Background
Farm Exit Literature

U.S. and Canadian literature is emphasized here, for two reasons. First, both the United States and Canada produce longitudinal files that link agricultural censuses and follow individual farms from census to census. Second, the two countries are similar in basic farm structure (Hoppe et al., 2004, p. 92; Whitener and Bollman, 1995). A few other countries have also produced and analyzed longitudinal files, but comparing results from these countries with those from the United States and Canada is difficult because of institutional differences.

Gale (1990) used a predecessor of the 1997 longitudinal file to calculate entry, exit, and survival rates in the United States. He found, among other things, that turnover in small farms is substantial and that most exiting and entering farms are small, measured in terms of sales. Gale (1994) also used longitudinal data to examine farm size over the operator's life cycle for North Dakota wheat farms, Illinois corn/soybean farms, and Wisconsin dairy farms. He found that young farmers and entrants generally have smaller farms than do older farmers and are less likely to own farmland. The farm businesses of young farmers and entrants also grow faster. Exiting farmers are older than entering farmers, and exits are concentrated among older operators.

Statistics Canada's longitudinal file—the Census of Agriculture Match—extends forward from 1966, based on the Canadian census of agriculture, which is conducted every 5 years. Articles of a descriptive nature were published in the early 1980s, using an early version of the file (Bollman, 1983; Ehrensaft et al., 1984). These articles documented relatively high exit and entry rates. For example, the exit rate for all Canadian farms was at least 30 percent for each 5-year period and even higher for particular groups, such as small farms. As stated in one of the articles, "Life in the farm sector, when looking at the farm operator population as a whole, thus appears to be distinctly Hobbesian: nasty, brutish, and short" (Ehrensaft, 1984, p. 824). Farm turnover was much more than suggested by the rate of net change between censuses. Factors that were important in explaining exits from agriculture in this work were farm size (measured in acres or sales) and age of the operator.
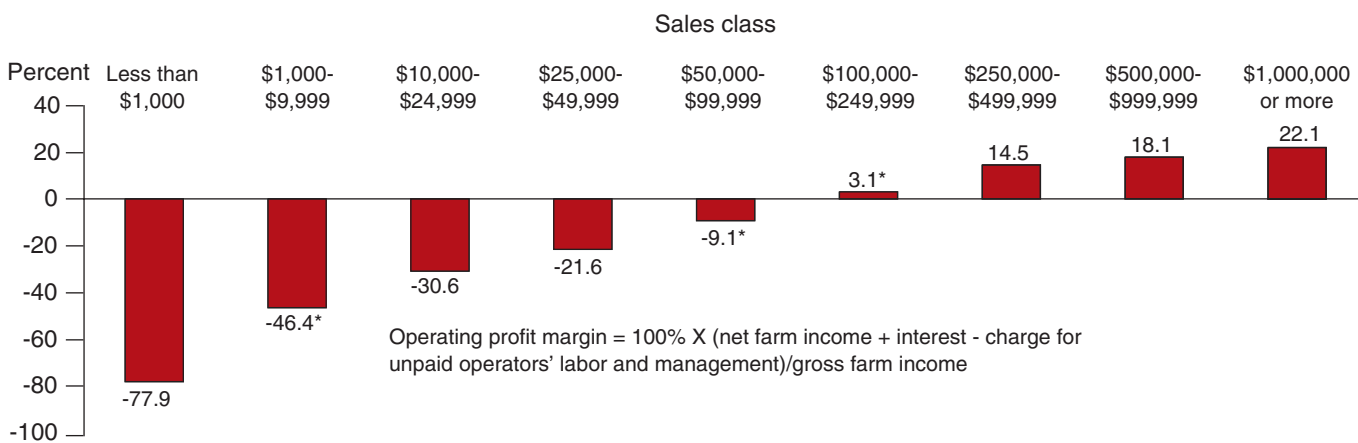
Another study using the Canadian data was more analytical. Kimhi and Bollman (1999) used a probit regression model to explain farmers' tendency to exit farming. Two data sets were used: Canadian longitudinal data from the 1966 and 1971 Censuses—for farms in Prince Edward Island, Nova Scotia, and New Brunswick—and Israeli longitudinal data from the 1971 and 1981 Censuses. In both countries, exit probability decreased with off-farm work and was higher for older farmers but increased with age much faster in Canada. The major difference between the countries was that exit probability decreased with farm size (measured in terms of land area) in Canada but increased with farm size in Israel, which may reflect institutional constraints on Israeli land sales.

These longitudinal studies indicate that operator age is an important factor in understanding farm exits because family farms—defined broadly here to

include sole proprietorships, partnerships, and family corporations—dominate U.S. agriculture (Hoppe, 1996, p. 2). Family farms accounted for 99 percent of all farms and more than 90 percent of farm sales during the 1978-99 period covered by the longitudinal file. Although larger family farms may be organized as family corporations or partnerships, the age of the farm tends to correlate with the age of the farmer.

Farm size, measured in land area or sales, is also important in understanding exits. Larger farms generally are less likely to exit, at least in the United States and Canada. One explanation may be that larger farms are more viable as commercial enterprises. For example, the operating profit margin increases with size and is positive only for farms with sales greater than $100,000 (fig. 2).

Figure 2

Operating profit margin by sales class, 1997

Operating profit margin increases with size

Sales class

Percent

| Less than $1,000 | $1,000-$9,999 | $10,000-$24,999 | $25,000-$49,999 | $50,000-$99,999 | $100,000-$249,999 | $250,000-$499,999 | $500,000-$999,999 | $1,000,000 or more |

40 —

20 —

0 —

-20 —

-40 —

-60 —

-80 —

-100 —

22.1

18.1

14.5

3.1*

-9.1*

-21.6

-30.6

-46.4*

-77.9

Operating profit margin = 100% X (net farm income + interest - charge for unpaid operators' labor and management)/gross farm income

*The standard error exceeds 25 percent of the estimate but is no more than 50 percent of the estimate.

Source: Compiled by ERS from the 1997 Agricultural Resource Management Survey (ARMS).