

Introduction

About 717,100 farms in the U.S. went out of business—or exited—between 1992 and 1997. But the total number of farms declined by just 13,400 because the number of entries (703,700 farms) nearly equaled exits. In fact, the farm count has remained relatively stable since the 1974 Census, reflecting exits and entries essentially in balance (fig. 1).¹

This report assesses the forces driving farm exits since 1978, after the farm count stabilized, using the 1997 Census of Agriculture Longitudinal File. The USDA’s National Agricultural Statistics Service (NASS) created the longitudinal file from five agricultural censuses to follow individual farms—rather than operators—from 1978 to 1997. A farm is considered to exit, or go out of business, when there is no response to the census questionnaire or the establishment is no longer operating as a farm. Note that farms can continue to exist even if the operator leaves the business. For example, if someone buys a farm or assumes its operation upon retirement of the current operator and continues its operation as a separate business entity, the farm would be classified as a survivor, not an exit.

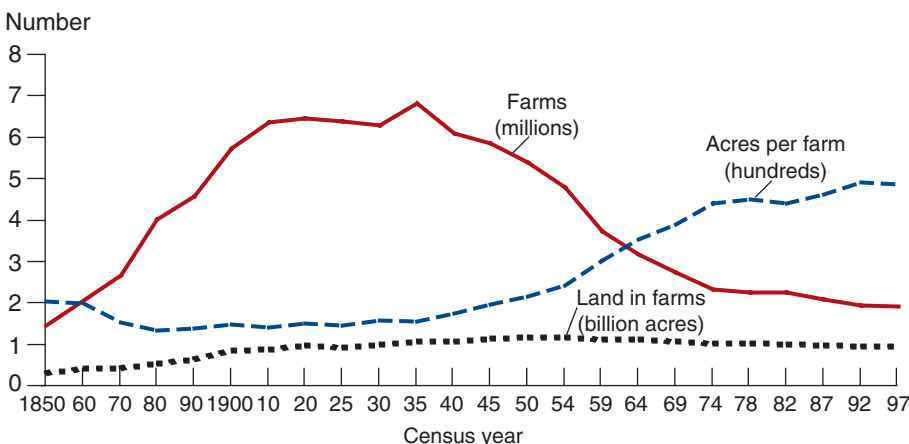
Importance of Exits

Understanding farm exits is important for three reasons. First, knowing which types of farms are most likely to exit might be useful to policymakers interested in the effects of exits on exiting farmers, the remaining farms, and farm communities.

Second, exits help reallocate resources between farming and other economic activities and within the farm sector itself. For example, exits were substantially larger than entries between 1935 and 1974 (Gale, 1992, p. 26), and farm numbers declined by 4.5 million. This large decline resulted in a massive reallocation of labor from farming to other endeavors (Hoppe, 1994, p. 1).

¹The stable farm count extends to the 2002 Census of Agriculture, which is not included in the 1997 Census of Agriculture Longitudinal File analyzed in this report. The 2002 farm count is not directly comparable to counts from earlier censuses because the National Agricultural Statistics Service—which administers the census—began adjusting census data to correct for undercoverage in the 2002 Census. Adjusting the census farm count back to 1978 is possible (Allen and Harris, 2004), however, and the adjusted count from 1978 to 2002 shows the same trend as in figure 1.

Figure 1
Farms, land in farms, and average acres per farm, 1850-1997
Most of the decline in farms occurred between 1935 and 1974



Source: Compiled by ERS from census of agriculture data.

Third, farm exits—and farm entries—may play an important role in introducing technologies and productivity growth, as in other industries (see box “The Role of Exit and Entry”). Older, exiting farmers tend to downsize their operations and disinvest as they age. Farms absorbing their land, either recent entrants or surviving farms, are more likely to use newer technology and a more efficient mix of capital and labor.

The Role of Exit and Entry

Textbook analyses of nonfarm industries historically focused on how entry and exit are linked to industry growth (or contraction). Growing demand creates high profits, which attracts entrants, who expand industry production. Conversely, contracting demand creates losses, which induces exits and reductions in industry production. This framework led to a focus on barriers to entry and exit, factors leading to persistent profits or losses because the process of entry and exit is short circuited.

Economists have devoted greater attention to the study of entry and exit in recent years, and the studies have led to an altered focus (Bartelsman et al., 2004; Organisation for Economic Cooperation and Development, 2001). Today’s studies seek to better understand the processes of entry and exit and to assess how entries and exits are linked to productivity growth and the spread of innovations. These analyses, covering many industries in different countries, have also found some striking patterns, consistent with what we find in this report. First, entry and exit occur simultaneously in most industries, regardless of industry profits. Second, those entry and exit rates are substantial and, over intermediate periods of 5 to 10 years, can account for large shares of industry production.

Because entering and exiting firms account for significant shares of industry production, the process of entry and exit may be an important driving force in industry productivity growth. Growth in productivity comes about through adoption of new technologies and new ways of doing business. Frequently, those technologies and methods are spread through the entry of new firms that use them, replacing older firms that have not adopted them.

But even among firms with similar technologies, there is often a wide range of performance as some firms prove to be better organized and more efficient than others. The process of competition forces inefficient firms to shrink and to exit over time, while allowing more efficient firms to enter and grow. Thus, an effective process of entry and exit would be expected to speed the adoption of improved technologies and methods and spur the expansion of more efficient firms at the expense of less efficient firms.

The process is complicated in agriculture because farm businesses are closely tied to individual families, which means that a family’s life cycle has an important impact on entry and exit. We expect to see younger operators entering and older operators exiting or arranging for the business to be transferred to the next generation. As a result, the operator’s age plays an important role in farm exit. Older farmers often downsize their operations and disinvest as they exit. Entering (and surviving) farmers may use newer equipment and techniques, use a more efficient mix of capital and labor, and devote more time to farming.

Topics Covered

We begin this report by examining earlier literature on farm exits and discussing the longitudinal file. We estimate rates of entry and exit in farming and compare those findings to estimates for other industries and other countries. We then focus on exits because our data allow for a more accurate and detailed analysis of exits.

We apply a logistic regression model to the longitudinal file to investigate factors that contribute to farm exits and estimate exit probabilities for farms with different characteristics. We first show how exit rates vary with two fundamental drivers, farm size and operator age. Then we explore how exit rates vary with several additional farm and operator characteristics, controlled for farm size and operator age.

Note that the exit probabilities estimated from a logistic regression are conceptually different from the simple exit rates calculated by dividing exits by the number of farms in the beginning year of a given period. Exit probabilities simultaneously control (or adjust) for the operator's age and the size of the farm, while exit rates do not. Thus, probabilities estimated from logistic regressions are called "adjusted exit probabilities," or more concisely, "exit probabilities" in this report. The term "exit rate" is reserved for simple exit rates.

Our contribution to the exit literature is to provide a straightforward procedure for estimating exit probabilities that can be applied to any group of farms. In addition, we track those exit probabilities through time because exit probabilities for specific groups do change, sometimes dramatically. The 1997 Census of Agriculture Longitudinal File allows us to perform a more detailed analysis of farm exit than was possible previously.

As one would expect, exit is more likely for farms with operators who are at least 65 years old than for farms with younger operators. Exit probabilities are generally higher for small farms than for large farms. Farms specializing in beef are less likely to exit than are those specializing in hogs or cash grains. Likelihood of exit is higher for recent entrants than for older, more established farms, and combining farming with off-farm work decreases the probability of exit. Farms with female or Black operators are more likely to exit than are those with male or White operators.