakers realize that U.S. farms cover a wide range of entities, and have attempted to limit some Federal agricultural payments to those operated by individuals deemed "actively engaged" in farming. While the term "actively engaged" has been used by some government agencies as a very precise term with explicit specific applications toward policy goals, others (including policymakers) have used the term in a broader sense to capture the spirit of the level of involvement of an individual, household, or entity in farming. In this report, the term is used in the latter sense (see box "What Does It Mean To Be "Actively Engaged?").

In an attempt to target commodity programs more effectively, legislators added eligibility restrictions to the 2008 Farm Act. Some aimed to exclude high-income individuals from participating in Federal farm programs. As defined, high-income individuals either generate average adjusted gross nonfarm income exceeding \$500,000, or average adjusted gross farm income in excess of \$750,000. Another provision excludes very small-scale operators. Beginning in the 2009 crop year, farmers with fewer than 10 base acres are barred from receiving direct, countercyclical, or average crop-election payments, unless the farmers qualify as either socially disadvantaged or limited-resource farmers.²

Although the income and base acre constraints were defined specifically to apply to direct Federal payments, since the limits remain high (for the income constraints) or low (for the base-acre constraints) the restrictions do not substantially limit eligibility. Some policymakers have sought to refine the idea of an "actively engaged" farmer.

²USDA defines a socially disadvantaged farmer, rancher, or agricultural producer as a member of a group whose members have been subjected to racial, ethnic, or gender prejudice due to belonging to the group, without taking into account the qualities of the individual. Groups that belong to this classification include women, African Americans, American Indians, Alaskan natives, Hispanics, Asian Americans, and Pacific Islanders. In 2003, USDA defined limited-resource farmers as those with direct or indirect gross farm sales of not more than \$100,000 in each of the previous 2 years (to be increased beginning in fiscal year 2004 to adjust for inflation using NASS's Prices Paid by Farmer Index), and having a total household income at or below the national poverty level for a family of four or less than 50 percent of the median household income of the county in each of the previous 2 years.

What Does It Mean To Be “Actively Engaged?”

The term “actively engaged” has both general, and very specific, implications. Congress requires farmers to be actively engaged in farming to be eligible for certain farm programs (such as the Conservation Reserve Program or various commodity programs). Originally written into law in Section 1001A of the Food Security Act of 1985, the provisions establishing the term “actively engaged” have been amended through subsequent farm bills. Putting aside clauses for special classes of individuals, the term “actively engaged” applies to either individuals or entities. As currently amended, an individual (or entity) is considered actively engaged in farming if the person (entity) makes a significant contribution (based on the total value of the farming operation) to the farming operation of capital, equipment, or land and a significant contribution of personal labor or active management (and, in the case of an entity, the collective contribution of personal labor or active management must be significant). Additionally, the individual’s (entity’s) share of profits/losses from the operation must be commensurate with the contributions of the individual (entity) to the farming operation. Finally, the individual’s (entity’s) contributions have to be deemed at risk, meaning that the individual (entity) would have to face the possibility of suffering a loss.

Although codified in law, these provisions in the current Farm Act remain relatively general in nature. In contrast, USDA’s Farm Service Agency (FSA), a program agency tasked with using these general guidelines to establish rules to create measurable standards to enact the provisions effectively, has much more specific criteria to identify those “actively engaged” in farming. As written in the FSA Handbook 1-PL, to be considered “actively engaged,” an individual is required to supply the lesser of 1,000 hours of labor per fiscal (or crop) year or half of the total hours necessary to conduct a farming operation comparable in size to the individual’s (entity’s) commensurate share in the farming operation. FSA imposes similarly specific restrictions on the contributions of capital, equipment, and land, while also helping to define what constitutes active personal management (a much more difficult concept to quantify).

Most generally, the term “actively engaged” encompasses the operator’s level of involvement in the farming enterprise. Does the operator rely heavily on farming for a living? Does the operator devote a significant amount of labor to the operation? Or is the farm more of a hobby enterprise than a profit-oriented business? Policymakers are currently attempting to refine the broader definitions of a farmer to include a narrower, more measurable sense of “active engagement” to enable them to target some program payments more effectively. In this report, we use the most general sense of the term “actively engaged.”

For example, in 2007 House Agriculture Committee Chairman Collin Peterson called for eliminating “nonfarmers” from receiving Federal payments (Abbott, 2007). He suggested raising the USDA sales limit used to define a farm from the \$1,000 limit currently in use to \$10,000 or \$50,000 (Good, 2008). During the debate over the now-enacted 2008 Farm Act, Sen. Tom Coburn (R-OK) in December 2007 argued that Federal payments should be limited to more narrowly defined farmers, and proposed that Environmental Quality Incentives Program (EQIP) payments should be restricted to farmers who generated at least two-thirds of their income from agriculture (Congressional Record, 2007). While these proposals surfaced in 2007, none of them were included in the 2008 Farm Act.

What Defines a Farm in USDA Statistics?

With the goal of capturing as much production as possible, the definition of a farm has changed multiple times since originally introduced. For the 1850 Census, a farm was defined as any establishment that sold at least \$100 worth

of agricultural goods. In 1870, a farm had to have at least \$500 worth of sales or more than three acres of productive land. By 1900, sales and acreage limits were dropped. Instead, the entire time of at least one individual needed to be devoted to the farm during the year. In 1925, when the agriculture census began to be taken every 5 years instead of every 10, the definition of a farm reverted to using an acreage/sales screen combination, this time requiring at least three acres of productive land or \$250 worth of agricultural sales.

In 1975, USDA, the Office of Management and Budget (OMB), and the U.S. Department of Commerce's U.S. Census Bureau agreed on a definition of a farm that is still in use today.³ "A farm is currently defined, for statistical purposes, as any place from which \$1,000 or more of agricultural goods (crops or livestock) were sold or normally would have been sold during the year under consideration" (Glossary, 2005). USDA's National Agricultural Statistics Service (NASS) also includes government payments as sales. In other words, a farm is defined as any place with any combination of sales, potential sales, and government payments totaling at least \$1,000.

The phrase "normally would" aims to ensure the inclusion of farms that do, or could, contribute to agricultural production, even if they did not have \$1,000 in sales. Farms might experience adverse events, such as droughts, hurricanes, fires, or disease that destroy the farm's production in a particular year (or several consecutive years). Some commodities require a long production cycle before sales are realized. For example, a new orchard will typically require several years before the trees mature and harvest can begin. Even for crops with annual production cycles, crops might be harvested and stored, with no sales recorded during a year. Current practice aims to include establishments with the capacity to realize at least \$1,000 in revenues from any combination of government payments, cropland, and/or livestock activities.

To identify farms that could normally produce at least \$1,000 worth of agricultural commodities, USDA uses a system that assigns specific point values for crop acreage and livestock inventory. Each assigned point represents \$1 in potential sales; any establishment with 1,000 points (\$1,000 of potential sales) is classified as a farm. In USDA statistics, such places are called "point farms" and are numerous, since many places could produce \$1,000 in sales from the cropland and livestock on the premises (see box, "How Large Is a Point Farm?"). Overall, using 2006 ARMS data, we estimate that there were approximately 440,000 point farms (over 20 percent of all farms). The newly released 2007 Census of Agriculture reports roughly 500,000 point farms. NASS created new methodologies to collect the data for this Census of Agriculture, designed to more accurately count small farms. While NASS believes that the new methodologies account for at least some of the increase in small farms reported, the new Census of Agriculture data suggest that almost 23 percent of all farms in the United States had the potential to generate at least \$1,000 worth of agricultural sales, yet did not do so (USDA/NASS, 2009).

Due to its broad, inclusive nature, the current USDA definition of a farm encompasses almost all organizations that produce agricultural goods, from small farms with very little or no production, to commercial farm businesses with sales in the millions of dollars. Such variation means that simple statistics of the agricultural sector can be misleading. Figures 1-7 show a range of farm sizes and provide a picture of farm structure useful for helping to refine the term "actively engaged."

³ In 1997, USDA's National Agricultural Statistics Service took over the Census of Agriculture duties from the U.S. Census Bureau.

How Large Is a Point Farm?

Small fields of crops or a few livestock animals allow agricultural operations to qualify as “point” farms under USDA’s system. While hardly exhaustive, the following attributes would certify a rural establishment as a point farm in 2006:

- four acres of corn
- a little more than five and a quarter acres of soybeans
- eight and one-third acres of wheat
- one-third of an acre of tobacco
- one-tenth of an acre of berries
- just over one-third of an acre of vegetables
- one milk cow
- three beef cattle
- six hogs
- five horses or ponies

More than 80 percent of U.S. point farms fall into five main production categories:

1. 25 percent qualify as horse farms
2. another 20 percent have cattle or calves
3. approximately 17 percent grow hay or grasses, including farmland enrolled in the Conservation Reserve Program (CRP), a program designed to take environmentally sensitive (e.g., highly erodible) land out of production
4. a little more than 10 percent have a few acres of grains or oilseeds
5. 10 percent have sheep and goats

Note: The 2006 ARMS Phase III Survey Administration Manual contains information concerning point farm eligibility that allowed the calculation of these amounts of commodities.

How Are U.S. Farms Characterized?

Each year, the National Agricultural Statistics Service (NASS) and the Economic Research Service (ERS) jointly design and administer multiple surveys (collectively, the Agricultural Resource Management Survey, or ARMS) covering U.S. farming operations in the 48 contiguous States. The information in this report was obtained from the 2006 Phase III component of the survey, the most recent available data at the time the report was written. This survey collected detailed information relevant to the farm operation and the farm operator’s household from 21,700 respondents. Additionally, the survey contains weights that take into account the sampling procedures used to create ARMS. These weights allow for the expansion of the data to estimate selected State and national level statistics.⁴ We describe how: gross sales; cash expenses; farm, household, and operator characteristics; household income, including off-farm income; acres operated; government payments; and conservation practices vary across U.S. farms. In turn, these structural descriptors can help us evaluate the coverage offered by various farm criteria and definitions.

⁴For more information on ARMS, see <http://www.ers.usda.gov/Briefing/ARMS/>.

Sales

In 2006, the mean sales of all U.S. farms were approximately \$106,000. However, because most farms are either very small or very large, very few farms actually had sales near this amount (fig. 1). While half of all farms generated sales of \$6,600 or less, fewer than 1 percent of all farms sold between \$100,000 and \$110,000 worth of goods.

In 2006, most farms did not produce or sell much output. Almost 1.2 million operations (nearly 58 percent of all farms) had sales of less than \$10,000 each, together producing only 1.5 percent of total farm sales in the U.S. (table 1). More than one in three of these farms were point farms, with less than \$1,000 in sales.

Another 385,000 farms generated sales between \$10,000 and \$50,000. Despite relatively low levels of individual sales, farms in this sales class generated approximately \$8 billion in total sales, or close to 4 percent of all agricultural sales in 2006.⁵

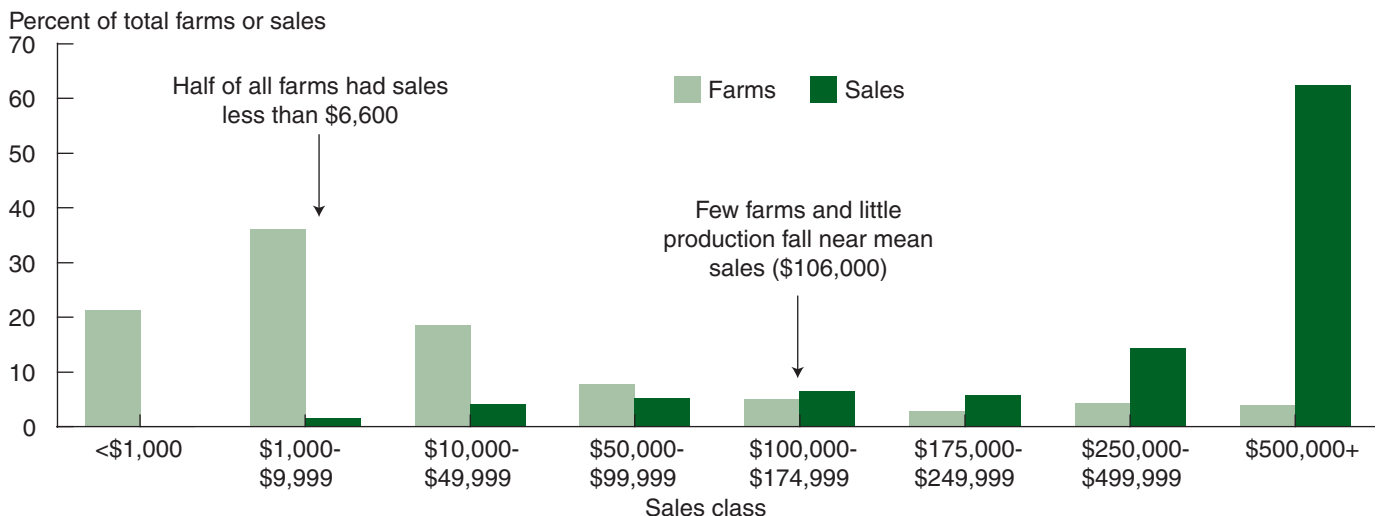
By contrast, just 1.7 percent of all farms generated nearly half of all agricultural sales in 2006. Fewer than 10 percent of farms sold at least \$250,000 worth of agricultural goods in 2006, yet these farms produced more than 75 percent of all U.S. gross agricultural sales.

