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New Developments in Understanding Why People Don't Move

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Abstract

This paper provides a non-technical summary of recent research on why people stay put rather than move, even in the face of adverse local economic shocks. I compare three frameworks for understanding migration: the moving costs model, the spatial frictions model, and a newer approach called the SPACE model. The models differ in their explanations of why individuals stay put. The moving costs model emphasizes financial or psychological barriers to migration, the spatial frictions model emphasizes lack of information or job opportunities, and the SPACE model emphasizes persistent preferences for one's current location. While the SPACE model best explains observed migration patterns, all three mechanisms operate simultaneously in practice. Therefore, successful regional policies should address all three: reducing barriers, providing information, and building community ties that make locations persistently attractive.

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migration, moving costs, spatial frictions, place-based policy, regional economics

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1 Introduction

In the United States, roughly 3% of people moved across state lines in 2024 (U.S. Census Bureau, 2024). At the same time, there is dramatic variation in economic opportunity across states and metropolitan areas. In 2023, the inter-quartile range across U.S. counties for per-capita GDP was over $26,000 and for county unemployment rate was 1.3 percentage points (author's calculations from BEA and BLS data sources). A persistent question in the urban and regional economics literature is why these regional disparities persist when labor is theoretically mobile.

The literature has traditionally explained that migration responses to adverse local economic shocks are muted due to high barriers to moving. In other words, labor is not as mobile as it seems. The leading paper, Kennan and Walker (2011), estimates that the average person faces a monetary cost of moving equal to $312,000. This number represents the total subjective value of staying put, not just moving expenses. Such large numbers are required to rationalize why, in the words of Kennan and Walker, "most people never move" despite the many alternative locations offering higher income.

A separate literature has explained the lack of migration by emphasizing that individuals face spatial frictions, arising from lack of information about opportunities in other places, or from lack of job opportunities in other places (Schmutz and Sidibé, 2019). Spatial frictions emphasize that people do not constantly consider moving to all other locations.

A third approach to explaining migration patterns is much more recent. Howard and Shao (2025) argue that people choose to stay where they are due to persistent preferences for their current location. Moreover, these preferences are also correlated across space through geographical distance or common geographic features, which is one explanation for why people move shorter distances when they do move. The authors call their approach the Spatially and Persistently Autocorrelated Epsilons (SPACE) model.

In this paper, I summarize and compare these three lenses through which migration dynamics can be viewed. The limitations of the moving costs model arise from overly restrictive assumptions that the spatial frictions and SPACE models directly address. I discuss ways in which these different approaches can be validated and reconciled. The SPACE model does

the best job of explaining observed migration patterns, but all three models are complementary to one another. Finally, I discuss the success of a recent regional policy, Tulsa Remote, and point out that its success can partly be explained by its design with all three models in mind.

2 The Moving Costs Model

The moving costs model dates back to at least Sjaastad (1962), which first formulated migration in terms of costs and benefits. The essential component in all migration models with moving costs is that people must pay a fixed cost whenever they move, where both monetary and non-monetary factors make up the cost. Viewed this way, moving is a human capital investment similar to attending college: there is a cost that must be paid up front, after which the benefits gradually accrue over an extended period of time.

More recent models have formalized this logic by treating migration as a dynamic optimization problem (see Kennan and Walker, 2011; Ransom, 2022, and many others). These models incorporate what economists call "preference shocks": idiosyncratic, unpredictable, or unobservable reasons why someone might suddenly prefer (or not) a particular location at a given time.[1] Because moving costs must be paid with each move, individuals need to account for their entire future path when deciding whether (and where) to move. A model that ignores this forward-looking behavior would predict excess mobility because it would fail to internalize the cumulative costs of multiple moves. Moreover, in order to keep these models tractable when estimated on actual data, three critical assumptions must be made: (1) all locations are under consideration in every time period; (2) individuals' preference shocks are random over space; and (3) individuals' preference shocks reset each period. The spatial frictions model addresses limitation (1) while the SPACE model addresses limitations (2) and (3).

The literature on dynamic moving costs models has consistently found that the cost is several times larger than the average person's annual income, although with values ranging

[1]For example, perhaps someone's significant other moves to a distant city for a job. This would be modeled as a positive preference shock for the new city because it is unrelated to the focal individual's observable situation.

from double to 10 times annual income. The magnitude and range of moving cost estimates has been the source of much discussion in the literature. Howard (2026) resolves the dispute by explaining that estimates of moving costs are highly sensitive to the setting and assumptions of the model (e.g., the time horizon of migration or the granularity of locations in the model). Hence, differing moving cost estimates may not be as comparable as previously thought.

Regardless of the exact value of the estimated moving cost, all moving costs models share a common policy implication: a one-time reduction in moving costs (e.g. through a moving subsidy) would encourage people to move, after which they would once more face high moving costs that would keep them in the new location.

