Results From the Base Model

Adjusted exit probabilities from the base model are consistent with exit rates from table 1. Exit probabilities decrease as sales class increases, and within any given sales class, the adjusted exit probability first decreases with operator age and then increases for older operators (fig. 5).

Adjusted exit probabilities are best understood by examining a specific example. Consider a 45-year-old farmer operating a farm with sales of at least $250,000 in 1992. The farmer has an exit probability of 24 percent between 1992 and 1997, which may seem high for a middle-aged farmer with sales at that level. The 24-percent exit probability is for a 5-year period, however, and appears more reasonable when annualized to a 5-percent chance of exit per year. A 5-percent annual exit probability falls within the range of exit rates estimated by the American Bankers Association (Stam et al., 2000). A 5-percent exit probability also means that the annualized survival probability is 95 percent (100 percent minus the exit probability). A survival rate that high implies a 36-percent probability that the farm will still be in operation when the operator is 65 years old (95 percent raised to the 20th power).

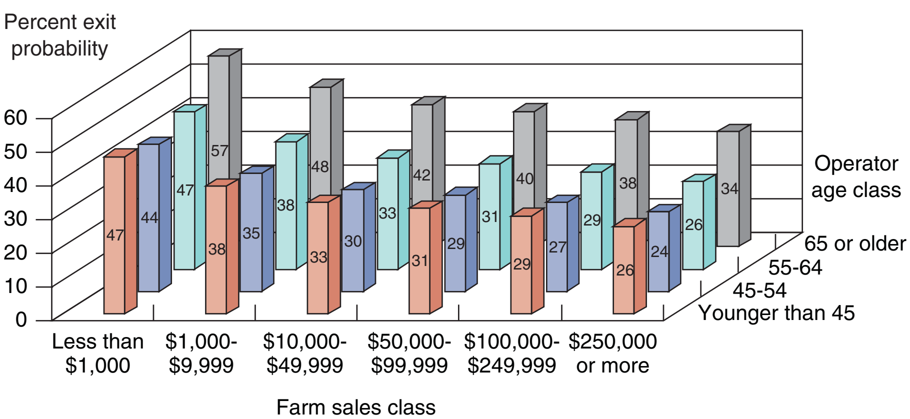
Figure 6 presents adjusted exit probabilities for each age class over time. We do not present exit probabilities for the 1978-82 period in figure 6 or in the rest of the report because the period—strictly speaking—is not comparable with the later periods. The 1978-82 period covers only 4 years instead of 5, and the 1978 Census incompletely covered low-sales farms. (See appendix III for more information about coverage in the 1978 Census.)

Within each age class, exit probabilities are fairly stable over time. Plots of exit probabilities by intercensus period generally fell within a fairly narrow band. Even the farm financial crisis of the 1980s had minimal effects on exit probabilities. The largely consistent exit probabilities over time also mean that the 1992-97 period can be emphasized in this report. Results for earlier periods are discussed later in the report only when exit probabilities shift over time.

Figure 5

Probability of exit between 1992 and 1997 by age and sales class in 1992

Probability of exit decreases with sales and is lower for middle-aged farmers



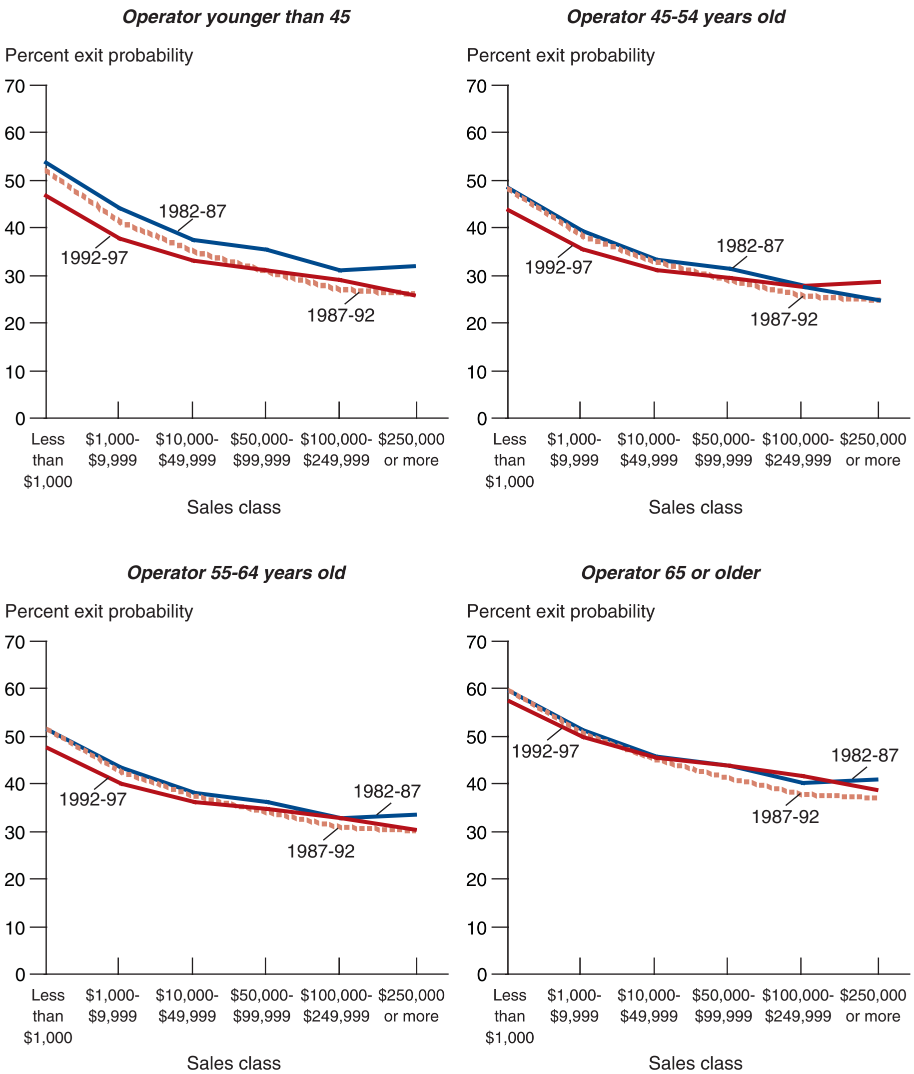
Note: Sales class is expressed in constant 1997 dollars, using the Producer Price Index for Farm Products to adjust for price changes.

Source: Compiled by ERS from the1997 Census of Agriculture Longitudinal File.

Figure 6

Probability of exit by age, sales class, and intercensus period

Exit probabilities are fairly consistent over time



Note: Sales class is expressed in constant 1997 dollars, using the Producer Price Index for Farm Products to adjust for price changes.

Source: Compiled by ERS from the1997 Census of Agriculture Longitudinal File.