Expenses

To run the farm, operators incur many different costs including livestock and feed purchases, seed, fertilizer, and chemicals expenses, along with labor, fuel, maintenance, and utility costs and other miscellaneous expenses. In addition, fixed capital expenses for farm structures such as barns and sheds, fences, and equipment such as tractors and combines can be substantial. Together with taxes, interest and insurance expenses, and rental and lease

⁵A farm with sales between \$10,000 and \$50,000 is a fairly small operation. For example, at 2006 prices and yields, 143 acres of winter wheat would garner sales of \$25,000. Similarly, 95 acres of soybeans or 52 acres of corn (for grain) would also generate \$25,000 in sales. In terms of livestock, 264 head of hogs or 24 head of beef cattle at 2006 prices would be worth \$25,000. Since managing these small operations does not require 2,000 hours of labor over a year, this implies that a substantial number of operators farm on a part-time basis.

Figure 1
Distribution of farms and agricultural sales, 2006



Source: USDA, Agricultural Resource Management Survey, 2006.

payments, these costs combine to make up total cash expenses. USDA farm statistics aim to track aggregate expenses at the national and State levels.

In 2006, point farms incurred nearly 3 percent of all U.S. cash expenses (fig. 2, table 1). Most of the more than 440,000 farms falling in this category had very little, if any, production, and on average incurred few expenses. Despite selling very little, however, a substantial number did generate significant expenses. About one out of every three point farms incurred at least \$10,000 worth of expenses.⁶ Some of these operations, like those establishing orchards, expect to generate far more than \$1,000 in sales in the future.

Farms with less than \$10,000 in sales—including point farms—incurred 7.5 percent of all cash expenses in the United States; farms selling less than \$50,000 incurred 13.8 percent of all U.S. cash expenses. Even though contributing very little to the overall sales of agricultural products in the United States, these farms did contribute substantially to the costs incurred by the sector. Some of these farms may have large expenses relative to their sales (including the point farms) in an effort to take advantage of tax laws—incurring large costs to shield some (or all) of their income from taxation (Durst and Monke, 2001).

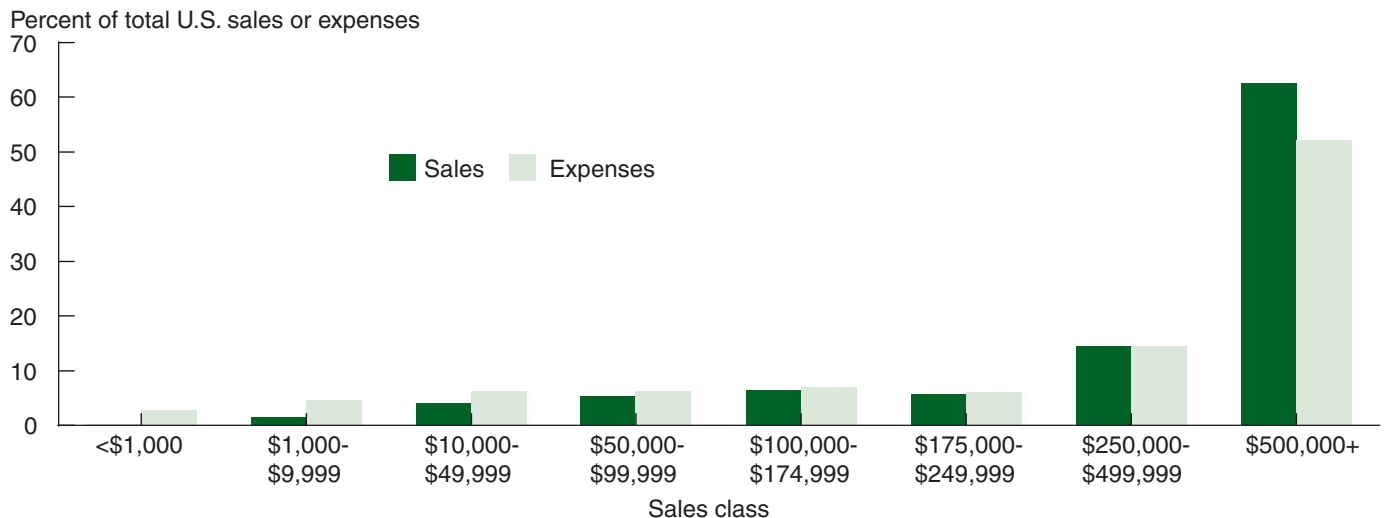
Occupation and labor allocation

While farm sales can vary widely from one farm to the next, individuals do not necessarily consider themselves farmers based on the level of sales they generate on the farm. One way to explore this issue is to look at self-reported data concerning occupation and labor allocation.

About 25 percent of operators on farms generating less than \$10,000 in sales considered farming their primary occupation in 2006 (fig. 3, table 1), while 8 percent of operators on farms generating less than \$10,000 in sales reported spending at least 2,000 hours of labor on the operation during the

⁶Of these farms, a small number (estimated at 3,800) had expenses between \$50,000 and \$100,000 while an additional few (2,100 operations) incurred expenses in excess of \$100,000. These farms may have encountered adverse conditions (e.g., bad weather, livestock losses to illnesses, etc.), may have been starting out and have long production cycles (e.g., orchards), or may have decided to store rather than sell their output.

Figure 2
Percent of sales and expenses by sales class, 2006



Source: USDA, Agricultural Resource Management Survey, 2006.

Table 1

Selected characteristics of farms and operators by sales class, 2006

Item	Sales class								All
	Less than \$1,000	\$1,000 to \$9,999	\$10,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$174,999	\$175,000 to \$249,999	\$250,000 to \$499,999	\$500,000 or more	
	<i>Number</i>								
Total farms	444,763	753,812	384,985	163,630	105,203	60,064	90,239	80,978	2,083,674
	<i>Percent of U.S. total</i>								
Distribution of:									
Farms	21.3	36.2	18.5	7.9	5.0	2.9	4.3	3.9	100.0
Gross sales	0.0	1.5	4.1	5.3	6.4	5.7	14.4	62.5	100.0
Cash expenses	2.8	4.7	6.3	6.3	7.0	6.1	14.5	52.1	100.0
Acres operated	3.5	9.6	14.6	12.7	11.3	7.9	16.0	24.4	100.0
Government payments	0.2	6.6	11.4	9.8	10.0	8.6	20.5	32.9	100.0
Conservation	0.6	25.7	27.9	13.5	7.0	3.9	9.5	11.9	100.0
Commodity-related	0.1	1.9	7.4	8.9	10.7	9.7	23.2	38.0	100.0
CRP or WRP acres	0.9	34.0	29.8	13.3	5.3	4.3	6.9	5.4	100.0
	<i>Acres operated</i>								
Median acres operated	30	68	164	310	423	640	825	1,200	100
	<i>Percent</i>								
Share of acres operated owned by operation	101.3	110.5	73.5	69.2	54.3	41.6	44.5	51.3	62.7
	<i>Percent of group</i>								
Operator age 65 or more	21.1	33.8	34.3	29.7	17.2	17.9	16.0	14.3	28.1
Occupation:									
Farm/ranch work	19.8	29.0	48.8	69.9	79.4	90.7	91.5	96.0	43.5
Other work	63.4	55.5	43.2	24.3	d	8.5	7.9	3.6	45.1
Not in workforce	16.8	15.5	8.0	a5.8	d	na	na	0.4	11.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Principal operator retired	23.7	27.5	19.5	11.1	4.1	2.4	*3.0	2.6	20.0
Hours of farm work (for principal operator):									
Less than 500	33.0	29.9	12.5	6.2	*5.9	na	0.9	1.1	21.1
500 to 999	36.2	31.9	20.4	11.4	4.8	4.0	*5.1	2.4	24.6
1,000 to 1,499	17.4	18.7	23.4	16.3	9.5	4.9	5.4	4.4	17.1
1,500 to 1,999	4.8	11.7	15.8	14.7	10.1	7.9	6.1	4.5	10.5
2000 or more	8.4	7.7	27.8	51.4	69.7	81.8	82.4	87.7	26.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Family farm	98.7	98.1	97.3	95.3	94.1	93.6	95.5	88.8	97.1

* indicates that coefficient of variation (CV) is greater than 25 and less than or equal to 50.

a indicates that CV > 50.

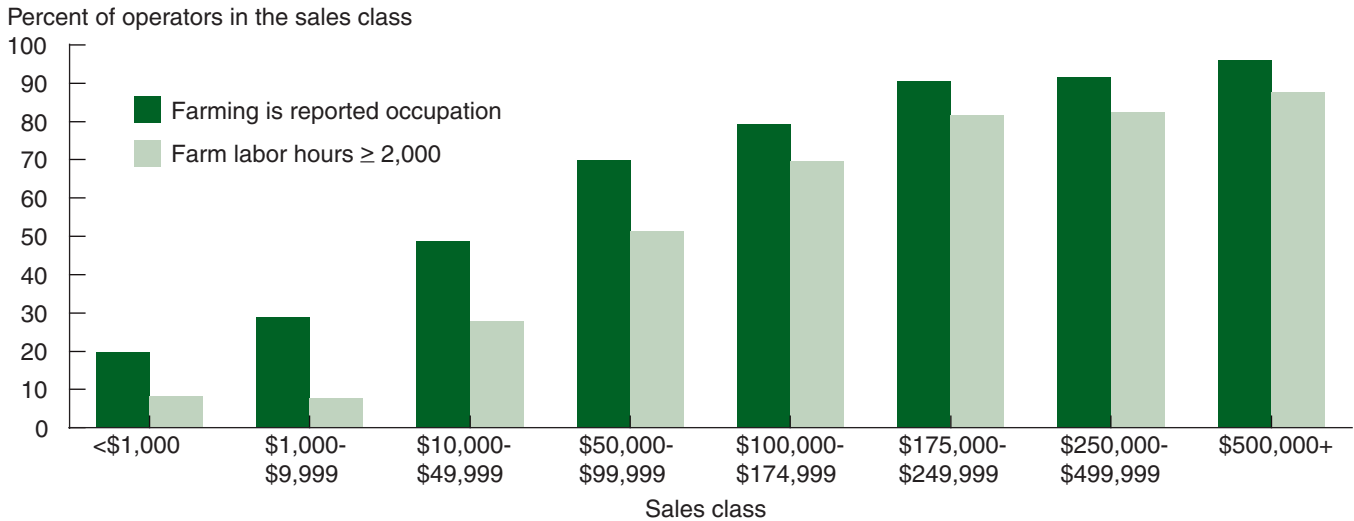
na indicates value is not available due to no observations, an undefined statistic, or reliability concerns.

d means cannot be disclosed due to confidentiality restrictions.

Source: USDA, Agricultural Resource Management Survey, 2006.

Figure 3

Principal operator's reported occupation and labor hours, 2006



Source: USDA, Agricultural Resource Management Survey, 2006.

year, the equivalent of a full-time job (40 hours per week for 50 weeks).⁷ In contrast, almost 1 out of every 2 operators on farms with between \$10,000 and \$50,000 in sales considered themselves farmers, with over 40 percent spending at least 1,500 hours of labor on the farm. On farms generating at least \$50,000 in sales, the operator typically considered farming as the primary occupation and reported working at least 2,000 hours on the farm during the year.

How much do different households rely on farm income?

