Internal Migration

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1 Introduction

Migration is a shared topic within social sciences attracting interest from members of all subdisciplines. This attention reflects both the importance of the flows and the complexity of the behavior. This article presents a short introduction to economic analyses of internal migration.

2 Theory

Since the seminal work of Sjastaad (1962) economists have recognized that migration is a form of human capital. In the simplest model of wealth maximization the fixed costs of moving are balanced against the net present value of earnings streams available in the alternative location. This framework explains the empirical phenomenon (first noted by Ravenstein (1885)) that migration is an activity primarily of the young. The young are most likely to move, according to the human capital perspective, for three related but distinct reasons. First, they should move to take advantage of economic opportunities as soon as they are independent economic actors. Second, the young have a longer horizon over which to amortize the fixed cost of migration; hence relatively small gains in earnings may

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tip the scales in favor of moving. And third, the young have fewer location-specific investments that serve to tie them to the current location (e.g., children).

In the forty-odd years since its publication Sjastaad's framework has been extended in a variety of ways.[1] Wealth maximization has given way to utility maximization, with uncertainty, information and local amenities given special attention. Perhaps the richest set of behavioral models appears in the development literature where models of family behavior incorporating notions of risk sharing, intergenerational transfers, and household bargaining have been developed.[2]

The vast majority of research on migration adopts a static framework, usually within a binary mover-stay decision framework. A classic example is Mincer's (1978) "Family Migration Decisions" which is an early contribution to the now-popular ear of decision making in multi-person households. Mincer assumes wealth maximization and that spouses have separate preferences and different opportunities across locations. His basic insight is that the location of an individual's maximum may not coincide with the location of joint maximum. Indeed, the location of the joint maximum may not coincide with the location of the individual maximum of either spouse. This gives rise to the concepts of "tied-movers" and "tied-stayers" and sharp predictions on who should remain married and who should separate. One of its interesting predictions is that the incidence of migration should increase soon after a divorce or separation (as the now independent individuals move from their "tied" locations). Mincer also predicted that these forces become stronger as women's labor force participation and earnings increase.

The limitations of a static framework are also evident in Mincer's paper.[3] Mincer conditions on marriage and does not investigate who marries whom (forward looking agents may consider the possible consequences of different spatial opportunities before consummating the match). And restricted to a single period, the analysis can not investigate the timing or temporal sequence of separation and migration. Indeed, to study temporal link-

[1]See Greenwood (1997) for a useful summary.

[2]See Lucas (1997) for a comprehensive summary and Stark (1991) for several "case studies" which tailor the model to a particular context or issue.

[3]It is noteworthy that to date no one has extended Mincer's work in a meaningful way.

ages of migration and other important life cycle choices (e.g., marriage, retirement) requires a dynamic framework. And as illustrated above, a static framework begs the question as to the nature of initial equilibrium. Allowing households to make multiple migration decisions substantially increases the model's complexity. Now the model must determine *where* and *when* to move. Moreover, prior moves influence subsequent opportunities, giving these models their own natural dynamics.

3 Empirical Implementation

One of the first empirical regularities gleaned from individual migration histories is their diversity.[4] The richness of the life histories appear in the diverse terminology describing the types of moves.[5]

Data from the National Longitudinal Survey of Youth (1979 Cohort) can be used to give an estimate of the magnitude of these flows. Using data through 1994 when cohort members were in their mid-30s, roughly 80 percent of the cross sectional sample had never moved out of their childhood State of residence, considered as their "home" State. Of the 20 percent of movers, more than half move again, and among the repeat movers, approximately 55 percent ever return to their home State. Interestingly, few differences appear by gender, but the proportion of movers is U-shaped in completed education — individuals with a high school degree move the least, whereas those with at some college or less than a high school education are more likely to move. [6]

To study the influence of labor market opportunities on migration, we would like to define locations corresponding to distinct local labor markets. Within the United States, if

[4]DaVanzo and Morrison (1981) is an early contribution.

