PAA 2015 Abstract Submission

Title: "Temporary and Permanent Migrant Selection: The Role of Ability, Wage Expectations, and Familial Networks"

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I. Introduction

A growing literature focuses on understanding the drivers of selection into migration (Borjas, 1987; Chiquiar and Hanson, 2005; Akee, 2010; McKenzie and Rapoport, 2010; Grogger and Hanson, 2011; Bertoli et al., 2013; Kestner and Malamud, 2014). Just as our understanding of trade – the movement of goods and services – has become central to theories and policies for economic development, our understanding of migration – the movement of individuals and families – must become central to economic development moving forward. Remittances now far exceed official aid flows (Ratha et al., 2013). Moreover, migration has increasingly greater consequences for destination markets (Card, 1990; Borjas, 2005; Card, 2005; Borjas, 2006; Ottaviano and Peri, 2012). Understanding the relationship between migrants and their origin households informs the gains in welfare for source communities, while understanding whether a destination attracts high- or low-skill workers informs the shifts in productivity for destination communities (Docquier, Ozden, and Peri, 2014). To obtain a complete picture of the distributional consequences of migration, with regard to both spatial and economic inequality, one must consider both of these elements.

Despite recent advancements in modeling where migrants lie on the distribution of workers' characteristics at origin, social scientists have yet to converge on a single unifying theory to explain the empirical evidence around migrant selection. There is evidence of both positive and negative selection, in some cases for the same source-destination pair. Explanations for the lack of consensus range from empirical to theoretical. First, extensive data requirements often preclude such analysis. Information on migrants at their source and destination locations coupled with information on non-migrants at the source location is rarely available. Second, again a consequence of data limitations, most studies are unable to account for key factors believed to theoretically influence the migration decision, such as transportation/transaction costs, potential earnings, and the role of networks and information (Munshi, 2003; Bertoli, 2010; McKenzie and Rapoport, 2010; Beine, Docquier, and Ozden, 2011). But perhaps most importantly, prior studies largely fail to distinguish temporary and permanent migrants. The economics literature generally consolidates various forms of migration into one category. However, Galor and Stark (1990) note an important feature of migrants, compared to the native-born: they have the option, and perhaps the intention, to return to their location of origin, which itself influences their behavior.

The nature and strength of the connection between migrants and their origin households and communities is likely to play a key role in determining patterns of selection and, subsequently, the impact of migration on source and destination areas. For example, permanent migrants influence the actions of the origin household through their remittances, while temporary

migrants can exert influence through both monetary and non-monetary channels. That is, temporary migrants typically retain some direct decision-making power within the origin household, by virtue of their retained household membership. This non-monetary linkage is, in turn, likely to influence a broad spectrum of allocation decisions, ranging from saving and investment to children's education and occupational choice. Moreover, as a result of this linkage characterizing temporary migration, permanent and temporary migrants likely have very disparate motives for migrating—resulting in differing degrees of responsiveness to economic and social conditions, as well as different patterns of selection.

In this paper, we investigate what drives temporary versus permanent internal migration, and how migration drivers differ by type, using a unique panel survey of rural households in Pakistan spanning a 27-year period (1986-2013). We exploit two features of the survey to categorize migrants into temporary and permanent migration categories. First, in 2013, we tracked all individuals who had temporarily migrated or split from their original households since 1991. Second, all individuals aged 21-45 from the original 1991 households and newly formulated households were administered a five-year recall migration history module in 2013, including those not currently residing with the sample household. Individuals who split from their original household and are currently members of new households are characterized as permanent migrants, while those who are still considered members of the origin household are characterized as temporary migrants. Information from the migration history is then used to assign individuals to different categories of temporary migration.

Our survey also offers a unique array of detailed information to incorporate relevant measures of workers' attributes discussed in the existing literature. We collected Digit Span in addition to the Raven's tests incorporated in Kestner and Malamud (2014) to verify the robustness of different measures of ability. Detailed information on parental employment in 1991 is used to proxy occupational potential. Secondary data sources are used to construct measures of expected wage differentials across various locations in Pakistan. Lastly, knowledge of the movement of *all* individuals since 1991 allows for accurate measurement of the size and scope of migrant networks, based on historical migration rates at the community level. The tracking component of the panel survey as well as the incorporation of a migration history module allows us to make a second contribution to the literature in terms of identification. Because our 2013 questionnaire documents the location of individuals for every month in the last five years (2009-2013), we can further expand on the traditional econometric framework adopted in the literature by including village and time fixed effects. This reduces the potential bias stemming from unobserved trends and omitted time invariant factors at the village level.