Farm households with low levels of agricultural sales tend to report relatively high levels of off-farm income. However, households associated with farms generating the very highest levels of agricultural sales often generate off-farm income as well.

Operators and their households can generate off-farm income from both earned and unearned sources. Earned off-farm income comes from self-employment or wages and salaries at a job unrelated to the farm. Households obtain off-farm unearned income from passive income sources unrelated to their farming enterprise, such as Social Security or interest earnings. Total household income combines earned and unearned incomes with the household's net income (revenues minus costs) derived from the farming operation.⁸

Farm households selling less than \$50,000 worth of agricultural goods had mean off-farm income exceeding \$70,000, while households of the largest farms (those with sales above \$250,000) averaged between \$50,000 and \$60,000 in off-farm income (fig. 4, table 2). More significantly, the share of off-farm income from earned sources dropped as farms increased in size. The average amount of earned off-farm income for farm households with less than \$50,000 in sales was almost twice the amount of earned off-farm income generated by the households of the largest farms in 2006. This is likely due to the fact that as farms grow (both in size and complexity), the

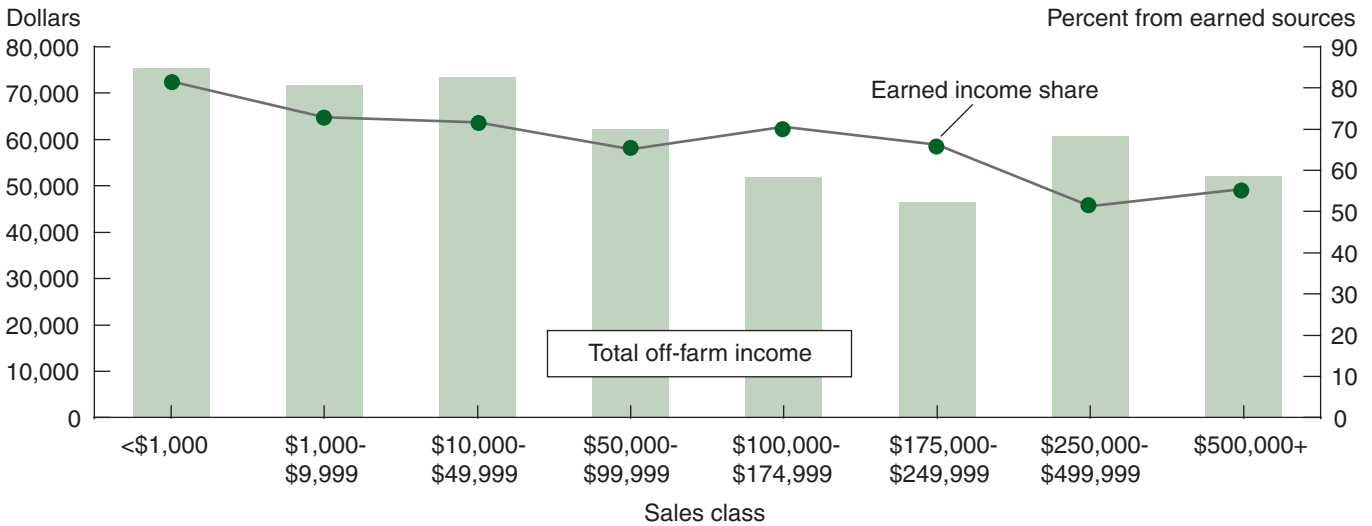
⁷The ARMS questionnaire asks the principal operator how many hours, on average, the respondent worked on the farm per week for each of the four quarters of the year (January through March, April through June, July through September, and October through December). Adding up the hours per week provided the values shown in table 1.

⁸The ARMS survey contains several questions concerning the off-farm income of the principal operator. Respondents were asked to enter value codes representing ranges of income that corresponded to the income they derived from any sources not affiliated with their operation. Midpoints of each range were subsequently used for each value code to obtain estimates for each variable. Earned off-farm income was calculated using responses concerning any off-farm businesses of the members of the operator's household during the year and from any wages or salaries earned from any off-farm jobs. Respondents were also asked to enter value codes for any unearned income, consisting of any passive income sources such as interest, dividends, Social Security, etc.

operators, and perhaps other household members, have to devote more time to running the farm business, leaving less time to earn wages or generate revenues off the farm. Reported labor hours in the ARMS data suggest this trend as well. As farm size increases from small farms to those producing at least \$100,000 in sales, operators tend to spend more hours working on the farm. Their spouses also appear to increase their on-farm labor as farm size increases. Hours spent earning off-farm income decrease steadily for operators, and more slowly for their spouses, as farm size increases.

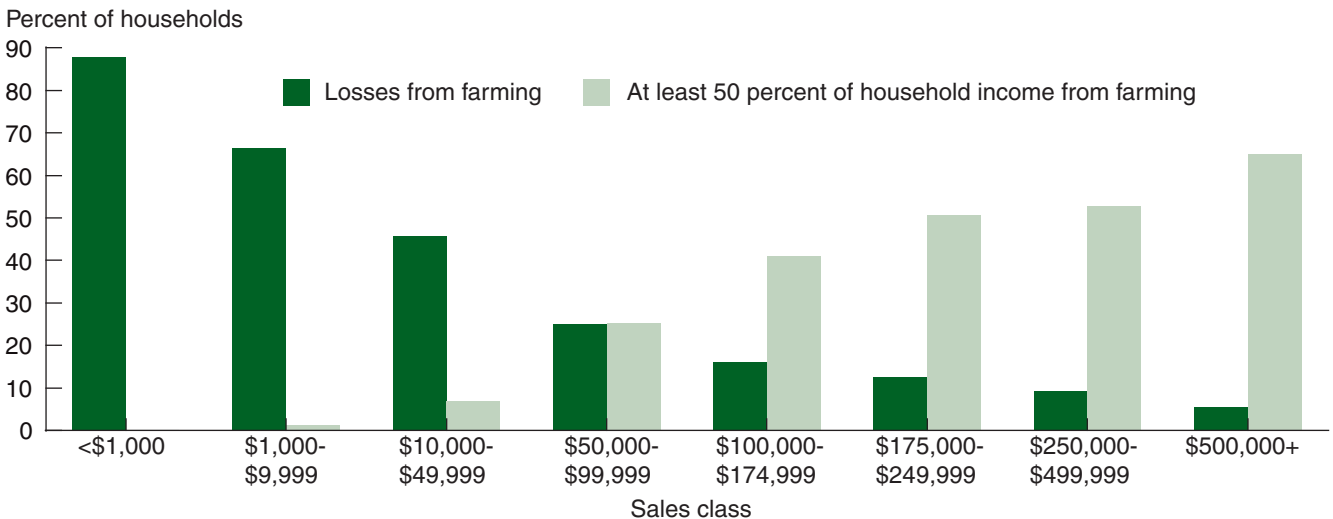
Households of the largest farms relied more on farm income than did the households of smaller farms (fig. 5, table 2). In fact, more than 58 percent of the commercial farm households (those with farms selling \$250,000 or more) earned at least half of their income from farming. In contrast, a large majority of low-sales operators did not rely upon farming for any of their income at

Figure 4
Off-farm income, 2006



Source: USDA, Agricultural Resource Management Survey, 2006.

Figure 5
Household reliance on farm income, 2006



Source: USDA, Agricultural Resource Management Survey, 2006.

Table 2

Selected financial characteristics of farm households by sales class, 2006

Item	Sales class								All
	Less than \$1,000	\$1,000 to \$9,999	\$10,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$174,999	\$175,000 to \$249,999	\$250,000 to \$499,999	\$500,000 or more	
	<i>Number</i>								
Total farm households	439,175	739,582	374,663	155,871	98,946	56,191	86,182	71,890	2,022,501
	<i>Dollars per household</i>								
Median household income	54,835	52,299	53,937	52,038	58,184	65,334	86,228	121,705	54,835
Mean household income	68,480	68,171	72,841	69,375	74,163	74,908	103,864	249,815	77,654
Farm earnings	-6,914	-3,529	a-574	7,229	22,361	28,260	43,226	197,666	8,406
Off-farm income	75,394	71,701	73,416	62,146	51,802	46,647	60,638	52,150	69,248
Earned	61,480	52,240	51,625	40,484	36,556	30,868	31,143	28,985	50,140
Unearned	13,915	19,461	21,791	21,662	15,246	15,779	*29,495	23,165	19,109
	<i>Percent of households</i>								
Positive household income and:									
Loss from farming	87.7	66.4	45.8	25.1	16.0	12.6	9.3	5.5	55.4
0-24 percent from farming	6.3	24.4	31.5	21.1	14.1	7.9	8.1	5.9	19.2
25-49 percent from farming	na	3.3	10.6	19.2	17.7	15.1	13.5	8.6	7.0
50-74 percent from farming	na	0.8	3.8	15.1	17.1	22.0	18.8	14.3	5.3
75 percent or more from farming	na	*1.2	3.1	10.3	24.0	28.8	34.1	50.8	7.2
Negative household income	*3.0	3.9	5.2	9.2	11.0	13.6	16.2	15.0	5.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* indicates that coefficient of variation (CV) is greater than 25 and less than or equal to 50..

a indicates that CV > 50.

na indicates value is not available due to no observations, an undefined statistic, or reliability concerns.

Source: USDA, Agricultural Resource Management Survey, 2006.

all. Over two-thirds of farm households with less than \$50,000 in agricultural sales incurred losses from farming.⁹ Furthermore, an additional 20 percent of farm households in this sales category derived less than one quarter of their income from their farming operation.

However, off-farm income does remain important even for those associated with commercial farms. More than one in four commercial farm households obtained over half of their household income from off-farm sources. Losses from farming and negative household income are not uncommon, even for operators of the very largest farms. More than one in five farms with at least \$500,000 in sales either had negative household income or incurred losses from farming, as had one-quarter of all farms with sales between \$250,000 and \$500,000 in 2006. Bad weather, pests, and diseases can ruin crops and sicken livestock, which can dramatically lower gross income. In addition, farmers can make voluntary choices that alter their reported gross income. Examples include increasing inventories by delaying sales of goods produced

⁹Operators can use depreciation expenses to offset income for tax purposes. If high enough, depreciation expenses can cause some farms to claim losses from farming during a year, even if revenues cover all operating costs. In 2006, 18 percent of farms with sales between \$10,000 and \$50,000 had depreciation expenses that outweighed their revenues, as did 11 percent of farms with sales between \$1,000 and \$10,000. Fewer than 1 percent of farms with sales below \$1,000 had depreciation expenses larger than their net cash farm income, which could be due to the fact that many of these small farms may not qualify as a business for Internal Revenue Service purposes.

and purchasing farm equipment, which increases depreciation and can shield income from taxes.

Acres operated

Despite their low levels of production, farms with less than \$50,000 in sales accounted for more than one-fourth of the acres operated in the U.S. (fig. 6, table 1). In contrast, farms with sales of at least \$250,000 produced the bulk of U.S. agricultural output on just over 40 percent of all acres operated.