[5]Concepts such as "repeat," (an individual's second or higher order move) "onward," (a move to a new location [all first moves are "onward"], and "return" (movement back to a previous location, most commonly the individual's childhood location or self-identified "home") appear. At an aggregate level, notions of "circular" and "chain" migration are commonly used.

[6]Long (1988, 1991, 1992) and the numerous reports of William Frey at the University of Michigan and the Brookings Institute (www.frey-demographer.org/reports.html) are among the best sources of descriptive evidence on internal migration flows in the United States.

we define local labor markets crudely as say equivalent to counties, the model admits a choice set of approximately 3100 elements.[7] Consequently, there is a fundamental tradeoff between the economic definition of locations and statistical measures available. For this reason many studies of internal migration use the decennial Census. Yet, the Decennial Census has its limitations, most importantly that virtually all individual and household characteristics are measured as of the date of the census. Census data offer detailed descriptive summaries of migration flows over narrow geographic regions, but with no measures of pre-migration characteristics are of problematic use for unraveling cause and effect.

Extending the analysis to panel data and multiple decision periods pose larger demands on the data and the analysis. Opportunities must be measure for each period of time, and some decision must be made on the persistence of economic opportunities. As in models of job search, the analyst must decide whether "recall" is available, do migrants have the ability to remember and possibly return to a previous wage offer? If so, the size of the state space within the dynamic program formulation increases exponentially with the agent's memory length. And, an important empirical challenge for dynamic analyses is sample attrition, as not being able to locate a respondent who has moved is one of the reasons for not securing an interview.[8]

Nevertheless, Bellman's Principle can be usefully applied to represent the decision problem of the individual (or household). Kennan and Walker (2005) adopts a dynamic programming approach for analyzing the migration histories within the National Longitudinal Survey of Youth, 1979 Cohort. We find that earnings are an important (economic and statistical) determinant of migration flows and its inclusion significantly improves the model's

[7]Models of residential choice and occupation are sometimes said to be isomorphic. From an empirical standpoint they are not. Models of occupation choice typically have relatively few alternatives, say five or ten, and educational or experience requirements or other characteristics offer a natural ordering to the occupational alternatives. See Neal (1999) for a recent contribution.

[8]Survey organizations quickly developed expertise on locating respondents in the early years of the large scale surveys such as the Panel Studies of Income Dynamics and The National Longitudinal Surveys. Most commonly, respondents are not interviewed because they refuse, not because they could not be located by the survey organization. See Olsen and Reagan (2000) for detailed information on the experience for the NLSY79.

fit to the migration flows within the NLSY79. Respondents in the NLSY79 are more likely to leave a poor local labor market but do not necessarily move to “the best” labor market as predicted by the model. Our findings are consistent with the interpretation that economic factors are an important determinant of migration, but not the *only* factor.

4 Conclusion - Research Frontiers

Research on internal migration flows remains on the research frontier. Models and analysis of life cycle migration is still in its infancy with plenty of room for growth. An important challenge to decision theorists is developing frameworks for understanding return migration - why it is optimal to leave and return home.[9] Investigating the timing and the relationship between migration and other life cycle choices such as marriage and retirement is another likely active research area. Certainly the migration behavior by Baby Boomers will be of increasing interest to federal and local policy makers.

There is broad consensus that economic and family factors are the primary determinants of internal migration flows. Yet, no analysis satisfactorily combines both factors. The barriers for doing so are more empirical than conceptual. The set of family members who may potentially influence migration choice is large with no consensus as to which relationships must be collected. Except for the central role of parents and children, there is little additional information to guide one’s choice. Obtaining information on the spatial distribution of family members and their avenues of influence (e.g, income pooling or information sharing) is time consuming and thus costly. The influence of broader social networks need also be considered. The Great Migration within the United States during the first half of the Twentieth Century illustrate the importance of social factors on migration streams. Migration research may offer another avenue to explore the influence of social interactions, and perhaps provide stronger ties among social science disciplines.

[9] Learning or more generally the resolution of uncertainty will be part of the explanation. For an early investigation based on learning, see Pessino (1991).

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