II. Data and Empirical Strategy

A. Data

The International Food Policy Research Institute (IFPRI), in collaboration with Innovative Development Strategies (based in Islamabad), resurveyed individuals from IFPRI's original Pakistan Panel Survey (1986-1991) during 2013-2014. Rosters of individuals from 726 households were created based on the 1991 survey. Interviews of the original households commenced in September 2013, and the whereabouts of absent household members were

documented. All original 1991 household members, as well as all current members of newly formed "spin-off" households, who were absent from the household for reasons other than death, were eligible to be tracked. Seventy-eight percent of all absentee members who moved internally within Pakistan were tracked during the period of September 2013 through July 2014. Tracking ceased in July due to the security conditions in the field, which affected success rates and efforts to conduct international migration tracking efforts. Data entry and cleaning have just concluded in September 2014.

To construct expected wage differentials, we will use the 2008-9, 2009-10, 2010-11, and 2012-3 Labor Force Surveys collected by the Pakistan Bureau of Statistics. The simplest measure of expected wage differentials will consist of the difference in the market wage rate between the origin location and potential migration locations for workers of the same age, education level, and marital status, following Kestner and Malamud (2014). To compute the wage rate at potential migration locations, we will take a distance-weighted mean wage using data from all districts excluding the district of origin. Providing a distance-weighted mean places greater importance on the wage rate in districts closer to the district of origin, reflecting that the costs of migration are generally increasing in distance. We will also use information from all four surveys in a regression analysis to further disaggregate the expected wage differentials by time, providing time-varying wage differentials for our panel analysis.

B. Empirical Strategy

Our main objective is to test whether traditional determinants of migrant selection differ by the type of movement under examination: permanent or temporary. Migrant selection is modeled via a linear probability model (LPM) with separate regressions for permanent and temporary migration.[1] Given our unique panel dataset, we can improve our identification strategy by including village and time fixed effects in addition to current and historical markers of labor market potential. Our preferred specification for temporary migration considers whether an individual in each year *t* (of five) resided at a location distinct from his baseline location. Permanent migration reflects whether the individual moved from the baseline residence in period *t* and has relinquished his/her household membership as well. We subsequently demonstrate how adjustments in these migration definitions affect empirical estimates.

Ability, skills, and work experience reflect individual labor market potential. We incorporate two measures of ability which are independent of completed education: Digit Span and Raven's test scores. Earlier work suggests international migration selection is uncorrelated with ability as measured by the Raven's score (Kaestner and Malamud, 2014). Use of multiple proxies for ability is used to verify the robustness of our findings to ability measures. Educational categories are included to control for variations in knowledge and skills. Categorical variables for age and father's occupation in 1991 approximate individual work experience and employment potential. In particular, father's occupation in 1991 provides a measure of the worker's expected employment, independent of own schooling and labor market choices, given

[1] Logit models will further be estimated to corroborate LPM results.

limitations in inter-generational mobility (Munshi and Rosenzweig, 2006) and the importance of family networks in obtaining employment opportunities.

A qualitative study in these villages also suggests that demographic composition coupled with customary practices (which favors the migration of eldest sons) dictate migration eligibility within the household (Aftab, 2014). We therefore include the total number of male siblings in the individual's household in 1991 and the number of brothers above him in the birth order in the regression. The first variable captures the stock of migrants available to the original household. We expect a positive association between the migrant stock and the probability of migration if, for example, there are diminishing returns to family labor productivity. The second variable reflects the selection process in which an individual household member is eligible to migrate. We predict, in contrast, a negative association between the individual's number of older brothers and the probability that he migrates.

Factors perceived as beneficial to migration, such as wage differentials, may also bear diverse consequences on the types of migration under investigation. Variations in predicted wage differentials come from heterogeneity in workers' skills and place of origin (Borjas, 1987; Grogger and Hanson, 2011; Kaestner and Malamud, 2014).[2] Hourly wages are typically estimated, but annual earnings serve as a proxy for a worker's stream of expected income in recent work (Bertoli, Fernández-Huertas Moraga, and Ortega, 2013; Kaestner and Malamud, 2014). We incorporate different measures of expected migration benefits based on the difference of the market wage rate for workers of a given skill type in the origin district and a distance-weighted mean wage for a given skill type from all other districts excluding the district of origin. Robustness checks on the use of lagged and current wage differentials to examine whether the time horizon relevant for temporary migrants may be narrower in scope will be conducted for the years in which we have Labor Force Survey data.