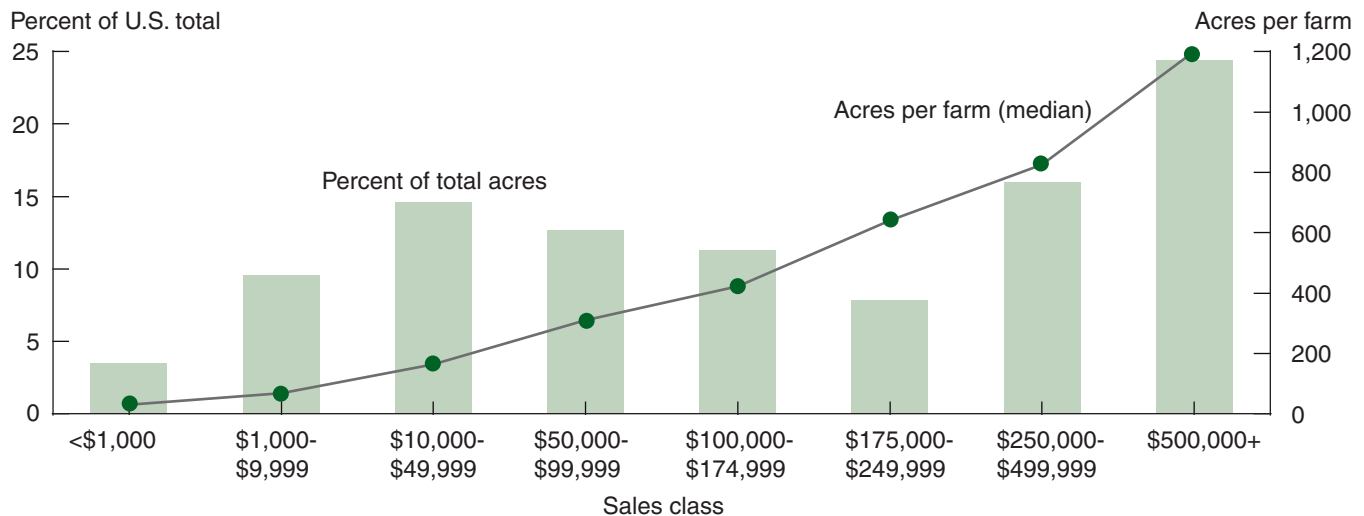
Relative to the distribution of sales, acres operated are distributed much more evenly across all farm size classes for at least four reasons:

1. Large livestock operations such as feedlots and operations producing hogs, dairy products, eggs, or broilers (among other types) tend to confine their animals and use purchased feed, meaning that many do not use much land to produce large volumes of sales.
2. Modestly sized livestock operations often specialize in the production of calves, horses, or sheep or goats, and are more likely to graze their livestock rather than confine them. This requires larger tracts of land per head to feed the animals, but does not generate the high levels of revenues and output that higher sales farms generate.
3. Farmland can include Conservation Reserve Program (CRP) acres in addition to cropland and pastureland. Operators often enroll entire fields in CRP, and can own more acres than their limited sales and expenses would suggest.¹⁰
4. Ownership of land may be the primary goal of many small/medium sized farms, rather than farm income.

While acres operated are distributed fairly evenly across sales categories, acres owned are distributed more evenly still. In fact, farms with less than \$10,000 in sales tend to own more land than they operate, choosing to rent a

¹⁰For more information on land use, see table 1.3.10 of the ERS report *Agricultural Resources and Environmental Indicators: Land Ownership and Farm Structure* (July 2002), available at: www.ers.usda.gov/publications/arei/ah722/arei1_3/DBGen.htm/.

Figure 6
Acres operated, 2006



Source: USDA, Agricultural Resource Management Survey, 2006.

portion of their land to other operations. Farmers of larger operations, generally requiring larger amounts of land for production, often rent land from others. On average, farmers with at least \$250,000 in sales in 2006 owned less than half the land they operated.

Again, however, aggregate statistics can prove misleading. While aggregate acres owned or operated are relatively evenly distributed across farm sales classes, the median number of acres operated differs dramatically. Half of farms with sales between \$10,000 and \$50,000 operated fewer than 164 acres, while half of farms with between \$250,000 and \$500,000 in agricultural sales operated more than 825 acres. Half of the very largest farms, those with \$500,000 or more in sales, operated over 1,200 acres.

Government payments

U.S. farm programs can be categorized into two broad groups: commodity-related and conservation. Commodity payments in particular tend to reflect production volumes for program commodities (largely feed and food grains, cotton, and oilseeds). As a result, larger farms producing greater volumes of program commodities tend to receive higher levels of commodity payments. In 2006, operations generating over \$250,000 worth of sales collected the bulk of commodity-related government payments.

Despite increases in working-land program budgets, in 2006 conservation payments consisted mostly of CRP payments—a program designed to retire environmentally sensitive cropland from production (see box, “Farm Program Payments: Types and Data Source”). Many CRP participants enroll a significant portion, if not all, of their cropland into CRP, yet are still counted as farms by USDA because government payments are counted as farm sales under the farm definition. These farms focus on the production of environmental benefits and have little or no production of farm commodities, so the bulk of their farm income comes from CRP payments. As such, operations selling less than \$50,000 received most of the conservation-related government payments (fig. 7).

Overall, farms generating at least \$250,000 in sales collected just over 53 percent of all government payments, while those farms generating less than \$50,000 in sales collectively received approximately 18 percent. However, these smaller operations enrolled almost 65 percent of all the acres enrolled in either the CRP or the Wetlands Reserve Program (WRP), both of which target environmentally sensitive land rather than production.

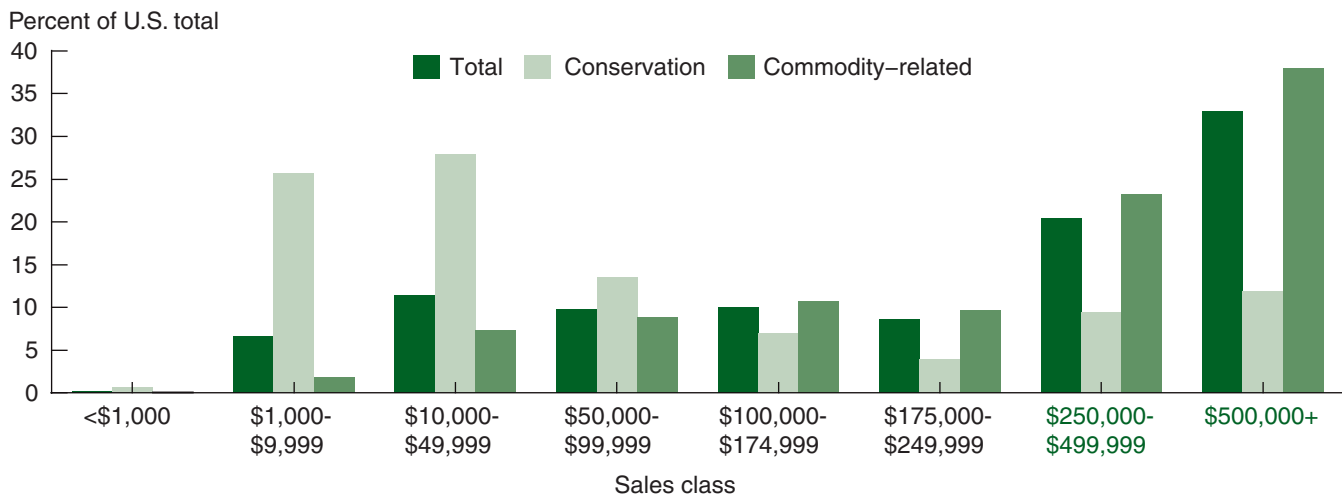
Farm Program Payments: Types and Data Source

The 2006 Agricultural Resource Management Survey covers:

1. **Commodity-related payments.** Direct payments, countercyclical payments, loan deficiency payments, marketing loan gains, net value of commodity certificates, milk income loss contract payments, agricultural disaster payments, and any other State, Federal, and local payments are included. **Goals:** Establish price and farm income support, stabilize production, provide a safety net for farmers.
2. **Conservation payments.** Conservation payments belong to one of two categories:
 - **Payments from land retirement programs**, including the Conservation Reserve Program (CRP), Conservation Reserve Enhancement Program (CREP), and Wetlands Reserve Program (WRP). **Goals:** Remove land from agricultural production.
 - **Payments from working-land programs**, including the Environmental Quality Incentives Program (EQIP), and Conservation Security Payments (CSP). These programs provide technical and financial assistance to farmers who install or maintain conservation practices on land in production. **Goals:** Protect and preserve natural resources including (among other objectives): maintaining and improving soil quality, improving wildlife habitat, and improving water and air quality. Additionally, conservation programs provide a safety net for farmers and help establish farm income support.

The Agricultural Resource Management Survey (ARMS) allows for analysis of how farm program payments are distributed among farms because the survey can identify both participating and nonparticipating farms. Unlike other data sources, ARMS furnishes detailed information on the farms' characteristics as well as the characteristics of farm operators and their households. Since ARMS contacts only farm operators, however, it excludes the payments made to people who do not farm, mainly nonoperator landlords.

Figure 7
Government payments, 2006



Source: USDA, Agricultural Resource Management Survey, 2006.

What Kinds of Screens Might Capture Active Farming?

The current, broad definition of a farm encompasses a very diverse group of businesses, where many operators do not allocate large quantities of their labor to the farm, and most operations do not generate large amounts of output. Some policymakers have recently proposed redefining what qualifies as a farm (Abbott, 2007; Congressional Record, 2007; Good, 2008). The proposals define eligibility requirements for a particular government program or define eligibility across all government programs.

While some proposals would restrict the farm definition for NASS's Census of Agriculture and for Federal agricultural programs, these can represent conflicting goals. A broad definition for the Census could be desirable in order to capture the bulk of agriculture, while it might be desirable to funnel program funds toward a much narrower, targeted population. There may be unintended costs if the same population is targeted for both data collection and for all program purposes since different considerations may apply to the two goals (and to different programs). In each case, the careful identification of the desired population becomes important.

Common to the proposals is the view that Federal support of the agricultural community should go to those who are actively engaged in farming. Some policymakers aim to refine the term "actively engaged" to identify more precisely the segments of the farm population to which they wish to provide support.

Various screens have been proposed, but to be useful, they need to be easy to use and verifiable to facilitate implementation and ensure that the intended recipients of any targeted Federal funds are not unintentionally excluded from eligibility. The administration of certain programs already requires that farmers, to establish their financial history, must supply IRS income tax records at State and county offices. A similar requirement could be used to establish the proposed screens examined here.¹¹ For example, IRS Schedule F, titled "Profit or Loss From Farming," (filed by sole proprietorships) contains information on agricultural sales and expenses (fig. 8), and when combined with information on other tax forms (for example, U.S. Individual Income Tax Returns contain off-farm income information), can provide a measure of the relative importance of off-farm income to the household.¹² County office program managers could require farmers to bring in their filed tax forms to help determine a farmer's active engagement in agriculture. Possible screens that make use of information readily available from tax forms include farm sales, the share of income from farming, and off-farm income streams.¹³ A screen such as farmer occupation and/or labor allocation, despite being a convenient way to categorize farmers that closely approximates the ideas behind the definition of "actively engaged," is self-reported and therefore not easily verifiable by program managers, reducing their value for program targeting purposes.

¹¹USDA's Farm Service Agency (FSA) requires that farmers supply their last 3 years of farm financial records, including tax returns, to qualify for a loan (see Handbook 3-FLP page 3-6). Furthermore, tax returns are used to screen for beginning farmers, limited-resource farmers, and for off-farm income.

¹²Similarly, if a farm is organized as a partnership rather than a sole proprietorship, IRS Form 1065 would be appropriate. IRS Form 1120 and 1120S pertain to a farm organized as a C- or S-corporation respectively.

¹³Note that tax rules may distort some of what policymakers or program managers wish to measure. For example, rules concerning cash accounting, capital expensing, and other farm deductions may reduce net incomes for tax purposes (Durst and Monke, 2001).

