

## Numbers Differ Among Migration Measures

How many people move into and out of Minnesota? Which counties gain migrants, and how large are the gains? Answers to these questions depend in part on how migration is estimated. Four major data sources give broadly similar results at the state level, but in the analysis of individual counties, age groups, or components of migration, such as in-migration or out-migration, findings often diverge widely.

The four chief migration data sources are data based on the vital statistics (or residual) method from the State Demographer's Office, which subtracts natural increase (births minus deaths) from the total population change; the survival rate method, which compares actual population to projected population based on the number of people expected to survive, by age, also from the Demographer's Office; Internal Revenue Service data using matched tax returns; and 1990 decennial census data. Census data covers only the 1985 to 1990 period and data based on the survival rate method only the 10 years between 1980 and 1990. The other two sources allow migration to be calculated annually.

For the state of Minnesota, all sources show a net out-migration from 1980 to 1990, with greater net loss in the first half of the decade. The census and residual method data shows a turn-around to a net in-migration from 1985 to 1990, but IRS data continues to find a net loss. The IRS data shows the highest net out-migration over the 10-year time span. Examination of the results suggests the IRS does a better job counting out-migrants than in-migrants. Since IRS data is based on matched income tax returns, they undercount college students and other young adults, immigrants, newly divorced and separated people, and others who are likely not to have matchable returns.

IRS numbers for county migration often differ from the residual method, survival rate method and census numbers. The survival rate and residual methods produce very similar numbers for county-level migration, as they do for migration at the state level. In the great majority of counties, the IRS data gives the most positive results, that is, showed the most net in-migration or the least net out-migration. IRS data appears to underestimate migrants in many counties, with the best coverage occurring in suburban areas. Findings suggest that differences between age-specific migration numbers in the census and survival rate methods are often substantial, particularly for young adults and the very old.

### Different Methods Produce Varying Numbers

	1980-1990	1985-1990
<b>Residual Method</b>		
Net migration	(29,515)	24,049
<b>IRS Method</b>		
In-migration	746,290	393,731
Out-migration	815,036	396,461
Net migration	(68,746)	(2,730)
<b>Survival Rate Method</b>		
Average migration	(23,021)	
Reverse migration	(20,841)	
Forward migration	(25,201)	
<b>Census, including foreign migrants</b>		
In-migration		356,900
Out-migration		316,363
Net migration		40,537
<b>Census, excluding foreign migrants</b>		
In-migration		320,725
Out-migration		316,363
Net migration		4,362

Analyzing the different measures of migration is important because in most areas migration is the key component of population change. A baseline comparison of the various migration measures gives a better idea of the strengths, weaknesses and potential usefulness of each. Measures should also be evaluated because migration data probably will not be available from the census conducted in 2000.

This issue of PopBites summarizes findings from "Methods of Measuring Migration: Are the Results Similar?" a working paper by Martha McMurry. The working paper contains a description of the migration data sources and methods used to estimate migration. To receive a copy of the paper, call the Minnesota State Demography Office Helpline at (612) 296-2557 or write Minnesota Planning, 658 Cedar St., St. Paul, Minnesota 55155.