3 The Spatial Frictions Model

As discussed above, one of the main limitations of the moving costs model is that it assumes that all locations are under consideration at all times. In reality, one might expect people to stop thinking about moving once they have settled in a preferred location. This could easily explain the well-documented negative correlation between time lived in a location and the likelihood of moving away.

The spatial frictions model relaxes assumption (1) of the moving costs model by imposing that individuals consider only a subset of all possible locations in each period. In the U.S., this would primarily arise due to either a lack of information about alternatives or because some jobs may only be available in certain locations. In other countries, barriers in the form of language, legal, or institutional constraints could be additional sources of spatial frictions.

Several recent papers illustrate the importance of spatial frictions. Schmutz and Sidibé (2019) estimate a model where job offers may only arrive from certain locations at certain times, and where people move only with an offer in hand. Thus, only locations from which an offer is received would be under consideration. They show that introducing labor market search frictions into a traditional moving costs model drives down the estimates of the moving costs by an order of magnitude. Another set of papers emphasizes lack of information as a source of spatial friction. Wilson (2021, 2022) shows that migration flows into fracking

regions followed news exposure about fracking. Porcher, Morales, and Fujiwara (2024) and Porcher (2025) generalize the basic locational choice model to show that costly information acquisition and rational inattention can act as barriers to mobility.

Debate continues regarding the role of information; Kaplan and Schulhofer-Wohl (2017) argue that modern technology has enhanced the ability to learn about a location before making a move, and hence has been a reason for declining migration in the U.S. and other developed countries. Balgova (2022) emphasizes the continued importance of "speculative moves" (i.e., moves without a job offer in hand) while recognizing the reality of spatial search frictions.

The policy implications of the spatial frictions model are different from those of the moving costs model. If information is keeping people from moving, then market efficiency and social welfare will improve if more information is shared. Moreover, as Wilson (2021) argues, information should be targeted to weak labor markets where the benefits of leaving are the greatest. In terms of job search frictions, the policy implication would be that improved job search technology can alleviate any migration-related market failures. For example, Balgova (2024) shows that online job boards such as Craigslist improved labor market matching across long distances.

4 The SPACE Model

While the spatial frictions model addresses the moving costs model's default assumption of every location being under consideration, it does not address the other default assumptions about spatial or temporal correlation in preference shocks. The SPACE model of Howard and Shao (2025) addresses these limiting assumptions by allowing for preference shocks to be correlated over both space and time. In economic terms, what the moving costs model attributes to "costs" may instead reflect stable underlying preferences. These features can intuitively explain well-known facts about migration. Persistence in preference shocks over time can explain low overall rates of migration (Winters, 2022), while persistence over space can explain why long-distance moves are less common than nearby moves.

The SPACE model also fits well with what we know drives moving decisions: job con-

siderations and proximity to family. These are the two most commonly reported reasons for moving (Jia et al., 2023, Fig. 3). A person who enjoys their job and whose job is tied to Cedar Rapids, Iowa will have a persistent preference for living in Cedar Rapids so long as they have their job. Similarly, a person with family living in Youngstown, Ohio will have a persistent preference for living in Ohio, Pennsylvania or West Virginia so long as their family stays in Youngstown.

The SPACE model's spatial correlation in preferences can be quite flexible. While geographic distance can be incorporated through correlation between adjacent locations, other notions of similarity can also be embedded. For example, a person might have a strong preference for sunny locations. This would induce persistent preferences not only for traditional sunbelt locations like California and Florida, but other sunny places like Colorado or Kansas (Albouy et al., 2016, Fig. A2.2). The SPACE model can simultaneously handle multiple dimensions of similarity by allowing Colorado to be correlated with both its neighboring states as well as with states that have mountains and states that are sunny. As another example, Wilson (Forthcoming) shows that county-to-county migration flows exhibit steep drop-offs at state borders. The SPACE model can accommodate preferences that are correlated among all counties in the same state but not with any counties in different states.

In summary, the SPACE model fills in the gaps left by the moving costs and spatial frictions models by presenting a fundamentally different philosophical interpretation of migration. At the heart of the difference is a crucial assumption about whether preference shocks are persistent through time and space or whether they randomly reset each time period. The policy implications of the SPACE model are also quite different from the other two models. Most notably, the SPACE model implies that successful place-based policies will need to help people's preferences become persistent in favor of the new location. This means more than simply subsidizing a move or providing information: it requires building ties to the location.

5 Validating the Three Models

Each of the three models reviewed here makes at least one assumption that cannot be tested in data. For the moving costs and spatial frictions models, commonly available data sets do not track which locations a person is considering moving to, nor do they track the locations from which a job offer is received. For the SPACE model, the structure and magnitude of the spatial and temporal correlation of preference shocks cannot be directly estimated using data. Economists refer to this as an "identification problem" because the model's estimates do not come from data alone; rather, they require a combination of data and untestable assumptions.