Figure 8
IRS Schedule F, Profit or Loss From Farming, page 1

<p>SCHEDULE F (Form 1040)</p> <p>Department of the Treasury Internal Revenue Service</p>	<p>Profit or Loss From Farming</p> <p>▶ Attach to Form 1040, Form 1040NR, Form 1041, Form 1065, or Form 1065-B.</p> <p>▶ See Instructions for Schedule F (Form 1040).</p>	<p>OMB No. 1545-0074</p> <p style="font-size: 2em; font-weight: bold;">2007</p> <p>Attachment Sequence No. 14</p>
<p>Name of proprietor _____</p>		<p>Social security number (SSN) _____</p>
<p>A Principal product. Describe in one or two words your principal crop or activity for the current tax year. _____</p>		<p>B Enter code from Part IV ▶ </p>
<p>C Accounting method: (1) <input type="checkbox"/> Cash (2) <input type="checkbox"/> Accrual</p>		<p>D Employer ID number (EIN), if any _____</p>
<p>E Did you "materially participate" in the operation of this business during 2007? If "No," see page F-2 for limit on passive losses. <input type="checkbox"/> Yes <input type="checkbox"/> No</p>		
<p>Part I Farm Income—Cash Method. Complete Parts I and II (Accrual method. Complete Parts II and III, and Part I, line 11.) Do not include sales of livestock held for draft, breeding, sport, or dairy purposes. Report these sales on Form 4797.</p>		
<p>1 Sales of livestock and other items you bought for resale 1</p> <p>2 Cost or other basis of livestock and other items reported on line 1 2</p> <p>3 Subtract line 2 from line 1 3</p> <p>4 Sales of livestock, produce, grains, and other products you raised 4</p> <p>5a Cooperative distributions (Form(s) 1099-PATR) 5a Taxable amount 5b</p> <p>6a Agricultural program payments (see page F-3) 6a Taxable amount 6b</p> <p>7 Commodity Credit Corporation (CCC) loans (see page F-3):</p> <p style="padding-left: 20px;">a CCC loans reported under election 7a</p> <p style="padding-left: 20px;">b CCC loans forfeited 7b Taxable amount 7c</p> <p>8 Crop insurance proceeds and federal crop disaster payments (see page F-3):</p> <p style="padding-left: 20px;">a Amount received in 2007 8a Taxable amount 8b</p> <p style="padding-left: 20px;">c If election to defer to 2008 is attached, check here <input type="checkbox"/> 8d Amount deferred from 2006 8d</p> <p>9 Custom hire (machine work) income 9</p> <p>10 Other income, including federal and state gasoline or fuel tax credit or refund (see page F-3) 10</p> <p>11 Gross income. Add amounts in the right column for lines 3 through 10. If you use the accrual method, enter the amount from Part III, line 51 11</p>		
<p>Part II Farm Expenses—Cash and Accrual Method. Do not include personal or living expenses such as taxes, insurance, or repairs on your home.</p>		
<p>12 Car and truck expenses (see page F-4). Also attach Form 4562 12</p> <p>13 Chemicals 13</p> <p>14 Conservation expenses (see page F-4) 14</p> <p>15 Custom hire (machine work) 15</p> <p>16 Depreciation and section 179 expense deduction not claimed elsewhere (see page F-5) 16</p> <p>17 Employee benefit programs other than on line 25 17</p> <p>18 Feed 18</p> <p>19 Fertilizers and lime 19</p> <p>20 Freight and trucking 20</p> <p>21 Gasoline, fuel, and oil 21</p> <p>22 Insurance (other than health) 22</p> <p>23 Interest:</p> <p style="padding-left: 20px;">a Mortgage (paid to banks, etc.) 23a</p> <p style="padding-left: 20px;">b Other 23b</p> <p>24 Labor hired (less employment credits) 24</p>	<p>25 Pension and profit-sharing plans 25</p> <p>26 Rent or lease (see page F-6):</p> <p style="padding-left: 20px;">a Vehicles, machinery, and equipment 26a</p> <p style="padding-left: 20px;">b Other (land, animals, etc.) 26b</p> <p>27 Repairs and maintenance 27</p> <p>28 Seeds and plants 28</p> <p>29 Storage and warehousing 29</p> <p>30 Supplies 30</p> <p>31 Taxes 31</p> <p>32 Utilities 32</p> <p>33 Veterinary, breeding, and medicine 33</p> <p>34 Other expenses (specify):</p> <p style="padding-left: 20px;">a 34a</p> <p style="padding-left: 20px;">b 34b</p> <p style="padding-left: 20px;">c 34c</p> <p style="padding-left: 20px;">d 34d</p> <p style="padding-left: 20px;">e 34e</p> <p style="padding-left: 20px;">f 34f</p>	
<p>35 Total expenses. Add lines 12 through 34f. If line 34f is negative, see instructions 35</p> <p>36 Net farm profit or (loss). Subtract line 35 from line 11.</p> <p style="padding-left: 20px;">• If a profit, enter the profit on Form 1040, line 18, and also on Schedule SE, line 1. If you file Form 1040NR, enter the profit on Form 1040NR, line 19.</p> <p style="padding-left: 20px;">• If a loss, you must go to line 37. Estates, trusts, and partnerships, see page F-6.</p>		<p>36</p>
<p>37 If you have a loss, you must check the box that describes your investment in this activity (see page F-7).</p> <p style="padding-left: 20px;">• If you checked 37a, enter the loss on Form 1040, line 18, and also on Schedule SE, line 1. If you file Form 1040NR, enter the loss on Form 1040NR, line 19.</p> <p style="padding-left: 20px;">• If you checked 37b, you must attach Form 6198. Your loss may be limited.</p>		<p>37a <input type="checkbox"/> All investment is at risk.</p> <p>37b <input type="checkbox"/> Some investment is not at risk.</p>
<p>For Paperwork Reduction Act Notice, see page F-7 of the instructions. Cat. No. 11346H Schedule F (Form 1040) 2007</p>		

Farm Sales

One way to measure active engagement in agriculture is to examine the level of sales during the year. Generally speaking, those with high levels of sales are more likely to be heavily involved in farming than those with low sales. Exceptions do exist, though, especially among those considered beginning, limited-resource, or socially disadvantaged farmers.¹⁴ USDA actively works to provide assistance to farmers in these classes to promote equity. If a farm sales screen were adopted, the typical sales generated from farms run by beginning, limited-resource, or socially disadvantaged farmers could easily disqualify them from receiving Federal support.

According to 2006 ARMS data, operations selling at least \$10,000 worth of agricultural products accounted for a little over 42 percent of all U.S. farms, 98.5 percent of all agricultural sales, and received 93 percent of all government payments. Nearly 75 percent of farms with operators who allocate at least 1,500 hours to the farm produce sales of at least \$10,000. In contrast, approximately one out of every four operations with either a socially disadvantaged operator or limited-resource operator generates sales above \$10,000 (table 3). Using a higher cutoff (operations with at least \$50,000 in sales), while accounting for only 24 percent of farms, still captures an estimated 94 percent of all agricultural sales and nearly 82 percent of all government payments in 2006. However, this higher cutoff only captured about half of all operations where the principal operator spent at least 1,500 hours on the farm and included less than 6 percent of operations run by limited-resource and just over 11 percent of the farms run by socially disadvantaged operators.

¹⁴A beginning operator has fewer than 10 years' experience running a farm. A socially disadvantaged operator is either female and/or belongs to one of the following groups: African Americans, American Indians, Alaskan natives (Native Americans), Hispanics, Asian Americans, or Pacific Islanders. Finally, a limited-resource operator must have earned less than \$115,600 (2006 dollars) and had household income below the national poverty level for a family of four, or the household income was below the county median household income in the previous 2 years.

Table 3

U.S. farms included in each proposed statistical screen, 2006

	Screen 1: Sales		Screen 2: Off-farm income as a share of household income		Screen 3: Off-farm income	
	\$10,000 or more	\$50,000 or more	< 50 percent	< 25 percent	< \$100,000	< \$50,000
	<i>Percent</i>					
All U.S. farms	42.7	24.0	12.5	7.2	81.7	47.2
Farms run by operator who allocates at least 1,500 hours of labor to farm	73.0	51.0	24.3	15.3	87.5	60.1
Farms run by beginning operators ¹	d	d	6.1	1.1	66.0	6.2
Farms run by limited-resource operators ²	25.1	5.6	7.2	5.7	99.8	99.2
Farms run by socially disadvantaged operators ³	27.2	11.1	7.5	3.4	81.5	50.5

¹A farm is classified as being run by a beginning operator(s) if the operator(s)—up to 3—each have less than 10 years' experience.

²A farm is classified as being run by a limited-resource operator if in each of the last 2 years gross farm sales were below \$115,600 (in 2006 dollars) and either had household income below the national poverty level for a family of four or had household income below the county median household income in the 2 previous years.

³A farm is classified as being run by a socially disadvantaged operator if the operator belongs to any of the following groups: females, African Americans, American Indians, Alaskan natives (Native Americans), Hispanics, Asian Americans, or Pacific Islanders.

Note: d means cannot be disclosed due to confidentiality restrictions.

Source: USDA, Agricultural Resource Management Survey, 2006.

While a “farm sales” screen may be useful as a rough gauge for involvement and is easily implemented, it has drawbacks. A small but substantial number of actively engaged farm households with production or investment but no sales (e.g., orchards) would be screened out. For example, an estimated 7 percent of all point farms in 2006 (approximately 31,000 farms) had little or no sales yet produced goods valued between \$1,000 and \$10,000. Moreover, a further estimated 1,645 farms with few, if any, sales produced goods valued above \$10,000.¹⁵

A sales screen can be used for several purposes. It can be used as a screen that can help refine the actively engaged standard adopted in the 2008 Farm Act to help target Federal monies to the farm population. It is also currently (and has been historically) the backbone of the USDA farm definition. If a sales screen above \$1,000 were implemented, it could affect how Federal funds are disbursed for programs such as Federal land-grant universities for research and dissemination of information as established through the Hatch Act of 1887, and Cooperative Extension services established through the Smith-Lever Act of 1914. USDA’s Natural Resources Conservation Service (NRCS) currently distributes funds to States based on farm-population counts to its Conservation Technical Assistance (CTA) program, and formulas for fiscal year 2009 include farm-population counts for the Agricultural Management Assistance and EQIP programs. Similarly, USDA’s Farm Service Agency (FSA) allocates funds across States primarily using the number of farmers in each State for its loan programs, including Direct Farm loans (Farm Ownership and Operating Loans), Emergency Farm loans, and Beginning Farmers and Ranchers loans.

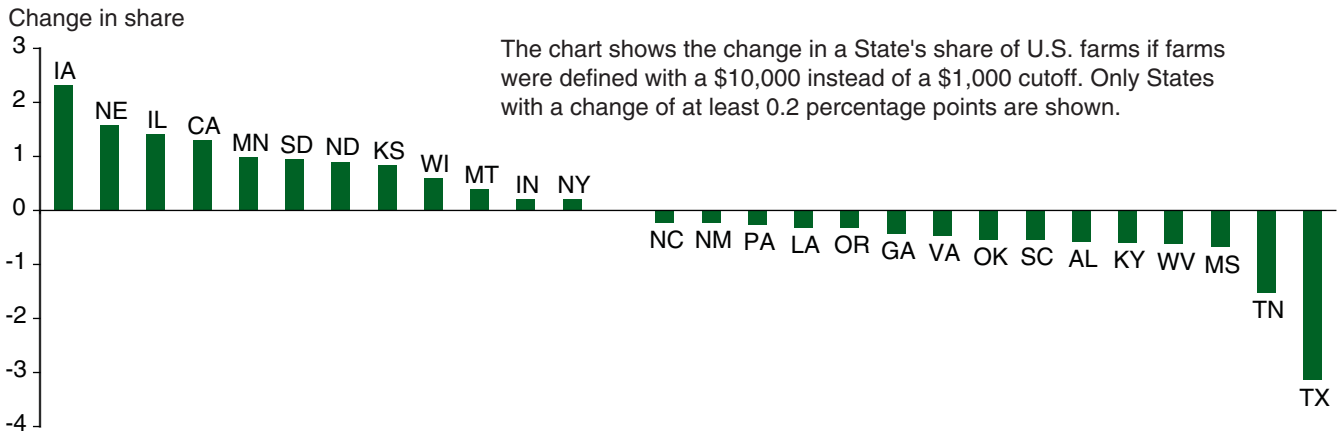
For nearly half of the States in the Nation, using a farm definition based on \$10,000 in sales would induce less than a 0.2-percent change in their share of farms. However, some States would experience much larger changes, with implications for the amount of Federal funds available to them for certain programs (fig. 9). For example, Texas and Tennessee would each see their share of U.S. farms drop by just over 3 percent and more than 1.5 percent, respectively. By contrast, Iowa would find its share increased by over 2 percent, while Nebraska, Illinois, and California would all experience increases in their share of farms by more than 1 percent.

Some Federal programs also use the State shares of farm population to distribute funds in a similar fashion to that used with the State share of farm numbers. Very similar, although not identical, results follow from using the farm population instead of number of farms. Over half of the States in the Nation would experience changes in their share of farm population of more than 0.2 percent. Texas and Tennessee would lose almost 2 percent and just over 1 percent, respectively. Iowa would gain the largest share, at almost 2 percent of the farm population, while Minnesota, Nebraska, and Wisconsin would all experience increases greater than 1 percent in their relative share of the farming population (fig. 10).

¹⁵The value of production of goods can be estimated “as if” the goods were sold in the market (using market prices and production quantities). Sales, however, refer to what actually was sold in the marketplace. The value of production and sales can differ for several reasons. For example, an operator can produce grain, but store it rather than sell it during the reference year, or sell grain out of inventory that was actually produced in previous years.

