Projected total numbers of farms and those for the medium-size groups (sales of $20,000 to $99,999) obtained from the trend extrapolation appear to be overestimated. This reflects another serious problem with this technique. Even though there was a consistent, increasing trend which occurred in the past, the number of farms may begin to decline at some point in the future. For example, despite the continuous, increasing trend for the number of farms with sales of $40,000 to $99,999, a decline in the number is projected by other techniques (table 45). Thus, a simple trend extrapolation fails to foresee that the trend can be reversed. Finally, the trend extrapolation, by failing to capture the effects of inflation on changes in farm numbers, makes a larger projection error. If inflation is higher in the future, then the number of farms in the upper sales classes is likely to be underestimated as evidenced in table 45.

The numbers of farms projected by negative exponential functions differ significantly from those obtained by other procedures and apparently have larger percentage errors. The number of projected small farms (sales of less than $20,000) is too low and the number of projected large farms (sales of $100,000 and over) is too high. The large projection errors when this technique is applied to sales distributions are expected, but projections by acreage distribution are not much better. The projected numbers of farms with 1 to 99 acres and 2,000 acres and over are much smaller than those projected by other procedures. On the other hand, the projected numbers of farms with 260 to 1,999 acres appear to be much too large, and present a discontinuity to the recent trends. In short, evidence suggests that while the distributional functions are stable over time, an empirical approximation of the true theoretical function shows a considerable discrepancy.

Table 45--Alternative projections of farm numbers by sales class, 2000

Sales class	1974 actual	Trend extrapolation	Negative exponential functions	Markov process	Age cohort
			1,000 farms		
Less than $2,500	1,101	456	13	640	655
$2,500-4,999	323	111	13	72	119
$5,000-9,999	319	90	29	108	100
$10,000-19,999	327	164	53	108	100
$20,000-39,999	328	443	102	88	100
$40,000-99,999	328	539	271	262	190
$100,000-199,999	99	188	354	168	600
$200,000-499,999	39	81	606	190	
$500,000 and over	11	27	417	226	
All farms	2,875	2,109	1,857	1,862	1,864