COMPARISON OF ALTERNATIVE PROJECTIONS

Up to this point, we have presented projections of farm numbers and size distributions to 2000 for each of the four most frequently used projection methods. This chapter summarizes those projections and compares them for accuracy and reasonableness. A set of "most likely" projections were presented earlier.

All the projections point to a continuous decline in farm numbers, to about 1.75 million farms by 2000, although the estimate varies by the method used and whether the projection is by acreage or sales size. The trend extrapolation and Markov process analysis closely aprallel one another for acreage distribution, while the negative exponential function performs erratically. For sales distributions, the Markov process and age cohort analysis give very consistent projections; negative exponential functions again perform poorly.

Acreage distributions projected to 2000 by trend extrapolation, Markov process, and age cohort analysis are very consistent. Negative exponential functions probably underestimate the percentage of small farms, and overestimate that for medium-size and large farms (table 35). The projected total number of farms, based on the acreage distribution, varies from 1.7 million to 1.8 million in 2000. The small deviations among the methods give confidence in projecting the acreage distributions of farm numbers (fig. 11). Unfortunately, farmland acreage is not the best size measure. Frequently, sales receipts are preferred to farmland acreage as a size measure. Furthermore, the new definition of a farm adopted by the U.S. Department of Agriculture in 1978 makes it almost necessary to base projections on sales.

Total farm number projections based on the sales distribution vary more widely, however, ranging from 1.9 million to 2.1 million in 2000 (fig. 12). The large number of farms obtained from trend extrapolation is partly due to the erratic trend equation for farms with $20,000 to $39,999 in sales. Instead of projecting a downturn (a trend established from 1969 to 1974), an upward increasing trend is projected. Markov process and age cohort analysis, on the other hand, give very consistent projections.

Table 35--Comparison of alternative projections by size class in 2000

Alternative projections	Size of farm (acres)			Sales class		
	Less than 220	220 to 999	1,000 and over	Less than $20,000	$20,000-$99,999	$100,000 and over
	Percent of total farms					
1974 actual	69.8	24.8	5.4	72.0	22.8	5.2
Trend extrapolation	61.4	28.7	9.9	39.1	46.8	14.1
Negative exponential functions	34.6	51.0	14.4	5.8	20.1	74.1
Markov process	67.7	22.4	9.9	49.9	18.8	31.3
Age cohort analysis	69.5	21.7	8.8	51.8	15.5	32.8