Figure 9

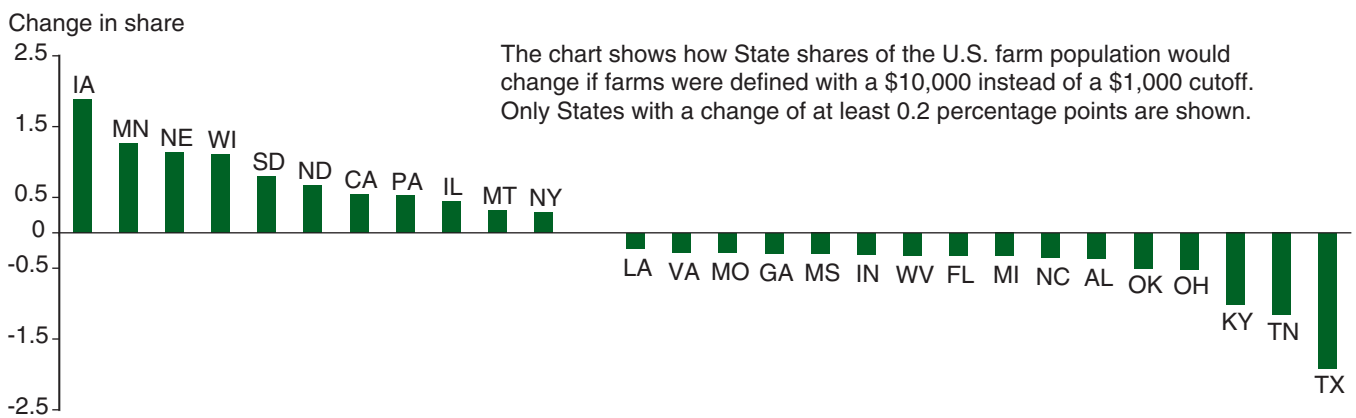
The effect of changing the farm definition on State shares of all U.S. farms



Source: ERS calculations based on USDA, National Agricultural Statistics Service, *Farms, Land in Farms, and Livestock Operations*, February 2008.

Figure 10

The effect of changing the farm definition on State shares of the U.S. farm population



Source: ERS calculations based on U.S. Department of Commerce, U.S. Census Bureau, 2000 Census of Population.

Share of Income From Farming

If policymakers are concerned about sending Federal funds to operators not actively engaged in farming, one option is to make those operators who do not think of themselves primarily as farmers and do not devote many hours to farming ineligible for payments. However, occupation title and labor hours are self-reported and therefore cannot be easily verified.

Household income, on the other hand, can be checked using Federal tax forms. Therefore, the importance of farm income to the overall household income of the operator has been proposed as an alternative way to measure active engagement.

Using a screen based on the share of household income from farming, however, may be a poor proxy for the level of involvement in farming, and could exclude a substantial portion of U.S. production. For example, only

7 percent of all farm households derived at least three-quarters of their income from farming, while generating about one-third of all farm sales (table 2). Collectively, these households received 28 percent of all government payments. This screen would capture almost 16 percent of those operations where the operator allocated at least 1,500 hours of labor to the farm, 1 percent of all beginning farmers, approximately 6 percent of all limited-resource operations, and less than 4 percent of farms run by those operators considered socially disadvantaged.

Reducing the threshold to those households that generated at least half of their income from farming does not radically alter the picture. Only 12 percent of all farm households generated at least half of their income from farming. This includes almost 1 out of every 4 farms with operators who spend at least 1,500 hours on the farm, as well as 6 percent of all beginning farmers, and just over 7 percent of all farms run by limited-resource and socially disadvantaged operators (table 3). As a group, farms operated by households earning more than half of their income from farming produced less than half of all U.S. agricultural sales and received 41 percent of all government payments in 2006.

Many farm households that would appear to be actively engaged in farming by most standards would not be considered active using a screen that required that at least 50 percent of their income come from farming. In large part, this has to do with the complex interplay between actual production and what the farm household claims as income. A household may have a reduced (and even negative) share of income from farming for several reasons. For some, operating expenses could have been unexpectedly high. For others, decisions to increase their inventories rather than sell their goods could have reduced their revenues. Still others may have made recent substantial investments in capital equipment that could allow them to report significant capital depreciation expenses, reducing their net taxable income from farming.

This issue becomes even more transparent if we focus on only the very largest farms, those with at least \$500,000 in sales. About one in five farms selling at least \$500,000 of agricultural products incurred losses during 2006, which would immediately disqualify the households associated with them from being considered actively engaged in farming using the “share of income” screen, despite the fact that they generated a large volume of sales during the year (table 2). Another 15 percent of these households had positive household income but derived more than half of their income from off-farm sources. Overall, using a “50 percent of income from farming” screen, 35 percent of the very largest farm households would be considered not actively engaged in farming. This pattern is not restricted to just the very largest farms; using the “50 percent of income from farming” screen, the households of almost half of all farms with sales between \$175,000 and \$500,000 would also be considered not actively engaged in farming. If such a screen were applied, a large number of farm households representing a significant portion of total U.S. agricultural output would become ineligible for farm program funds.

Additionally, if a “percent of income from farming sources” screen were used, it might discourage farm households from diversifying into nonfarm activities. Such disincentives could imperil the overall success of the farm

and nearby communities, especially rural communities with a large number of farm households.

Off-Farm Income

A third type of screen, “level of off-farm income,” has been proposed to try to exclude individuals with high off-farm income from receiving Federal funding. While this type of screen directly assesses the individual’s need for assistance (if off-farm income is very high, presumably the individual would not require Federal assistance), it also can proxy for level of engagement in agriculture. Generating earned off-farm income requires spending time in nonagricultural pursuits and, in general, the higher the off-farm income, the less time is available for the farm operation.

Self-reported occupation status can provide a rough proxy for how the operator chooses to spend time, either in on- or off-farm pursuits. Less than one in four farmers with off-farm income greater than \$100,000 considered farming as their primary occupation. By contrast, 78 percent of those earning below \$10,000 in off-farm income and one out of every two operators generating between \$10,000 and \$50,000 in off-farm income considered themselves farmers.

Operators of farms with sales of at least \$100,000 are more likely to be considered actively engaged in farming than farmers of smaller operations. Households of farms that generate sales of \$100,000 or more also earn an approximate mean off-farm income of \$50,000. If an off-farm income screen of \$50,000 were used in 2006, operations where households earned less than \$50,000 in off-farm income accounted for nearly 48 percent of all farms, generated 73 percent of all sales, and received 70 percent of all government payments. This included more than 60 percent of all farms where the operator worked at least 1,500 hours on the farm, but only 6 percent of all beginning farmers. It also included over 99 percent of all limited-resource farmers and just over half of all socially disadvantaged farmers (table 3). If the screen were set to exclude only those who generated more than \$100,000 in off-farm income, in 2006 this would have excluded the households of 18 percent of all farms that generated 10 percent of agricultural sales and received 12 percent of all government payments.

Of the farms run by operators who allocated at least 1,500 labor hours to the farm, nearly 88 percent would be captured using the higher valued screen of \$100,000. This elevated screen also captured almost two-thirds of all beginning operators, virtually all limited-resource operators, and more than 80 percent of all farms run by socially disadvantaged operators. Finally, those households generating at least \$250,000 in off-farm income represented only 2 percent of all farms and generated only 2 percent of all sales, while collecting only 2 percent of all government payments. At the higher off-farm income cutoffs, few farm households are excluded, while at lower off-farm income cutoffs, substantial levels of production are excluded (over one-quarter of all production is excluded at the \$50,000 cutoff), implying that, at the \$50,000 cutoff, some farm households with significant agricultural activity would be excluded from Federal programs.

The 2008 Farm Act includes an off-farm income screen to limit Federal payments to those who earned more than \$500,000 in average adjustable gross nonfarm income. Very few farm households earned such large amounts of off-farm income.

Self-reported employment categories do not necessarily capture engagement in farming. Most farmers who earned low off-farm income in 2006 did consider themselves farmers and appeared to be actively engaged in farming. However, a full 14 percent of farmers earning less than \$1,000 in off-farm income considered their occupation something other than farming, while another 11 percent stated that they were not in the paid workforce. An additional 6 percent of operators whose households earned between \$1,000 and \$10,000 in off-farm income, and 30 percent of operators whose households earned between \$10,000 and \$50,000 in off-farm income did not consider themselves farmers when asked their occupation in 2006. In other words, despite earning relatively low levels of off-farm income, a large number of households may still not be actively engaged in farming. Policymakers and program managers using such a screen may continue to fail to target their intended recipients with Federal program funds. Additionally, an off-farm income screen might create incentives for farmers to hide off-farm income to become eligible for Federal funding.

While all of the three screens (sales, the portion of total household income coming from off-farm sources, and total off-farm income) would be relatively easy to implement, the drawbacks associated with them imply that care needs to be taken to ensure that those designated as “actively engaged” do, in fact, match policymakers’ intended recipients. Additionally, these screens may not work well if program goals include issues such as environmental improvement or help for beginning farmers rather than just ensuring that Federal assistance accrues to those who are actively engaged in agriculture. Alternative program goals may require targeting users of land and water resources or a more thorough examination of farming activity.

Another key concern is how the screens might affect family farms, an integral part of our Nation’s agricultural sector. Part of the difficulty assessing such a concern stems from the lack of a widely held, precise definition of a family farm. There are many ways to define a family farm, and various organizations within the United States define them differently.

Family Farm Definitions

The family farm has long held a dominant place in U.S. agriculture. According to ERS, most production occurs on family farms. Some USDA programs are designed explicitly to support and encourage the growth of family farms, such as the Direct Operating Loans, Direct Ownership Loans, and Emergency Farm Loans administered by FSA.¹⁶ Additionally, some observers have argued that the family organization of farms has been an important reason for the superior performance of U.S. agriculture (Gardner, 2002).

Despite their central role in farm policy, legislators have not formally defined family farms, and various institutions, organizations, and researchers employ different definitions of a family farm. Many equate family farms with small, limited production farms, while associating the larger farms that generate

¹⁶FSA defines family farms differently than ERS. Under FSA’s definition, in addition to making the business decisions, the family must be recognized by the community as running a farm and the farm must produce goods in sufficient quantities so that it is recognized as a farm rather than a rural residence. Furthermore, the amount of labor provided to the farm must be significant and provided mostly by the family.

the bulk of production with corporate, nonfamily interests. “The legendary ‘family farm’ is largely as quaint as Grant Wood’s 1930 painting, ‘American Gothic.’ While mom-and-pop farms remain, most U.S. agriculture involves corporate mega-farms rather than pitchforks, barns and overalls,” Deroy Murdock of Scripps News noted (Murdock, 2008).

Other observers have weighed in with similar outlooks. “Federal farm policies specifically bypass family farmers,” Heritage Foundation budget analyst Brian Riedl noted in 2007. He also stated, “Subsidies are paid per acre, so the largest (and most profitable) agribusinesses automatically receive the biggest checks,” and agricultural government payments amount to the “largest corporate welfare program maintained by the Federal Government” (Riedl, 2007; Riedl, 2002). Similarly, Ryan Alexander, president of Taxpayers for Common Sense, said, “Family farms are really getting peanuts under the current system, while corporate agriculture is living high on the hog.” (Groppe, 2007).

As a result of the many definitions surrounding family farms, public perceptions of the family farm remain rather vague. In contrast, ERS defines a family farm rather specifically—operator ownership and control determine family farm status. ERS designates a family farm as any farm where the operator, and individuals related to the operator by blood, marriage, or adoption, own more than 50 percent of the business.

The ERS definition captures a very broad range of farms. An operator who owns the entire farm business clearly qualifies as a family farm. However, an operator whose family owns 51 percent of the farm business also qualifies under the ERS definition, even though the operator may choose to incorporate and find investors.¹⁷ ERS’s definition of family farms includes sole proprietorships, partnerships, and even corporations, as long as the principal operator’s family owns more than half of the farm business. Only farms with ownership that is separate from management (a hired manager runs the farm), partnerships and cooperatives among unrelated people, and operations organized as estates, trusts, grazing associations, and corporations with dispersed ownership do not qualify as family farms.

In 2006, ERS identified 97 percent of all farms in the U.S. as family farms, including 92 percent of farms with agricultural sales of \$250,000 or more. These farms generated 84 percent of total U.S. agricultural sales. Nonfamily farms accounted for only 1 to 11 percent of U.S. farms, depending on the sales class (fig. 11, table 1).