Access to social networks and household wealth can reduce the pecuniary costs of migration through the provision of housing and employment assistance or relieving liquidity constraints to finance the move (Carrington, Detragiache, and Vishwanath 1996; Munshi, 2003; McKenzie and Rapoport, 2007; McKenzie and Rapoport, 2010). We include two measures of migrant networks in our regression: the number of migrants in the individual's original PRHS household in 1991 and the share of 1991 village members living in the individual's current location (Chen and Hassan, 2014). The literature generally defines migrant networks based on the individual's current village of residence, but our 2013-14 survey is not representative at the village level. However, although our measure of networks omits these nodes in the current village, it is free from concerns of simultaneity and reverse causality, as it is removed from concurrent economic conditions at the origin. Moreover, our measure better reflects the branching of social and kin networks over time, rather than imposing limits based on spatial proximity. Wealth is captured by inherited landholdings and asset tercile category. To address endogeneity concerns, the latter is drawn from the individual's original PRHS household in 1991 (omitting the middle tercile variables).

[2] Kaestner and Malamud (2014) allow for labor market segmentation through variations of wages by rural and urban destinations.

References

Aftab, S. (2014). Pakistan Rural Household Tracking Study-Qualitative Component. Consultancy Report for the International Food Policy Research Institute (IFPRI), Islamabad, Pakistan.

Akee, R. (2010). "Who Leaves? Deciphering Immigrant Self-Selection from a Developing Country," *Economic Development and Cultural Change* 58(2), 323-344.

Beine, M., F. Docquier, and C. Ozden (2011). "Diasporas," *Journal of Development Economics* 95(1), 30-41.

Bertoli, S. (2010). "The Informational Structure of Migration Decision and Migrants Self-Selection," *Economics Letters* 108, 89-92.

Bertoli, S., J. Fernandez-Huertas, and F. Ortega (2013). "Crossing the Border: Self-Selection, Earnings and Individual Migration Decisions," *Journal of Development Economics* 101, 75-91.

Borjas, G. (2006). "Native Internal Migration and the Labor Market Impact of Immigration," *Journal of Human Resources* 41(2), 221-258.

Borjas, G. (2005). "The Labor Market Impact of High-Skill Immigration," *America Economic Review* 95(2), 56-60.

Borjas, G. (1987). "Self-Selection and the Earnings of Immigrants," *American Economic Review* 77(4), 531-553.

Card, D. (2005). "Is the New Immigration Really So Bad?" *Economic Journal* 115(507), 300-323.

Card, D. (1990). "The Impact of the Mariel Boatlift on the Miami Labor Markets."*Industrial and Labor Relations Review* 43(2): 245-257.

Carrington, W., E. Detragiache, and T. Vishwanath (1996). "Migration with Endogenous Moving Costs," *American Economic Review* 86(4), 909–930.

Chen, Joyce and Md. Nazmul Hassan (2014). "The Interaction Between Migrants and Origin Households: Evidence from Linked Data," Mimeo, The Ohio State University.

Chiquiar, D., and G. Hanson (2005). "International Migration, Self-Selection, and the Distribution of Wages: Evidence from Mexico and the United States," *Journal of Political Economy* 113(2), 239-281.

Docquier, F., C. Ozden, G. Peri (2014). "The labor Market Impact of Immigration and Emigration in OECD Countries," *Economic Journal* 124(579), 1106-1145.

Galor, O., and O. Stark (1990). "Migrants' Savings, the Probability of Return Migration and Migrants' Performance," *International Economic Review* 31(2), 463-467.

Grogger, J. and G. Hanson (2011). "Income Maximization and the Selection and Sorting of International Migrants," *Journal of Development Economics* 95, 42-57.

Kaestner, R. and O. Malamud (2014). "Self-Selection and International Migration: New Evidence from Mexico," *Review of Economics and Statistics* 96(1), 78-91.

McKenzie, D., and H. Rapoport. (2010). "Self-Selection Patterns in Mexico-U.S. Migration: The Role of Migration Networks," *Review of Economic Studies* 92(4), 811-821.

McKenzie, D., and H. Rapoport (2007). "Network Effects and the Dynamics of Migration and Inequality: Theory and Evidence from Mexico," *Journal of Development Economics* 84(1), 1-24.

Munshi, K. (2003). ''Networks in the Modern Economy: Mexican Migrants in the US Labor Market,'' *Quarterly Journal of Economics* 118(2), 549–599.

Munshi, K. and M. Rosenzweig (2006). "Traditional Institutions Meet the Modern World: Caste, Gender, and Schooling Choice in a Globalizing Economy," *American Economic Review* 96(4), 1225-1252.

Ottaviano, G. and G. Peri (2012). "Rethinking the Effects of Immigration on Wages," *Journal of the European Economic Association* 10(1), 152-197.

Ratha, D., S. De, E. Dervisevic, C. Eigen-Zucchi, S. Plaza, H. Wyss, S. Yi, and S. Reza Yousefi (2014). "Migration and Remittances: Recent Developments and Outlook," Migration and Development Brief 22, Migration and Remittances Team, Development Prospects Group.