Migration Signatures Tell Demographic Stories: County-level Net Migration by Age 1950-2000

Why Examine Migration Trends?
Visualize how Demographic and Social Changes Mutually Impact one another: Changes in the demographic structure of a population (e.g. population growth, decline, or changes in age structure) have important effects on the social fabric of communities. Likewise, social changes (e.g. a new college or nursing home, rising incomes, new transportation, business closures, etc.) impact the demographic structure. Migration “signatures” visually represent these stories. For instance, rising incomes in the 1990s (along with improved communications networks and faster transportation) allowed retirees to move to rural, natural amenity-rich destinations like Burnett and Vilas Counties. WI. These trends then experienced a rapidly aging population, along with population growth, which in turn impacts social structures in a changing rural landscape.

Planning for Growth: Signatures can help planners to better understand how patterns of population growth have occurred over time, how much growth is currently occurring and how much to expect in coming decades. This information allows planners to compare growth by age group over time and to prepare for differential growth by age. Migration information is pertinent in planning for social services, transportation, school enrollment, and more.

Planning for Decline: Signatures help counties to understand the number and the ages of people leaving their communities. This information is important for school enrollment projections and for community development projects. Understanding who is leaving might allow communities to better attract younger people (e.g. young people).

Planning for Change in Age Distribution: Migration can lead to changes in the age distribution of populations. College towns tend to have high in-migration of young adults and out-migration of 25-35 y/o adults. Retirement destinations and places where older people age in place while younger people move out, tend to experience rapidly aging populations.

For instance the median age of Vilas County, WI was 46 years in 2010, making it the oldest county in Wisconsin. Underpinning these migration signs is the concept that younger people move to urban areas to obtain opportunities for education and employment, while older people often want to live in quieter, more suburban environments.

County-level signatures can help us to predict future migration patterns and age structures of the population. When signatures are not constant, we can begin to see a typical suburban in-migration of young families with children since the 1960s. We also see in-migration of older adults (i.e. retirees), especially in the 1990s. For instance the median age of Vilas County, WI was 46 years in 2010, making it the oldest county in Wisconsin.

For this reason, signatures can help to predict future migration patterns and age structures of the population. When signatures are not constant, we can begin to see a typical suburban in-migration of young families with children since the 1960s. We also see in-migration of older adults (i.e. retirees), especially in the 1990s.

Word of Caution: When interpreting the signatures below, beware that the vertical scale is different in each graph. For instance, compare Anoka Co. and Kenosha Co.

Methods
We derived net migration rates by age for the decade between 1990 and 2000 by using the Balanced Equation of Population Change
\[ \Delta P = P_{1950} + M_{1960} - D_{1960} - I_{1960} \]
Where: \( P_{1950} \) - Population in 1950
\( P_{1960} \) - Population in 1960
\( D_{1960} \) - Death count
\( I_{1960} \) - In-migrants
\( O_{1960} \) - Out-migrants
See citations below for detailed methods description.

St. Croix County, WI: Net Migration Rates

- Net Migration Rate = \( \frac{P_{2000} - P_{1950}}{P_{1950}} \)
- 1950s: Net Migration Rate = 0.5
- 1960s: Net Migration Rate = 0.3
- 1970s: Net Migration Rate = 0.2
- 1980s: Net Migration Rate = 0.1

Vilas County, WI: Net Migration Rates

- Net Migration Rate = \( \frac{P_{2000} - P_{1950}}{P_{1950}} \)
- 1950s: Net Migration Rate = 0.7
- 1960s: Net Migration Rate = 0.4
- 1970s: Net Migration Rate = 0.3
- 1980s: Net Migration Rate = 0.1

Anoka County, MN: Net Migration Rates

- Net Migration Rate = \( \frac{P_{2000} - P_{1950}}{P_{1950}} \)
- 1950s: Net Migration Rate = 0.5
- 1960s: Net Migration Rate = 0.2
- 1970s: Net Migration Rate = 0.1
- 1980s: Net Migration Rate = 0.0

Kenosha County, WI: Net Migration Rates

- Net Migration Rate = \( \frac{P_{2000} - P_{1950}}{P_{1950}} \)
- 1950s: Net Migration Rate = 0.1
- 1960s: Net Migration Rate = 0.0
- 1970s: Net Migration Rate = 0.0
- 1980s: Net Migration Rate = 0.0

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Research supported by the U.S. Forest Service, North Central Research Station, under Research Joint Venture Agreement 00-JV11231300-075; and the U.S. Department of Agriculture, Economic Research Service, under Cooperative Agreement no. 43-36AM-2-800555