It is not surprising that almost all U.S. farms qualify as family farms. The Small Business Administration identifies over 97 percent of all U.S. firms as small businesses (defined as businesses with less than \$750,000 in sales in a year). Overall, families run most small businesses in the United States.

Alternative Family Farm Criteria

To define a family farm, ERS requires that the operator’s family own more than 50 percent of the business. ARMS also collects data on whether the principal operator’s household (those living in the operator’s housing unit)

¹⁷Ownership of the farm does not require ownership of land or, for that matter, any inputs to production. The owner of the farm is the individual (or set of individuals) who receives the gains (or incurs the losses) from the farm business after paying for the factors of production (land, equipment, labor, etc.).

Figure 11

How many farms were nonfamily farms in 2006?



Source: USDA, Agricultural Resource Management Survey, 2006.

owns the entire business. This information is used to gauge how sensitive the farm coverage is to variation in share of ownership of the family farm.

Other groups use alternative definitions of the family farm, often imposing explicit or implicit size constraints. The National Family Farm Coalition requires that “the family provides the vast majority of labor and management decisions.”¹⁸ The Ohio Family Farm Coalition calls for “the farm’s ownership, assets, management, and major decisions [to be] controlled by at least one family member on the farm.”¹⁹ Researchers have weighed in with their own definitions. Daniel Sumner proposed that either the operator generate a significant portion of household income or that the operator’s primary occupation lie in the agricultural sector, while no more than three extended families can run the operation and the farm must provide at least half-time employment for an individual (Sumner, 1985). Breimyer and Frederick (1981) required that a family farm must supply more labor than it hires, must own some of the land operated, and cannot employ production contracts, since they limit managerial discretion.²⁰ Finally, World Hunger Year (WHY), an organization with the stated aim of fighting hunger and poverty, requires that a family farm operate fewer than 1,000 acres and not qualify as a confined animal feeding operation (CAFO).²¹ Overall, three criteria appear consistently in these alternative definitions of the family farm: labor, land ownership, and size restrictions.

ERS’s family farm definition can be compared with the definition that states the operator’s household must own 100 percent of the business. In addition, by imposing household labor supply restrictions, land ownership requirements, and explicit size limitations, we can explore how the ERS classification of farms and sales into either family or nonfamily farms would be altered (table 4, fig. 12). The proposed screens (sales, off-farm income share of total household income, and off-farm income screens) can then be compared with the various family farm definitions to explore the screens’ coverage of family farms.

¹⁸For more details on the National Family Farm Coalition, see <http://www.nffc.net/learn/page-learn.html>.

¹⁹For the Ohio Family Farm Coalition statement, see <http://www.geocities.com/RainForest/2727>.

²⁰For more details, see <http://extension.missouri.edu/xplor/agguides/agecon/g00820.htm>.

²¹For more details, see <http://www.yhunger.org/programs/fslc/topics/family-farms.html>.

Table 4

Family farms defined under different criteria, 2006

Farms, sales, and criteria	More than 50 percent held by operator & relatives (ERS definition)	100 percent held by opera- tor & household (Alternative definition)
	<i>Number</i>	
Total farms	2,083,674	2,083,674
	<i>Percent</i>	
Ownership criteria alone—		
Farms:		
Family farm	97.1	89.1
Nonfamily farm	2.9	10.9
Sales:		
Family farm	84.0	60.1
Nonfamily farm	16.0	39.9
Ownership criteria and operator and spouse provide half the labor—		
Farms:		
Family farm	87.4	82.1
Nonfamily farm	12.6	17.9
Sales:		
Family farm	44.1	38.7
Nonfamily farm	55.9	61.3
Ownership criteria and operator owns at least 75 percent of acres operated—		
Farms:		
Family farm	68.7	63.8
Nonfamily farm	31.3	36.2
Sales:		
Family farm	34.9	24.9
Nonfamily farm	65.1	75.1
Ownership criteria and 1,000-acre farms and/or CAFOs ¹ are excluded—		
Farms:		
Family farm	88.9	82.8
Nonfamily	11.1	17.2
Sales:		
Family farm	41.5	33.7
Nonfamily	58.5	66.3

¹ CAFO = confined animal feeding operation

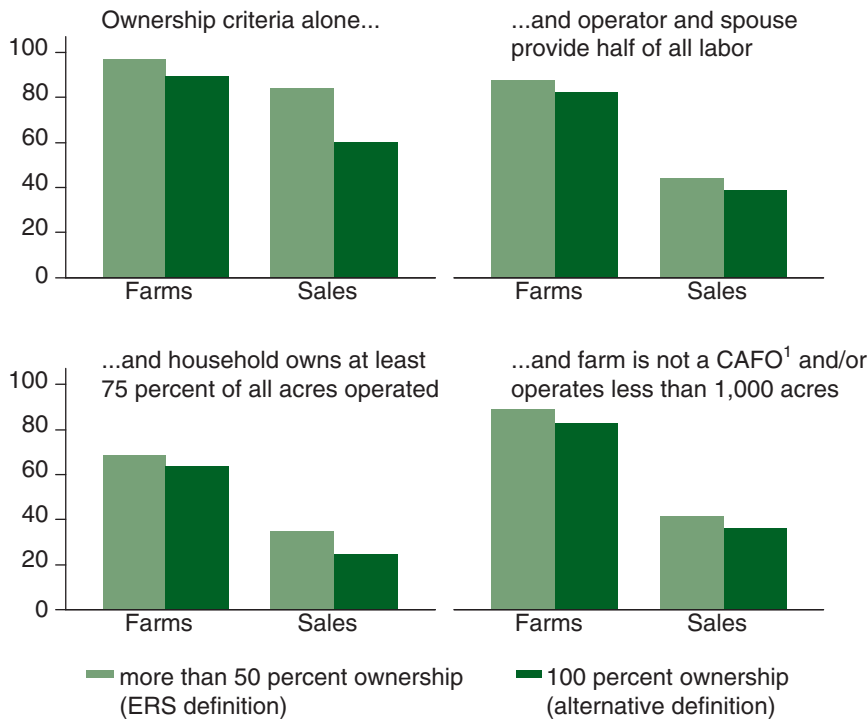
Source: USDA, Agricultural Resource Management Survey, 2006.

If the principal operator's household must own the entire farm business to qualify as a family farm, the percent of all farms defined as family farms would drop from 97 percent to 89 percent, inducing a 24-percentage-point shift in sales of all agricultural goods from family to nonfamily farms in 2006. As farm size increases, fewer farm households own the entire operation.

Under some of the definitions noted previously, the operator and the spouse must provide at least half the labor on a farm for the farm to be considered a family farm. This would place strict limits on the size of labor-intensive operations (e.g., fruit and vegetable farms and some livestock operations such as dairies and hog operations). As a result, such labor restrictions

Figure 12

Family farms defined under different criteria, 2006



¹CAFO = confined animal feeding operation.

The first definition requires that the principal operator and family (related by blood) own more than half of the farm. The second definition requires that the principal operator's household owns 100% of the farm business.

Source: USDA, Agricultural Resource Management Survey, 2006.

would focus heavily on smaller farms, inducing a substantial drop in both the number of farms qualifying as family farms and the sales generated by family farms. The ERS definition combined with this labor criterion means that roughly 87 percent of all farms would qualify as family farms. In 2006, those farms generated an estimated 44 percent of all U.S. agricultural sales. Comparable, but slightly steeper, drops occur using the alternative definition (100-percent ownership of farm by the operator's household) combined with this labor criterion.

Land-ownership restrictions constrain the size of the family farm under some definitions—not many families with very large farms own all of the land they farm, nor would it necessarily be wise to pursue such an undiversified investment strategy. Families associated with smaller operations often own more of their land and tend to rent land to, rather than from, others. Younger farmers, particularly those involved in growing field crops, would be penalized by such land-ownership restrictions as they are less likely to have accumulated enough wealth to purchase costly farmland and often rent most, if not all, of the land they operate.

If a farm operator's household must own at least 75 percent of the land it operates and 50 percent of the farm business to qualify as a family farm, roughly 69 percent of farms in the country would be classified as family farms, generating one-third of all agricultural sales. Using the more strin-

gent business ownership criterion (the household owns the entire operation) combined with the land-ownership criterion, family farms would make up an estimated 64 percent of all U.S. farms and would generate one-quarter of all agricultural sales.

These last two definitions strongly, yet implicitly, focus attention on smaller farms. The next definition explicitly introduces size constraints by restricting family farms from operating 1,000 acres or more and eliminates any farm that qualifies as a confined animal feeding operation (CAFO).²² ARMS does not collect much of the information required to identify CAFOs.²³ A farm is therefore conservatively defined as a CAFO if it has at least 700 milk cows, 2,000 cattle, 10,000 hogs, or 125,000 birds.

Under the ERS definition, combined with the 1,000 acres and/or CAFO restriction, almost 90 percent of all U.S. farms still qualify as family farms, but these farms only generate approximately 40 percent of total U.S. agricultural sales. Under the alternative definition (the household owns the entire business) combined with the size and CAFO criteria, an estimated 83 percent of farms qualified as family farms, producing just over one-third of all agricultural sales. While adding explicit size limits to the family farm definition does not reclassify many farms as nonfamily farms, the largest farms in terms of total production become classified as nonfamily farms, indicating that this screen assigns a much larger share of production to nonfamily farms.

The Screens and Family Farm Definitions

Given the central place that family farms hold in U.S. farm policy, how would they fare under the “actively engaged” screens discussed previously? The different family farm definitions explored give rise to different distributions of family versus nonfamily farms (table 4). Considering the labor, land, and CAFO definitions along with the various proposed screens aimed at establishing Federal aid eligibility provides an idea of how the family farm, as perceived by various groups, would fare under the different screens (table 5).

If a farm business needed at least \$10,000 of agricultural sales to receive Federal assistance in 2006, 43 percent of all U.S. farms would have been eligible for payments, generating 98.5 percent of all U.S. agricultural sales. An estimated 41 percent of all U.S. farms would have qualified as family farms eligible for Federal assistance, generating over 83 percent of all U.S. agricultural sales. Significant reclassifications of farms, and especially the associated sales, take place using the other definitions of a family farm. Using both the labor definition and CAFO definition, the result would have meant approximately one-third of all farms qualified for Federal assistance as family farms, generating between 40 and 42 percent of all U.S. agricultural sales. The land definition would have the largest impact on the family–nonfamily farm split, classifying roughly 21 percent of all farms as family farms eligible for Federal assistance, generating just over one-third of all U.S. agricultural sales. If the sales screen were raised to \$50,000, a large percentage of family farms with small sales would become ineligible for farm payments, while those remaining eligible (family and nonfamily combined) would have still produced more than 94 percent of all U.S. agricultural sales in 2006.

²²To qualify as a confined animal feeding operation (CAFO), an operation must confine animals in an area with no vegetation for at least 45 days in a 12-month period. Sheer numbers determine if an operation qualifies as a large CAFO. Medium CAFOs confine fewer head of livestock, but to be designated as such, must also have either a manmade conveyance to surface waters or a stream running through the confinement area that could allow pollutants to contaminate surface waters. Small CAFOs, by contrast, must be designated as such by the permitting authority.

²³For example, ARMS does not collect information on the number of days livestock are confined, the manure system in place, or livestock weights, etc.