One recent paper (Koşar, Ransom, and van der Klaauw, 2022) has attempted to make progress on this identification problem by designing a household survey that asks people directly what their migration probabilities would be in several randomized hypothetical scenarios. The scenarios restrict the consideration set and remove uncertainty about job offers, so spatial frictions are eliminated. The survey also makes it possible to distinguish between moving costs and persistent preferences because it asks individuals to classify themselves as "rooted" in their current location (strongly embedded in the current location), "mobile" (open to moving if an opportunity arises) or "stuck" (wanting to move but facing constraints in doing so). The data indicate that the rooted make up 47% of people with the mobile being 42% and the stuck being 11%.

Koşar, Ransom, and van der Klaauw (2022) use the experimental data to compute people's "willingness to pay" to avoid having to move, as well as valuations about other locational attributes such as family proximity, taxes, and crime. They find that the average moving cost is $54,000 which is over five times smaller than that of Kennan and Walker (2011) and much closer to that of Schmutz and Sidibé (2019). This underscores the fact that estimates of moving costs in the literature have included other things beyond the willingness to pay. Lending credence to the SPACE model, Koşar, Ransom, and van der Klaauw (2022) estimate much larger average moving costs among the rooted ($155,000), than the stuck or mobile (under $27,000 each). The high rates of rootedness are also exactly in line with the SPACE model's assumption that preference shocks are persistent over time. The low rates of being

stuck imply that barriers to migration are not as large as the moving costs model imposes.

Howard and Shao (2025) further support the validity of the SPACE model by showing that it does a superior job of predicting certain migration profiles. One is that the proportion of people who currently live in a different state than they did t years ago does not evolve linearly as the moving costs model would predict, but rather evolves proportional to $\sqrt{t}$.[2] This means that migration rates increase more slowly over time, either due to return migration or increasing levels of settlement. Howard and Shao (2025) also show that the SPACE model does a better job of predicting the distribution of the number of moves over a t-year period, as well as patterns in outmigration from Louisiana after Hurricane Katrina in 2005.

6 Which Model is Best?

The discussion in the previous section points to the SPACE model as being superior at matching key patterns in the data. However, the SPACE model does not by default include moving costs, which Koşar, Ransom, and van der Klaauw (2022) show to still be important. Additionally, spatial search frictions are clearly important but Koşar, Ransom, and van der Klaauw (2022) hold them fixed, so their empirical relevance is unclear.

The good news is that it is possible to combine all three models into one. The SPACE model can accommodate the inclusion of moving costs and spatial search frictions. Indeed, Howard and Shao (2025) show two extensions of their SPACE model: one that incorporates moving costs and one that can be embedded into a housing market model.

Taken on its own, the SPACE model seems to perform the best of the three models. For example, Howard and Shao (2025) show that their combined SPACE and moving costs model does not make much different predictions than their baseline SPACE model. They did not evaluate a version containing all three models, so it is difficult to say with certainty that the SPACE model completely dominates.

The question then becomes how these competing frameworks inform practical policy

[2]They show that this relationship holds in multiple datasets (a consumer credit panel dataset and the Panel Study of Income Dynamics) and, in results not shown, I verify that this relationship also holds in the National Longitudinal Survey of Youth 1997.

design.

7 Policy Illustration: Worker Relocation Programs

How do all three models matter for policy? Worker relocation programs provide a good illustration of the implications of each. If the moving costs model is correct, then a city can pay non-residents to move there and they will stay. On the other hand, if information or job search frictions are the limiting factor, then the city ought to pay to advertise about local job opportunities and coordinate recruitment with local employers. Finally, if the SPACE model is correct, then the city needs to make their locale persistently more attractive, likely through community building efforts that help new movers develop lasting social ties.

One recent successful worker relocation program, Tulsa Remote, addresses the policy implications of all three models. Tulsa Remote combines a $10,000 moving subsidy with advertising efforts and local community building (e.g., by providing a coworking space, housing search assistance, local professional networking opportunities, and a built-in peer group) to achieve sustained success. Bartik (2025) and Yoo (2025) show that the program has positive effects on the local economy, while Dong (2026) estimates that the program brings in additional workers to Tulsa who are not affiliated with the program. Tulsa Remote stands in contrast to most other remote worker attraction programs that only offer monetary incentives (Dong and Rogers, 2025). Although no formal evaluation of these programs has been done, the SPACE model predicts that these programs will not be as successful as Tulsa Remote.

As further evidence on the necessity of a layered approach in line with the SPACE model's implications, Bergman et al. (2024) show that a program to help low-income households move to better neighborhoods required both housing vouchers and housing search assistance to be successful.

8 Conclusion

This paper reviews recent papers about migration in the economics literature. It compares three different frameworks that can explain why people do not move more frequently: moving costs, spatial frictions, and the SPACE model. Of these three models, the SPACE model best predicts migration patterns over space and over the life cycle.

Policy implications differ sharply across models. Reducing moving costs only helps those who are stuck in their current location, while information provision may only help those who are willing and able to leave. Those who are rooted in their current location, however, require persistent preference changes through community ties or other means. Tulsa Remote is a recent program that seems to be successful in part due to its acknowledgment of the SPACE model's implications.

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