Table 5

Percent of U.S. farms (percent of U.S. sales) by farm type, family farm definition, and statistical screen, United States, 2006

Screen	Sales		Off-farm income as share of total household income			Off-farm income		
	Nonfamily Farms	Family Farms	Screen	Nonfamily Farms	Family Farms	Screen	Nonfamily Farms	Family Farms
<i>ERS definition - Owned and operated by family members</i>								
<i>Percent</i>								
\$10,000 or more	2.0 (15.4)	40.7 (83.1)	< 50 percent	2.9 (15.3)	17.7 (60.0)	< \$100,000	2.9 (15.3)	79.1 (74.0)
\$50,000 or more	1.5 (15.3)	22.5 (79.1)	< 25 percent	2.9 (15.3)	12.6 (48.2)	< \$50,000	2.9 (15.3)	45.3 (58.2)
<i>Labor definition – Operator and spouse provide at least half of labor on farm</i>								
\$10,000 or more	8.6 (55.8)	34.1 (42.7)	< 50 percent	6.4 (48.0)	14.2 (27.3)	< \$100,000	10.1 (49.5)	71.9 (39.5)
\$50,000 or more	6.6 (55.4)	17.4 (39.0)	< 25 percent	5.6 (43.1)	9.9 (20.4)	< \$50,000	7.5 (43.0)	40.7 (30.2)
<i>Land definition – Operator owns at least 75 percent of operated acres</i>								
\$10,000 or more	21.8 (64.9)	20.9 (33.6)	< 50 percent	11.8 (51.9)	8.8 (23.4)	< \$100,000	27.4 (59.5)	54.6 (29.5)
\$50,000 or more	14.8 (63.3)	9.2 (31.1)	< 25 percent	9.1 (44.4)	6.4 (19.1)	< \$50,000	18.2 (49.9)	30.0 (23.3)
<i>CAFO definition – Farm is not a confined animal feeding operation (CAFO) and has < 1,000 acres</i>								
\$10,000 or more	9.9 (58.4)	32.8 (40.1)	< 50 percent	7.7 (50.5)	12.9 (24.8)	< \$100,000	10.0 (53.4)	72.0 (35.6)
\$50,000 or more	8.4 (58.0)	15.6 (36.4)	< 25 percent	6.4 (44.8)	9.1 (18.7)	< \$50,000	8.1 (46.4)	40.1 (26.8)

Note: ERS definition of a family farm requiring family ownership and control of the operation underlies each family farm definition outlined above. For example, the labor definition (the operator and spouse provide at least half of labor on the farm) is in addition to requiring that more than 50 percent of the farm business is owned by those related through blood, marriage, or adoption to the principal operator. Land and CAFO definitions are similar.

Source: USDA, Agricultural Resource Management Survey, 2006.

If program eligibility required 50 percent or more of total household income to be generated on the farm, almost 21 percent of all farms—accounting for over three-quarters of all agricultural sales—would have qualified for Federal aid in 2006. While roughly 13 to 18 percent of all farms would have qualified as eligible family farms using either the ERS, the labor, or the CAFO definition of a family farm, the percent of sales generated by eligible family farms under these alternative definitions differs widely. Under the ERS definition, 60 percent of all U.S. agricultural sales would have been from eligible family farms in 2006, while the production of eligible family farms under the labor and CAFO definitions would have accounted for roughly one-quarter of all U.S. agricultural sales. Again, the land definition has the most pronounced effects, with nearly 9 percent of all farms as family farms that obtained at least half of their income from the farm business, producing roughly 23 percent of all U.S. agricultural sales. Increasing the amount of income that must come from the farm to 75 percent of total household income would have small effects, especially for nonfamily farms, with the land definition classifying the fewest as eligible family farms.

Finally, if Federal aid eligibility required that the farm household generate less than \$100,000 in off-farm income, 82 percent of all U.S. farms would have qualified for assistance in 2006. But again, the split between family and nonfamily farms varies considerably depending on the definition of a family farm. Under this screen, the labor and the CAFO definitions reclassify a relatively few, larger farms as nonfamily farms. While between 70 and 80 percent of all farms would have remained family farms eligible for aid under the ERS, labor, and CAFO definitions, the ERS definition classifies roughly three-quarters of all sales as coming from eligible family farms, while the labor and CAFO definitions attributed between 36 and 40 percent of all U.S. agricultural sales to eligible family farms. The land definition again appears the strictest, categorizing nearly 55 percent of farms as eligible family farms that produced roughly 30 percent of all U.S. agricultural sales. Decreasing the level of off-farm income to less than \$50,000 causes roughly an additional one third of all U.S. farms to become ineligible for Federal programs. Despite this drop in eligibility, those eligible (both nonfamily and family farms) for aid under the land definition still generate nearly 75 percent of all sales.

Alternative definitions of the family farm place some implicit or explicit limits on farm size, which can substantially reclassify farms, and especially sales, from family to nonfamily farms. The land definition appears to be the strictest, resulting in large shifts of both farms and reported sales from family to nonfamily farms. Although the labor and CAFO definitions have much more modest shifts in numbers of farms, the shifts in sales between family and nonfamily farms remain substantial.

While alternative definitions of the family farm can reclassify substantial numbers of farms and sales between family and nonfamily farms, a small number of farms would not meet any definition of a family farm. Most of these operations tend to be partnerships and closely held corporations with unrelated owners. A few nonfamily farms qualify as the mega-farms mentioned by Murdock. These farms generate very large revenues across many agricultural industries.

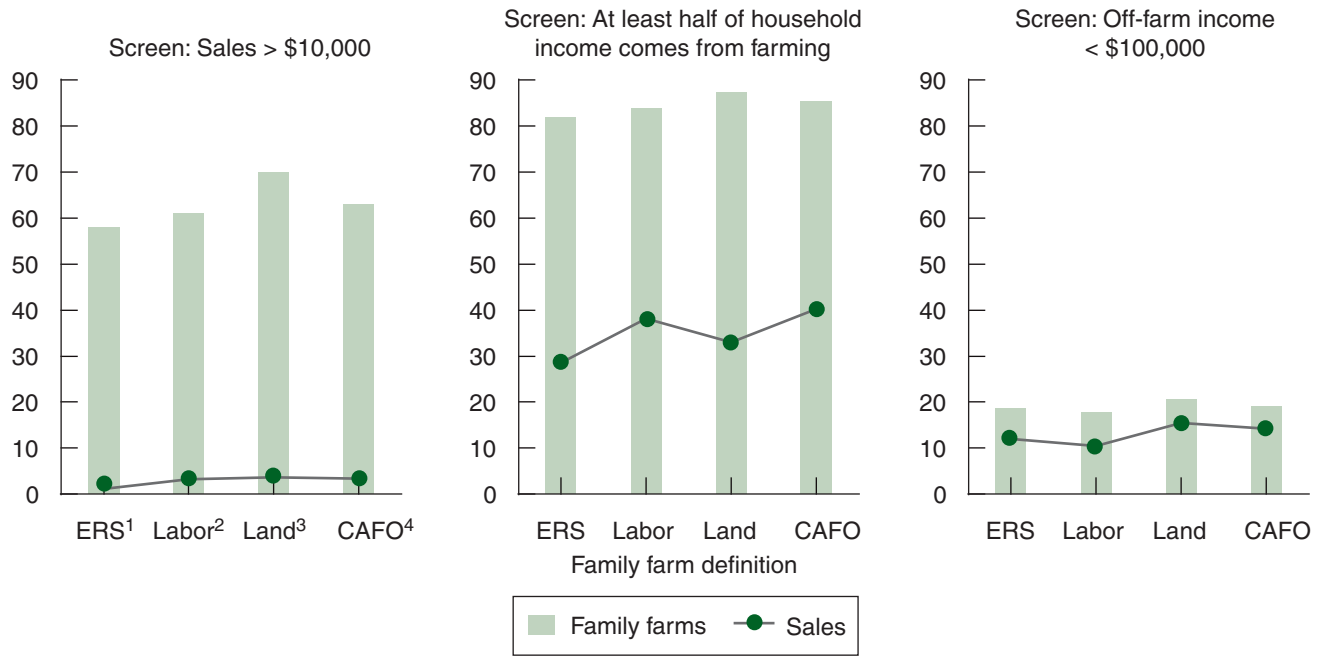
For example, Smithfield Foods, the world's largest hog producer and pork processor, generated total revenues close to \$12 billion in 2007. Del Monte generated over \$3 billion in net sales in 2006 producing, among other goods, fresh and processed fruits and vegetables. Alico, Inc., another large corporation, produces, among other goods, citrus, sugarcane, and cattle in Florida, generating over \$77 million in total revenues in 2006. While corporate farms make up a relatively small share of nonfamily farms (15 percent), they accounted for almost half of nonfamily farm production in 2006.

Regardless of the definition used, family farms make up the majority of farms. Despite large differences among family farm definitions, the type of screen appears to have a much more significant impact on the number of family farms eligible for Federal assistance than the definition used. Indeed, a large percentage of family farms would become ineligible under two of the three "actively engaged" screens ("sales" and "household income from farming") no matter which family farm definition is considered here (see fig. 13).

Requiring operators to rely on the farm for most of their household income would likely have the greatest impact on the number of family farms quali-

fyng for Federal assistance. Depending on the definition of family farm used, requiring farm income to account for at least 50 percent of household income would have disqualified 82 to 87 percent of family farms and between 30 and 40 percent of family farm sales in 2006. Requiring annual farm sales of \$10,000 or more would have disqualified 58 to 70 percent of family farms and less than 4 percent of family farm sales. Disqualifying farm operators earning \$100,000 in off-farm income would have reduced the number of family farms eligible for assistance by 18 to 20 percent, and the amount of sales from family farms by 10 to 15 percent.

Figure 13
Percent of U.S. family farms and sales that become ineligible for Federal assistance, by screen and definition



¹ ERS definition = Owned and operated by family members.

² Labor definition = Operator and spouse provide at least half of labor on farm.

³ Land definition = Operator owns at least 75 percent of operated acres.

⁴ CAFO definition = Farm is not a confined animal feeding operation (CAFO) and has less than 1,000 acres.

Source: ERS calculations based on USDA, Agricultural Resource Management Survey, 2006.

Conclusion

Businesses designated as farms in the U.S. range from small operations with little or no production to operations with thousands of acres and thousands of head of livestock. Sales, expenses, off-farm income, labor allocation decisions, and the amount of government payments received also represent some of the attributes that vary considerably across farms producing similar outputs. Across farms producing different goods, these categories can vary even more.

USDA uses a very broad definition of the farm (any place that could produce at least \$1,000 worth of agricultural goods in a given year) to monitor the health and productive capacity of the entire agricultural sector. On the one hand, using such a broad definition means that a large share of land in agriculture gets accounted for, which may be important for conservation or estate transfer policies. On the other hand, the majority of farms captured by this definition produce very little output and generate minimal sales, while a relatively small number of very large farms produce the bulk of agricultural goods and sales in the United States. As a result, the statistics generated for the farm sector as a whole need to be carefully interpreted.

Recognizing this, policymakers have sometimes tried to aim Federal agricultural programs at those farm households deemed actively engaged in agriculture. Recently, proposals aimed at refining the definition of “actively engaged” have arisen in an attempt to target payments more precisely to their intended recipients.

Several screens have been proposed to help better target Federal assistance to intended recipients. A sales screen could be used to identify those farmers that produce and bring to market substantial amounts of agricultural goods. However, careful implementation would be required to ensure the inclusion of farm households that may have produced (or tried to produce) substantial levels of output, yet had little or no sales.

The share of income from farming also has been proposed to identify actively engaged farmers. In general, the more heavily the household relies on farming for income, the more actively engaged in farming the operator is likely to be. However, the link between production and income is not straightforward; higher than expected costs, bad luck (weather, pest infestations, animal disease), and even capital equipment investments (which can lead to high depreciation expenses) can radically lower income levels from farming, making this type of screen unreliable as a measure of active engagement.

A third proposal uses off-farm income levels to help distinguish between operations where the farmer is actively engaged in farming from those operated as part-time or hobby farms. High levels of off-farm income suggest that the operator does not rely heavily on the farm for income, while lower levels increase the likelihood that the farmer is actively engaged in farming. However, households of small farms with low levels of agricultural sales can also generate low levels of off-farm income, while the households of large farms with very high levels of agricultural sales can also produce high levels of off-farm income. In general, most farm households generate substantial

levels of off-farm income, making it unclear whether or not this screen would allow policymakers and program managers to target their intended recipients better.

While screens might help target Federal aid to farmers, both the choice and the implementation of an appropriate screen require careful consideration. Important subsections of the agricultural population, such as beginning farmers, socially disadvantaged farmers, and limited-resource farmers, could be excluded from Federal assistance if any of the screens explored in this report were applied without exceptions. Additionally, the screens explored in this report may not work well if policymakers wish to pursue environmental goals rather than ensuring that Federal assistance accrues to those who are actively engaged in agriculture.

U.S. agricultural production has been shifting to larger and larger farm operations over time, raising the question of how the screens that may help identify actively engaged farms might affect family farms. As defined by ERS, 97 percent of all farms in the U.S. are family farms, generating 84 percent of all agricultural sales. However, other groups use varying definitions of the family farm that either implicitly or explicitly involve farm size constraints, excluding larger farms from being classified as family farms. Consequently, while most farms tend to remain family farms under all the various definitions examined, adding labor, land, and confined animal feeding operation (CAFO) restrictions to the definition of a family farm significantly redistributes production (sales) to nonfamily farms.

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